

# SAN RAFAEL CITY COUNCIL – TUESDAY, JANUARY 21, 2020

# REGULAR MEETING COUNCIL CHAMBERS, CITY HALL 1400 FIFTH AVENUE, SAN RAFAEL, CALIFORNIA

#### **AGENDA**

#### OPEN SESSION – THIRD FLOOR CONFERENCE ROOM, CITY HALL

1. None.

#### CLOSED SESSION – THIRD FLOOR CONFERENCE ROOM, CITY HALL

2. Closed Session: - None.

# **OPEN TIME FOR PUBLIC EXPRESSION – 7:00 PM**

The public is welcome to address the City Council at this time on matters <u>not</u> on the agenda that are within its jurisdiction. Please be advised that pursuant to Government Code Section 54954.2, the City Council is not permitted to discuss or take action on any matter not on the agenda unless it determines that an emergency exists, or that there is a need to take immediate action which arose following posting of the agenda. Comments may be no longer than <u>two minutes</u> and should be respectful to the community.

# **CITY MANAGER'S REPORT:**

3. City Manager's Report:

# **CONSENT CALENDAR:**

The opportunity for public comment on consent calendar items will occur prior to the City Council's vote on the Consent Calendar. The City Council may approve the entire consent calendar with one action. In the alternative, items on the Consent Calendar may be removed by any City Council or staff member, for separate discussion and vote.

#### 4. Consent Calendar Items:

# a. Approval of Minutes

Approve Minutes of City Council / Successor Agency Regular and Special Meetings of Monday, December 16, 2019 (CC)

Recommended Action – Approve minutes as submitted

# b. Bicycle and Pedestrian Advisory Committee Youth Member Appointment

Approve Appointment of Bicycle and Pedestrian Advisory Committee Youth Member Applicant Tyler Nielsen to a Two-Year Term to the End of January 2022 (CC) Recommended Action – Approve staff recommendation

#### c. Fire Commission Vacancies

Call for Applications to Fill Two Four-Year Terms, One Full Member and One Alternate Member, on the Fire Commission to the End of March 2024 Due to the Expiration of Terms of Thomas Weathers and Alternate Member David Fonkalsrud (CC)

Recommended Action – Approve staff recommendation

# d. Measure E Transactions and Use Tax Oversight Committee Vacancies

Call for Applications to Fill Three Four-Year Terms on the Measure E Transactions and Use Tax Oversight Committee to the End of March 2024 Due to the Expiration of Terms of John Erdmann, Gladys Gilliland and Cyr Miller (CC)

Recommended Action – Approve staff recommendation

# e. Legal Services Contract

Resolution Approving and Authorizing the City Manager to Execute an Agreement with Burke, Williams & Sorensen, LLP for Legal Services to Supplement Staff in the City Attorney's Office in An Amount Not to Exceed \$112,000 (CA)

Recommended Action – Adopt Resolution

# f. Revised Employment Agreement Between the City of San Rafael and City Manager

Resolution Approving and Authorizing the Mayor to Execute a Revised Employment Agreement Between the City and City Manager James M. Schutz to Amend and Clarify Language, but with No Compensation Increase (CA)

Recommended Action – Adopt Resolution

# g. Quarterly Investment Report

Acceptance of City of San Rafael Quarterly Investment Report for the Quarter Ending December 31, 2019 (Fin)

Recommended Action – Accept report

# h. Changing Speed Limits on Three Streets in San Rafael

<u>Second Introduction and Final Adoption of Ordinance 1978:</u> An Ordinance of the City of San Rafael Regarding Speed Limit Change on Francisco Boulevard West, Woodland Avenue, and Du Bois Street Pursuant to Section 22357 of the California Vehicle Code (PW)

Recommended Action – Final adoption of Ordinance 1978

# **PUBLIC HEARINGS**

5. Public Hearings:

# a. San Quentin Pump Station Reconstruction

Resolution Adopting a Mitigated Negative Declaration and Associated Mitigation Monitoring and Reporting Program for the San Quentin Pump Station Reconstruction Project, City Project No. 11334 (PW)

Recommended Action – Adopt Resolution

# **OTHER AGENDA ITEMS**

6. Other Agenda Items:

# a. Housing Policies Priorities Report

Informational Report on the Challenges to Approving and Developing Housing (CD) Recommended Action – Accept report

# b. Guidelines for the Affordable Housing Trust Fund

Resolution Adopting "Guidelines for the Administration of the Affordable Housing Trust Fund" (CD)

Recommended Action – Adopt Resolution

# **COUNCILMEMBER REPORTS / REQUESTS FOR FUTURE AGENDA ITEMS:**

(including AB 1234 Reports on Meetings and Conferences Attended at City Expense)

7. Councilmember Reports:

# **SAN RAFAEL SUCCESSOR AGENCY:**

1. Consent Calendar:

# a. Quarterly Investment Report

Acceptance of Successor Agency Quarterly Investment Report (Fin) Recommended Action – Accept report

#### **ADJOURNMENT:**

Any records relating to an agenda item, received by a majority or more of the Council less than 72 hours before the meeting, shall be available for inspection in the City Clerk's Office, Room 209, 1400 Fifth Avenue, and placed with other agenda-related materials on the table in front of the Council Chamber prior to the meeting. Sign Language interpreters and assistive listening devices may be requested by calling (415) 485-3066 (voice), emailing Lindsay.lara@cityofsanrafael.org or using the California Telecommunications Relay Service by dialing "711", at least 72 hours in advance of the meeting. Copies of documents are available in accessible formats upon request. Public Transportation to City Hall is available through Marin Transit Routes 22, 23, 23x, and 68 and Golden Gate Route 27. To plan your trip using transit, go to marintransit.org/trip-planner. Marin Access provides services for older adults and those with disabilities who are unable to use the fixed route bus services. Go online or call the Travel Navigators at (415) 454-0902 to learn more about these options. To allow individuals with environmental illness or multiple chemical sensitivity to attend the meeting/hearing, individuals are requested to refrain from wearing scented products.

# In the Council Chambers of the City of San Rafael, Monday, December 16, 2019



# Regular Meeting San Rafael City Council

#### **Minutes**

Present: Mayor Phillips

Councilmember McCullough Councilmember Bushey Councilmember Colin Councilmember Gamblin

Absent: None

Also Present: City Manager Jim Schutz

City Attorney Robert Epstein City Clerk Lindsay Lara

How to Participate in Your City Council Meeting

Mayor Phillips called the meeting to order at 7:02 p.m.

# OPEN SESSION - THIRD FLOOR CONFERENCE ROOM, CITY HALL

1. None.

# CLOSED SESSION - THIRD FLOOR CONFERENCE ROOM, CITY HALL

2. Closed Session: - None.

#### **OPEN TIME FOR PUBLIC EXPRESSION – 7:00 PM**

- Gabriel Spellberg, Legal Aid of Marin, addressed the City Council regarding the Marina Gardens apartment complex
- Edwin Orellana addressed the City Council regarding the Marina Gardens apartment complex
- Deysy Reyes address the City Council regarding the Marina Gardens apartment complex
- Salamah Locks, Marin Commission on Aging, announced upcoming events
  - January 2, 2020 2020 priorities discussion with Senator Mike McGuire, at B Street Community Center at 10 a.m.
  - February 3, 2020 Age-Friendly San Rafael special presentation at the San Rafael City Council meeting at 7 p.m.
  - o February 9, 2020 Age-Friendly San Rafael event
  - o Also, Salamah Locks thanked Public Works for the markings at the Post Office
- Mayor Phillips requested the City contact Legal Aid of Marin regarding Marina Gardens
- Cindy Salvesen addressed the City Council regarding Drag Queen StoryTime at the Library

#### **CITY MANAGER'S REPORT:**

# City Manager's Report:

City Manager Jim Schutz announced the evening as the final City Council meeting of the year and the decade, and expressed thanks to the City Council and commented on 2019 highlights, such as multiple ribbon cuttings for the two new fire stations, the SMART Larkspur extension and quiet zone, playgrounds and capital projects such as the Grand Avenue Bridge, housing units approved and under construction, including hotel rooms and assisted living facilities - and all of the many hours that the City Council spent on various subcommittees, such as renter regulations, homelessness, cannabis, SMART, economic development, finance, essential facilities, etc.

He noted the January 6, 2020 City Council meeting would likely be cancelled, and City Hall would be closed from December 24, 2019 - January 1, 2020; however, the libraries, community centers and childcare would have different hours from City Hall and their schedules can be found online. Public safety centers, first responders and emergency response remain in operation.

Mayor Phillips provided comments and expressed thanks to the City and the City Manager Jim Schutz for his leadership

#### **CONSENT CALENDAR:**

#### **Consent Calendar Items:**

Mayor Phillips invited public comment on the Consent Calendar; however, there was none.

Councilmember McCullough moved and Councilmember Colin seconded to approve Consent Calendar Items:

#### Approval of Minutes a.

Approve Minutes of City Council / Successor Agency Regular Meeting of Monday, **December 2, 2019 (CC)** 

Regular Minutes 2019-12-02

Approved minutes as submitted

Accept Measure E Transactions and Use Tax (TUT) Oversight Committee Report for Fiscal Year 2018-2019 (Fin)

Annual Measure E TUT Oversight Committee Report

Annual Measure E TUT Oversight Committee Report

Accepted report

b.

#### Special Library Parcel Tax Report FY2018-2019 C.

Accept Special Library Parcel Tax Committee's Annual Measure D Report (LR)

Special Library Parcel Tax Report FY2018-2019

Accepted report

# d. Rotary Manor Drainage

Resolution Approving and Authorizing the City Manager to Execute a Professional Services Agreement with Coastland Civil Engineering, Inc. for Engineering Design and Environmental Clearance Services Associated with the Rotary Manor Drainage Improvements Project in an Amount Not to Exceed \$163,526 (PW)

**Rotary Manor Drainage** 

Resolution 14749 - Resolution Approving and Authorizing the City Manager to Execute a Professional Services Agreement with Coastland Civil Engineering, Inc. for Engineering Design and Environmental Clearance Services Associated with the Rotary Manor Drainage Improvements Project in an Amount Not to Exceed \$163,526

e. Land Exchange Between the City of San Rafael and the Sonoma-Marin Area Rail Transit District (SMART)

Resolution Approving and Authorizing the City Manager to Execute a Property Exchange Agreement Between the Sonoma-Marin Area Rail Transit District (SMART) and the City of San Rafael, and a Quitclaim Deed of City Property to SMART, and to Accept the Quitclaim Deed of SMART Property on Behalf of the City of San Rafael (PW)

Land Exchange Between the City of San Rafael and SMART

Resolution 14750 - Resolution Approving and Authorizing the City Manager to Execute a Property Exchange Agreement Between the Sonoma-Marin Area Rail Transit District (SMART) and the City of San Rafael, and a Quitclaim Deed of City Property to SMART, and to Accept the Quitclaim Deed of SMART Property on Behalf of the City of San Rafael

AYES: Councilmembers: Bushey, Colin, Gamblin, McCullough & Mayor Phillips

NOES: Councilmembers: None ABSENT: Councilmembers: None

#### **PUBLIC HEARINGS**

5. Public Hearings:

a. Marin Sanitary Service Rates for 2020

Resolution Establishing Maximum Rates Collected by Marin Sanitary Service for Refuse and Recyclable Material Collection and Disposal Services, to be Effective January 1, 2020 (CM)

Marin Sanitary Service Rates for 2020

Cory Bytof, Sustainability Program Manager, presented the staff report along with Garth Schultz, R3 Consulting Group, Inc.

Staff and consultants responded to questions from the City Council.

Mayor Phillips declared the public hearing opened

Speakers: Bill Carney, Sustainable San Rafael, Patty Garbarino, Marin Sanitary Service

There being no further comment from the audience, Mayor Phillips closed the public hearing

Councilmembers provided comments and expressed thanks to Marin Sanitary Service and staff

Councilmember Colin moved and Councilmember McCullough seconded to adopt the Resolution

Resolution 14751 - Resolution Establishing Maximum Rates Collected by Marin Sanitary Service for Refuse and Recyclable Material Collection and Disposal Services, to be Effective January 1, 2020

AYES: Councilmembers: Bushey, Colin, Gamblin, McCullough & Mayor Phillips

NOES: Councilmembers: None ABSENT: Councilmembers: None

 Dominican Sisters Lourdes Convent - Transitional Housing Use Resolution Approving a Use Permit Amendment (UP19-039) to Permit the Continued Use of the "Yellow Hallway" Area of the Lourdes Convent as a Single Residential Unit for Transitional Housing in Perpetuity at 77 Locust Avenue (APN 015-112-23) (CD)

Dominican Sisters Lourdes Convent - Transitional Housing Use

Community Development Director Paul Jensen presented the staff report

Staff responded to questions from the City Council and provided comments

Mayor Phillips declared the public hearing opened

Speakers: Chris Dolan

There being no further comment from the audience, Mayor Phillips closed the public hearing

Councilmember McCullough moved and Councilmember Bushey seconded to adopt the Resolution subject to the following revision:

4. This Use Permit Amendment shall allow the existing transitional housing use of the "yellow hallway" area to continue as long as such use is consistent with the terms and conditions of this permit and Use Permit UP79-18. In the event the property owner determines to cease such use in this area or ceases to operate the premises as a convent, written notice shall be provided to the City. Should the property owner decide to convert the yellow hallway area to a use other than for residential convent rooms, a zoning determination shall be requested with the City to determine the appropriate permit requirements.

Resolution 14752 - Resolution Approving a Use Permit Amendment (UP19-039) to Permit the Continued Use of the "Yellow Hallway" Area of the Lourdes Convent as a Single Residential Unit for Transitional Housing in Perpetuity at 77 Locust Avenue (APN 015-112-23)

AYES: Councilmembers: Bushey, Colin, Gamblin, McCullough & Mayor Phillips

NOES: Councilmembers: None ABSENT: Councilmembers: None

c. Changing Speed Limits on Three Streets in San Rafael

Consideration of an Ordinance of the City of San Rafael Regarding Speed Limit Change on Francisco Boulevard West, Woodland Avenue, and Du Bois Street Pursuant to Section 22357 of the California Vehicle Code (PW)

Changing Speed Limits on Three Streets in San Rafael

Public Works Director Bill Guerin commented on the item and introduced Traffic Engineer Lauren Davini who presented the report

Staff responded to questions from the City Council.

Mayor Phillips declared the public hearing opened; however, there were no comments and Mayor Phillips closed the public hearing

Councilmember McCullough moved and Councilmember Bushey seconded to pass Charter Ordinance No. 1978 to print

Passed Ordinance 1978 to print

AYES: Councilmembers: Bushey, Colin, Gamblin, McCullough & Mayor Phillips

NOES: Councilmembers: None ABSENT: Councilmembers: None

The City Council recommended staff return to a future meeting with an analysis of the impacts caused by the speed limit increases

#### **OTHER AGENDA ITEMS**

- 6. Other Agenda Items:
- a. Public Safety Bargaining Unit Side Letters Extending Current Memorandums of Understanding (MOU) (HR)
  - i. Resolution Approving Side Letter Agreement with San Rafael Fire Chief Officers' Association
  - ii. Resolution Approving Side Letter Agreement with San Rafael Firefighters' Association, I.A.F.F. Local 1775
  - iii. Resolution Approving Side Letter Agreement with San Rafael Police Association
  - iv. Resolution Approving Side Letter Agreement with San Rafael Police Mid-Management Association

Public Safety Bargaining Unit Side Letters Extending Current MOU

City Manager Jim Schutz introduced Human Resources Director Shibani Nag who presented the staff report

Mayor Phillips invited public comment; however, there was none

Councilmembers provided comments

Councilmember McCullough moved and Councilmember Bushey seconded to adopt the Resolution

Resolution 14753 - Resolution Approving Side Letter Agreement with San Rafael Fire Chief Officers' Association

AYES: Councilmembers: Bushey, Colin, Gamblin, McCullough & Mayor Phillips

NOES: Councilmembers: None ABSENT: Councilmembers: None

Councilmember McCullough moved and Councilmember Bushey seconded to adopt the Resolution

Resolution 14754 - Resolution Approving Side Letter Agreement with San Rafael Firefighters' Association, I.A.F.F. Local 1775

AYES: Councilmembers: Bushey, Colin, Gamblin, McCullough & Mayor Phillips

NOES: Councilmembers: None ABSENT: Councilmembers: None

Councilmember McCullough moved and Councilmember Bushey seconded to adopt the Resolution

Resolution 14755 - Resolution Approving Side Letter Agreement with San Rafael Police Association

AYES: Councilmembers: Bushey, Colin, Gamblin, McCullough & Mayor Phillips

NOES: Councilmembers: None ABSENT: Councilmembers: None

Councilmember McCullough moved and Councilmember Bushey seconded to adopt the Resolution

Resolution 14756 - Resolution Approving Side Letter Agreement with San Rafael Police Mid-Management Association

AYES: Councilmembers: Bushey, Colin, Gamblin, McCullough & Mayor Phillips

NOES: Councilmembers: None ABSENT: Councilmembers: None

#### b. 2020 Vice-Mayor

Select Vice-Mayor for the City of San Rafael 2020 (CC)

2020 Vice-Mayor

Councilmember McCullough moved and Councilmember Bushey seconded to select Kate Colin as Vice-Mayor for 2020

Selected Vice-Mayor for 2020

AYES: Councilmembers: Bushey, Colin, Gamblin, McCullough & Mayor Phillips

NOES: Councilmembers: None ABSENT: Councilmembers: None

Mayor Phillips expressed thanks to Vice Mayor McCullough

# c. 2020 City Council Appointments

**Approve City Council Appointments to Committees 2020 (CC)** 

2020 City Council Appointments

Mayor Phillips invited public comment; however, there was none

Councilmember Bushey moved and Councilmember Colin seconded to approve the 2020 City Council appointments

Approved Appointments

AYES: Councilmembers: Bushey, Colin, Gamblin, McCullough & Mayor Phillips

NOES: Councilmembers: None ABSENT: Councilmembers: None

# **COUNCILMEMBER REPORTS / REQUESTS FOR FUTURE AGENDA ITEMS:**

7. Councilmember Reports:

None

# SAN RAFAEL SUCCESSOR AGENCY

1. Consent Calendar: -None.

# **ADJOURNMENT:**

Mayor Phillips adjourned the meeting at 8:17 p.m.

-	LINDSAY LARA,	City Clerk
APPROVED THIS _	DAY OF	, 2020
	GARY O. PHILLIPS, N	Mayor

In the City Managers Conference Room of the City of San Rafael, Monday, December 16, 2019

RAFA CONTRACTOR	Managers Comerence Ro	oom of the City of San Raide	n, Monday, December 16, .	2019
Special Mee San Rafael C		Minutes		
Present:	Mayor Phillips Vice-Mayor McCullough Councilmember Gamblir			
Absent:	Councilmember Bushey Councilmember Colin			
Also Present:	City Manager Jim Schut City Clerk Lindsay Lara Chief Building Official Do			
Mayor Phillips	called the meeting to orde	er at 6:03 p.m.		
Applic Alterna Ashley Membe	ants and Consider Appo ate Member Term to the I	tee Interviews Interview App intments to Fill Four Four-Yo End of October 2023 Due to hnie, Jonathan Frieman, Tim e Interviews	ear Terms and One Four-Y the Expiration of Terms of	
		following applicants: Ashley T wen McKechnie and Francine		,
John E		Council consensus to reappoir, and to appoint Francine Falkne end of October 2023.		
ADJOURNME	NT:			
Mayor Phillips	adjourned the meeting at	6:59 p.m.		
		<del></del>	LINDSAY LARA, City Clerk	- (
		APPROVED THIS _	DAY OF	_, 2020

GARY O. PHILLIPS, Mayor



Agenda Item No: 4.b

Meeting Date: January 21, 2020

#### SAN RAFAEL CITY COUNCIL AGENDA REPORT

**Department: City Clerk** 

Prepared by: Lindsay Lara, City Clerk City Manager Approval:

TOPIC:

BICYCLE AND PEDESTRIAN ADVISORY COMMITTEE YOUTH MEMBER

**APPOINTMENT** 

SUBJECT:

APPROVE APPOINTMENT OF BICYCLE AND PEDESTRIAN ADVISORY COMMITTEE YOUTH MEMBER APPLICANT TYLER NIELSEN TO A TWO-

YEAR TERM TO THE END OF JANUARY 2022

#### **RECOMMENDED ACTION:**

Confirm the appointment of Tyler Nielsen to serve as a youth member on the Bicycle and Pedestrian Advisory Committee.

#### **BACKGROUND:**

Since its 2001 inception, the Bicycle and Pedestrian Advisory Committee has sought to recruit two high school age students among its nine members. The Committee felt that biking and walking issues directly touch the lives of young people in our community, and that they should have a voice in advising the City Council on these issues. Although attracting and retaining applicants has been challenging, the students who have participated over the past 15 years have been extremely competent and have contributed to the implementation of San Rafael's original Bicycle and Pedestrian Master Plan and its 2011 and 2018 update.

#### **ANALYSIS:**

One youth seat has been "open until filled" due to the recent lack of applications. In February 2019, Tyler Nielsen applied. On June 5, 2019, the Bicycle and Pedestrian Advisory Committee interviewed Mr. Nielsen and the members unanimously recommended his appointment to the Committee.

**FISCAL IMPACT:** There is no fiscal impact associated with this action.

#### **RECOMMENDATION:**

Confirm the appointment of Tyler Nielsen to serve as a youth member on the Bicycle and Pedestrian Advisory Committee.

# **ATTACHMENT:**

Application

FOR CITY CLERK ONL	IL'	ON	ERK	CL	ITY	CI	FOR	ı
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File No.:

**Council Meeting:** 

**Disposition:** 

# CITY OF SAN RAFAEL

# APPLICATION TO SERVE AS A MEMBER OF BICYCLE & PEDESTRIAN ADVISORY COMMITTEE - YOUTH MEMBER

NAME: TYIET NIRISEN
STREET ADDRESS:
CITY/STATE/ZIP CODE:
RESIDENT OF THE CITY OF SAN RAFAEL FOR
PRESENT POSITION: 5 TV 8 PLT
NAME OF FIRM:
BUSINESS ADDRESS:
* HOME & BUSINESS PHONE:
* E-MAIL ADDRESS (optional):
EDUCATION: 2+4 Aride Student at Pathways Charter
PARTICIPATION IN THE FOLLOWING CIVIC ACTIVITIES: 4+ TECH LEADER, 4-H MEMBER, RPAC, MATING, FAIR
MEMBER OF FOLLOWING CIVIC ORGANIZATIONS: 4-H, Fait, BPAL
MY REASONS FOR WANTING TO SERVE ARE: I WALT TO WAKE BILLING
MIS walking but the in Sam Batael
The second secon
DATE: 12/11/1 SIGNATURE: TILL MARKE
Mail or deliver to: City of San Rafael, City Hall, Dept. of City Clerk 1400 Fifth Avenue, Room 209, San Rafael, CA 94901
* Information kept confidential to the extent permitted by law



Agenda Item No: 4.c

Meeting Date: January 21, 2020

#### SAN RAFAEL CITY COUNCIL STAFF REPORT

**Department: City Clerk** 

Prepared by: Lindsay Lara, City Clerk City Manager Approval:

B

TOPIC:

**FIRE COMMISSION VACANCIES** 

SUBJECT:

CALL FOR APPLICATIONS TO FILL TWO FOUR-YEAR TERMS, ONE FULL MEMBER AND ONE ALTERNATE MEMBER, ON THE FIRE COMMISSION TO THE END OF MARCH 2024 DUE TO THE EXPIRATION OF TERMS OF THOMAS WEATHERS AND ALTERNATE MEMBER DAVID FONKALSRUD

#### **RECOMMENDATION:**

- 1. Call for applications to fill two four-year terms, one full member and one alternate member, on the Fire Commission through the end of March 2024 due to the expiration of terms of Thomas Weathers and alternate member David Fonkalsrud.
- 2. Set deadline for receipt of applications for Wednesday, February 12, 2020 at 5:00 p.m. at City Hall in the City Clerk's Office, Room 209.

#### **BACKGROUND / ANALYSIS:**

The Fire Commission consists of five members and one alternate member who advise and support the goals and objectives of the San Rafael Fire Department. In concert with the Fire Chief, Fire Commission Members contribute their experience and expertise with department-related initiatives, such as public education and information, emergency preparedness, support of the San Rafael Fire Foundation, Essential Facilities Project, photography and documenting Fire Service history. Meetings are held on the second Wednesday of each month at 4:00 p.m. at 1600 Los Gamos Drive, Suite 345, San Rafael, California 94903.

Per the San Rafael City Council Policy regarding Appointive Offices, any existing City board member or commissioner who wishes to be reappointed shall be interviewed at the same time as new applicants. David Fonkalsrud and Thomas Weather have both expressed interest in continuing to serve on the Fire Commission.

In February 2014, the City Council adopted <u>Resolution 13681</u> limiting Fire Commissioners to two consecutive four-year terms. Applications may be submitted online and are also available in hard copy format at the City Clerk's Office.

**FISCAL IMPACT:** There is no fiscal impact associated with this action.

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**Council Meeting:** 

**Disposition:** 

# SAN RAFAEL CITY COUNCIL AGENDA REPORT / Page: 2

# **RECOMMENDATION:**

- 1. Call for applications to fill two four-year terms, one full member and one alternate member, on the Fire Commission through the end of March 2024 due to the expiration of terms of Thomas Weathers and alternate member David Fonkalsrud.
- 2. Set deadline for receipt of applications for Wednesday, February 12, 2020 at 5:00 p.m. at City Hall in the City Clerk's Office, Room 209.

# **ATTACHMENT:**

1. Application Materials

Two Vacancies Fire Commission

Applications to serve on the Fire Commission, City of San Rafael, to fill two four-year terms,

one full member and one Alternate member, to the end of March 2024, may be obtained at

the City Clerk's Office, City Hall, 1400 Fifth Avenue, Room 209, San Rafael and on the website

at: <a href="https://www.cityofsanrafael.org/boards-commissions/">https://www.cityofsanrafael.org/boards-commissions/</a>. The deadline for filing applications is

Tuesday, February 12, 2020, at 5:00 p.m. in the City Clerk's Office.

There is no compensation paid to Board Members. Members must comply with the City's ethics

training requirement of AB 1234, and reimbursement policy. See attached information.

ONLY RESIDENTS OF THE CITY OF SAN RAFAEL MAY APPLY

The Fire Commission regularly meets on the second Wednesday of each month at 4:00 p.m. at

1600 Los Gamos Drive, Suite 345, San Rafael, California 94903.

An excerpt from the San Rafael Municipal Code re: Fire Commission membership, terms of

Commissioners, powers and duties, etc., is also attached.

Lindsay Lara City Clerk City of San Rafael

Dated: January 22, 2020



# **City of San Rafael Fire Commission**

# **Boards and Commissions Application**

	Арр	licant Informatio	n	
Full Name:				
*Address: Street	Address			Apartment/Unit #
City			State	ZIP Code
*Phone:		*Email		
Resident of San R	Rafael fory	ears.		
Employer:				
Occupation:				
Business Address	Street Address			Apartment/Unit #
	City		State	ZIP Code
		Education		
	Sunn	emental Questio	ine	
Participation in the	e following civic activities:	emental gaestio	1113	
Member of the foll	lowing civic organizations:			

My reasons for wanting to serve are:	
Describe possible areas in which you may have a conflict of interest with t	he City:
Describe possible areas in which you may have a conflict of interest with t	ne oity.
Demographics (Optional)	
provide it will not subject you to any adverse treatment. This information we kept separate from your application and will not be used for evaluating appaperance. The City of San Rafael will use this information solely to constatistical reports regarding the composition of its Board and Commission	olications or making nduct research and compile
Ethnicity:  ☐ American Indian or Alaska Native: a person having origins in any of the South America (including Central America), and who maintains tribal aff	
attachment.  ☐ Asian: a person having origins in any of the original peoples of the Far I or the Indian subcontinent including, for example, Cambodia, China, Indian Indian Balifata the Bullianian Indian I	
Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.  ☐ Black or African American: a person having origins in any of the black re ☐ Hispanic or Latino: a person of Cuban, Mexican, Chicano, Puerto Ricar	
or other Spanish culture or origin, regardless of race.  ☐ Native Hawaiian or Other Pacific Islander: a person having origins in an	y of the original peoples of
Hawaii, Guam, Samoa, or other Pacific Islands.  ☐ White: a person having origins in any of the original peoples of Europe,	the Middle East, or North
Africa.  ☐ Two or More Races: a person who primarily identifies with two or more categories.	of the above race/ethnicity
□ Male	
To which gender to your most identify?  ☐ Male ☐ Female ☐ Nonbinary or Third Gender ☐ Prefer to self-describe	

How old are you?		
☐ Under 18		
☐ 18-24 years old		
☐ 25-34 years old		
☐ 35-44 years old		
□ 45-54 years old		
□ 55-64 years old		
☐ 65-74 years old		
☐ 75+ years old		
•		
	Signature	
Signature:		Date:

# Filing Deadline:

Date: Wednesday, February 12, 2020

Time: 5:00 p.m.

# Mail or deliver to:

City of San Rafael, Dept. of City Clerk City Hall, 1400 Fifth Avenue, Room 209 San Rafael, CA 94903

\*Information kept confidential, to the extent permitted by law.

#### SAN RAFAEL CHARTER

#### ARTICLE VIII Executive and Administrative Departments, Section 10. FIRE COMMISSION.

There shall be a board of fire commissioners appointed by the council, the exact number of which shall be set by ordinance or resolution of the council, one of whom may be a councilman. The chief of the fire department shall be an ex officio member of the commission but shall not be entitled to vote as a member of the commission. The members of the commission shall serve for a term of four years and shall be subject to removal by the affirmative vote of three members of the council. The terms of office of members of the commission shall be staggered in the manner provided by resolution of the council. The board of fire commissioners shall exercise such powers and perform such duties as may be prescribed or conferred in this charter or by the ordinances of the city. (Assembly Concurrent Resolution No. 121, August 20, 1973: Senate Concurrent Resolution No. 46, May 31, 1967.)

#### 2.16.010 Board of Fire Commissioners.\*

A board of fire commissioners is created. (Ord. 889 § 2, 1967: Ord. 825 § 1, 1965: Ord. 422).

\* Fire Commission--See San Rafael Charter, Art. VIII § 10.

#### 2.16.011 Board membership--Compensation.

The board of fire commissioners shall consist of five members appointed by the city council, one of whom may be a councilman. The chief of the fire department shall be an ex officio member of the commission, but shall not be entitled to vote as a member of the commission. All members of the commission shall serve without compensation. (Ord. 889 § 3 (part), 1967).

#### 2.16.012 Board term of office and removal.

The members of the board of fire commissioners shall serve for a term of four years and shall be subject to removal by the affirmative vote of three members of the council. The terms of office of members of the commission shall be staggered in the manner provided by resolution of the city council. (Ord. 889 § 3 (part), 1967).

#### 2.16.013 Board powers and duties.

Subject to the direction and control of the city council, as provided in Section 2.04.030 of this code, the powers and duties of the board of fire commissioners shall be:

To review and recommend concerning the future needs of the fire department in respect to long-range capital needs, including buildings, training facilities, and water mains and hydrant replacements;

To review the relationship of the fire department with other governmental agencies and private entities concerning topics which the commission feels present a true and pressing need for the city's fire service, i.e., mutual aid and the fire rating system of the Independent Insurance Office;

To review, comment and make recommendations regarding the annual operating budget of the department;

To recommend to the fire chief and the city council action concerning initial adoption and future amendments to the fire prevention code, the building code, and other such ordinances which pertain to the prevention of fires within the community;

To receive monthly reports from the department head concerning the general operations and functions of the department;

To perform such other duties as may be prescribed by the city council.

(Ord. 1131 § 1, 1974: Ord. 889 § 3 (part), 1967).

#### NOTICE TO BOARD & COMMISSION APPLICANTS

# **REGARDING ETHICS TRAINING**

On January 1, 2006, a new law became effective that requires two (2) hours of ethics training of the local legislative bodies by January 1, 2007. This new law defines a local legislative body as a "Brown Act" governing body, whether permanent or temporary, decision-making or advisory, and created by formal action of the City Council. In other words, any person serving on a City Council, Board, Commission, or Committee created by the Council is subject to this ethics training requirement. After this initial class, training will be required every two years.

Ethics training can be accomplished by taking a 2-hour class, self-study, or an on-line class. You may seek reimbursement for taking any authorized ethics class. The city staff member that is assigned to your committee can help you with the reimbursement process.

After you have completed the ethics class, the original certificate needs to be given to the City Manager's Office for record-keeping, with a copy kept for your records.

# AB 1234 (Salinas). Local Agencies: Compensation and Ethics

Chapter 700, Statutes of 2005 This law does the following:

- Ethics Training: Members of the Brown Act-covered decision-making bodies must take two hours of ethics training every two years, if they receive compensation or are reimbursed expenses. The training can be in-person, on-line, or self-study.

  For those in office on 1/1/06, the first round of training must be completed by 1/1/07.
- Expense Reimbursement -- Levels: Local agencies which reimburse expenses of members
  of their legislative bodies must adopt written expense reimbursement policies specifying the
  circumstances under which expenses may be reimbursed. The policy may specify rates for
  meals, lodging, travel, and other expenses (or default to the Internal Revenue Service's
  (IRS) guidelines). Local agency officials must also take advantage of conference and
  government rates for transportation and lodging.
- Expense Reimbursement -- Processes: Local agencies, which reimburse expenses, must also provide expense reporting forms; when submitted, such forms must document how the expense reporting meets the requirements of the agency's expense reimbursement policy. Officials attending meetings at agency expense must report briefly back to the legislative body at its next meeting.



Agenda Item No: 4.d

Meeting Date: January 21, 2020

#### SAN RAFAEL CITY COUNCIL STAFF REPORT

**Department: City Clerk** 

Prepared by: Lindsay Lara, City Clerk City Manager Approval:

B

TOPIC:

MEASURE E TRANSACTIONS AND USE TAX OVERSIGHT COMMITTEE

**VACANCIES** 

SUBJECT:

CALL FOR APPLICATIONS TO FILL THREE FOUR-YEAR TERMS ON THE MEASURE E TRANSACTIONS AND USE TAX OVERSIGHT COMMITTEE TO THE END OF MARCH 2024 DUE TO THE EXPIRATION OF TERMS OF JOHN

**ERDMANN, GLADYS GILLILAND AND CYR MILLER** 

# **RECOMMENDATION:**

 Call for applications to fill three four-year terms on the Measure E Transactions And Use Tax Oversight Committee to the end of March 2024 due to the expiration of terms of John Erdmann, Gladys Gilliland and Cyr Miller.

2. Set deadline for receipt of applications for Wednesday, February 12, 2020 at 5:00 p.m. at City Hall in the City Clerk's Office, Room 209.

# **BACKGROUND / ANALYSIS:**

The Measure 'E' TUT Oversight Committee ensures that all revenues received from the voter-approved local Transactions and Use Tax (Measure 'E') are spent only on permissible uses, as outlined in Ordinance No. 1913. The Committee does not have any budgetary decision authority, does not allocate financial resources, and does not make budget or service recommendations to the City Council. The Committee meets once each fiscal year

Per the San Rafael City Council Policy regarding Appointive Offices, any existing City board member or commissioner who wishes to be reappointed shall be interviewed at the same time as new applicants.

**FISCAL IMPACT:** There is no fiscal impact associated with this action.

#### **RECOMMENDATION:**

- Call for applications to fill three four-year terms on the Measure E Transactions And Use Tax Oversight Committee through the end of March 2024 due to the expiration of terms of John Erdmann, Gladys Gilliland and Cyr Miller.
- 2. Set deadline for receipt of applications for Wednesday, February 12, 2020 at 5:00 p.m. at City Hall in the City Clerk's Office, Room 209.

#### **ATTACHMENT:**

1. Application Materials

FOR CITY CLERK ONLY

**Council Meeting:** 

**Disposition:** 

# Three Vacancies Measure E Transactions and Use Tax Oversight Committee

Applications to serve on the Measure E Transactions and Use Tax Oversight Committee, City of San Rafael, to fill **three four-year terms to the end of March 2024**, may be obtained at the City Clerk's Office, City Hall, 1400 Fifth Avenue, Room 209, San Rafael and on the website at: <a href="https://www.cityofsanrafael.org/boards-commissions/">https://www.cityofsanrafael.org/boards-commissions/</a>. The deadline for filing applications is **Wednesday, February 12, 2020, at 5:00 p.m.** in the City Clerk's Office.

There is no compensation paid to Members. Members must comply with the City's ethics training requirement of AB 1234, and reimbursement policy. See attached information.

Members of the Committee shall be at least 18 years of age and reside within the City limits. The Oversight Committee may not include any employee or official of the City, or any vendor, contractor or consultant doing business with the City.

The Committee meets at least one time annually.

The Measure 'E' TUT Oversight Committee ensures that all revenues received from the voter-approved local Transactions and Use Tax (Measure 'E') are spent only on permissible uses, as outlined in Ordinance No. 1913. The Committee does not have any budgetary decision authority, does not allocate financial resources, and does not make budget or service recommendations to the City Council. The Committee meets once each fiscal year.

The guidelines for Committee membership, terms, powers and duties, etc., is also attached.

Lindsay Lara City Clerk City of San Rafael

Dated: January 22, 2020



# City of San Rafael Measure E TUT Oversight Committee

# **Boards and Commissions Application**

	Applicant	Information	
Full Name:_			
*Address:S	Street Address		Apartment/Unit #
c	Dity	State	ZIP Code
*Phone: _	*	Email	
Resident of	San Rafael for years.		
Employer:			
Occupation:			
Business Ad	ldress:		Apartment/Unit #
	City	State	ZIP Code
	Educ	cation	
	Supplement	tal Questions	
Participation	Supplement in the following civic activities:	tal Questions	
Participation	Supplement in the following civic activities:	tal Questions	
Participation	Supplement in the following civic activities:	tal Questions	
	Supplement in the following civic activities:  the following civic organizations:	tal Questions	

My reasons for wanting to serve are:	
Describe possible areas in which you may have a conflict of interest with t	he City:
Describe possible areas in which you may have a conflict of interest with t	ne oity.
Demographics (Optional)	
provide it will not subject you to any adverse treatment. This information we kept separate from your application and will not be used for evaluating appaperance. The City of San Rafael will use this information solely to constatistical reports regarding the composition of its Board and Commission	olications or making nduct research and compile
Ethnicity:  ☐ American Indian or Alaska Native: a person having origins in any of the South America (including Central America), and who maintains tribal aff	
attachment.  ☐ Asian: a person having origins in any of the original peoples of the Far I or the Indian subcontinent including, for example, Cambodia, China, Indian Indian Balifata the Bullianian Indian I	
Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.  ☐ Black or African American: a person having origins in any of the black re ☐ Hispanic or Latino: a person of Cuban, Mexican, Chicano, Puerto Ricar	
or other Spanish culture or origin, regardless of race.  ☐ Native Hawaiian or Other Pacific Islander: a person having origins in an	y of the original peoples of
Hawaii, Guam, Samoa, or other Pacific Islands.  ☐ White: a person having origins in any of the original peoples of Europe,	the Middle East, or North
Africa.  ☐ Two or More Races: a person who primarily identifies with two or more categories.	of the above race/ethnicity
□ Male	
To which gender to your most identify?  ☐ Male ☐ Female ☐ Nonbinary or Third Gender ☐ Prefer to self-describe	

How old are you?		
☐ Under 18		
☐ 18-24 years old		
□ 25-34 years old		
☐ 35-44 years old		
☐ 45-54 years old		
☐ 55-64 years old		
☐ 65-74 years old		
☐ 75+ years old		
	Signature	
	<b>.</b>	
Signature:		Date:

# Filing Deadline:

Date: Wednesday, February 12, 2020

Time: 5:00 p.m.

# Mail or deliver to:

City of San Rafael, Dept. of City Clerk City Hall, 1400 Fifth Avenue, Room 209 San Rafael, CA 94903

\*Information kept confidential, to the extent permitted by law.

# Measure 'E' Transactions and Use Tax (TUT) Oversight Committee Guidelines and Policy

#### I. Mission

To ensure that all revenues received from the voter approved Transactions and Use Tax (Measure E) are spent on uses outlined in San Rafael Ordinance 1913.

# **II. Governing Authority for Committee Formation**

Section 3.19.144 of the San Rafael Municipal Code requires the establishment of an Independent Oversight Committee:

"A City Transactions and Use Tax Committee, to be established by the City Council by Resolution, shall review the collection and expenditure of tax revenues collected under the authority of this Chapter. The committee shall consist of at least 5 members, who shall be residents of the City. The terms of the Committee members and their specific duties shall be established by resolution of the City Council."

#### III. Roles, Responsibilities and Duties

- A) The responsibilities and duties of the Committee shall be limited to:
  - 1) Review expenditures of Measure E general tax revenues to ensure the monies have been expended in accordance with the authorized municipal purposes of Measure E. To complete this review, the Committee shall:
    - i) Understand allowable expenses of Measure E general tax funds (as identified in Section 3.19.080 of the Municipal Ordinance) which states:

      The proceeds of the transactions and use tax imposed by this Chapter shall be deposited into the General Fund of the City to be used for all general government purposes which may include, but are not limited to, fire and police protection, street and sidewalk repair and maintenance, library services, park repair and maintenance, recreational programs, building and code enforcement services, planning and zoning services, capital equipment requirements, repair and replacement of City facilities, capital improvement projects, operational expenses, fiduciary responsibilities, administration, indebtedness and general obligations of the City. The tax imposed by this Chapter is intended to be and is, a general tax, the proceeds of which are to be spent as the City Council shall in its discretion, from time to time, determine.
    - ii) Review documentation from City Council and from City Council-appointed advisory committees that pertain to the prioritization of use of Measure E general tax funds.
    - iii) Review annual reports prepared by the City's Finance Department that track the receipt and spending of Measure E general tax funds.
    - iv) Prepare and submit to the City Council and the community an annual public report on the expenditures of Measure E general tax revenues for the previous fiscal year.

(Committee Meetings will typically be held in the fall, for the fiscal year ending on the preceding June 30.)

- 2) Fulfill the final responsibilities of the Measure S TUT Oversight Committee under Ordinance 1837: Review and report on the final expenditures of Measure S during fiscal year 2013-2014, through its termination on March 31, 2014, to ensure that monies have been expended consistent with the authorized purposes of Measure S.
- B) The Committee shall not have any budgetary decision authority, shall not allocate financial resources, and shall not make budget or service recommendations to the City Council.
- C) The Committee shall not have authority to direct, nor shall it direct, City staff or officials.

#### IV. Committee Structure:

#### A) Appointments

- The City Council shall make appointments to the Committee consistent with the established manner of appointing various City Commissions and related committee members.
- 2) The Committee shall be composed of five (5) members

#### B) Qualification Standards

Members of the Committee shall be at least 18 years of age and reside within the City limits. The Oversight Committee may not include any employee or official of the City, or any vendor, contractor or consultant doing business with the City.

# C) Term

Committee members shall serve for a term of four years. Members' terms are to be staggered; The City Council will determine which three of the initial appointments will be for a two-year term.

# D) Chair and Vice-Chair

The Mayor shall appoint the initial Chair. The Chair shall appoint the initial Vice-Chair. Thereafter, the Committee shall annually elect a chair and a Vice-Chair, who shall act as Chair only when the chair is absent.

#### E) Compensation

The Committee members shall serve without compensation.

#### F) Meetings

- 1) The Committee shall conduct at least one meeting each fiscal year.
- Special meetings may be called by the Committee's chair. Special meetings may also be called by Committee members if three or more members petition the chair for a special meeting.
- 3) All meetings shall be noticed and shall be open to the public in accordance with the Ralph M. Brown Act, Government Code Section 54950 et seq. Each member of the Committee will be given a current copy of the Ralph M. Brown Act.

4) A majority of the Committee members shall constitute a quorum for the transaction of any business.

# G) Vacancies and Removal

- 1) The City Council shall fill any vacancies on the Committee.
- 2) The City Council may remove any Committee member for any reason, including but not limited to, failure to attend two consecutive Committee meetings. Upon a member's removal, his or her seat shall be automatically deemed vacant.

# H) City Support

The City shall provide the Committee with necessary technical and administrative assistance, including:

- 1) Preparation, provision and posting of public notices as required by the Brown Act and in the same manner as noticing City Council meetings.
- 2) Provision of a meeting room, including any available City audio/visual equipment.
- 3) Provision of meeting materials, such as agendas, minutes and supporting reports.
- 4) Retention of Committee records.
- 5) Properly staff all Committee meetings.
- 6) Educate Committee members on municipal finance.

#### I) Termination of Committee

The Measure E TUT Oversight Committee shall automatically disband six (6) months after the end of the fiscal year in which the enabling ordinance is repealed, ruled invalid or terminates under the provisions of the ordinance. The purpose of this time is to allow the Committee to complete its final report.

#### NOTICE TO BOARD & COMMISSION APPLICANTS

#### **REGARDING ETHICS TRAINING**

On January 1, 2006, a new law became effective that requires two (2) hours of ethics training of the local legislative bodies by January 1, 2007. This new law defines a local legislative body as a "Brown Act" governing body, whether permanent or temporary, decision-making or advisory, and created by formal action of the City Council. In other words, any person serving on a City Council, Board, Commission, or Committee created by the Council is subject to this ethics training requirement. After this initial class, training will be required every two years.

Ethics training can be accomplished by taking a 2-hour class, self-study, or an on-line class. You may seek reimbursement for taking any authorized ethics class. The city staff member that is assigned to your committee can help you with the reimbursement process.

After you have completed the ethics class, the original certificate needs to be given to the City Manager's Office for record-keeping, with a copy kept for your records.

# AB 1234 (Salinas). Local Agencies: Compensation and Ethics

Chapter 700, Statutes of 2005 This law does the following:

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  hours of ethics training every two years, if they receive compensation or are reimbursed
  expenses. The training can be in-person, on-line, or self-study.
   For those in office on 1/1/06, the first round of training must be completed by 1/1/07.
- Expense Reimbursement -- Levels: Local agencies which reimburse expenses of members
  of their legislative bodies must adopt written expense reimbursement policies specifying the
  circumstances under which expenses may be reimbursed. The policy may specify rates for
  meals, lodging, travel, and other expenses (or default to the Internal Revenue Service's
  (IRS) guidelines). Local agency officials must also take advantage of conference and
  government rates for transportation and lodging.
- Expense Reimbursement -- Processes: Local agencies, which reimburse expenses, must also provide expense reporting forms; when submitted, such forms must document how the expense reporting meets the requirements of the agency's expense reimbursement policy. Officials attending meetings at agency expense must report briefly back to the legislative body at its next meeting.



Agenda Item No: 4.e

Meeting Date: January 21, 2020

# SAN RAFAEL CITY COUNCIL AGENDA REPORT

**Department: CITY ATTORNEY** 

Prepared by: Lisa Goldfien,

**Assistant City Attorney** 

**City Manager Approval:** 

TOPIC: LEGAL SERVICES CONTRACT

SUBJECT: RESOLUTION APPROVING AND AUTHORIZING THE CITY MANAGER TO EXECUTE

AN AGREEMENT WITH BURKE, WILLIAMS & SORENSEN, LLP FOR LEGAL SERVICES TO SUPPLEMENT STAFF IN THE CITY ATTORNEY'S OFFICE, IN AN

**AMOUNT NOT TO EXCEED \$112,000** 

# **RECOMMENDATION:**

Adopt resolution approving the legal services agreement.

### **BACKGROUND:**

The Deputy City Attorney II position was vacated at the end of May last year, and staff has deferred advertising for a new attorney pending an analysis of the anticipated needs of the office in the next few years. Since June, the City Attorney's office has had an agreement to obtain "on-call" legal services from Nira Doherty, a partner at the firm of Burke, Williams & Sorensen, LLP. The part-time services that Nira and her firm have provided have enabled the office to function without a fulltime deputy city attorney. Staff now wishes to enter into a more formal arrangement for Nira and her firm to provide supplemental deputy city attorney services on a part-time but regular basis that would include regular office hours and vacation coverage for the Assistant City Attorney for the remainder of this fiscal year.

# **ANALYSIS:**

Nira Doherty is an experienced city attorney, litigator, and land use expert. Her litigation and transactional practices emphasize general municipal law, land use and development, CEQA, and code enforcement issues. She serves as General Counsel for the Tahoe Transportation District, and Assistant City Attorney for the cities of Benicia, Ross and Capitola. Nira advises city councils and staff in all areas of municipal law including complex land use, zoning, and development matters, open meeting laws, the Public Records Act, conflicts of interest, CEQA, elections, initiatives, contracts and torts, and conflicts of interest. She also advises municipal clients throughout the state on issues related to cannabis. Nira has spoken extensively on cannabis issues and has successfully represented municipalities in cannabis-related litigation.

	FOR CITY CLERK ONLY
File No.:	
Council Meeting:	
-	
Disposition:	

#### SAN RAFAEL CITY COUNCIL AGENDA REPORT / Page: 2

Staff recommends entering into an agreement with Burke, Williams & Sorensen for Deputy City Attorney services through the end of this fiscal year. Under the agreement, up to 60 hours of legal services would be provided per month for a retainer fee of \$17,000. These services would include regularly scheduled office hours one to two times per week to facilitate face-to-face meetings between Nira and City staff and would also include increased office hours during the vacations or other absences of the Assistant City Attorney. City Attorney staff expects that most services would be provided by Nira, but this agreement would also provide the City Attorney's office with the benefit of access to subject-matter experts in the Burke firm when needed.

City Attorney staff will take steps to fill the Deputy City Attorney position by the beginning of the next fiscal year.

#### **FISCAL IMPACT:**

For a six-month term the retainer fees would amount to \$102,000. Additional services beyond that amount, if any, would be payable at the rate of \$325 per hour for partners and \$295 per hour for associates. Staff anticipates that the monthly retainer amount would ordinarily cover all needed services; however, in the event extra legal services are needed on occasion, Staff recommends that an additional amount of \$10,000 be included in the contract, for a total not-to-exceed amount of \$112,000.

Funds to cover the recommended contract amount are available due to budget savings from the vacant Deputy City Attorney II position.

#### **OPTIONS:**

The City Council has the following options to consider on this matter:

- 1. Adopt the resolution approving the legal services agreement as recommended.
- 2. Adopt the resolution with modifications to the agreement.
- 3. Direct staff to return with more information.
- 4. Take no action.

#### **RECOMMENDED ACTION:**

Adopt the resolution.

#### **ATTACHMENTS:**

- 1. Resolution
- 2. Proposed Agreement for Legal Services

RES	OL	UTIC	N I	NO.	
RES	OL	UTIC	) N (	NO.	

A RESOLUTION OF THE SAN RAFAEL CITY COUNCIL APPROVING AND AUTHORIZING THE CITY MANAGER TO EXECUTE AN AGREEMENT WITH BURKE, WILLIAMS & SORENSEN, LLP FOR LEGAL SERVICES TO SUPPLEMENT STAFF IN THE CITY ATTORNEY'S OFFICE, IN AN AMOUNT NOT TO EXCEED \$112,000

**WHEREAS**, the Deputy City Attorney II position was vacated at the end of May 2019; and

**WHEREAS**, for assistance with overflow work pending the hiring of a new deputy city attorney, the City Attorney's office has had an agreement since June 2019 to obtain "on-call" legal services from the firm of Burke, Williams & Sorensen, LLP (BW&S); and

**WHEREAS**, the part-time services provided by BW&S have enabled the City Attorney's office to function, on a temporary basis, without a fulltime deputy city attorney; and

**WHEREAS**, the City Attorney anticipates that a new deputy city attorney may not be hired before the end of the current fiscal year; and

WHEREAS, City Attorney staff now desire to enter into a more formal arrangement for BW&S to provide supplemental deputy city attorney services on a part-time but regular basis that would include regular office hours and vacation coverage for the Assistant City Attorney for the remainder of the 2019-2020 fiscal year in an amount not to exceed \$112,000, as more specifically set forth in the Agreement for General Municipal Legal Services included in the staff report for this resolution; and

**WHEREAS**, funds to cover the recommended contract amount are available due to budget savings from the vacant Deputy City Attorney II position;

**NOW, THEREFORE, BE IT RESOLVED** that the City Council of the City of San Rafael hereby approves and authorizes the City Manager to execute an Agreement of General Municipal Legal Services with Burke, Williams & Sorensen, LLP for legal services to supplement staff in the City Attorney's office in an amount not to exceed \$112,000, in the form presented in the staff report accompanying this resolution, subject to final approval as to form by the City Attorney.

I, LINDSAY LARA, Clerk of the City of San Rafael, hereby certify that the foregoing resolution was duly and regularly introduced and adopted at a regular meeting of the Council of said City on Tuesday, the 21<sup>st</sup> day of January 2020, by the following vote, to wit:

AYES: COUNCILMEMBERS:

NOES: COUNCILMEMBERS:

ABSENT: COUNCILMEMBERS:

LINDSAY LARA, City Clerk

### AGREEMENT FOR

# **GENERAL MUNICIPAL LEGAL SERVICES**

	This Agr	eement is	made and	ent	tered	into this	day of			,
20	, by and	between	the CITY	OF	SAN	RAFAEL	(hereinafter	"CITY"),	and	BURKE,
WILLI	AMS & S	ORENSE	N, LLP (he	rein	after '	CONTRA	CTOR").	The second		

# AGREEMENT

NOW, THEREFORE, the parties hereby agree as follows:

# PROJECT COORDINATION.

- A. CITY'S Project Manager. The Assistant City Attorney is hereby designated the PROJECT MANAGER for the CITY, and said PROJECT MANAGER shall supervise all aspects of the progress and execution of this Agreement.
- B. CONTRACTOR'S Project Director. CONTRACTOR shall assign a single PROJECT DIRECTOR to have overall responsibility for the progress and execution of this Agreement for CONTRACTOR. Nira Doherty is hereby designated as the PROJECT DIRECTOR for CONTRACTOR. Should circumstances or conditions subsequent to the execution of this Agreement require a substitute PROJECT DIRECTOR, for any reason, the CONTRACTOR shall notify the CITY within ten (10) business days of the substitution.

# DUTIES OF CONTRACTOR.

CONTRACTOR shall perform the duties and/or provide services as follows:

- 1. Representation and advice regarding general municipal matters for the City Attorney's office and for the City Council, City Manager, Boards and Commissions and City staff as directed and delegated by the City Attorney's office.
- Attendance at Council meetings and staff meetings as directed and delegated by the City Attorney's office.
- 3. Office hours at City Hall in an agreed upon schedule by the parties (intent is for office hours to be at least two half days a week.)

This Agreement shall include all general municipal legal services which includes all legal services with the exception of special counsel services. Special counsel services include:

Litigation

- o Arbitration
- o Complex construction
- Eminent domain
- Complex personnel matters including disciplinary actions (routine personnel matters and advice are included within the Agreement.)
- Imposition of fees and taxes pursuant to Props 26 and 218

# DUTIES OF CITY.

CITY shall pay the compensation as provided in Paragraph 4.

# COMPENSATION.

For the full performance of the services described herein by CONTRACTOR, CITY shall pay CONTRACTOR as follows:

A flat monthly retainer of \$17,000/month for up to 60 hours of Deputy City Attorney legal services. After 60 hours, CONTRACTOR's standard public agency rates apply:

- o \$325/hour partners
- \$295/hour associates

Payment will be made monthly upon receipt by PROJECT MANAGER of itemized invoices submitted by **CONTRACTOR**.

# TERM OF AGREEMENT.

The term of this Agreement shall be for six (6) months commencing on January 6, 2020 and ending on July 6, 2020.

### TERMINATION.

- A. **Discretionary**. Either party may terminate this Agreement without cause upon thirty (30) days written notice mailed or personally delivered to the other party.
- B. Cause. Either party may terminate this Agreement for cause upon fifteen (15) days written notice mailed or personally delivered to the other party, and the notified party's failure to cure or correct the cause of the termination, to the reasonable satisfaction of the party giving such notice, within such fifteen (15) day time period.
- C. Effect of Termination. Upon receipt of notice of termination, neither party shall incur additional obligations under any provision of this Agreement without the prior written consent of the other.

D. Return of Documents. Upon termination, any and all CITY documents or materials provided to CONTRACTOR and any and all of CONTRACTOR's documents and materials prepared for or relating to the performance of its duties under this Agreement, shall be delivered to CITY as soon as possible, but not later than thirty (30) days after termination.

# OWNERSHIP OF DOCUMENTS.

The written documents and materials prepared by the **CONTRACTOR** in connection with the performance of its duties under this Agreement, shall be the sole property of **CITY**. **CITY** may use said property for any purpose, including projects not contemplated by this Agreement.

# INSPECTION AND AUDIT.

Upon reasonable notice, **CONTRACTOR** shall make available to **CITY**, or its agent, for inspection and audit, all documents and materials maintained by **CONTRACTOR** in connection with its performance of its duties under this Agreement. **CONTRACTOR** shall fully cooperate with **CITY** or its agent in any such audit or inspection.

# ASSIGNABILITY.

The parties agree that they shall not assign or transfer any interest in this Agreement nor the performance of any of their respective obligations hereunder, without the prior written consent of the other party, and any attempt to so assign this Agreement or any rights, duties or obligations arising hereunder shall be void and of no effect.

# 10. INSURANCE.

- A. Scope of Coverage. During the term of this Agreement, CONTRACTOR shall maintain, at no expense to CITY, the following insurance policies:
- A commercial general liability insurance policy in the minimum amount of one million dollars (\$1,000,000) per occurrence/two million dollars (\$2,000,000) aggregate, for death, bodily injury, personal injury, or property damage.
- 2. An automobile liability (owned, non-owned, and hired vehicles) insurance policy in the minimum amount of one million dollars (\$1,000,000) dollars per occurrence.
- 3. If any licensed professional performs any of the services required to be performed under this Agreement, a professional liability insurance policy in the minimum amount of one million dollars (\$1,000,000) per occurrence/two million dollars (\$2,000,000) aggregate, to cover any claims arising out of the CONTRACTOR's performance of services under this Agreement. Where CONTRACTOR is a professional not required to have a professional license, CITY reserves the right to require CONTRACTOR to provide

professional liability insurance pursuant to this section.

- 4. If it employs any person, CONTRACTOR shall maintain worker's compensation insurance, as required by the State of California, with statutory limits, and employer's liability insurance with limits of no less than one million dollars (\$1,000,000) per accident for bodily injury or disease. CONTRACTOR's worker's compensation insurance shall be specifically endorsed to waive any right of subrogation against CITY.
- B. Other Insurance Requirements. The insurance coverage required of the CONTRACTOR in subparagraph A of this section above shall also meet the following requirements:
- Except for professional liability insurance or worker's compensation insurance, the insurance policies shall be specifically endorsed to include the CITY, its officers, agents, employees, and volunteers, as additional insureds (for both ongoing and completed operations) under the policies.
- 2. The additional insured coverage under **CONTRACTOR'S** insurance policies shall be "primary and noncontributory" with respect to any insurance or coverage maintained by **CITY** and shall not call upon **CITY's** insurance or self-insurance coverage for any contribution. The "primary and noncontributory" coverage in **CONTRACTOR'S** policies shall be at least as broad as ISO form CG20 01 04 13.
- Except for professional liability insurance or worker's compensation insurance, the insurance policies shall include, in their text or by endorsement, coverage for contractual liability and personal injury.
- 4. By execution of this Agreement, CONTRACTOR hereby grants to CITY a waiver of any right to subrogation which any insurer of CONTRACTOR may acquire against CITY by virtue of the payment of any loss under such insurance. CONTRACTOR agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation, but this provision applies regardless of whether or not CITY has received a waiver of subrogation endorsement from the insurer.
- 5. If the insurance is written on a Claims Made Form, then, following termination of this Agreement, said insurance coverage shall survive for a period of not less than five years.
- 6. The insurance policies shall provide for a retroactive date of placement coinciding with the effective date of this Agreement.
- 7. The limits of insurance required in this Agreement may be satisfied by a combination of primary and umbrella or excess insurance. Any umbrella or excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and noncontributory basis for the benefit of CITY (if agreed to in a written contract or agreement) before CITY'S own insurance or self-insurance shall be called upon

to protect it as a named insured.

- 8. It shall be a requirement under this Agreement that any available insurance proceeds broader than or in excess of the specified minimum insurance coverage requirements and/or limits shall be available to CITY or any other additional insured party. Furthermore, the requirements for coverage and limits shall be: (1) the minimum coverage and limits specified in this Agreement; or (2) the broader coverage and maximum limits of coverage of any insurance policy or proceeds available to the named insured; whichever is greater. No representation is made that the minimum Insurance requirements of this agreement are sufficient to cover the obligations of the CONTRACTOR under this agreement.
- C. Deductibles and SIR's. Any deductibles or self-insured retentions in CONTRACTOR's insurance policies must be declared to and approved by the PROJECT MANAGER and City Attorney, and shall not reduce the limits of liability. Policies containing any self-insured retention (SIR) provision shall provide or be endorsed to provide that the SIR may be satisfied by either the named insured or CITY or other additional insured party. At CITY's option, the deductibles or self-insured retentions with respect to CITY shall be reduced or eliminated to CITY's satisfaction, or CONTRACTOR shall procure a bond guaranteeing payment of losses and related investigations, claims administration, attorney's fees and defense expenses.
- D. **Proof of Insurance**. **CONTRACTOR** shall provide to the PROJECT MANAGER or **CITY'S** City Attorney all of the following: (1) Certificates of Insurance evidencing the insurance coverage required in this Agreement; (2) a copy of the policy declaration page and/or endorsement page listing all policy endorsements for the commercial general liability policy, and (3) excerpts of policy language or specific endorsements evidencing the other insurance requirements set forth in this Agreement. **CITY** reserves the right to obtain a full certified copy of any insurance policy and endorsements from **CONTRACTOR**. Failure to exercise this right shall not constitute a waiver of the right to exercise it later. The insurance shall be approved as to form and sufficiency by PROJECT MANAGER and the City Attorney.

#### INDEMNIFICATION.

A. Except as otherwise provided in Paragraph B., CONTRACTOR shall, to the fullest extent permitted by law, indemnify, release, defend with counsel approved by CITY, and hold harmless CITY, its officers, agents, employees and volunteers (collectively, the "City Indemnitees"), from and against any claim, demand, suit, judgment, loss, liability or expense of any kind, including but not limited to attorney's fees, expert fees and all other costs and fees of litigation, (collectively "CLAIMS"), arising out of CONTRACTOR'S performance of its obligations or conduct of its operations under this Agreement. The CONTRACTOR's obligations apply regardless of whether or not a liability is caused or contributed to by the active or passive negligence of the City Indemnitees. However, to the extent that liability is caused by the active negligence or willful misconduct of the City Indemnitees, the CONTRACTOR's indemnification

obligation shall be reduced in proportion to the City Indemnitees' share of liability for the active negligence or willful misconduct. In addition, the acceptance or approval of the CONTRACTOR's work or work product by the CITY or any of its directors, officers or employees shall not relieve or reduce the CONTRACTOR's indemnification obligations. In the event the City Indemnitees are made a party to any action, lawsuit, or other adversarial proceeding arising from CONTRACTOR'S performance of or operations under this Agreement, CONTRACTOR shall provide a defense to the City Indemnitees or at CITY'S option reimburse the City Indemnitees their costs of defense, including reasonable attorneys' fees, incurred in defense of such claims.

- Where the services to be provided by CONTRACTOR under this B. Agreement are design professional services to be performed by a design professional as that term is defined under Civil Code Section 2782.8, then, to the extent permitted by law including without limitation, Civil Code sections 2782, 2782.6 and 2782.8, CONTRACTOR shall indemnify and hold harmless the CITY and its officers, officials, and employees (collectively City Indemnitees) from and against damages, liabilities or costs (including incidental damages. Court costs, reasonable attorney's fees as may be determined by the Court, litigation expenses and fees of expert witnesses incurred in connection therewith and costs of investigation) to the extent they are caused by the recklessness, or willful misconduct of CONTRACTOR. negligence. subconsultants, or subcontractor or anyone directly or indirectly employed by them, or anyone for whom they are legally liable (collectively Liabilities). Such obligation to hold harmless and indemnify any indemnity shall not apply to the extent that such Liabilities are caused in part by the negligence or willful misconduct of such City Indemnitee.
- C. The defense and indemnification obligations of this Agreement are undertaken in addition to, and shall not in any way be limited by, the insurance obligations contained in this Agreement, and shall survive the termination or completion of this Agreement for the full period of time allowed by law.

#### 12. NONDISCRIMINATION.

CONTRACTOR shall not discriminate, in any way, against any person on the basis of age, sex, race, color, religion, ancestry, national origin or disability in connection with or related to the performance of its duties and obligations under this Agreement.

#### COMPLIANCE WITH ALL LAWS.

CONTRACTOR shall observe and comply with all applicable federal, state and local laws, ordinances, codes and regulations, in the performance of its duties and obligations under this Agreement. CONTRACTOR shall perform all services under this Agreement in accordance with these laws, ordinances, codes and regulations. CONTRACTOR shall release, defend, indemnify and hold harmless CITY, its officers, agents and employees from any and all damages, liabilities, penalties, fines and all other consequences from any noncompliance or violation of any laws, ordinances, codes or regulations.

#### NO THIRD PARTY BENEFICIARIES.

CITY and CONTRACTOR do not intend, by any provision of this Agreement, to create in any third party, any benefit or right owed by one party, under the terms and conditions of this Agreement, to the other party.

#### NOTICES.

All notices and other communications required or permitted to be given under this Agreement, including any notice of change of address, shall be in writing and given by personal delivery, or deposited with the United States Postal Service, postage prepaid, addressed to the parties intended to be notified. Notice shall be deemed given as of the date of personal delivery, or if mailed, upon the date of deposit with the United States Postal Service. Notice shall be given as follows:

TO CITY's Project Manager: Lisa Goldfien

City of San Rafael 1400 Fifth Avenue San Rafael, CA 94901

TO CONTRACTOR's Project Director: Nira

Nira Doherty

Burke, Williams & Sorensen, LLP

181 Third Street

San Rafael, CA 94901

# INDEPENDENT CONTRACTOR.

For the purposes, and for the duration, of this Agreement, CONTRACTOR, its officers, agents and employees shall act in the capacity of an Independent Contractor, and not as employees of the CITY. CONTRACTOR and CITY expressly intend and agree that the status of CONTRACTOR, its officers, agents and employees be that of an Independent Contractor and not that of an employee of CITY.

# 17. ENTIRE AGREEMENT -- AMENDMENTS.

- A. The terms and conditions of this Agreement, all exhibits attached, and all documents expressly incorporated by reference, represent the entire Agreement of the parties with respect to the subject matter of this Agreement.
- B. This written Agreement shall supersede any and all prior agreements, oral or written, regarding the subject matter between the **CONTRACTOR** and the **CITY**.
- C. No other agreement, promise or statement, written or oral, relating to the subject matter of this Agreement, shall be valid or binding, except by way of a written amendment to this Agreement.

- D. The terms and conditions of this Agreement shall not be altered or modified except by a written amendment to this Agreement signed by the **CONTRACTOR** and the **CITY**.
- E. If any conflicts arise between the terms and conditions of this Agreement, and the terms and conditions of the attached exhibits or the documents expressly incorporated by reference, the terms and conditions of this Agreement shall control.

#### 18. SET-OFF AGAINST DEBTS.

CONTRACTOR agrees that CITY may deduct from any payment due to CONTRACTOR under this Agreement, any monies which CONTRACTOR owes CITY under any ordinance, agreement, contract or resolution for any unpaid taxes, fees, licenses, assessments, unpaid checks or other amounts.

#### WAIVERS.

The waiver by either party of any breach or violation of any term, covenant or condition of this Agreement, or of any ordinance, law or regulation, shall not be deemed to be a waiver of any other term, covenant, condition, ordinance, law or regulation, or of any subsequent breach or violation of the same or other term, covenant, condition, ordinance, law or regulation. The subsequent acceptance by either party of any fee, performance, or other consideration which may become due or owing under this Agreement, shall not be deemed to be a waiver of any preceding breach or violation by the other party of any term, condition, covenant of this Agreement or any applicable law, ordinance or regulation.

#### COSTS AND ATTORNEY'S FEES.

The prevailing party in any action brought to enforce the terms and conditions of this Agreement, or arising out of the performance of this Agreement, may recover its reasonable costs (including claims administration) and attorney's fees expended in connection with such action.

#### CITY BUSINESS LICENSE / OTHER TAXES.

CONTRACTOR shall obtain and maintain during the duration of this Agreement, a CITY business license as required by the San Rafael Municipal Code CONTRACTOR shall pay any and all state and federal taxes and any other applicable taxes. CITY shall not be required to pay for any work performed under this Agreement, until CONTRACTOR has provided CITY with a completed Internal Revenue Service Form W-9 (Request for Taxpayer Identification Number and Certification).

#### SURVIVAL OF TERMS.

Any terms of this Agreement that by their nature extend beyond the term (or

termination) of this Agreement shall remain in effect until fulfilled, and shall apply to both Parties' respective successors and assigns.

#### APPLICABLE LAW.

The laws of the State of California shall govern this Agreement.

# 24. COUNTERPARTS AND ELECTRONIC SIGNATURE.

This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, but all of which together shall constitute one document. Counterpart signature pages may be delivered by telecopier, email or other means of electronic transmission.

**IN WITNESS WHEREOF**, the parties have executed this Agreement as of the day, month and year first above written.

CITY OF SAN RAFAEL	CONTRACTOR
By: JIM SCHUTZ, City Manager	By:
	Name: Niva Doherty  Title: Parthur, Burke Williams: Sorensus
ATTEST:	
	[If Contractor is a corporation, add signature of second corporate officer]
LINDSAY LARA, City Clerk	
	Ву:
APPROVED AS TO FORM:	Name:
	Title:
ROBERT F. EPSTEIN, City Attorney	



Agenda Item No: 4.f

Meeting Date: January 21, 2020

#### SAN RAFAEL CITY COUNCIL AGENDA REPORT

**Department: City Manager** 

Prepared by: Robert Epstein, City Attorney

Lisa Goldfien, Asst. City Attorney

**City Manager Approval:** 

TOPIC:

REVISED EMPLOYMENT AGREEMENT BETWEEN THE CITY OF SAN RAFAEL AND

**CITY MANAGER** 

SUBJECT:

RESOLUTION APPROVING AND AUTHORIZING THE MAYOR TO EXECUTE A REVISED EMPLOYMENT AGREEMENT BETWEEN THE CITY AND CITY MANAGER JAMES M. SCHUTZ TO AMEND AND CLARIFY LANGUAGE, BUT WITH NO

**COMPENSATION INCREASE** 

#### **RECOMMENDATION:**

Adopt the resolution as presented.

#### **BACKGROUND:**

The current City Manager, Jim Schutz, was appointed to the position on August 1, 2015. At the time of appointment an employment agreement ("Employment Agreement") defining the terms of his employment as City Manager with the City of San Rafael was also adopted by City Council. The Employment Agreement provides in section 8 that "This Agreement may be amended at any time by mutual written agreement of the City and the City Manager."

The Employment Agreement was amended in December 2017 to clarify certain existing provisions and to alter the term of the contract. Following the City Manager's annual performance review held in October 2019, the City Council and City Manager seek to amend the Agreement to make minor clarifying changes.

#### ANALYSIS:

The City Council met with the City Manager in October 2019 for the purpose of conducting his annual performance review. In January 2020, the Mayor and Vice Mayor met with the City Manager to review the performance evaluation. The City Council's evaluation of the City Manager was very positive. At that time, amendments to the Employment Agreement were discussed including provisions that would make the contract more consistent with existing procedures and reflect best practices for city management employment contracts. In addition, there was a request to clarify certain retirement benefits that were included in the original Agreement. This report provides for the approval of a revised Employment Agreement that resulted from those discussions. A redlined copy of the amended Employment Agreement showing the proposed changes is attached as Attachment 2 to this report.

	FOR CITY CLERK ONLY	
	. C. C SEERIN CHE	
File No ·		

**Council Meeting:** 

**Disposition:** 

#### SAN RAFAEL CITY COUNCIL AGENDA REPORT / Page: 2

As proposed in the attached revised Employment Agreement, the revised agreement would take effect upon adoption by the City Council. The terms of employment are largely unchanged from the terms of the original Agreement, but additional language has been included in some provisions to clarify and more accurately reflect the intention of the City Council and City Manager. All terms remain the same except for the following:

- <u>Commitments and Understandings</u>: The City Manager's duties and authority in Section 4.A(1)(c)(iv) have been amended by adding the clarifying language underlined below:
  - (iv) Endeavor to implement changes that the City Manager believes will result in greater efficiency, economy, or improved public service in the administration of City affairs. This includes modernizing City services and employing a community-centered approach to service design.
- <u>Commitments and Understandings</u>: The City's commitments in Section 4.B(9) have been amended to add the clarifying language underlined below:
  - (9) The City Council agrees none of its individual members will order the appointment or removal of any person to any office or employment under the supervision and control of the City Manager. Notwithstanding, the City Council will work with the City Manager to assess, interview, and select the positions of Police Chief and Fire Chief.
- Pension/Benefits: The City Manager's pension and retiree health insurance benefits in Section 6.A(2) have been amended as shown by strike-out/underline below to more clearly and accurately reflect the benefit level that was in place at the City Manager's date of hire with the City of San Rafael:
  - (2) Unless required by changes in State or Federal law, should City Manager retire from City, his future MCERA pension and retiree health insurance benefits ("retirement rights and benefits") shall be guaranteed and vested at the same benefit level as they were at the his original date of hire which was January 2, 2007. this Agreement on March 16, 2015 and as described in Section 3.A.2. "Health Insurance for Retirees" of Resolution No. 13741 dated June 16, 2014, and attached as Exhibit A, which section is hereby adopted and incorporated by reference herein For purposes of retiree health insurance, the benefit at that time covered full retiree medical premiums including all Medicare premiums without limitations. The parties expressly agree and confirm that the retirement rights and benefits in place at the City Manager's date of hire have been and continue to be a material part of the consideration given for City Manager's acceptance of employment with the City conferred in that section shall apply to the City Manager.
- <u>Separation</u>: The provisions regarding the City Manager's separation from the City and severance pay in Section 7.C. have been amended to include the additional provision underlined below, which is a standard protection in City Manager contracts:
  - C) Severance Pay
    - (1) In the event that the City Manager is terminated by the City Council during such time that the City Manager is willing and able to perform his duties under this Agreement, then the City agrees to pay the City Manager a lump sum cash payment equal to six months' base

#### SAN RAFAEL CITY COUNCIL AGENDA REPORT / Page: 3

salary and benefits. It is the intention of the parties that this paragraph complies with the requirements of Government Code Section 53260 et. seq. In the event of any conflict between this provision and those code sections, the terms of those code sections shall govern the contractual relationship between the employer and employee.

- (2) In addition, the City shall extend to the City Manager the right to continue health insurance as may be required by and pursuant to the terms and conditions of the Consolidated Omnibus Budget Reconciliation Act Of 1986 (COBRA).
- (3) All payments required under Section 7.C (I), and (2), are subject to and shall be interpreted to comply with the limitations set forth in Government Code Section 53260.
- (4) In no event may City Manager be terminated within ninety (90) days before or after any municipal election for the selection or recall of one or more members of the City Council.

#### **FISCAL IMPACT:**

There is no immediate fiscal impact to this decision as the current budget reflects the cost of total compensation reflected in the Employment Agreement. There is no increase in total compensation from the current City Manager's agreement.

#### **OPTIONS:**

The City Council has the following options to consider on this matter:

- 1. Adopt resolution as presented.
- 2. Adopt resolution with modifications.
- 3. Direct staff to return with more information.
- 4. Take no action.

#### **RECOMMENDED ACTION:**

Adopt resolution.

#### **ATTACHMENTS:**

- 1. Resolution with Exhibit A: Proposed revised Employment Agreement with James M. Schutz
- 2. Proposed revised Employment Agreement (redlined)

<b>RESOL</b>	<b>UTION</b>	NO.	

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SAN RAFAEL APPROVING AND AUTHORIZING THE MAYOR TO EXECUTE A REVISED EMPLOYMENT AGREEMENT BETWEEN THE CITY AND CITY MANAGER JAMES M. SCHUTZ TO AMEND AND CLARIFY LANGUAGE, BUT WITH NO COMPENSATION INCREASE

**WHEREAS**, James M. Schutz has been employed by the City of San Rafael for thirteen years, first as Assistant City Manager and as City Manager during the past five years; and

WHEREAS, at its regular meeting on March 16, 2015, the City Council appointed James M. Schutz as City Manager pursuant to an employment agreement executed on that date (the "Employment Agreement"); and

**WHEREAS,** at its regular meeting on December 18, 2017, the City Council approved an amendment to the Employment Agreement to clarify certain existing terms and to provide for a rolling three-year contract term; and

**WHEREAS**, the City Council desires to amend the employment agreement between the City and James M. Schutz as the City Manager for the City of San Rafael as set forth in Exhibit A attached hereto and incorporated herein by reference; and

WHEREAS, the revised terms in Exhibit A clarify and more accurately reflect the intention of the City Council and City Manager regarding certain existing terms of the Employment Agreement; and

**WHEREAS**, there are no substantive changes to the City Manager's overall compensation or to any retirement benefits provided for in the original Employment Agreement; and

WHEREAS, James M. Schutz has provided exemplary service to the City and continues to be qualified and willing to perform the duties and services of the position of City Manager in San Rafael.

**NOW, THEREFORE, BE IT RESOLVED,** that the City Council of the City of San Rafael hereby approves and directs the Mayor to execute, a revised Employment Agreement between the City and James M. Schutz in the form attached hereto as Exhibit A and incorporated herein by reference, to take effect immediately upon execution.

**I, LINDSAY LARA**, City Clerk of the City of San Rafael, hereby certify that the foregoing resolution was duly and regularly introduced and adopted at a regular meeting of the City Council of said City held on the 21<sup>st</sup> day of January 2020, by the following vote, to wit:

		LINDSAY LARA City Clerk
ABSENT:	Councilmembers:	
NOES:	Councilmembers:	
AYES:	Councilmembers:	

# CITY MANAGER EMPLOYMENT AGREEMENT Between the City of San Rafael and James M. Schutz

# March 16, 2015 (Effective August 1, 2015) (Revised as of December 18, 2017) (Revised January 21, 2020)

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# CITY MANAGER EMPLOYMENT AGREEMENT Between the City of San Rafael and James M. Schutz

- 1) Parties, Date, and Other Recitals This Agreement is entered into as of March 16, 2015, and will take effect beginning August 1, 2015, by and between the City of San Rafael a municipal corporation ("the City"), and James M. Schutz ("Schutz" or "City Manager"). The City and the City Manager are sometimes individually referred to as a "Party" and collectively as "Parties."
  - A) The City requires the services of a City Manager.
  - B) The City Manager has the necessary education, experience, skills, and expertise to serve as the City's City Manager.
  - C) The City Council of the City desires to employ the City Manager to serve as the City Manager of City.
  - D) The Parties desire to execute this Agreement pursuant to the authority of and subject to the provisions of Government Code Section 53260 et seq.
  - E) In consideration of these Recitals and the performance by the Parties of the promises, covenants, and conditions herein contained, the Parties agree to the terms set forth in this Agreement.
- 2) <u>Employment</u> The City hereby employs Schutz as its City Manager, and Schutz hereby accepts such employment on the terms and conditions that are recited herein.
- 3) <u>Term</u>-

The Term of the agreement shall be for a period of three years commencing on August 1, 2017 and continuing July 31, 2020 This agreement shall be effective for a rolling three (3) year term, automatically extending for one (1) additional year effective July 31 of each year, unless either party provides notice to the other of its intent to terminate this agreement on or before May 31 of any year. If such notice is provided, the term of this Agreement shall expire at the end of the then-current three (3) year term without any additional extensions and without the need for any additional notice, unless it is subsequently terminated at an earlier date in accordance with Section 7 of this Agreement.

# 4) Commitments and Understandings

- A) City Manager's Commitments
  - (1) Duties & Authority
    - (a) The City Manager shall be the chief executive officer of the City and be responsible to the City Council for the proper administration of all affairs of the City.
    - (b) The City Manager shall perform all of the duties of the City Manager as set forth in Section 2.08 of the San Rafael Municipal Code, applicable provisions of the California Government Code, and City policies and procedures

- approved by the City Council, as may be provided from time to time. The City Council has designated and may also designate the City Manager as the chief executive of other City-related legal entities. Such other legal entities include financing authorities and joint powers authorities.
- (c) The City Manager shall administer and enforce policies established by the City Council and promulgate rules and regulations as necessary to implement such policies. To accomplish this, the City Manager shall be required to:
  - (i) Attend all meetings of the City Council, unless excused by the Mayor.
  - (ii) Review all agenda documents before preparing the agenda for all regular or special meetings of the City Council.
  - (iii) Direct the work of all appointive City officers and departments.
  - (iv) Endeavor to implement changes that the City Manager believes will result in greater efficiency, economy, or improved public service in the administration of City affairs. This includes modernizing City services and employing a community-centered approach to service design.
  - (v) From time to time, recommend to the City Council adoption of such measures as the City Manager may deem necessary or expedient for the health, safety, or welfare of the community, or for the improvement of administrative services. The City Manager shall conduct research in administrative practices in order to bring about greater efficiency and economy in City government, and develop and recommend to the City Council long-range plans to improve City operations and prepare for future City growth and development.
  - (vi) From time to time, and based on the City Manager's best judgment, propose to the City Council the consolidation or combination of offices, positions, departments, or units under the City Manager's jurisdiction. The City Manager may be the head of one or more City departments.
  - (vii) Provide management training and develop leadership qualities among department heads and staff as necessary to build a City management team that can plan for and meet future challenges.
  - (viii) Exercise control of City government in emergencies as authorized by the Municipal code and California law.

#### (2) Hours of Work

- (a) The City Manager is an exempt employee. The City Manager is expected to engage in those hours of work that are necessary to fulfill the obligations of the position. The position does not have set hours of work and the City Manager is expected to be available, as necessary, at all times.
- (b) It is recognized that the City Manager must devote substantial time to the business of the City, outside of the City's customary business hours, and to that end the City Manager's schedule of work each day and week shall vary in accordance with the work required to be performed. The City Manager shall spend sufficient hours on site to perform his duties; however, the City

- Manager has discretion over the City Manager's work schedule and work location.
- (c) The City Manager shall not spend more than 12 hours per month in teaching, consulting, speaking, or other non-City connected business for which compensation is paid without the express prior written consent of the City Council.

#### (3) Disability or Inability to Perform

(a) In the event the City Manager becomes mentally or physically incapable of performing the City Manager's functions and duties taking into account reasonable accommodation, and it reasonably appears such incapacity will last for more than six months, the City Council may terminate the City Manager. If the City Council does elect to terminate the City Manager due to incapacity, the City Manager shall receive all severance benefits provided in Section 7.C below.

#### B) City Commitments

- (1) The City shall provide the City Manager with the compensation, incentives, and benefits specified in this Agreement, as from time to time may be amended with written consent of both parties.
- (2) The City shall provide the City Manager with a private office, administrative support, staff, office equipment, supplies, automobile allowance, and all other facilities and services reasonably necessary for the performance of his duties.
- (3) The City shall pay for (or provide the City Manager reimbursement for) all actual business expenses. The City shall provide the City Manager a City credit card to charge appropriate and lawful City business expenses.
- (4) The City agrees to pay the professional dues, subscriptions, travel, and subsistence expenses on behalf of the City Manager which are necessary for the City Manager's continuation and full participation in national, regional, state, or local associations and organizations necessary and desirable for the City Manager's continued professional growth and advancement. Said reimbursement includes governmental groups and committees upon which the City Manager serves or may serve as a member. Said expenses may also be reimbursed or paid for on behalf of the City Manager for short courses, institutes and seminars that are necessary for the professional development of the City Manager.
- (5) Given the importance of technological tools to the effective and efficient conduct of the City's business, the City shall provide computer, laptop computer, printer, high-speed internet access, cellular phone, iPad or subsequent type devices, electronic calendar, fax, copy machine and similar devices to the City Manager at the City's expense, both at the City Manager's office and at the City Manager's residence as needed to carry out the duties of the position. All such equipment shall remain the property of the City.
- (6) The City Council sets policy for the governance and administration of the City, and it implements its policies through the City Manager.

- (7) The City Council recognizes that to meet the challenges facing the City it must exercise decisive policy leadership. As one step in carrying out this leadership responsibility, the City Council commits to spending time each year outside of regular City Council meetings to work with the City Manager and staff on setting goals and priorities for the City government, and to work on issues that may be inhibiting the maximal achievement of City goals.
- (8) Except for the purpose of inquiry, the City Council and its members shall deal with all subordinate City employees, officers, contractors, and consultants solely through the City Manager or the City Manager's designee, and neither the City Council nor any member thereof shall give orders to any subordinate of the City Manager, either publicly or privately.
- (9) The City Council agrees none of its individual members will order the appointment or removal of any person to any office or employment under the supervision and control of the City Manager. Notwithstanding, the City Council will work with the City Manager to assess, interview, and select the positions of Police Chief and Fire Chief.
- (10) The City Council agrees that any criticism of a City staff member shall be done privately through the City Manager.
- (11) Neither the City Council nor any of its members shall interfere with the execution of the powers and duties of the City Manager. The City Manager shall take orders and instructions from the City Council only when it is sitting as a body in a lawfully held meeting.

#### C) Mutual Commitments

- (1) Performance Evaluation
  - (a) Annual performance evaluations are an important way for the City Council and City Manager to ensure effective communications about expectations and performance.
  - (b) The City Council recognizes that for the City Manager to respond to its needs and to grow in the performance of the City Manager's job, the City Manager needs to be advised how the City Council members evaluate the City Manager's performance.
  - (c) To assure that the City Manager receives this information, the City Council shall conduct an evaluation of the City Manager's performance at least once each year and during the first year the City Council shall evaluate Schutz after six months. The City Council and the City Manager agree that performance evaluations, for the purpose of mid-course corrections, may occur quarterly or several times during each calendar year. In addition, the City Council may choose to establish a sub-committee to meet with the City Manager periodically over the course of each year to measure progress on stated goals and priorities. The annual evaluation shall occur between June and July of each year.
  - (d) The annual review and evaluation shall be in accordance with specific criteria developed jointly by the City Council and the City Manager. Such criteria

may be added to or deleted as the City Council may from time to time determine in consultation with the City Manager.

- (i) The City Council and the City Manager shall define such goals and performance objectives as they mutually determine are necessary for the proper operation of the City for the attainment of the City Council's policy objectives, and the City Council and the City Manager shall further establish a relative priority among those goals and performance objectives.
- 5) <u>COMPENSATION</u> The City agrees to provide the following compensation to the City Manager during the term of the agreement:
  - A) Compensation & Required Employer Costs
    - (1) Base Salary
      - (a) The annual salary for the position of City Manager shall remain unchanged from the predecessor's annual salary at the time of her separation.
      - (b) The City Council shall review the manager's salary and benefits annually and may consider performance bonuses or salary adjustments at the sole discretion of the City Council. Based upon the Manager's performance and availability of funds, it is the intent of the City Council to compensate the Manager in a manner consistent with the nature and scope of the assigned duties and responsibilities and in light thereof to endeavor to make the Manager the highest paid City Manager in the County of Marin.
    - (2) Required Employer Costs
      - (a) Federal Insurance Contributions Act (FICA) (if applicable).
      - (b) Medicare.
      - (c) Unemployment Compensation.
      - (d) The cost of any fidelity or other bonds required by law for the City Manager.
      - (e) The cost to defend and indemnify the City Manager as provided in Section 8.C below.
      - (f) Workers Compensation.

# B) Benefits

- (1) Holidays The City Manager is entitled to paid holidays in accordance with the provisions of the salary and benefit plan for the Unrepresented Executive Management Group.
- (2) Leave Allowance
  - (a) The City Manager shall receive the same vacation accrual and benefits as provided to the Unrepresented Executive Management class of City employees.
  - (b) The City Manager shall receive the same sick leave accrual and benefits as provided to the Unrepresented Executive Management class of City

- employees. Sick Leave accrual is based upon tenured employment with the City.
- (c) City Manager shall be entitled to administrative leave per year in accordance with the provisions of the Salary and Benefit Plan for the Unrepresented Executive Management Group.
- (d) All vacation, administrative and sick leave hours already accumulated by the City Manager during the time of his previous positions of employment with the City of San Rafael are carried forward and made applicable in the new position as City Manager.
- (3) Automobile The City Manager shall be provided a monthly automobile allowance of \$400.00 in exchange for making his vehicle available for the City Manager's own use and for City-related business and/or functions during, before, and after normal work hours. Said allowance is intended to defray costs that the City Manager incurs in utilizing his personal vehicle for City business. The automobile allowance shall appear on the City Manager's payroll stub as ordinary income and part of his salary, but shall not be considered part of the City Manager's base salary for purposes of this Agreement.
- (4) Benefits that Accrue to Other Employees The City Manager shall be entitled to all benefits, rights, and privileges accorded to non-public safety City Department Directors, including, but not limited to, group health and dental insurance, except as otherwise provided in this Agreement. If there is any conflict between this Agreement and any resolution fixing compensation and benefits for non-public safety City Department Directors or other unclassified employees, this Agreement shall control. As is past practice, this paragraph is intended to include salary and salary-related compensation. City Manager shall receive at least the same salary and salary-related adjustments as provided to the Unrepresented Executive Management class of City employees.

#### 6) **SECURITY**

- A) Pensions Marin County Employee Retirement Association (MCERA)
  - (1) City will pay only the City's Share for participation in the Marin County Employee Retirement Association. The City Manager shall pay the employee share.
  - (2) Unless required by changes in State or Federal law, should City Manager retire from City, his future MCERA pension and retiree health insurance benefits ("retirement rights and benefits") shall be guaranteed and vested at the same benefit level as they were at his original date of hire which was January 2, 2007. For purposes of retiree health insurance, the benefit at that time covered full retiree medical premiums including all Medicare premiums without limitations. The parties expressly agree and confirm that the retirement rights and benefits in place at the City Manager's date of hire have been and continue to be a material part of the consideration given for City Manager's acceptance of employment with the City.
  - (3) Should current pension vesting rules change, such as through the California voter Initiative process, City Manager may be treated like any other City employee at the sole discretion of the City Council.

#### B) Deferred compensation

- (1) Section 457 Plan.
  - (a) The City will make, in January of each year, an annual contribution equal to \$15,000 a year and as allowed by the Internal Revenue Code and its related regulations (excluding any age-related and catch-up provisions that are now or may in the future become applicable) into a qualified Section 457 Plan from one of the City approved plans as selected by the City Manager.

# (2) Management Allowance

- (a) The City will make available and contribute amounts each pay period to a Management Allowance, consistent with the contributions made for employees in the Unrepresented Executive Management Group.
- (3) Internal Revenue Code Compliance All provisions of Sections 5.A and 5.B are subject to the provisions and limitations of the Internal Revenue Code and its related regulations as amended from time to time. No requirement of any provision of Sections 5.A and 5.B shall be effective if it would violate any provision of the Internal Revenue Code or its related regulations, and the inability of the City to effectuate such requirements shall not constitute a breach of this Agreement.

#### C) Insurance

- (1) Disability Insurance. Long Term Disability insurance is to be provided as stipulated in the Unrepresented Management Resolution.
- (2) Life Insurance. Term life insurance in the amount of \$250,000, with the premium to be paid by the City, payable to a beneficiary the City Manager designates.

#### 7) SEPARATION

A) Resignation Retirement - The City Manager may resign at any time and agrees to give the City at least 45 days advance written notice of the effective date of his resignation, unless the Parties otherwise agree in writing. If the City Manager retires from full time public service with the City, the City Manager may provide six months' advance notice. The City Manager's actual retirement date will be mutually established.

#### B) Termination & Removal –

- (1) While this Agreement contains reference to a rolling three (3) year term in Section 3 above, it is expressly understood that the Manager is an at-will employee of the City, servicing at the pleasure of the City Council as provided in Government Code Section 36506.
- (2) The City Council may remove the City Manager at any time, with or without cause, by a majority vote of its members. Notice of termination shall be provided to the City Manager in writing. Termination as used in this Section shall also include a request that the City Manager resign, a reduction in salary or other financial benefits of the City Manager, a material reduction in the powers and authority of the City Manager, or the elimination of the City Manager's position. Given the at-will nature of the position of City Manager, an important element of the employment agreement pertains to termination. It is in both the City's interest

and that of the City Manager that any separation of the City Manager is done in a businesslike manner.

### C) Severance Pay

- (1) In the event that the City Manager is terminated by the City Council during such time that the City Manager is willing and able to perform his duties under this Agreement, then the City agrees to pay the City Manager a lump sum cash payment equal to six months' base salary and benefits. It is the intention of the parties that this paragraph complies with the requirements of Government Code Section 53260 et. seq. In the event of any conflict between this provision and those code sections, the terms of those code sections shall govern the contractual relationship between the employer and employee.
- (2) In addition, the City shall extend to the City Manager the right to continue health insurance as may be required by and pursuant to the terms and conditions of the Consolidated Omnibus Budget Reconciliation Act Of 1986 (COBRA).
- (3) All payments required under Section 7.C (I), and (2), are subject to and shall be interpreted to comply with the limitations set forth in Government Code Section 53260.
- (4) In no event may City Manager be terminated within ninety (90) days before or after any municipal election for the selection or recall of one or more members of the City Council.

#### D) Involuntary Resignation

(1) In the event that the City Council formally or a majority of the City Council informally asks that the City Manager resign, then the City Manager shall be entitled to resign and still receive the severance benefits provided in Section 7.C above.

# E) Separation for Cause

- (1) Notwithstanding the provisions of Section 7.C, the City Manager may be terminated for cause. As used in this Section, "cause" shall mean only one or more the following:
  - (a) Conviction of a felony;
  - (b) Conviction of any illegal act involving moral turpitude or personal gain;
  - (c) A plea of nolo contendere to any felony or illegal act involving moral turpitude or personal gain;
  - (d) Any act constituting a knowing and intentional violation of City's conflict of interest code;
  - (e) Continued abuse of non-prescription drugs or alcohol that materially affects the performance of the Manager's duties; or
  - (f) Repeated and protracted unexcused absences from the City Manager's office and duties.
- (2) In the event that the City terminates the City Manager for cause, then the City may terminate this Agreement immediately, and the City Manager shall be

entitled to only the compensation accrued up to the date of termination, payments required by Section 7.F below, and such other termination benefits and payments as may be required by law. The City Manager shall not be entitled to any severance benefits provided by Section 7.C. The City reserves the right to suspend City Manager with pay at any time during the pendency of any of the foregoing events under item (1) above.

#### F) Payment for Unused Leave Balance

(1) On separation from City employment, the City Manager shall be paid for all unused accrued leave allowances provided in Section 5.B(2) above. Accumulated leave balances shall be paid at the City Manager's monthly salary rate at the effective date of separation.

#### 8) MISCELLANEOUS PROVISIONS

A) Amendments - This Agreement may be amended at any time by mutual written agreement of the City and the City Manager.

#### B) Conflict of interest

- (1) The City Manager shall not engage in any business or transaction or have a financial or other personal interest or association, direct or indirect, which is in conflict with the proper discharge of his official duties or which would tend to impair independence in the performance of his official duties.
- (2) The City Manager shall also be subject to the conflict of interest provisions of the California Government Code and any conflict of interest code applicable to the City Manager's City employment.
- (3) The City Manager is responsible for submitting to the City Clerk the appropriate Conflict of Interest Statements at the time of appointment, annually thereafter, and at the time of separation from the position.

# C) Indemnification

- (1) To the full extent of the law as provided by the California Torts Claims Act (Government Code Section 810 et seq.) and the indemnity provisions of this Agreement, whichever shall provide the greatest protection to the City Manager, the City shall defend and indemnify the City Manager against and for all losses sustained by the City Manager in direct consequences of the discharge of the City Manager's duties on the City's behalf for the period of the City Manager's employment.
- (2) The City shall defend, save harmless, and indemnify the City Manager against any tort, professional liability claim or demand or other legal action, whether groundless or otherwise, arising out of an alleged act or omission occurring in the performance of the City Manager's duties as City Manager. The City may compromise and settle any such claim or suit and pay the amount of any settlement or judgment rendered thereon in the City's sole discretion.
- (3) Whenever the City Manager shall be sued for damages arising out of the performance of his duties, the City shall provide legal defense for the City Manager in such suit and indemnify the City Manager from any judgment rendered against the City Manager; provided that such indemnity shall not

extend to any judgment for damages arising out of any willful wrongdoing. This indemnification shall extend beyond termination of employment and the otherwise expiration of this Agreement to provide protection for any such acts undertaken or committed in the City Manager's capacity as City Manager, regardless of whether the notice of filing of a lawsuit occurs during or following employment with the City. This indemnity provision shall survive the termination of the Agreement and is in addition to any other rights or remedies that the City Manager may have under the law.

- (4) The City and all parties claiming under or through it, hereby waives all rights of subrogation and contribution against the City Manager, for all matters while acting within the scope of the City Manager's duties, from all claims, losses and liabilities arising out of or incident to activities or operations performed by or on behalf of the City or any party affiliated with or otherwise claiming under or through it, regardless of any prior, concurrent, or subsequent active or passive negligence by the City Manager.
- (5) In the event that the City Manager shall serve as the chief executive of other City-related legal entities as provided in Section 4.A (I)(b) above, then each provision of this Section 7.C shall be equally applicable to each City-related legal entity as though set forth in an indemnity agreement between the City Manager and that legal entity. The City hereby guarantees the performance of this indemnity obligation by the City-related legal entity, and shall indemnify and hold the City Manager harmless against any failure or refusal by City related legal entity to perform its obligations under this Section 7.C.
- D) Severability If any clause, sentence, part, section, or portion of this Agreement is found by a court of competent jurisdiction to be illegal or unenforceable, such clause, sentence, part, section, or portion so found shall be regarded as though it were not part of this Agreement and the remaining parts of this Agreement shall be fully binding and enforceable by the Parties hereto.
- E) Laws Affecting Title In addition to those laws affecting a City Manager, the City Manager shall have the same powers, rights and responsibilities as a Chief Executive Officer, City Administrative Officer, Administrator, and/or City Administrator as those terms are used in local, state, or federal laws.
- F) Jurisdiction and Venue This Contract shall be construed in accordance with the laws of the State of California, and the Parties agree that venue shall be in Marin County, California.
- G) Entire Agreement This Contract represents the entire agreement of the Parties, and no representations have been made or relied upon except as set forth herein. This Contract may be amended or modified only by a written, fully executed agreement of the Parties.
- H) Notice Any notice, amendments, or additions to this Agreement, including change of address of either party during the term of this Agreement, which the City Manager or the City shall be required, or may desire, to make, shall be in writing and shall be sent by prepaid first class mail or hand delivered to the respective Parties as follows:

City of San Rafael P.O. Box 151560 San Rafael, CA 94915-1560

(b) If to the City Manager: City of San Rafael P.O. Box 151560 San Rafael, CA 94915-1560 EXECUTION:

IN WITNESS WHEREOF, the City of San Rafael has caused this amended and restated Agreement to be duly executed by its Mayor and the City Manager, and duly

attested by its City Clerk, the 18th day of December 2017.

,,	
EMPLOYER - CITY OF SAN RAFAEL	
By: Gary O. Phillips, Mayor	
ATTEST:	
Lindsay Lara, City Clerk	
APPROVED AS TO FORM:	
Robert F. Epstein City Attorney	_
CITY MANAGER	
James M. Schutz	

# CITY MANAGER EMPLOYMENT AGREEMENT Between the City of San Rafael and James M. Schutz

# March 16, 2015 (Effective August 1, 2015) (Revised as of December 18, 2017)

(Revised January 21, 2020)

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# CITY MANAGER EMPLOYMENT AGREEMENT Between the City of San Rafael and James M. Schutz

- 1) Parties, Date, and Other Recitals This Agreement is entered into as of March 16, 2015, and will take effect beginning August 1, 2015, by and between the City of San Rafael a municipal corporation ("the City"), and James M. Schutz ("Schutz" or "City Manager"). The City and the City Manager are sometimes individually referred to as a "Party" and collectively as "Parties."
  - A) The City requires the services of a City Manager.
  - B) The City Manager has the necessary education, experience, skills, and expertise to serve as the City's City Manager.
  - C) The City Council of the City desires to employ the City Manager to serve as the City Manager of City.
  - D) The Parties desire to execute this Agreement pursuant to the authority of and subject to the provisions of Government Code Section 53260 et seq.
  - E) In consideration of these Recitals and the performance by the Parties of the promises, covenants, and conditions herein contained, the Parties agree to the terms set forth in this Agreement.
- 2) <u>Employment</u> The City hereby employs Schutz as its City Manager, and Schutz hereby accepts such employment on the terms and conditions that are recited herein.
- 3) <u>Term</u>-

The Term of the agreement shall be for a period of three years commencing on August 1, 2017 and continuing July 31, 2020 This agreement shall be effective for a rolling three (3) year term, automatically extending for one (1) additional year effective July 31 of each year, unless either party provides notice to the other of its intent to terminate this agreement on or before May 31 of any year. If such notice is provided, the term of this Agreement shall expire at the end of the then-current three (3) year term without any additional extensions and without the need for any additional notice, unless it is subsequently terminated at an earlier date in accordance with Section 7 of this Agreement.-

# 4) Commitments and Understandings

- A) City Manager's Commitments
  - (1) Duties & Authority
    - (a) The City Manager shall be the chief executive officer of the City and be responsible to the City Council for the proper administration of all affairs of the City.
    - (b) The City Manager shall perform all of the duties of the City Manager as set forth in Section 2.08 of the San Rafael Municipal Code, applicable provisions of the California Government Code, and City policies and procedures

- approved by the City Council, as may be provided from time to time. The City Council has designated and may also designate the City Manager as the chief executive of other City-related legal entities. Such other legal entities include financing authorities and joint powers authorities.
- (c) The City Manager shall administer and enforce policies established by the City Council and promulgate rules and regulations as necessary to implement such policies. To accomplish this, the City Manager shall be required to:
  - (i) Attend all meetings of the City Council, unless excused by the Mayor.
  - (ii) Review all agenda documents before preparing the agenda for all regular or special meetings of the City Council.
  - (iii) Direct the work of all appointive City officers and departments.
  - (iv) Endeavor to implement changes that the City Manager believes will result in greater efficiency, economy, or improved public service in the administration of City affairs. This includes modernizing City services and employing a community-centered approach to service design.
  - (v) From time to time, recommend to the City Council adoption of such measures as the City Manager may deem necessary or expedient for the health, safety, or welfare of the community, or for the improvement of administrative services. The City Manager shall conduct research in administrative practices in order to bring about greater efficiency and economy in City government, and develop and recommend to the City Council long-range plans to improve City operations and prepare for future City growth and development.
  - (vi) From time to time, and based on the City Manager's best judgment, propose to the City Council the consolidation or combination of offices, positions, departments, or units under the City Manager's jurisdiction. The City Manager may be the head of one or more City departments.
  - (vii) Provide management training and develop leadership qualities among department heads and staff as necessary to build a City management team that can plan for and meet future challenges.
  - (viii) Exercise control of City government in emergencies as authorized by the Municipal code and California law.

#### (2) Hours of Work

- (a) The City Manager is an exempt employee. The City Manager is expected to engage in those hours of work that are necessary to fulfill the obligations of the position. The position does not have set hours of work and the City Manager is expected to be available, as necessary, at all times.
- (b) It is recognized that the City Manager must devote substantial time to the business of the City, outside of the City's customary business hours, and to that end the City Manager's schedule of work each day and week shall vary in accordance with the work required to be performed. The City Manager shall spend sufficient hours on site to perform his duties; however, the City

- Manager has discretion over the City Manager's work schedule and work location.
- (c) The City Manager shall not spend more than 12 hours per month in teaching, consulting, speaking, or other non-City connected business for which compensation is paid without the express prior written consent of the City Council.

#### (3) Disability or Inability to Perform

(a) In the event the City Manager becomes mentally or physically incapable of performing the City Manager's functions and duties taking into account reasonable accommodation, and it reasonably appears such incapacity will last for more than six months, the City Council may terminate the City Manager. If the City Council does elect to terminate the City Manager due to incapacity, the City Manager shall receive all severance benefits provided in Section 7.C below.

# B) City Commitments

- (1) The City shall provide the City Manager with the compensation, incentives, and benefits specified in this Agreement, as from time to time may be amended with written consent of both parties.
- (2) The City shall provide the City Manager with a private office, administrative support, staff, office equipment, supplies, automobile allowance, and all other facilities and services reasonably necessary for the performance of his duties.
- (3) The City shall pay for (or provide the City Manager reimbursement for) all actual business expenses. The City shall provide the City Manager a City credit card to charge appropriate and lawful City business expenses.
- (4) The City agrees to pay the professional dues, subscriptions, travel, and subsistence expenses on behalf of the City Manager which are necessary for the City Manager's continuation and full participation in national, regional, state, or local associations and organizations necessary and desirable for the City Manager's continued professional growth and advancement. Said reimbursement includes governmental groups and committees upon which the City Manager serves or may serve as a member. Said expenses may also be reimbursed or paid for on behalf of the City Manager for short courses, institutes and seminars that are necessary for the professional development of the City Manager
- (5) Given the importance of technological tools to the effective and efficient conduct of the City's business, the City shall provide computer, laptop computer, printer, high-speed internet access, cellular phone, ilPad or subsequent type devices, electronic calendar, fax, copy machine and similar devices to the City Manager at the City's expense, both at the City Manager's office and at the City Manager's residence as needed to carry out the duties of the position. All such equipment shall remain the property of the City.
- (6) The City Council sets policy for the governance and administration of the City, and it implements its policies through the City Manager.

- (7) The City Council recognizes that to meet the challenges facing the City it must exercise decisive policy leadership. As one step in carrying out this leadership responsibility, the City Council commits to spending time each year outside of regular City Council meetings to work with the City Manager and staff on setting goals and priorities for the City government, and to work on issues that may be inhibiting the maximal achievement of City goals.
- (8) Except for the purpose of inquiry, the City Council and its members shall deal with all subordinate City employees, officers, contractors, and consultants solely through the City Manager or the City Manager's designee, and neither the City Council nor any member thereof shall give orders to any subordinate of the City Manager, either publicly or privately.
- (9) The City Council agrees none of its individual members will order the appointment or removal of any person to any office or employment under the supervision and control of the City Manager. <u>Notwithstanding, the City Council will work with the City Manager to assess, interview, and select the positions of Police Chief and Fire Chief.</u>
- (10) The City Council agrees that any criticism of a City staff member shall be done privately through the City Manager.
- (11) Neither the City Council nor any of its members shall interfere with the execution of the powers and duties of the City Manager. The City Manager shall take orders and instructions from the City Council only when it is sitting as a body in a lawfully held meeting.

#### C) Mutual Commitments

- (1) Performance Evaluation
  - (a) Annual performance evaluations are an important way for the City Council and City Manager to ensure effective communications about expectations and performance.
  - (b) The City Council recognizes that for the City Manager to respond to its needs and to grow in the performance of the City Manager's job, the City Manager needs to be advised how the City Council members evaluate the City Manager's performance.
  - (c) To assure that the City Manager receives this information, the City Council shall conduct an evaluation of the City Manager's performance at least once each year and during the first year the City Council shall evaluate Schutz after six months. The City Council and the City Manager agree that performance evaluations, for the purpose of mid-course corrections, may occur quarterly or several times during each calendar year. In addition, the City Council may choose to establish a sub-committee to meet with the City Manager periodically over the course of each year to measure progress on stated goals and priorities. The annual evaluation shall occur between June and July of each year.
  - (d) The annual review and evaluation shall be in accordance with specific criteria developed jointly by the City Council and the City Manager. Such criteria

may be added to or deleted as the City Council may from time to time determine in consultation with the City Manager.

- (i) The City Council and the City Manager shall define such goals and performance objectives as they mutually determine are necessary for the proper operation of the City for the attainment of the City Council's policy objectives, and the City Council and the City Manager shall further establish a relative priority among those goals and performance objectives.
- 5) <u>COMPENSATION</u> The City agrees to provide the following compensation to the City Manager during the term of the agreement:
  - A) Compensation & Required Employer Costs
    - (1) Base Salary
      - (a) The annual salary for the position of City Manager shall remain unchanged from the predecessor's annual salary at the time of her separation.
      - (b) The City Council shall review the manager's salary and benefits annually and may consider performance bonuses or salary adjustments at the sole discretion of the City Council. Based upon the Manager's performance and availability of funds, it is the intent of the City Council to compensate the Manager in a manner consistent with the nature and scope of the assigned duties and responsibilities and in light thereof to endeavor to make the Manager the highest paid City Manager in the County of Marin.
    - (2) Required Employer Costs
      - (a) Federal Insurance Contributions Act (FICA) (if applicable).
      - (b) Medicare.
      - (c) Unemployment Compensation.
      - (d) The cost of any fidelity or other bonds required by law for the City Manager.
      - (e) The cost to defend and indemnify the City Manager as provided in Section 8.C below.
      - (f) Workers Compensation.

# B) Benefits

- (1) Holidays The City Manager is entitled to paid holidays in accordance with the provisions of the salary and benefit plan for the Unrepresented Executive Management Group.
- (2) Leave Allowance
  - (a) The City Manager shall receive the same vacation accrual and benefits as provided to the Unrepresented Executive Management class of City employees.
  - (b) The City Manager shall receive the same sick leave accrual and benefits as provided to the Unrepresented Executive Management class of City

- employees. Sick Leave accrual is based upon tenured employment with the City.
- (c) City Manager shall be entitled to administrative leave per year in accordance with the provisions of the Salary and Benefit Plan for the Unrepresented Executive Management Group.
- (d) All vacation, administrative and sick leave hours already accumulated by the City Manager during the time of his previous positions of employment with the City of San Rafael are carried forward and made applicable in the new position as City Manager.
- (3) Automobile The City Manager shall be provided a monthly automobile allowance of \$400.00 in exchange for making his vehicle available for the City Manager's own use and for City-related business and/or functions during, before, and after normal work hours. Said allowance is intended to defray costs that the City Manager incurs in utilizing his personal vehicle for City business. The automobile allowance shall appear on the City Manager's payroll stub as ordinary income and part of his salary, but shall not be considered part of the City Manager's base salary for purposes of this Agreement.
- (4) Benefits that Accrue to Other Employees The City Manager shall be entitled to all benefits, rights, and privileges accorded to non-public safety City Department Directors, including, but not limited to, group health and dental insurance, except as otherwise provided in this Agreement. If there is any conflict between this Agreement and any resolution fixing compensation and benefits for non-public safety City Department Directors or other unclassified employees, this Agreement shall control. As is past practice, this paragraph is intended to include salary and salary-related compensation. City Manager shall receive at least the same salary and salary-related adjustments as provided to the Unrepresented Executive Management class of City employees.

#### 6) **SECURITY**

- A) Pensions Marin County Employee Retirement Association (MCERA)
  - (1) City will pay only the City's Share for participation in the Marin County Employee Retirement Association. The City Manager shall pay the employee share.
  - (2) Unless required by changes in State or Federal law, should City Manager retire from City, his future MCERA pension and retiree health insurance benefits shall be guaranteed and vested at the same benefit level as they were\_at the\_his original date of hire which was January 2, 2007. this Agreement on March 16, 2015 and as described in Section 3.A.2. "Health Insurance for Retirees" of Resolution No. 13741 dated June 16, 2014, and attached as Exhibit A, which section is hereby adopted and incorporated by reference hereinFor purposes of retiree health insurance, the benefit at that time covered full retiree medical premiums including all Medicare premiums without limitations. The parties expressly agree and confirm that the retirement rights and benefits in place at the City Manager's date of hire conferred in that section shall apply to the City Manager been and continue to be a material part of the consideration given for City Manager's acceptance of employment with the City.

(3) Should current pension vesting rules change, such as through the California voter Initiative process, City Manager may be treated like any other City employee at the sole discretion of the City Council.

### B) Deferred compensation

- (1) Section 457 Plan.
  - (a) The City will make, in January of each year, an annual contribution equal to \$15,000 a year and as allowed by the Internal Revenue Code and its related regulations (excluding any age-related and catch-up provisions that are now or may in the future become applicable) into a qualified Section 457 Plan from one of the City approved plans as selected by the City Manager.

#### (2) Management Allowance

- (a) The City will make available and contribute amounts each pay period to a Management Allowance, consistent with the contributions made for employees in the Unrepresented Executive Management Group.
- (3) Internal Revenue Code Compliance All provisions of Sections 5.A and 5.B are subject to the provisions and limitations of the Internal Revenue Code and its related regulations as amended from time to time. No requirement of any provision of Sections 5.A and 5.B shall be effective if it would violate any provision of the Internal Revenue Code or its related regulations, and the inability of the City to effectuate such requirements shall not constitute a breach of this Agreement.

#### C) Insurance

- (1) Disability Insurance. Long Term Disability insurance is to be provided as stipulated in the Unrepresented Management Resolution.
- (2) Life Insurance. Term life insurance in the amount of \$250,000, with the premium to be paid by the City, payable to a beneficiary the City Manager designates.

#### 7) SEPARATION

- A) Resignation Retirement The City Manager may resign at any time and agrees to give the City at least 45 days advance written notice of the effective date of his resignation, unless the Parties otherwise agree in writing. If the City Manager retires from full time public service with the City, the City Manager may provide six months' advance notice. The City Manager's actual retirement date will be mutually established.
- B) Termination & Removal -
  - (1) While this Agreement contains reference to a rolling three (3) year term in Section 3 above, it is expressly understood that the Manager is an at-will employee of the City, servicing at the pleasure of the City Council as provided in Government Code Section 36506.
  - (2) The City Council may remove the City Manager at any time, with or without cause, by a majority vote of its members. Notice of termination shall be provided to the City Manager in writing. Termination as used in this Section shall also include a request that the City Manager resign, a reduction in salary or other financial benefits of the City Manager, a material reduction in the powers and authority of

the City Manager, or the elimination of the City Manager's position. Given the at-will nature of the position of City Manager, an important element of the employment agreement pertains to termination. It is in both the City's interest and that of the City Manager that any separation of the City Manager is done in a businesslike manner.

#### C) Severance Pay

- (1) In the event that the City Manager is terminated by the City Council during such time that the City Manager is willing and able to perform his duties under this Agreement, then the City agrees to pay the City Manager a lump sum cash payment equal to six months' base salary and benefits. It is the intention of the parties that this paragraph complies with the requirements of Government Code Section 53260 et. seq. In the event of any conflict between this provision and those code sections, the terms of those code sections shall govern the contractual relationship between the employer and employee.
- (2) In addition, the City shall extend to the City Manager the right to continue health insurance as may be required by and pursuant to the terms and conditions of the Consolidated Omnibus Budget Reconciliation Act Of 1986 (COBRA).
- (3) All payments required under Section 7.C (I), and (2), are subject to and shall be interpreted to comply with the limitations set forth in Government Code Section 53260.
- (3)(4) In no event may City Manager be terminated within ninety (90) days before or after any municipal election for the selection or recall of one or more members of the City Council.

# D) Involuntary Resignation

(1) In the event that the City Council formally or a majority of the City Council informally asks that the City Manager resign, then the City Manager shall be entitled to resign and still receive the severance benefits provided in Section 7.C above.

# E) Separation for Cause

- (1) Notwithstanding the provisions of Section 7.C, the City Manager may be terminated for cause. As used in this Section, "cause" shall mean only one or more the following:
  - (a) Conviction of a felony;
  - (b) Conviction of any illegal act involving moral turpitude or personal gain;
  - (c) A plea of nolo contendere to any felony or illegal act involving moral turpitude or personal gain;
  - (d) Any act constituting a knowing and intentional violation of City's conflict of interest code;
  - (e) Continued abuse of non-prescription drugs or alcohol that materially affects the performance of the Manager's duties; or
  - (f) Repeated and protracted unexcused absences from the City Manager's office and duties.

(2) In the event that the City terminates the City Manager for cause, then the City may terminate this Agreement immediately, and the City Manager shall be entitled to only the compensation accrued up to the date of termination, payments required by Section 7.F below, and such other termination benefits and payments as may be required by law. The City Manager shall not be entitled to any severance benefits provided by Section 7.C. The City reserves the right to suspend City Manager with pay at any time during the pendency of any of the foregoing events under item (1) above.

#### F) Payment for Unused Leave Balance

(1) On separation from City employment, the City Manager shall be paid for all unused accrued leave allowances provided in Section 5.B(2) above. Accumulated leave balances shall be paid at the City Manager's monthly salary rate at the effective date of separation.

#### 8) MISCELLANEOUS PROVISIONS

A) Amendments - This Agreement may be amended at any time by mutual written agreement of the City and the City Manager.

#### B) Conflict of interest

- (1) The City Manager shall not engage in any business or transaction or have a financial or other personal interest or association, direct or indirect, which is in conflict with the proper discharge of his official duties or which would tend to impair independence in the performance of his official duties.
- (2) The City Manager shall also be subject to the conflict of interest provisions of the California Government Code and any conflict of interest code applicable to the City Manager's City employment.
- (3) The City Manager is responsible for submitting to the City Clerk the appropriate Conflict of Interest Statements at the time of appointment, annually thereafter, and at the time of separation from the position.

#### C) Indemnification

- (1) To the full extent of the law as provided by the California Torts Claims Act (Government Code Section 810 et seq.) and the indemnity provisions of this Agreement, whichever shall provide the greatest protection to the City Manager, the City shall defend and indemnify the City Manager against and for all losses sustained by the City Manager in direct consequences of the discharge of the City Manager's duties on the City's behalf for the period of the City Manager's employment.
- (2) The City shall defend, save harmless, and indemnify the City Manager against any tort, professional liability claim or demand or other legal action, whether groundless or otherwise, arising out of an alleged act or omission occurring in the performance of the City Manager's duties as City Manager. The City may compromise and settle any such claim or suit and pay the amount of any settlement or judgment rendered thereon in the City's sole discretion.
- (3) Whenever the City Manager shall be sued for damages arising out of the performance of his duties, the City shall provide legal defense for the City

Manager in such suit and indemnify the City Manager from any judgment rendered against the City Manager; provided that such indemnity shall not extend to any judgment for damages arising out of any willful wrongdoing. This indemnification shall extend beyond termination of employment and the otherwise expiration of this Agreement to provide protection for any such acts undertaken or committed in the City Manager's capacity as City Manager, regardless of whether the notice of filing of a lawsuit occurs during or following employment with the City. This indemnity provision shall survive the termination of the Agreement and is in addition to any other rights or remedies that the City Manager may have under the law.

- (4) The City and all parties claiming under or through it, hereby waives all rights of subrogation and contribution against the City Manager, for all matters while acting within the scope of the City Manager's duties, from all claims, losses and liabilities arising out of or incident to activities or operations performed by or on behalf of the City or any party affiliated with or otherwise claiming under or through it, regardless of any prior, concurrent, or subsequent active or passive negligence by the City Manager.
- (5) In the event that the City Manager shall serve as the chief executive of other City-related legal entities as provided in Section 4.A (I)(b) above, then each provision of this Section 7.C shall be equally applicable to each City-related legal entity as though set forth in an indemnity agreement between the City Manager and that legal entity. The City hereby guarantees the performance of this indemnity obligation by the City-related legal entity, and shall indemnify and hold the City Manager harmless against any failure or refusal by City related legal entity to perform its obligations under this Section 7.C.
- D) Severability If any clause, sentence, part, section, or portion of this Agreement is found by a court of competent jurisdiction to be illegal or unenforceable, such clause, sentence, part, section, or portion so found shall be regarded as though it were not part of this Agreement and the remaining parts of this Agreement shall be fully binding and enforceable by the Parties hereto.
- E) Laws Affecting Title In addition to those laws affecting a City Manager, the City Manager shall have the same powers, rights and responsibilities as a Chief Executive Officer, City Administrative Officer, Administrator, and/or City Administrator as those terms are used in local, state, or federal laws.
- F) Jurisdiction and Venue This Contract shall be construed in accordance with the laws of the State of California, and the Parties agree that venue shall be in Marin County, California.
- G) Entire Agreement This Contract represents the entire agreement of the Parties, and no representations have been made or relied upon except as set forth herein. This Contract may be amended or modified only by a written, fully executed agreement of the Parties.
- H) Notice Any notice, amendments, or additions to this Agreement, including change of address of either party during the term of this Agreement, which the City Manager or the City shall be required, or may desire, to make, shall be in writing and shall be sent by prepaid first class mail or hand delivered to the respective Parties as follows:

(a) If to the City:
Mayor
City of San Rafael
P.O. Box 151560
San Rafael, CA 94915-1560

(b) If to the City Manager: City of San Rafael P.O. Box 151560 San Rafael, CA 94915-1560 EXECUTION:

IN WITNESS WHEREOF, the City of San Rafael has caused this amended and restated Agreement to be duly executed by its Mayor and the City Manager, and duly attested by its City Clerk, the 18th day of December 2017.

EMPLOYER - CITY OF SAN RAFAEL Gary O. Phillips, Mayor ATTEST: Esther Beirne Lindsay Lara, City Clerk APPROVED AS TO FORM: Robert F. Epstein City Attorney **CITY MANAGER** James M. Schutz



Agenda Item No: 4.g

Meeting Date: January 21, 2020

#### SAN RAFAEL CITY COUNCIL AGENDA REPORT

**Department: Finance Department** 

Prepared by: Nadine Atieh Hade

**Finance Director** 

**City Manager Approval:** 



TOPIC: QUARTERLY INVESTMENT REPORT

SUBJECT: ACCEPTANCE OF CITY OF SAN RAFAEL QUARTERLY INVESTMENT REPORT FOR

THE QUARTER ENDING DECEMBER 31, 2019

**RECOMMENDATION:** Accept investment report for the quarter ending December 31, 2019, as presented.

**BACKGROUND:** Pursuant to the State of California Government Code Section 53601, and the City's investment policy, <u>last approved by the City Council on June 17, 2019</u>, staff provides the City Council a quarterly report on the City's investment activities and liquidity. Included in the report are the cost of each investment, the interest rates (yield), maturity dates, and market value. Separate reports are prepared for the City and the Successor Agency to San Rafael Redevelopment Agency.

The City invests a portion of its pooled funds in the <u>Local Agency Investment Fund (LAIF)</u>, a State-run investment pool. Beginning in March 2014, the City incorporated an investment strategy that added purchases of securities outside of LAIF with the assistance of its investment advisor, Insight Investment.

In addition to operational funds the City manages, the City is also directing the investment of funds held by a Trustee for the Essential Public Safety Facilities. As of December 31, 2019, the balance was \$22,854,755 and the portfolio had a yield of 1.80 percent.

**ANALYSIS:** As of December 31, 2019, the primary LAIF account had a balance of \$22,767,096. The other LAIF account holding housing funds for future administrative expenses contained \$151,998. Portfolio returns on LAIF deposits were 2.04% for the quarter ending December 31, 2019. The remaining investment assets included the \$1,315,100 balance of Pt. San Pedro Assessment District bonds, and \$22,586,865 in government agency securities and corporate bonds (including Toyota Motor Credit Corp., American Honda Finance, Walt Disney, JP Morgan Chase, American Express, US Bancorp, Citibank, Pfizer Inc., Caterpillar Inc., Walmart Inc., Apple Inc., and PNC Bank NA). The overall total portfolio returns for the quarter ended December 31, 2019 were 2.06%.

The City's Westamerica general operating bank account had a balance of \$6,477,033 at quarter end.

	FOR CITY CLERK ONLY	
File No.:		
Council Meeting:		
Disposition:		

#### SAN RAFAEL CITY COUNCIL AGENDA REPORT / Page: 2

Exhibit A is composed of four parts: (1) Quarterly Investment Portfolio Report; (2) Historical Activity By Quarter summarizing the City's investments; (3) the three monthly investment reports from Insight Investment for the quarter; and (4) the two CAMP Lease Revenue Bonds Series 2018 Project Fund Account 7023-001 and Capitalized Interest Account 7023-002 for the month ending December 2019.

**FISCAL IMPACT:** No financial impact occurs by adopting the report. The City continues to meet the priority principles of investing - safety, liquidity and yield in respective order. The portfolio remains conservatively invested. Sufficient liquidity exists to meet daily operating and capital project requirements for the next six months. Operating funds, as defined for this report, exclude cash held with fiscal agents for the payment of bond principal and interest.

**RECOMMENDATION:** Accept investment report for the quarter ending December 31, 2019, as presented.

#### **ATTACHMENTS:**

#### Exhibit A:

- 1. Quarterly Investment Portfolio Report
- 2. Historical Activity by Quarter Report
- 3. Insight Investment Statements, October through December 2019
- CAMP Lease Revenue Bonds Series 2018 Project Fund & Capitalize Interest Statements for the Month Ending December 31, 2019

#### SAN RAFAEL CITY COUNCIL AGENDA REPORT / Page: 3

I CERTIFY THAT ALL INVESTMENTS MADE ARE IN CONFORMANCE WITH THE CITY'S APPROVED INVESTMENT POLICY AND STATE INVESTMENT REGULATIONS. THE CITY HAS SUFFICIENT LIQUIDITY TO MEET ALL OF THE OBLIGATIONS REQUIRED DURING THE NEXT SIX-MONTH PERIOD.

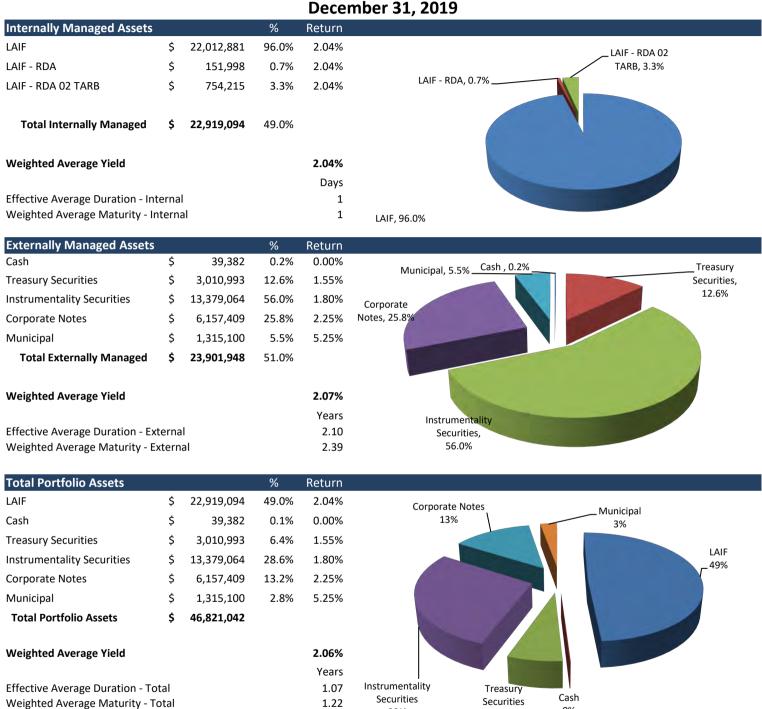
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NADINE ATIEH HADE FINANCE DIRECTOR

#### **City of Rafael**

#### **Quarterly Investment Portfolio Report**

December 31, 2019



29%

0%

6%

**Based on Market Values** 

# City of San Rafael Historical Activity-By Quarter

	Decembe	er 31, 2019	September 3	30, 2019	June 30	, 2019	March	31, 2019	Decemb	er 31, 2018
Internally Managed Assets		% Return	9	% Return		% I	Return	% Retu	ırn	% Return
LAIF	\$ 22,767,096	99.3% 2.04% \$	12,680,946	98.8% 2.28%	\$ 17,597,984	99.2%	2.43% \$ 12,519,411	98.8% 2.4	4% \$ 12,486,014	98.8% 2.29%
LAIF - Housing	\$ 151,998	0.7% 2.04% \$	151,067	1.2% 2.28%	\$ 150,108	0.8%	2.43% \$ 149,172	1.2% 2.4	4% \$ 148,276	1.2% 2.29%
Total Internally Managed	\$ 22,919,094	49.0%	5 12,832,013	34.9%	\$ 17,748,092	42.8%	\$ 12,668,583	35.0%	\$ 12,634,290	35.1%
Weighted Average Yield		2.04%		2.28%			2.43%	2.4	4%	2.29%
Externally Managed Assets		% Return		% Return		% I	Return	% Retu		% Return
Cash	\$ 39,382	3.0% 0.00% \$		0.0% 0.00%	•	3.8%	0.00% \$ 137,947		0% \$ 26,052	0.1% 0.00%
Commercial Paper	\$ -	0.0% 0.00% \$	-	0.0% 0.00%	\$ -	0.0%	0.00% \$ -	0.0% 0.0	0% \$ -	0.0% 0.00%
Treasury Securities	\$ 3,010,993	12.6% 1.55% \$		19.1% 1.47%	\$ 4,064,551	17.1%	1.64% \$ 4,469,213	19.0% 1.6	1% \$ 4,452,549	19.1% 1.61%
Instrumentality Securities	\$ 13,379,064	56.0% 1.80% \$	5 15,010,194	62.8% 1.83%	\$ 14,234,066	60.0%	1.68% \$ 14,048,805	59.6% 1.7	0% \$ 14,469,316	61.9% 1.50%
Corporate Notes	\$ 6,157,409	25.8% 2.25% \$	2,994,607	12.5% 2.51%	\$ 3,988,410	16.8%	2.68% \$ 3,534,412	15.0% 2.5	2% \$ 3,029,558	13.0% 2.21%
Municipal/Assessment District	\$ 1,315,100	5.5% 5.25% \$	1,315,100	5.5% 5.25%	\$ 1,387,200	5.8%	5.25% \$ 1,387,200	5.9% 5.2	5% \$ 1,387,200	5.9% 5.25%
Total Externally Managed	\$ 23,901,948	51.0%	23,888,965	65.1%	\$ 23,727,176	57.2%	\$ 23,577,577	65.0%	\$ 23,364,674	64.9%
Weighted Average Yield		2.07%		2.03%			2.05%	2.0	0%	1.83%
F		Years		Years			Years	_	ars	Years
Effective Average Duration - External		2.10 2.39		1.86			1.34		.34	1.34
Weighted Average Maturity - External  Total Portfolio Assets		% Return		2.13 % Return		% I	1.60 Return	% Retu	.60	1.60 % Return
LAIF	\$ 22,919,094				\$ 17,748,092	42.8%	2.43% \$ 12,668,583		4% \$ 12,634,290	35.1% 2.29%
Cash	\$ 39,382	0.1% 0.00%		0.0% 0.00%		0.1%	0.00% \$ 137,947		0% \$ 26,052	0.1% 0.00%
Treasury Securities	\$ 3,010,993	6.4% 1.55%		12.4% 1.47%	. ,	9.8%	1.64% \$ 4,469,213		1% \$ 4,452,549	12.4% 1.61%
Instrumentality Securities	\$ 13,379,064		, ,		\$ 14,234,066	34.3%	1.68% \$ 14,048,805		0% \$ 14,469,316	40.2% 1.50%
Corporate Notes	\$ 6,157,409	13.2% 2.25%	, ,	8.2% 2.51%		9.6%	2.68% \$ 3,534,412		2% \$ 3,029,558	8.4% 2.21%
Municipal/Assessment District	\$ 1,315,100	2.8% 5.25% \$			\$ 1,387,200	3.3%	5.25% \$ 1,387,200	3.8% 5.2	5% \$ 1,387,200	3.9% 5.25%
	\$ 46,821,041		36,720,977		\$ 41,475,267		\$ 36,246,160		\$ 35,998,964	
Total Portfolio Assets	" "				. , ., .		, ., .,		,,,	
Weighted Average Yield		2.06%		2.12%			2.21%	2.1	6%	1.99%
		Years		Years			Years		ars	Years
Effective Average Duration - Total		1.07		1.21			0.77		.87	0.87
Weighted Average Maturity - Total		1.22		1.39			0.92		.04	1.04

#### **Performance Recap**

- -The weighted average quarterly portfolio yield decreased slightly from 2.12% to 2.06% during the past quarter. The yield has increased over the past year, from 1.99% in the quarter ended December 31, 2019 to 2.06% in the most recent quarter. This trend is reflective of the general increase in interest rates that occurred througout the year.
- -The effective average duration has decreased, from 1.21 to 1.07 years since last quarter due to an increase in LAIF assets.
- -The total portfolio assets increased by approximately \$10 million during the quarter. This is due to the investment of a portion of property tax receipts received in December.

FOR PROFESSIONAL CLIENTS ONLY

NOT TO BE REPRODUCED WITHOUT PRIOR WRITTEN APPROVAL

PLEASE REFER TO ALL RISK DISCLOSURES AT THE BACK OF THIS DOCUMENT

SAN RAFAEL

October 2019



# As of October 31, 2019

				Par value or		Trade	Purchase	% Portfolio
Cusip	Description	Coupon	Maturity	shares	Historical cost	date	yield	hist cost
Cash and Ca	sh Equivalents							
	Cash and Cash Equivalents			1,568,054.30	1,568,054.30			6.59
Total Cash and	d Cash Equivalents			1,568,054.30	1,568,054.30			6.59
Corporate B	onds							
90331HNB5	US BANK NA/CINCINNATI OH	2.000	01/24/2020	500,000.00	493,330.00	10/17/2018	3.08	2.07
89236TCF0	TOYOTA MOTOR CREDIT CORP	2.150	03/12/2020	500,000.00	504,545.00	09/12/2017	1.78	2.12
02665WBT7	AMERICAN HONDA FINANCE CORP	1.950	07/20/2020	500,000.00	492,340.00	01/02/2019	2.98	2.07
46625HQJ2	JP MORGAN CHASE & CO	2.550	03/01/2021	500,000.00	494,725.00	01/25/2019	3.08	2.08
17325FAQ1	CITIBANK NA - CITIBANK	3.400	07/23/2021	500,000.00	507,030.00	05/29/2019	2.72	2.13
149123BX8	CATERPILLAR INC	2.600	06/26/2022	500,000.00	500,300.00	05/16/2019	2.58	2.10
931142DH3	WAL-MART STORES INC	2.550	04/11/2023	500,000.00	509,155.00	09/17/2019	2.01	2.14
037833AK6	APPLE INC	2.400	05/03/2023	500,000.00	506,880.00	09/17/2019	2.00	2.13
693475AV7	PNC FINANCIAL SERVICES GROUP I	3.500	01/23/2024	500,000.00	523,455.00	07/26/2019	2.39	2.20
Total Corporat	te Bonds			4,500,000.00	4,531,760.00		2.51	19.05
rotal corporat	501143			1,500,000.00	1,551,760.00		2.51	17.05
Government	Agencies							
3130ABCH7	FEDERAL HOME LOAN BANKS	1.500	11/04/2019	750,000.00	750,030.00	06/21/2017	1.50	3.15
3133ECEY6	FEDERAL FARM CREDIT BANKS FUNDING CORP	1.450	02/11/2020	1,000,000.00	1,003,130.00	11/14/2016	1.35	4.22
3134G3K58	FEDERAL HOME LOAN MORTGAGE COR	1.500	03/19/2020	500,000.00	498,289.00	05/11/2017	1.62	2.09
313383HU8	FEDERAL HOME LOAN BANKS	1.750	06/12/2020	1,000,000.00	996,870.00	11/27/2017	1.88	4.19
3133EHVX8	FEDERAL FARM CREDIT BANKS FUNDING CORP	1.500	08/24/2020	1,000,000.00	999,190.00	09/12/2017	1.53	4.20
3135G0RM7	FEDERAL NATIONAL MORTGAGE ASSOCIATION	1.630	10/30/2020	1,000,000.00	1,003,410.00	08/31/2017	1.52	4.22
3133EJ4Q9	FEDERAL FARM CREDIT BANKS FUNDING CORP	2.550	01/11/2021	500,000.00	499,100.00	01/25/2019	2.64	2.10
313373ZY1	FEDERAL HOME LOAN BANKS	3.625	06/11/2021	1,000,000.00	1,024,040.00	03/07/2019	2.52	4.31
313378JP7	FEDERAL HOME LOAN BANKS	2.375	09/10/2021	600,000.00	602,430.00	05/15/2019	2.19	2.53
3137EADB2	FEDERAL HOME LOAN MORTGAGE COR	2.375	01/13/2022	1,650,000.00	1,676,634.30	09/30/2019	1.65	7.05
313378WG2	FEDERAL HOME LOAN BANKS	2.500	03/11/2022	1,000,000.00	1,016,330.00	06/13/2019	1.89	4.27
3135G0T78	FEDERAL NATIONAL MORTGAGE ASSOCIATION	2.000	10/05/2022	600,000.00	601,716.00	07/09/2019	1.91	2.53
3130A3KM5	FEDERAL HOME LOAN BANKS	2.500	12/09/2022	1,000,000.00	1,021,240.00	07/01/2019	1.86	4.29
3135G0U43	FEDERAL NATIONAL MORTGAGE ASSOCIATION	2.875	09/12/2023	1,000,000.00	1,047,553.22	09/24/2019	1.63	4.40
3135G0V34	FEDERAL NATIONAL MORTGAGE ASSOCIATION	2.500	02/05/2024	600,000.00	621,262.80	10/21/2019	1.64	2.61
Total Governm	nent Agencies			13,200,000.00	13,361,225.32		1.79	56.17
				,,000.00	.0,001,220.02		,	30.17

# As of October 31, 2019

				Par value or		Trade	Purchase	% Portfolio
Cusip	Description	Coupon	Maturity	shares	Historical cost	date	yield	hist cost
Government	Bonds							
912828H52	UNITED STATES TREASURY NOTE/BOND	1.250	01/31/2020	750,000.00	745,869.14	06/21/2017	1.47	3.14
912828X96	UNITED STATES TREASURY NOTE/BOND	1.500	05/15/2020	600,000.00	596,554.69	11/10/2017	1.74	2.51
912828XM7	UNITED STATES TREASURY NOTE/BOND	1.625	07/31/2020	1,000,000.00	1,005,742.19	08/31/2017	1.42	4.23
912828U57	UNITED STATES TREASURY NOTE/BOND	2.125	11/30/2023	650,000.00	661,529.52	10/28/2019	1.67	2.78
Total Governm	nent Bonds			3,000,000.00	3,009,695.54		1.55	12.65
Municipal/Pr	ovincial Bonds							
888599LS4	PT. SAN ASSESS DISTRICT	5.250	09/02/2032	1,315,100.00	1,315,100.00	03/01/2014	5.25	5.53
Total Municipa	al/Provincial Bonds			1,315,100.00	1,315,100.00		5.25	5.53
Grand Total	air Fi Oviliciai Dollas			· · ·	· · ·		1.97	
Granu Total				23,583,154.30	23,785,835.16		1.9/	100.00

#### ADDITIONAL INFORMATION

#### As of October 31, 2019

Past performance is not a guide to future performance. The value of investments and any income from them will fluctuate and is not guaranteed (this may partly be due to exchange rate changes) and investors may not get back the amount invested. Transactions in foreign securities may be executed and settled in local markets. Performance comparisons will be affected by changes in interest rates. Investment returns fluctuate due to changes in market conditions. Investment involves risk, including the possible loss of principal. No assurance can be given that the performance objectives of a given strategy will be achieved. The information contained herein is for your reference only and is being provided in response to your specific request and has been obtained from sources believed to be reliable; however, no representation is made regarding its accuracy or completeness. This document must not be used for the purpose of an offer or solicitation in any jurisdiction or in any circumstances in which such offer or solicitation is unlawful or otherwise not permitted. This document should not be duplicated, amended, or forwarded to a third party without consent from Insight. This is a marketing document intended for professional clients only and should not be made available to or relied upon by retail clients

Investment advisory services in North America are provided through two different SEC-registered investment advisers using the brand Insight Investment: Insight North America LLC (INA) and Insight Investment International Limited (IIIL). The North American investment advisers are associated with a broader group of global investment managers that also (individually and collectively) use the corporate brand Insight Investment and may be referred to as Insight, Insight Group or Insight Investment.

INA is an investment adviser registered with the Securities and Exchange Commission (SEC), under the Investment Advisers Act of 1940, as amended. Registration with the SEC does not imply a certain level of skill or training. You may request, without charge, additional information about Insight. Moreover, specific information relating to Insights strategies, including investment advisory fees, may be obtained from INA's Form ADV Part 2A, which is available without charge upon request.

Where indicated, performance numbers used in the analysis are gross returns. The performance reflects the reinvestment of all dividends and income. INA charges management fees on all portfolios managed and these fees will reduce the returns on the portfolios. For example, assume that \$30 million is invested in an account with INA, and this account achieves a 5.0% annual return compounded monthly, gross of fees, for a period of five years. At the end of five years that account would have grown to \$38,500,760 before the deduction of management fees. Assuming management fees of 0.25% per year are deducted monthly from the account, the value at the end of the five year period would be \$38,022,447. Actual fees for new accounts are dependent on size and subject to negotiation. INA's investment advisory fees are discussed in Part 2A of its Form ADV.

Unless otherwise stated, the source of information is Insight. Any forecasts or opinions are Insights own at the date of this document (or as otherwise specified) and may change. Material in this publication is for general information only and is not advice, investment advice, or the recommendation of any purchase or sale of any security. Insight makes no implied or expressed recommendations concerning the manner in which an account should or would be handled, as appropriate investment strategies depend upon specific investment guidelines and objectives and should not be construed to be an assurance that any particular security in a strategy will remain in any fund, account, or strategy, or that a previously held security will not be repurchased. It should not be assumed that any of the security transactions or holdings referenced herein have been or will prove to be profitable or that future investment decisions will be profitable or will equal or exceed the past investment performance of the securities listed.

Please compare the information provided in this statement to the information provided in the statement received from your Custodian.

For trading activity the Clearing broker will be reflected. In certain cases the Clearing broker will differ from the Executing broker.

In calculating ratings distributions and weighted average portfolio quality, Insight assigns U.S Treasury and U.S agency securities a quality rating based on the methodology used within the respective benchmark index. When Moodys, S&P and Fitch rate a security, Bank of America and Merrill Lynch indexes assign a simple weighted average statistic while Barclays indexes assign the median statistic. Insight assigns all other securities the lower of Moodys and S&P ratings.

Information about the indices shown here is provided to allow for comparison of the performance of the strategy to that of certain well-known and widely recognized indices. There is no representation that such index is an appropriate benchmark for such comparison. You cannot invest directly in an index and the indices represented do not take into account trading commissions and/or other brokerage or custodial costs. The volatility of the indices may be materially different from that of the strategy. In addition, the strategys holdings may differ substantially from the securities that comprise the indices shown.

The BofA Merrill Lynch 3 Mo US T-Bill index is an unmanaged market index of U.S. Treasury securities maturing in 90 days that assumes reinvestment of all income.

The BofA Merrill Lynch 6 Mo US T-Bill index measures the performance of Treasury bills with time to maturity of less than 6 months.

The BofA Merrill Lynch Current 1-Year US Treasury Index is a one-security index comprised of the most recently issued 1-year US Treasury note. The index is rebalanced monthly. In order to qualify for inclusion, a 1-year note must be auctioned on or before the third business day before the last business day of the month.

The BofA Merrill Lynch Current 3-Year US Treasury Index is a one-security index comprised of the most recently issued 3-year US Treasury note. The index is rebalanced monthly. In order to qualify for inclusion, a 3-year note must be auctioned on or before the third business day before the last business day of the month.

The BofA Merrill Lynch Current 5-Year US Treasury Index is a one-security index comprised of the most recently issued 5-year US Treasury note. The index is rebalanced monthly. In order to qualify for inclusion, a 5-year note must be auctioned on or before the third business day before the last business day of the month.

The BofA Merrill Lynch 1-3 US Year Treasury Index is an unmanaged index that tracks the performance of the direct sovereign debt of the U.S. Government having a maturity of at least one year and less than three years.

The BofA Merrill Lynch 1-5 US Year Treasury Index is an unmanaged index that tracks the performance of the direct sovereign debt of the U.S. Government having a maturity of at least one year and less than five years.

#### ADDITIONAL INFORMATION

#### As of October 31, 2019

Insight does not provide tax or legal advice to its clients and all investors are strongly urged to consult their tax and legal advisors regarding any potential strategy or investment.

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# SAN RAFAEL

November 2019



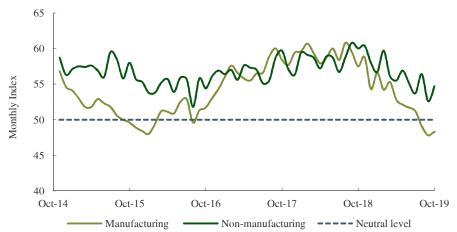
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#### FIXED INCOME MARKET REVIEW

#### As of November 30, 2019

Chart 1: ISM Manufacturing & Non-Manufacturing Indices



Source: Bloomberg Finance LP, November 30, 2019.

Chart 2: Treasury yield curve (%)



Source: Bloomberg Finance LP, November 30, 2019.

#### **Economic Indicators and Monetary Policy**

US GDP in Q3 was revised up from 1.9% to 2.1%, largely due to upticks in inventories, business sentiment and personal consumption. Markets took comfort as global purchasing manufacturing indices (PMI) showed signs of stabilization. In the US, the Institute for Supply Management (ISM) non-manufacturing index improved by 2.1 points to 54.7 (versus 53.5 expected). The manufacturing index edged up by 0.5 points to 48.3 (see Chart 1). The employment report showed that the US economy added 128,000 jobs in October (versus 85,000 expected), plus another 95,000 of positive revisions to previous months.

Uncertainty around US negotiations striking a narrow "phase one" trade agreement with China was a key driver of markets. The US reportedly pushed back against requests for existing Chinese tariffs to be rolled back (instead of merely left unchanged) as part of the deal. US Senate unanimously passed legislation aimed at protecting human rights in Hong Kong, to which the Chinese Foreign Ministry pledged to consider "strong counter measures".

There was no US Federal Open Markets Committee (FOMC) policy meeting during the month. Messaging from key personnel remained consistent with the theme that policy is "in the right place now". Markets moved to price in no change at the December meeting. US front-end Treasury yields rose by up to 0.12% in November.

#### Interest Rate Summary

At the end of November, the 3-month US Treasury bill yielded 1.58%, the 6-month US Treasury bill yielded 1.61%, the 2-year US Treasury note yielded 1.63%, the 5-year US Treasury note yielded 1.61% and the 10-year US Treasury note yielded 1.78% (see Chart 2).

#### **ACTIVITY AND PERFORMANCE SUMMARY**

#### For the period November 1, 2019 - November 30, 2019

Amortized Cost	Basis Activity Summary	
Opening balance		23,777,461.06
Income received	13,838.36	
Total receipts		13,838.36
Expenses paid	(141.00)	
Total disbursements		(141.00)
Interportfolio transfers	0.00	
Total Interportfolio transfers		0.00
Realized gain (loss)		0.00
Total amortization expense		(6,334.71
Total OID/MKT accretion income		1,513.11
Return of capital		0.00
Closing balance		23,786,336.82
Ending fair value		23,852,005.28
Unrealized gain (loss)		65,668.46

	Interest earned	Accretion (amortization)	Realized gain (loss)	Total income
Cash and Cash Equivalents	1,978.99	0.00	0.00	1,978.99
Corporate Bonds	9,304.17	(216.97)	0.00	9,087.20
Government Agencies	23,524.50	(4,453.98)	0.00	19,070.52
Government Bonds	3,958.90	(150.65)	0.00	3,808.25
Municipal/Provincial Bonds	5,561.78	0.00	0.00	5,561.78
Total	44,328.34	(4,821.60)	0.00	39,506.74

Comparative Rates of Return (%)				
	* Twelve month trailing	* Six month trailing	* One month	
Fed Funds	2.22	1.03	0.13	
Overnight Repo	2.30	1.05	0.13	
Merrill Lynch 3m US Treas Bill	2.11	0.92	0.12	
Merrill Lynch 6m US Treas Bill	2.11	0.89	0.12	
ML 1 Year US Treasury Note	2.15	0.89	0.13	
ML 2 Year US Treasury Note	2.06	0.83	0.13	
ML 5 Year US Treasury Note	2.04	0.82	0.13	

\* rates reflected are cumulative

Summary of Amortized Cost Basis Return for the Period	
	Total portfolio
Interest earned	44,328.34
interest earned	•
Accretion (amortization)	(4,821.60)
Realized gain (loss) on sales	0.00
Total income on portfolio	39,506.74
Average daily amortized cost	23,785,993.50
Period return (%)	0.17
YTD return (%)	1.84
Weighted average final maturity in days	857

#### **ACTIVITY AND PERFORMANCE SUMMARY**

#### For the period November 1, 2019 - November 30, 2019

Fair Value Basis Activity Summary					
Opening balance		23,874,928.24			
Income received	13,838.36				
Total receipts		13,838.36			
Expenses paid	(141.00)				
Total disbursements		(141.00)			
Interportfolio transfers	0.00				
Total Interportfolio transfers		0.00			
Unrealized gain (loss) on security movements		0.00			
Return of capital		0.00			
Change in fair value for the period		(36,620.32)			
Ending fair value		23,852,005.28			

Detail of Fair Value Basis Return					
	Interest earned	Change in fair value	Total income		
Cash and Cash Equivalents	1,978.99	0.00	1,978.99		
Corporate Bonds	9,304.17	(9,580.90)	(276.73)		
Government Agencies	23,524.50	(24,143.65)	(619.15)		
Government Bonds	3,958.90	(2,895.77)	1,063.13		
Municipal/Provincial Bonds	5,561.78	0.00	5,561.78		
Total	44,328.34	(36,620.32)	7,708.02		

Comparative Rates of Return (%)					
	* Twelve month trailing	* Six month trailing	* One month		
Fed Funds	2.22	1.03	0.13		
Overnight Repo	2.30	1.05	0.13		
ICE BofAML 3 Months US T-BILL	2.32	1.10	0.12		
ICE ML 6m US Treas Bill	2.63	1.28	0.12		
ICE ML 1 Year US Treasury Note	3.11	1.37	0.06		
ICE ML US Treasury 1-3	4.15	1.40	(0.03)		
ICE ML US Treasury 1-5	5.21	1.62	(0.11)		

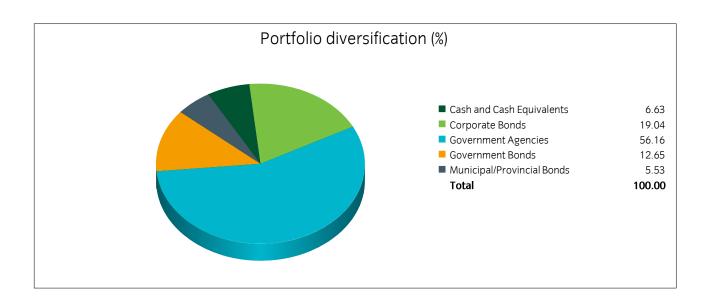
<del>5, 5</del>	<u> </u>
	Total portfolio
Interest earned	44,328.34
Change in fair value	(36,620.32)
Total income on portfolio	7,708.02
Average daily total value *	23,990,440.22
Period return (%)	0.03
YTD return (%)	2.90
Weighted average final maturity in days	857
* Total value equals market value and accrued interest	

Summary of Fair Value Basis Return for the Period

<sup>\*</sup> rates reflected are cumulative

#### **RECAP OF SECURITIES HELD**

	Historical cost	Amortized cost	Fair value	Unrealized gain (loss)	Weighted average final maturity (days)	Percent of portfolio	Weighted average effective duration (years)
Cash and Cash Equivalents	1,578,324.91	1,578,324.91	1,578,324.91	0.00	1	6.63	0.00
Corporate Bonds	4,531,760.00	4,535,676.85	4,566,540.78	30,863.93	717	19.04	1.80
Government Agencies	13,364,622.07	13,345,540.53	13,380,595.52	35,054.99	723	56.16	1.89
Government Bonds	3,009,695.54	3,011,694.53	3,011,444.07	(250.46)	452	12.65	1.19
Municipal/Provincial Bonds	1,315,100.00	1,315,100.00	1,315,100.00	0.00	4,661	5.53	9.13
Total	23,799,502.52	23,786,336.82	23,852,005.28	65,668.46	857	100.00	2.06

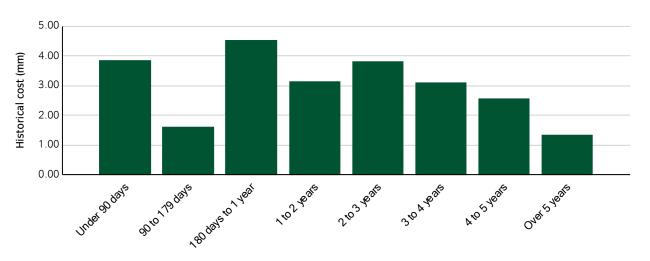


#### MATURITY DISTRIBUTION OF SECURITIES HELD

#### As of November 30, 2019

Maturity	Historic cost	Percent
Under 90 days	3,820,654.05	16.05
90 to 179 days	1,599,388.69	6.72
180 days to 1 year	4,497,552.19	18.90
1 to 2 years	3,127,325.00	13.14
2 to 3 years	3,794,980.30	15.95
3 to 4 years	3,084,828.22	12.96
4 to 5 years	2,559,674.07	10.76
Over 5 years	1,315,100.00	5.53
	23,799,502.52	100.00

#### Maturity distribution



Cusip/ Description	Coupon Maturity/ Call date	Par value or shares	Historical cost/ Accrued interest purchased	Amortized cost/ Accretion (amortization)	Fair value/ Change in fair value	Unrealized gain (loss)	Interest received	Interest earned	Total accrued interest	% Port cost
Cash and Cash Equiva	lents									
Cash and Cash Equivalents	0.000	1,578,324.91	1,578,324.91 0.00	1,578,324.91 0.00	1,578,324.91 0.00	0.00	0.00	0.00	0.00	6.63
Total Cash and Cash Equivaler	nts	1,578,324.91	1,578,324.91 0.00	1,578,324.91 0.00	1,578,324.91 0.00	0.00	0.00	0.00	0.00	6.63
Corporate Bonds										
90331HNB5 US BANK NA CINCINNATI 2% 24JAN2020 (CALLABLE 24DEC19)	2.000 01/24/2020 12/24/2019	500,000.00	493,330.00 0.00	499,213.58 436.90	500,052.41 (32.59)	838.83	0.00	805.56	3,500.00	2.07
89236TCF0 TOYOTA MOTOR CREDIT CORP 2.15% 12MAR2020	2.150 03/12/2020	500,000.00	504,545.00 0.00	500,514.53 (151.33)	500,364.19 (132.49)	(150.34)	0.00	865.98	2,329.17	2.12
02665WBT7 AMERICAN HONDA FINANCE 1.95% 20JUL2020	1.950 07/20/2020	500,000.00	492,340.00 0.00	496,848.30 411.09	500,016.18 (246.26)	3,167.88	0.00	785.41	3,520.83	2.07
46625HQJ2 JPMORGAN CHASE & CO 2.55% 01MAR2021 (CALLABLE 01FEB21)	2.550 03/01/2021 02/01/2021	500,000.00	494,725.00 0.00	496,857.30 209.05	503,342.13 (888.54)	6,484.83	0.00	1,027.08	3,152.08	2.08
17325FAQ1 CITIBANK NA 3.4% 23JUL2021 (CALLABLE 23JUN21)	3.400 07/23/2021 06/23/2021	500,000.00	507,030.00 0.00	505,312.60 (283.09)	510,450.54 (2,122.07)	5,137.94	0.00	1,369.44	5,997.22	2.13
149123BX8 CATERPILLAR INC 2.6% 26JUN2022 (CALLABLE 26MAR22)	2.600 06/26/2022 03/26/2022	500,000.00	500,300.00 0.00	500,243.26 (8.73)	508,143.32 (279.31)	7,900.06	0.00	1,047.22	5,561.11	2.10
931142DH3 WALMART INC 2.55% 11APR2023 (CALLABLE 11JAN23)	2.550 04/11/2023 01/11/2023	500,000.00	509,155.00 0.00	508,588.08 (229.83)	510,083.49 (2,135.75)	1,495.41	0.00	1,027.09	1,735.42	2.14

Cusip/ Description	Coupon Maturity/ Call date	Par value or shares	Historical cost/ Accrued interest purchased	Amortized cost/ Accretion (amortization)	Fair value/ Change in fair value	Unrealized gain (loss)	Interest received	Interest earned	Total accrued interest	% Port cost
Corporate Bonds										
037833AK6 APPLE INC 2.4% 03MAY2023	2.400 05/03/2023	500,000.00	506,880.00 0.00	506,490.47 (157.92)	507,625.31 (1,302.67)	1,134.84	6,000.00	966.67	900.00	2.13
693475AV7 PNC FINANCIAL SERVICES 3.5% 23JAN2024 (CALLABLE 23DEC23)	3.500 01/23/2024 12/24/2023	500,000.00	523,455.00 0.00	521,608.73 (443.11)	526,463.21 (2,441.22)	4,854.48	0.00	1,409.72	6,173.61	2.20
Total Corporate Bonds		4,500,000.00	4,531,760.00 0.00	4,535,676.85 (216.97)	4,566,540.78 (9,580.90)	30,863.93	6,000.00	9,304.17	32,869.44	19.04
Government Agencies	;									
3133ECEY6 FEDERAL FARM CREDIT BANK 1.45% 11FEB2020	1.450 02/11/2020	1,000,000.00	1,003,130.00 0.00	1,000,190.27 (80.39)	999,581.13 180.94	(609.14)	0.00	1,168.06	4,390.28	4.21
3134G3K58 FREDDIE MAC 1.5% 19MAR2020 CALLABLE	1.500 03/19/2020	500,000.00	498,289.00 0.00	499,818.76 49.89	499,850.86 43.79	32.10	0.00	604.17	1,479.17	2.09
313383HU8 FEDERAL HOME LOAN BANK 1.75% 12JUN2020	1.750 06/12/2020	1,000,000.00	996,870.00 0.00	999,343.93 102.51	1,000,727.72 (421.52)	1,383.79	0.00	1,409.73	8,166.67	4.19
3133EHVX8 FEDERAL FARM CREDIT BANK 1.5% 24AUG2020	1.500 08/24/2020	1,000,000.00	999,190.00 0.00	999,798.83 22.86	998,927.77 (344.23)	(871.06)	0.00	1,208.33	4,000.00	4.20
3135G0RM7 FANNIE MAE 1.63% 300CT2020 CALLABLE	1.630 10/30/2020	1,000,000.00	1,003,410.00 0.00	1,000,984.11 (92.73)	999,061.16 (130.20)	(1,922.95)	0.00	1,358.33	1,358.33	4.22
3133EJ4Q9 FEDERAL FARM CREDIT BANK 2.55% 11JAN2021	2.550 01/11/2021	500,000.00	499,100.00 0.00	499,489.53 38.19	505,228.22 542.03	5,738.69	0.00	1,027.09	4,922.92	2.10
313373ZY1 FEDERAL HOME LOAN BANK 3.625% 11JUN2021	3.625 06/11/2021	1,000,000.00	1,024,040.00 0.00	1,016,252.81 (884.91)	1,029,452.86 (2,938.31)	13,200.05	0.00	2,920.14	17,017.36	4.30

Cusip/ Description	Coupon Maturity/ Call date	Par value or shares	Historical cost/ Accrued interest purchased	Amortized cost/ Accretion (amortization)	Fair value/ Change in fair value	Unrealized gain (loss)	Interest received	Interest earned	Total accrued interest	% Port cost
Government Agencies	5									
313378JP7 FEDERAL HOME LOAN BANK 2.375% 10SEP2021	2.375 09/10/2021	600,000.00	602,430.00 0.00	601,860.29 (87.20)	607,221.32 (1,318.31)	5,361.03	0.00	1,147.92	3,166.67	2.53
3137EADB2 FREDDIE MAC 2.375% 13JAN2022	2.375 01/13/2022	1,650,000.00	1,676,634.30 0.00	1,674,662.59 (1,002.01)	1,674,488.94 (4,079.01)	(173.65)	0.00	3,156.77	14,913.02	7.04
313378WG2 FEDERAL HOME LOAN BANK 2.5% 11MAR2022	2.500 03/11/2022	1,000,000.00	1,016,330.00 0.00	1,013,556.05 (495.35)	1,018,599.29 (2,706.27)	5,043.24	0.00	2,013.89	5,486.11	4.27
3135G0T78 FANNIE MAE 2% 05OCT2022	2.000 10/05/2022	600,000.00	601,716.00 0.00	601,507.20 (44.11)	607,105.36 (840.42)	5,598.16	0.00	966.66	1,833.33	2.53
3130A3KM5 FEDERAL HOME LOAN BANK 2.5% 09DEC2022	2.500 12/09/2022	1,000,000.00	1,021,240.00 0.00	1,018,668.57 (514.29)	1,024,112.25 (3,792.75)	5,443.68	0.00	2,013.89	11,875.00	4.29
3135G0U43 FANNIE MAE 2.875% 12SEP2023	2.875 09/12/2023	1,000,000.00	1,047,553.22 0.00	1,045,323.64 (998.32)	1,044,347.66 (4,489.91)	(975.98)	0.00	2,315.98	6,229.17	4.40
3135G0V34 FANNIE MAE 2.5% 05FEB2024	2.500 02/05/2024	600,000.00	621,262.80 0.00	620,712.31 (412.87)	619,580.11 (2,741.56)	(1,132.20)	0.00	1,208.34	4,791.67	2.61
3135G0V75 FANNIE MAE 1.75% 02JUL2024	1.750 07/02/2024	750,000.00	753,426.75 (4,265.63)	753,371.64 (55.11)	752,310.87 (1,115.88)	(1,060.77)	0.00	911.45	5,177.08	3.17
Total Government Agencies		13,200,000.00	13,364,622.07 (4,265.63)	13,345,540.53 (4,453.84)	13,380,595.52 (24,151.61)	35,054.99	0.00	23,430.75	94,806.78	56.16
<b>Government Bonds</b>										
912828H52 USA TREASURY 1.25% 31JAN2020	1.250 01/31/2020	750,000.00	745,869.14 0.00	749,731.54 129.90	749,479.23 123.76	(252.31)	0.00	764.27	3,108.02	3.13

Cusip/ Description	Coupon Maturity/ Call date	Par value or shares	Historical cost/ Accrued interest purchased	Amortized cost/ Accretion (amortization)	Fair value/ Change in fair value	Unrealized gain (loss)	Interest received	Interest earned	Total accrued interest	% Port cost
<b>Government Bonds</b>										
912828X96 USA TREASURY 1.5% 15MAY2020	1.500 05/15/2020	600,000.00	596,554.69 0.00	599,372.56 112.72	599,554.69 (117.18)	182.13	4,500.00	737.73	370.88	2.51
912828XM7 USA TREASURY 1.625% 31JUL2020	1.625 07/31/2020	1,000,000.00	1,005,742.19 0.00	1,001,315.58 (161.75)	999,765.62 (312.50)	(1,549.96)	0.00	1,324.73	5,387.23	4.23
912828U57 USA TREASURY 2.125% 30NOV2023	2.125 11/30/2023	650,000.00	661,529.52 0.00	661,274.85 (231.52)	662,644.53 (2,589.85)	1,369.68	0.00	1,132.17	6,906.25	2.78
Total Government Bonds		3,000,000.00	3,009,695.54 0.00	3,011,694.53 (150.65)	3,011,444.07 (2,895.77)	(250.46)	4,500.00	3,958.90	15,772.38	12.65
Municipal/Provincial E	Bonds									
888599LS4 PT. SAN ASSESS DISTRICT 5.25% 144A 02SEP2032 SANRAF\$01	5.250 09/02/2032	1,315,100.00	1,315,100.00 0.00	1,315,100.00 0.00	1,315,100.00 0.00	0.00	0.00	5,561.78	16,877.12	5.53
Total Municipal/Provincial Bor	nds	1,315,100.00	1,315,100.00 0.00	1,315,100.00 0.00	1,315,100.00 0.00	0.00	0.00	5,561.78	16,877.12	5.53
Grand total		23,593,424.91	23,799,502.52 (4,265.63)	23,786,336.82 (4,821.46)	23,852,005.28	65,668.46	10,500.00	42,255.60	160,325.72	100.00

### GASB 40 - DEPOSIT AND INVESTMENT RISK DISCLOSURE

Cusip	Description	Coupon	Maturity date	Call date	S&P rating	Moody rating	Par value or shares	Historical cost	% Portfolio hist cost	Market value	% Portfolio mkt value	Effective dur (yrs)
Federal	Home Loan Banks											
313383HU8	FEDERAL HOME LOAN	1.750	06/12/2020		AA+	Aaa	1,000,000.00	996,870.00	4.19	1,000,727.72	4.20	0.53
313373ZY1	FEDERAL HOME LOAN	3.625	06/11/2021		AA+	Aaa	1,000,000.00	1,024,040.00	4.30	1,029,452.86	4.32	1.47
313378JP7	FEDERAL HOME LOAN	2.375	09/10/2021		AA+	Aaa	600,000.00	602,430.00	2.53	607,221.32	2.55	1.73
313378WG	FEDERAL HOME LOAN	2.500	03/11/2022		AA+	Aaa	1,000,000.00	1,016,330.00	4.27	1,018,599.29	4.27	2.19
3130A3KM	FEDERAL HOME LOAN	2.500	12/09/2022		AA+	Aaa	1,000,000.00	1,021,240.00	4.29	1,024,112.25	4.29	2.87
Issuer tot	al						4,600,000.00	4,660,910.00	19.58	4,680,113.44	19.62	1.77
Federal	National Mortgage A	ssociation	1									
3135G0RM	7 FANNIE MAE 1.63%	1.630	10/30/2020		AA+	Aaa	1,000,000.00	1,003,410.00	4.22	999,061.16	4.19	0.91
3135G0T78	FANNIE MAE 2%	2.000	10/05/2022		AA+	Aaa	600,000.00	601,716.00	2.53	607,105.36	2.55	2.75
3135G0U43	FANNIE MAE 2.875%	2.875	09/12/2023		AA+	Aaa	1,000,000.00	1,047,553.22	4.40	1,044,347.66	4.38	3.56
3135G0V34	FANNIE MAE 2.5%	2.500	02/05/2024		AA+	Aaa	600,000.00	621,262.80	2.61	619,580.11	2.60	3.94
3135G0V75	FANNIE MAE 1.75%	1.750	07/02/2024		AA+	Aaa	750,000.00	753,426.75	3.17	752,310.87	3.15	4.36
Issuer tot	al						3,950,000.00	4,027,368.77	16.92	4,022,405.16	16.86	2.99
United S	States Treasury Note/	Bond										
912828H52	USA TREASURY 1.25%	1.250	01/31/2020		AA+	Aaa	750,000.00	745,869.14	3.13	749,479.23	3.14	0.17
912828X96	USA TREASURY 1.5%	1.500	05/15/2020		AA+	Aaa	600,000.00	596,554.69	2.51	599,554.69	2.51	0.46
912828XM	USA TREASURY 1.625%	1.625	07/31/2020		AA+	Aaa	1,000,000.00	1,005,742.19	4.23	999,765.62	4.19	0.66
912828U57	USA TREASURY 2.125%	2.125	11/30/2023		AA+	Aaa	650,000.00	661,529.52	2.78	662,644.53	2.78	3.82
Issuer tot	al						3,000,000.00	3,009,695.54	12.65	3,011,444.07	12.63	1.19
Federal	Farm Credit Banks Fu	ınding Cor	р									
3133ECEY6	FEDERAL FARM CREDIT	1.450	02/11/2020		AA+	Aaa	1,000,000.00	1,003,130.00	4.21	999,581.13	4.19	0.20
3133EHVX8	FEDERAL FARM CREDIT	1.500	08/24/2020		AA+	Aaa	1,000,000.00	999,190.00	4.20	998,927.77	4.19	0.73

### GASB 40 - DEPOSIT AND INVESTMENT RISK DISCLOSURE

Cusip	Description	Coupon	Maturity date	Call date	S&P rating	Moody rating	Par value or shares	Historical cost	% Portfolio hist cost	Market value	% Portfolio mkt value	Effective dur (yrs)
Federal	Farm Credit Banks Fu	ınding Cor	р									
3133EJ4Q9	FEDERAL FARM CREDIT	2.550	01/11/2021		AA+	Aaa	500,000.00	499,100.00	2.10	505,228.22	2.12	1.08
Issuer tota	al						2,500,000.00	2,501,420.00	10.51	2,503,737.12	10.50	0.59
Federal	Home Loan Mortgage	e Corp										
3134G3K58	FREDDIE MAC 1.5%	1.500	03/19/2020		AA+	Aaa	500,000.00	498,289.00	2.09	499,850.86	2.10	0.30
3137EADB2	FREDDIE MAC 2.375%	2.375	01/13/2022		AA+	Aaa	1,650,000.00	1,676,634.30	7.04	1,674,488.94	7.02	2.04
Issuer tota	al						2,150,000.00	2,174,923.30	9.14	2,174,339.80	9.12	1.64
Cash and	d Cash Equivalents											
	INVESTED CASH	0.000					1,578,324.91	1,578,324.91	0.00	1,578,324.91	6.62	0.00
Issuer tota	al						1,578,324.91	1,578,324.91	0.00	1,578,324.91	6.62	0.00
PT. SAN	ASSESS DISTRICT											
888599LS4	PT. SAN ASSESS	5.250	09/02/2032		NR	NR	1,315,100.00	1,315,100.00	5.53	1,315,100.00	5.51	9.13
Issuer tota	al						1,315,100.00	1,315,100.00	5.53	1,315,100.00	5.51	9.13
PNC Fina	ancial Services Group	Inc/The										
693475AV7	PNC FINANCIAL	3.500	01/23/2024	12/24/2023	A-	А3	500,000.00	523,455.00	2.20	526,463.21	2.21	3.76
Issuer tota	al						500,000.00	523,455.00	2.20	526,463.21	2.21	3.76
Citibank	NA											
17325FAQ1	CITIBANK NA 3.4%	3.400	07/23/2021	06/23/2021	A+	Aa3	500,000.00	507,030.00	2.13	510,450.54	2.14	1.51
Issuer tota	al						500,000.00	507,030.00	2.13	510,450.54	2.14	1.51
Walmart	:Inc											
931142DH3	WALMART INC 2.55%	2.550	04/11/2023	01/11/2023	AA	Aa2	500,000.00	509,155.00	2.14	510,083.49	2.14	3.04
Issuer tota	al						500,000.00	509,155.00	2.14	510,083.49	2.14	3.04

### GASB 40 - DEPOSIT AND INVESTMENT RISK DISCLOSURE

Cusip	Description	Coupon	Maturity date	Call date	S&P rating	Moody rating	Par value or shares	Historical cost	% Portfolio hist cost	Market value	% Portfolio mkt value	Effective dur (yrs)
Caterpill	ar Inc											
149123BX8	CATERPILLAR INC 2.6%	2.600	06/26/2022	03/26/2022	Α	A3	500,000.00	500,300.00	2.10	508,143.32	2.13	2.27
Issuer tota	I						500,000.00	500,300.00	2.10	508,143.32	2.13	2.27
Apple In	С											
037833AK6	APPLE INC 2.4%	2.400	05/03/2023		AA+	Aa1	500,000.00	506,880.00	2.13	507,625.31	2.13	3.27
Issuer tota	I						500,000.00	506,880.00	2.13	507,625.31	2.13	3.27
JPMorga	n Chase & Co											
46625HQJ2	JPMORGAN CHASE & CO	2.550	03/01/2021	02/01/2021	A-	A2	500,000.00	494,725.00	2.08	503,342.13	2.11	1.16
Issuer tota	I						500,000.00	494,725.00	2.08	503,342.13	2.11	1.16
Toyota N	Notor Credit Corp											
89236TCF0	TOYOTA MOTOR CREDIT	2.150	03/12/2020		AA-	Aa3	500,000.00	504,545.00	2.12	500,364.19	2.10	0.28
Issuer tota	I						500,000.00	504,545.00	2.12	500,364.19	2.10	0.28
US Bank	NA/Cincinnati OH											
90331HNB5	US BANK NA CINCINNATI	2.000	01/24/2020	12/24/2019	AA-	A1	500,000.00	493,330.00	2.07	500,052.41	2.10	0.10
Issuer tota	I						500,000.00	493,330.00	2.07	500,052.41	2.10	0.10
America	n Honda Finance Corp											
02665WBT7	AMERICAN HONDA	1.950	07/20/2020		А	A2	500,000.00	492,340.00	2.07	500,016.18	2.10	0.63
Issuer tota	I						500,000.00	492,340.00	2.07	500,016.18	2.10	0.63
Grand tota	l						23,593,424.91	23,799,502.52	100.00	23,852,005.28	100.00	2.06

### **SECURITIES PURCHASED**

### For the period November 1, 2019 - November 30, 2019

Cusip / Description / Broker	Trade date Settle date	Coupon	Maturity/ Call date	Par value or shares	Unit cost	Principal cost	Accrued interest purchased
Government Agencies							
3135G0V75	11/04/2019	1.750	07/02/2024	750,000.00	100.46	(753,426.75)	(4,265.63)
FANNIE MAE 1.75% 02JUL2024	11/05/2019						
TORONTO DOMINION BANK, THE							
Total Government Agencies				750,000.00		(753,426.75)	(4,265.63)
Grand total				750,000.00		(753,426.75)	(4,265.63)

### **SECURITIES SOLD AND MATURED**

#### For the period November 1, 2019 - November 30, 2019

Cusip/ Description/ Broker	Trade date Settle date	Coupon	Maturity/ Call date	Par value or shares	Historical cost	Amortized cost at sale or maturity /Accr (amort)	Price	Fair value at sale or maturity / Chg.in fair value	Realized gain (loss)	Accrued interest sold	Interest received	Interest earned
Government Agencies 3130ABCH7	11/04/2019	1.500		(750,000.00)	750,030.00	750,000.00	0.00	750,000.00	0.00	0.00	5,625.00	93.75
FEDERAL HOME LN BKS 1.5% DUE 11-04-2019 REG	11/04/2019	1.500		(750,000.00)	, 50,050.00	(0.14)	0.00	7.96	0.00	0.00	3,023.00	75.75
Total (Government Agencie	s)			(750,000.00)	750,030.00	750,000.00 (0.14)		750,000.00 7.96	0.00	0.00	5,625.00	93.75
Grand total				(750,000.00)	750,030.00	750,000.00 (0.14)		750,000.00 7.96	0.00	0.00	5,625.00	93.75

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### TRANSACTION REPORT

#### For the period November 1, 2019 - November 30, 2019

Trade date Settle date	Cusip	Transaction	Sec type	Description	Maturity	Par value or shares	Realized gain(loss)	Principal	Interest	Transaction total
11/03/2019 11/03/2019	037833AK6	Income	Corporate Bonds	APPLE INC 2.4% 03MAY2023	05/03/2023	500,000.00	0.00	0.00	6,000.00	6,000.00
11/04/2019 11/04/2019	3130ABCH7	Income	Government Agencies	FEDERAL HOME LN BKS 1.5%	11/04/2019	750,000.00	0.00	0.00	5,625.00	5,625.00
11/04/2019 11/04/2019	3130ABCH7	Capital Change	Government Agencies	FEDERAL HOME LN BKS 1.5%	11/04/2019	(750,000.00)	0.00	750,000.00	0.00	750,000.00
11/04/2019 11/05/2019	3135G0V75	Bought	Government Agencies	FANNIE MAE 1.75% 02JUL2024	07/02/2024	750,000.00	0.00	(753,426.75)	(4,265.63)	(757,692.38)
11/15/2019 11/15/2019	912828X96	Income	Government Bonds	USA TREASURY 1.5%	05/15/2020	600,000.00	0.00	0.00	4,500.00	4,500.00
11/30/2019		Income	Cash and Cash Equivalents	Cash		0.00	0.00	0.00	1,978.99	1,978.99

#### ADDITIONAL INFORMATION

#### As of November 30, 2019

Past performance is not a guide to future performance. The value of investments and any income from them will fluctuate and is not guaranteed (this may partly be due to exchange rate changes) and investors may not get back the amount invested. Transactions in foreign securities may be executed and settled in local markets. Performance comparisons will be affected by changes in interest rates. Investment returns fluctuate due to changes in market conditions. Investment involves risk, including the possible loss of principal. No assurance can be given that the performance objectives of a given strategy will be achieved. The information contained herein is for your reference only and is being provided in response to your specific request and has been obtained from sources believed to be reliable; however, no representation is made regarding its accuracy or completeness. This document must not be used for the purpose of an offer or solicitation in any jurisdiction or in any circumstances in which such offer or solicitation is unlawful or otherwise not permitted. This document should not be duplicated, amended, or forwarded to a third party without consent from Insight. This is a marketing document intended for professional clients only and should not be made available to or relied upon by retail clients

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Where indicated, performance numbers used in the analysis are gross returns. The performance reflects the reinvestment of all dividends and income. INA charges management fees on all portfolios managed and these fees will reduce the returns on the portfolios. For example, assume that \$30 million is invested in an account with INA, and this account achieves a 5.0% annual return compounded monthly, gross of fees, for a period of five years. At the end of five years that account would have grown to \$38,500,760 before the deduction of management fees. Assuming management fees of 0.25% per year are deducted monthly from the account, the value at the end of the five year period would be \$38,022,447. Actual fees for new accounts are dependent on size and subject to negotiation. INA's investment advisory fees are discussed in Part 2A of its Form ADV.

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For trading activity the Clearing broker will be reflected. In certain cases the Clearing broker will differ from the Executing broker.

In calculating ratings distributions and weighted average portfolio quality, Insight assigns U.S Treasury and U.S agency securities a quality rating based on the methodology used within the respective benchmark index. When Moodys, S&P and Fitch rate a security, Bank of America and Merrill Lynch indexes assign a simple weighted average statistic while Barclays indexes assign the median statistic. Insight assigns all other securities the lower of Moodys and S&P ratings.

Information about the indices shown here is provided to allow for comparison of the performance of the strategy to that of certain well-known and widely recognized indices. There is no representation that such index is an appropriate benchmark for such comparison. You cannot invest directly in an index and the indices represented do not take into account trading commissions and/or other brokerage or custodial costs. The volatility of the indices may be materially different from that of the strategy. In addition, the strategys holdings may differ substantially from the securities that comprise the indices shown.

The BofA Merrill Lynch 3 Mo US T-Bill index is an unmanaged market index of U.S. Treasury securities maturing in 90 days that assumes reinvestment of all income.

The BofA Merrill Lynch 6 Mo US T-Bill index measures the performance of Treasury bills with time to maturity of less than 6 months.

The BofA Merrill Lynch Current 1-Year US Treasury Index is a one-security index comprised of the most recently issued 1-year US Treasury note. The index is rebalanced monthly. In order to qualify for inclusion, a 1-year note must be auctioned on or before the third business day before the last business day of the month.

The BofA Merrill Lynch Current 3-Year US Treasury Index is a one-security index comprised of the most recently issued 3-year US Treasury note. The index is rebalanced monthly. In order to qualify for inclusion, a 3-year note must be auctioned on or before the third business day before the last business day of the month.

The BofA Merrill Lynch Current 5-Year US Treasury Index is a one-security index comprised of the most recently issued 5-year US Treasury note. The index is rebalanced monthly. In order to qualify for inclusion, a 5-year note must be auctioned on or before the third business day before the last business day of the month.

The BofA Merrill Lynch 1-3 US Year Treasury Index is an unmanaged index that tracks the performance of the direct sovereign debt of the U.S. Government having a maturity of at least one year and less than three years.

The BofA Merrill Lynch 1-5 US Year Treasury Index is an unmanaged index that tracks the performance of the direct sovereign debt of the U.S. Government having a maturity of at least one year and less than five years

#### **ADDITIONAL INFORMATION**

#### As of November 30, 2019

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# SAN RAFAEL

December 2019



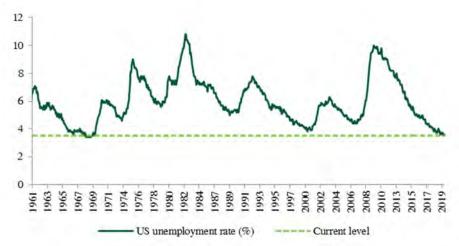
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#### FIXED INCOME MARKET REVIEW

#### As of December 31, 2019

Chart 1: US unemployment hits a new 50-year low



Source: Bloomberg Finance LP, December 31, 2019.

Chart 2: Return of 'normal' yield curve leaves Fed satisfied with policy rates



Source: Bloomberg Finance LP. December 31, 2019.

#### **Economic Indicators and Monetary Policy**

Economic indicators were promising overall. The economy added 266,000 jobs in November (above the expected 180,000) with an upward revision of 41,000 to the previous two months, supported by the return of GM workers following a strike. The unemployment rate fell to a new 50-year low of 3.5% (Chart 1). The ISM manufacturing index weakened to 48.1 (compared to the expected 49.2), but remained higher than the September low-point of 47.8. The non-manufacturing index fell from to 53.9 (versus an expected 54.5).

The US and China agreed to a narrow 'phase one' trade deal, with the expectation that it will be signed in January. New US tariffs previously scheduled to come into effect during the month were suspended. Existing tariff rates on \$120bn of Chinese imports will be halved from 15% to 7.5%, although 25% on a remaining \$250bn of tariffs will remain. China committed to import various US goods and services over the next two years in a total amount that exceeds China's annual level of imports for those goods and services in 2017 by no less than \$200bn. President Trump also stated that discussions on a 'phase two' deal would begin immediately rather than after this year's presidential election.

The final Federal Reserve (Fed) meeting of 2019 brought a run of three consecutive rate cuts to an end (Chart 2). The Fed's messaging tilted towards the optimistic side, removing any mention of "uncertainties" to the outlook, partly as the trade conflict with China appears closer to stabilizing. The committee's revised 'dot plot' showed a majority of members expect no change in rates by the end of 2020, with no member predicting a cut. The yield curve continued to steepen, indicating improving investor optimism around the economy.

#### Interest Rate Summary

Treasury yields declined mostly across the curve during the month. At the end of December, the 3-month US Treasury bill yielded 1.55%, the 6-month US Treasury bill yielded 1.59%, the 2-year US Treasury note yielded 1.57%, the 5-year US Treasury note yielded 1.69% and the 10-year US Treasury note yielded 1.69%.

#### **ACTIVITY AND PERFORMANCE SUMMARY**

#### For the period December 1, 2019 - December 31, 2019

Amortized Cos	t Basis Activity Summary	
Opening balance		23,786,336.82
Income received	47,550.52	
Total receipts		47,550.52
Expenses paid	(140.86)	
Total disbursements		(140.86)
Interportfolio transfers	0.00	
Total Interportfolio transfers		0.00
Realized gain (loss)		436.90
Total amortization expense		(7,338.90
Total OID/MKT accretion income		1,433.80
Return of capital		0.00
Closing balance		23,828,278.28
Ending fair value		23,901,948.42
Unrealized gain (loss)		73,670.14

	Interest earned	Accretion (amortization)	Realized gain (loss)	Total income
Cash and Cash Equivalents	1,706.07	0.00	0.00	1,706.07
Corporate Bonds	11,681.61	(1,360.08)	436.90	10,758.43
Government Agencies	25,108.85	(4,389.35)	0.00	20,719.50
Government Bonds	4,095.01	(155.67)	0.00	3,939.34
Municipal/Provincial Bonds	5,945.35	0.00	0.00	5,945.35
Total	48,536.89	(5,905.10)	436.90	43,068.69

Comparative Rates of Return (%)				
	* Twelve month trailing	* Six month trailing	* One month	
Fed Funds	2.16	0.96	0.13	
Overnight Repo	2.22	0.98	0.13	
Merrill Lynch 3m US Treas Bill	2.04	0.87	0.13	
Merrill Lynch 6m US Treas Bill	2.02	0.86	0.13	
ML 1 Year US Treasury Note	2.06	0.86	0.13	
ML 2 Year US Treasury Note	1.97	0.82	0.14	
ML 5 Year US Treasury Note	1.96	0.81	0.14	

F-6	ea Funas	2.16	0.96	0.13
0	vernight Repo	2.22	0.98	0.13
Ν	errill Lynch 3m US Treas Bill	2.04	0.87	0.13
Ν	errill Lynch 6m US Treas Bill	2.02	0.86	0.13
Ν	L 1 Year US Treasury Note	2.06	0.86	0.13
Ν	L 2 Year US Treasury Note	1.97	0.82	0.14
Ν	L 5 Year US Treasury Note	1.96	0.81	0.14
*	rates reflected are cumulative			

Summary of Amortized Cost Basis Return for the Perioc	1
	Total portfolio
Interest earned	48,536.89
Accretion (amortization)	(5,905.10)
Realized gain (loss) on sales	436.90
Total income on portfolio	43,068.69
Average daily amortized cost	23,816,198.45
Period return (%)	0.18
YTD return (%)	2.03
Weighted average final maturity in days	872

#### **ACTIVITY AND PERFORMANCE SUMMARY**

#### For the period December 1, 2019 - December 31, 2019

Fair Value Basis Activity Summary					
Opening balance		23,852,005.28			
Income received	47,550.52				
Total receipts		47,550.52			
Expenses paid	(140.86)				
Total disbursements		(140.86)			
Interportfolio transfers	0.00				
Total Interportfolio transfers		0.00			
Unrealized gain (loss) on security movements		0.00			
Return of capital		0.00			
Change in fair value for the period		2,533.48			
Ending fair value		23,901,948.42			
T and the second					

Detail of Fair Value Basis Return			
	Interest earned	Change in fair value	Total income
Cash and Cash Equivalents	1,706.07	0.00	1,706.07
Corporate Bonds	11,681.61	4,516.14	16,197.75
Government Agencies	25,108.85	(1,531.73)	23,577.12
Government Bonds	4,095.01	(450.93)	3,644.08
Municipal/Provincial Bonds	5,945.35	0.00	5,945.35
Total	48,536.89	2,533.48	51,070.37

<u>Comparative</u>	e Rates of Returr	<u>1 (%)</u>	
	* Twelve month trailing	* Six month trailing	* One month
Fed Funds	2.16	0.96	0.13
Overnight Repo	2.22	0.98	0.13
ICE BofAML 3 Months US T-BILL	2.28	1.03	0.14
ICE ML 6m US Treas Bill	2.57	1.17	0.16
ICE ML 1 Year US Treasury Note	2.93	1.15	0.18
ICE ML US Treasury 1-3	3.55	1.09	0.21
ICE ML US Treasury 1-5	4.20	1.10	0.14

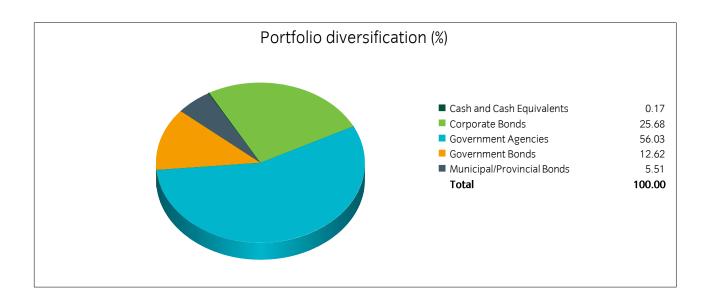
	Total portfolio
Interest earned	48,536.89
Change in fair value	2,533.48
Total income on portfolio	51,070.37
Average daily total value *	24,030,324.40
Period return (%)	0.21
YTD return (%)	3.12
Weighted average final maturity in days	872
* Total value equals market value and accrued interest	

Summary of Fair Value Basis Return for the Period

<sup>\*</sup> rates reflected are cumulative

## **RECAP OF SECURITIES HELD**

	Historical cost	Amortized cost	Fair value	Unrealized gain (loss)	Weighted average final maturity (days)	Percent of portfolio	Weighted average effective duration (years)
Cash and Cash Equivalents	39,382.07	39,382.07	39,382.07	0.00	1	0.17	0.00
Corporate Bonds	6,124,782.50	6,121,106.17	6,157,409.42	36,303.25	686	25.68	1.74
Government Agencies	13,364,622.07	13,341,151.18	13,379,063.79	37,912.61	691	56.03	1.81
Government Bonds	3,009,695.54	3,011,538.86	3,010,993.14	(545.72)	420	12.62	1.11
Municipal/Provincial Bonds	1,315,100.00	1,315,100.00	1,315,100.00	0.00	4,629	5.51	9.07
Total	23,853,582.18	23,828,278.28	23,901,948.42	73,670.14	872	100.00	2.10

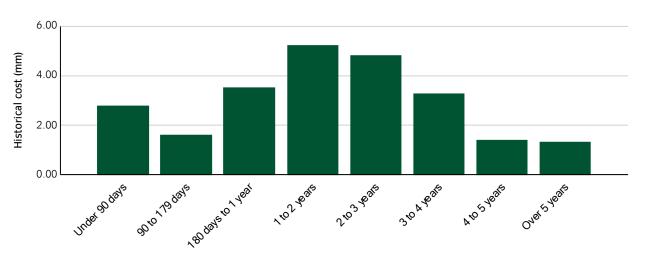


## MATURITY DISTRIBUTION OF SECURITIES HELD

## As of December 31, 2019

Maturity	Historic cost	Percent
Under 90 days	2,791,215.21	11.70
90 to 179 days	1,593,424.69	6.68
180 days to 1 year	3,500,682.19	14.68
1 to 2 years	5,213,677.50	21.86
2 to 3 years	4,816,220.30	20.19
3 to 4 years	3,248,572.74	13.62
4 to 5 years	1,374,689.55	5.76
Over 5 years	1,315,100.00	5.51
	23,853,582.18	100.00

## Maturity distribution



Cusip/ Description	Coupon Maturity/ Call date	Par value or shares	Historical cost/ Accrued interest purchased	Amortized cost/ Accretion (amortization)	Fair value/ Change in fair value	Unrealized gain (loss)	Interest received	Interest earned	Total accrued interest	% Port cost
Cash and Cash Equiva	lents									
Cash and Cash Equivalents	0.000	39,382.07	39,382.07 0.00	39,382.07 0.00	39,382.07 0.00	0.00	0.00	0.00	0.00	0.17
Total Cash and Cash Equivaler	nts	39,382.07	39,382.07 0.00	39,382.07 0.00	39,382.07 0.00	0.00	0.00	0.00	0.00	0.17
Corporate Bonds										
89236TCF0 TOYOTA MOTOR CREDIT CORP 2.15% 12MAR2020	2.150 03/12/2020	500,000.00	504,545.00 0.00	500,363.20 (151.33)	500,130.55 (233.64)	(232.65)	0.00	925.69	3,254.86	2.12
02665WBT7 AMERICAN HONDA FINANCE 1.95% 20JUL2020	1.950 07/20/2020	500,000.00	492,340.00 0.00	497,259.39 411.09	500,261.75 245.57	3,002.36	0.00	839.59	4,360.42	2.06
254687CK0 WALT DISNEY COMPANY/THE 4.5% 15FEB2021	4.500 02/15/2021	500,000.00	515,190.00 (7,750.00)	514,682.46 (507.54)	515,274.44 84.44	591.98	0.00	750.00	8,500.00	2.16
46625HQJ2 JPMORGAN CHASE & CO 2.55% 01MAR2021 (CALLABLE 01FEB21)	2.550 03/01/2021 02/01/2021	500,000.00	494,725.00 0.00	497,066.35 209.05	503,867.48 525.35	6,801.13	0.00	1,097.92	4,250.00	2.07
0258M0EB1 AMERICAN EXPRESS CREDIT 2.25% 05MAY2021 (CALLABLE 04APR21)	2.250 05/05/2021 04/04/2021	550,000.00	552,667.50 (1,512.50)	552,587.70 (79.80)	552,650.52 (16.98)	62.82	0.00	412.50	1,925.00	2.32
91159HHA1 US BANCORP 4.125% 24MAY2021 (CALLABLE 23APR21)	4.125 05/24/2021 04/23/2021	500,000.00	514,880.00 (1,718.75)	514,481.98 (398.02)	514,721.77 (158.23)	239.79	0.00	401.04	2,119.79	2.16
17325FAQ1 CITIBANK NA 3.4% 23JUL2021 (CALLABLE 23JUN21)	3.400 07/23/2021 06/23/2021	500,000.00	507,030.00 0.00	505,029.52 (283.08)	510,737.44 286.90	5,707.92	0.00	1,463.89	7,461.11	2.13

Cusip/ Description	Coupon Maturity/ Call date	Par value or shares	Historical cost/ Accrued interest purchased	Amortized cost/ Accretion (amortization)	Fair value/ Change in fair value	Unrealized gain (loss)	Interest received	Interest earned	Total accrued interest	% Port cost
Corporate Bonds										
717081DZ3 PFIZER INC 2.2% 15DEC2021	2.200 12/15/2021	500,000.00	503,615.00 (122.22)	503,544.61 (70.39)	504,900.09 1,285.09	1,355.48	0.00	366.67	488.89	2.11
149123BX8 CATERPILLAR INC 2.6% 26JUN2022 (CALLABLE 26MAR22)	2.600 06/26/2022 03/26/2022	500,000.00	500,300.00 0.00	500,234.53 (8.73)	508,866.35 723.03	8,631.82	6,500.00	1,119.45	180.56	2.10
931142DH3 WALMART INC 2.55% 11APR2023 (CALLABLE 11JAN23)	2.550 04/11/2023 01/11/2023	500,000.00	509,155.00 0.00	508,358.25 (229.83)	510,867.43 783.94	2,509.18	0.00	1,097.91	2,833.33	2.13
037833AK6 APPLE INC 2.4% 03MAY2023	2.400 05/03/2023	500,000.00	506,880.00 0.00	506,332.55 (157.92)	508,531.75 906.44	2,199.20	0.00	1,033.33	1,933.33	2.12
693475AV7 PNC FINANCIAL SERVICES 3.5% 23JAN2024 (CALLABLE 23DEC23)	3.500 01/23/2024 12/24/2023	500,000.00	523,455.00 0.00	521,165.63 (443.10)	526,599.85 136.64	5,434.22	0.00	1,506.95	7,680.56	2.19
Total Corporate Bonds		6,050,000.00	6,124,782.50 (11,103.47)	6,121,106.17 (1,709.60)	6,157,409.42 4,568.55	36,303.25	6,500.00	11,014.94	44,987.85	25.68
Government Agencies	;									
3133ECEY6 FEDERAL FARM CREDIT BANK 1.45% 11FEB2020	1.450 02/11/2020	1,000,000.00	1,003,130.00 0.00	1,000,109.87 (80.40)	999,841.46 260.33	(268.41)	0.00	1,248.61	5,638.89	4.21
3134G3K58 FREDDIE MAC 1.5% 19MAR2020 CALLABLE	1.500 03/19/2020	500,000.00	498,289.00 0.00	499,868.64 49.88	499,811.51 (39.35)	(57.13)	0.00	645.83	2,125.00	2.09
313383HU8 FEDERAL HOME LOAN BANK 1.75% 12JUN2020	1.750 06/12/2020	1,000,000.00	996,870.00 0.00	999,446.44 102.51	1,000,280.65 (447.07)	834.21	8,750.00	1,506.94	923.61	4.18

Cusip/ Description	Coupon Maturity/ Call date	Par value or shares	Historical cost/ Accrued interest purchased	Amortized cost/ Accretion (amortization)	Fair value/ Change in fair value	Unrealized gain (loss)	Interest received	Interest earned	Total accrued interest	% Port cost
Government Agencies	S									
3133EHVX8 FEDERAL FARM CREDIT BANK 1.5% 24AUG2020	1.500 08/24/2020	1,000,000.00	999,190.00 0.00	999,821.69 22.86	999,736.01 808.24	(85.68)	0.00	1,291.67	5,291.67	4.19
3135G0RM7 FANNIE MAE 1.63% 300CT2020 CALLABLE	1.630 10/30/2020	1,000,000.00	1,003,410.00 0.00	1,000,897.37 (86.74)	999,279.38 218.22	(1,617.99)	0.00	1,358.34	2,716.67	4.21
3133EJ4Q9 FEDERAL FARM CREDIT BANK 2.55% 11JAN2021	2.550 01/11/2021	500,000.00	499,100.00 0.00	499,527.72 38.19	504,977.94 (250.28)	5,450.22	0.00	1,097.91	6,020.83	2.09
313373ZY1 FEDERAL HOME LOAN BANK 3.625% 11JUN2021	3.625 06/11/2021	1,000,000.00	1,024,040.00 0.00	1,015,367.90 (884.91)	1,028,608.15 (844.71)	13,240.25	18,125.00	3,121.53	2,013.89	4.29
313378JP7 FEDERAL HOME LOAN BANK 2.375% 10SEP2021	2.375 09/10/2021	600,000.00	602,430.00 0.00	601,773.09 (87.20)	607,771.66 550.34	5,998.57	0.00	1,227.08	4,393.75	2.53
3137EADB2 FREDDIE MAC 2.375% 13JAN2022	2.375 01/13/2022	1,650,000.00	1,676,634.30 0.00	1,673,725.21 (937.38)	1,675,434.19 945.25	1,708.98	0.00	3,374.48	18,287.50	7.03
313378WG2 FEDERAL HOME LOAN BANK 2.5% 11MAR2022	2.500 03/11/2022	1,000,000.00	1,016,330.00 0.00	1,013,060.70 (495.35)	1,018,771.38 172.09	5,710.68	0.00	2,152.78	7,638.89	4.26
3135G0T78 FANNIE MAE 2% 05OCT2022	2.000 10/05/2022	600,000.00	601,716.00 0.00	601,463.08 (44.12)	606,452.35 (653.01)	4,989.27	0.00	1,033.34	2,866.67	2.52
3130A3KM5 FEDERAL HOME LOAN BANK 2.5% 09DEC2022	2.500 12/09/2022	1,000,000.00	1,021,240.00 0.00	1,018,154.29 (514.28)	1,024,824.98 712.73	6,670.69	12,500.00	2,152.78	1,527.78	4.28
3135G0U43 FANNIE MAE 2.875% 12SEP2023	2.875 09/12/2023	1,000,000.00	1,047,553.22 0.00	1,044,325.32 (998.32)	1,043,857.11 (490.55)	(468.21)	0.00	2,475.69	8,704.86	4.39

Cusip/ Description	Coupon	Maturity/ Call date	Par value or shares	Historical cost/ Accrued interest purchased	Amortized cost/ Accretion (amortization)	Fair value/ Change in fair value	Unrealized gain (loss)	Interest received	Interest earned	Total accrued interest	% Port cost
Government Agencies	5										
3135G0V34 FANNIE MAE 2.5% 05FEB2024	2.500	02/05/2024	600,000.00	621,262.80 0.00	620,299.44 (412.87)	618,561.98 (1,018.13)	(1,737.46)	0.00	1,291.66	6,083.33	2.60
3135G0V75 FANNIE MAE 1.75% 02JUL2024	1.750	07/02/2024	750,000.00	753,426.75 0.00	753,310.42 (61.22)	750,855.04 (1,455.83)	(2,455.38)	0.00	1,130.21	6,307.29	3.16
Total Government Agencies			13,200,000.00	13,364,622.07 0.00	13,341,151.18 (4,389.35)	13,379,063.79 (1,531.73)	37,912.61	39,375.00	25,108.85	80,540.63	56.03
Government Bonds											
912828H52 USA TREASURY 1.25% 31JAN2020	1.250	01/31/2020	750,000.00	745,869.14 0.00	749,865.77 134.23	749,758.76 279.53	(107.01)	0.00	789.74	3,897.76	3.13
912828X96 USA TREASURY 1.5% 15MAY2020	1.500	05/15/2020	600,000.00	596,554.69 0.00	599,489.03 116.47	599,695.31 140.62	206.28	0.00	766.48	1,137.36	2.50
912828XM7 USA TREASURY 1.625% 31JUL2020	1.625	07/31/2020	1,000,000.00	1,005,742.19 0.00	1,001,148.44 (167.14)	999,960.94 195.32	(1,187.50)	0.00	1,368.88	6,756.11	4.22
912828U57 USA TREASURY 2.125% 30NOV2023	2.125	11/30/2023	650,000.00	661,529.52 0.00	661,035.62 (239.23)	661,578.13 (1,066.40)	542.51	6,906.25	1,169.91	1,169.91	2.77
Total Government Bonds			3,000,000.00	3,009,695.54 0.00	3,011,538.86 (155.67)	3,010,993.14 (450.93)	(545.72)	6,906.25	4,095.01	12,961.14	12.62

SAN RAFAEL

# **SECURITIES HELD**

Cusip/ Description	Coupon Maturity/ Call date	Par value or shares	Historical cost/ Accrued interest purchased	Amortized cost/ Accretion (amortization)	Fair value/ Change in fair value	Unrealized gain (loss)	Interest received	Interest earned	Total accrued interest	% Port cost
Municipal/Provincial B	onds									
888599LS4 PT. SAN ASSESS DISTRICT 5.25% 144A 02SEP2032 SANRAF\$01	5.250 09/02/2032	1,315,100.00	1,315,100.00 0.00	1,315,100.00 0.00	1,315,100.00 0.00	0.00	0.00	5,945.35	22,822.47	5.51
Total Municipal/Provincial Bond	ds	1,315,100.00	1,315,100.00 0.00	1,315,100.00 0.00	1,315,100.00 0.00	0.00	0.00	5,945.35	22,822.47	5.51
Grand total		23,604,482.07	23,853,582.18 (11,103.47)	23,828,278.28 (6,254.62)	23,901,948.42 2,585.89	73,670.14	52,781.25	46,164.15	161,312.09	100.00

Cusip	Description	Coupon	Maturity date	Call date	S&P rating	Moody rating	Par value or shares	Historical cost	% Portfolio hist cost	Market value	% Portfolio mkt value	Effective dur (yrs)
Federal	Home Loan Banks											
313383HU8	FEDERAL HOME LOAN	1.750	06/12/2020		AA+	Aaa	1,000,000.00	996,870.00	4.18	1,000,280.65	4.18	0.45
313373ZY1	FEDERAL HOME LOAN	3.625	06/11/2021		AA+	Aaa	1,000,000.00	1,024,040.00	4.29	1,028,608.15	4.30	1.41
313378JP7	FEDERAL HOME LOAN	2.375	09/10/2021		AA+	Aaa	600,000.00	602,430.00	2.53	607,771.66	2.54	1.65
313378WG2	FEDERAL HOME LOAN	2.500	03/11/2022		AA+	Aaa	1,000,000.00	1,016,330.00	4.26	1,018,771.38	4.26	2.11
3130A3KM5	FEDERAL HOME LOAN	2.500	12/09/2022		AA+	Aaa	1,000,000.00	1,021,240.00	4.28	1,024,824.98	4.29	2.82
Issuer tota	al						4,600,000.00	4,660,910.00	19.54	4,680,256.82	19.58	1.70
Federal	National Mortgage A	ssociation	l									
3135G0RM7	FANNIE MAE 1.63%	1.630	10/30/2020		AA+	Aaa	1,000,000.00	1,003,410.00	4.21	999,279.38	4.18	0.82
3135G0T78	FANNIE MAE 2%	2.000	10/05/2022		AA+	Aaa	600,000.00	601,716.00	2.52	606,452.35	2.54	2.66
3135G0U43	FANNIE MAE 2.875%	2.875	09/12/2023		AA+	Aaa	1,000,000.00	1,047,553.22	4.39	1,043,857.11	4.37	3.48
3135G0V34	FANNIE MAE 2.5%	2.500	02/05/2024		AA+	Aaa	600,000.00	621,262.80	2.60	618,561.98	2.59	3.85
3135G0V75	FANNIE MAE 1.75%	1.750	07/02/2024		AA+	Aaa	750,000.00	753,426.75	3.16	750,855.04	3.14	4.28
Issuer tota	al						3,950,000.00	4,027,368.77	16.88	4,019,005.86	16.81	2.90
United S	states Treasury Note	/Bond										
912828H52	USA TREASURY 1.25%	1.250	01/31/2020		AA+	Aaa	750,000.00	745,869.14	3.13	749,758.76	3.14	0.08
912828X96	USA TREASURY 1.5%	1.500	05/15/2020		AA+	Aaa	600,000.00	596,554.69	2.50	599,695.31	2.51	0.37
912828XM7	USA TREASURY 1.625%	1.625	07/31/2020		AA+	Aaa	1,000,000.00	1,005,742.19	4.22	999,960.94	4.18	0.57
912828U57	USA TREASURY 2.125%	2.125	11/30/2023		AA+	Aaa	650,000.00	661,529.52	2.77	661,578.13	2.77	3.74
Issuer tota	al						3,000,000.00	3,009,695.54	12.62	3,010,993.14	12.60	1.11
Federal	Farm Credit Banks F	unding Cor	р									
3133ECEY6	FEDERAL FARM CREDIT	1.450	02/11/2020		AA+	Aaa	1,000,000.00	1,003,130.00	4.21	999,841.46	4.18	0.11
3133EHVX8	FEDERAL FARM CREDIT	1.500	08/24/2020		AA+	Aaa	1,000,000.00	999,190.00	4.19	999,736.01	4.18	0.64

Cusip	Description	Coupon	Maturity date	Call date	S&P rating	Moody rating	Par value or shares	Historical cost	% Portfolio hist cost	Market value	% Portfolio mkt value	Effective dur (yrs)
Federal	Farm Credit Banks Fu	ınding Cor	р									
3133EJ4Q9	FEDERAL FARM CREDIT	2.550	01/11/2021		AA+	Aaa	500,000.00	499,100.00	2.09	504,977.94	2.11	1.00
Issuer tota	al						2,500,000.00	2,501,420.00	10.49	2,504,555.41	10.48	0.50
Federal	Home Loan Mortgag	e Corp										
3134G3K58	FREDDIE MAC 1.5%	1.500	03/19/2020		AA+	Aaa	500,000.00	498,289.00	2.09	499,811.51	2.09	0.22
3137EADB2	FREDDIE MAC 2.375%	2.375	01/13/2022		AA+	Aaa	1,650,000.00	1,676,634.30	7.03	1,675,434.19	7.01	1.96
Issuer tota	al						2,150,000.00	2,174,923.30	9.12	2,175,245.70	9.10	1.56
PT. SAN	ASSESS DISTRICT											
888599LS4	PT. SAN ASSESS	5.250	09/02/2032		NR	NR	1,315,100.00	1,315,100.00	5.51	1,315,100.00	5.50	9.07
Issuer tota	al						1,315,100.00	1,315,100.00	5.51	1,315,100.00	5.50	9.07
America	n Express Credit Cor	р										
0258M0EB1	AMERICAN EXPRESS	2.250	05/05/2021	04/04/2021	A-	A2	550,000.00	552,667.50	2.32	552,650.52	2.31	1.24
Issuer tota	al						550,000.00	552,667.50	2.32	552,650.52	2.31	1.24
PNC Fina	ancial Services Group	Inc/The										
693475AV7	PNC FINANCIAL	3.500	01/23/2024	12/24/2023	A-	А3	500,000.00	523,455.00	2.19	526,599.85	2.20	3.68
Issuer tota	al						500,000.00	523,455.00	2.19	526,599.85	2.20	3.68
Walt Dis	ney Co/The											
254687CK0	WALT DISNEY	4.500	02/15/2021		Α	A2	500,000.00	515,190.00	2.16	515,274.44	2.16	1.08
Issuer tota	al						500,000.00	515,190.00	2.16	515,274.44	2.16	1.08
US Banc	orp											
91159HHA1	US BANCORP 4.125%	4.125	05/24/2021	04/23/2021	A+	A1	500,000.00	514,880.00	2.16	514,721.77	2.15	1.27
Issuer tota	al						500,000.00	514,880.00	2.16	514,721.77	2.15	1.27

Walmart Inc 931142DH3 WALMART IN Issuer total  Citibank NA 17325FAQ1 CITIBANK NA Issuer total  Caterpillar Inc 149123BX8 CATERPILLA Issuer total  Apple Inc 037833AK6 APPLE INC 2 Issuer total  Pfizer Inc 717081DZ3 PFIZER INC 2 Issuer total  JPMorgan Chase & 46625HQJ2 JPMORGAN 6			date		rating	Moody rating	Par value or shares	Historical cost	hist cost	Market value	% Portfolio mkt value	Effective dur (yrs)
Issuer total  Citibank NA  17325FAQ1 CITIBANK NA  Issuer total  Caterpillar Inc  149123BX8 CATERPILLA  Issuer total  Apple Inc  037833AK6 APPLE INC 2  Issuer total  Pfizer Inc  717081DZ3 PFIZER INC 2  Issuer total  JPMorgan Chase &  46625HQJ2 JPMORGAN 6												
Citibank NA  17325FAQ1 CITIBANK NA  Issuer total  Caterpillar Inc  149123BX8 CATERPILLA  Issuer total  Apple Inc  037833AK6 APPLE INC 2  Issuer total  Pfizer Inc  717081DZ3 PFIZER INC 2  Issuer total  JPMorgan Chase &  46625HQJ2 JPMORGAN 6	ART INC 2.55%	2.550	04/11/2023	01/11/2023	AA	Aa2	500,000.00	509,155.00	2.13	510,867.43	2.14	2.97
Issuer total  Caterpillar Inc  149123BX8 CATERPILLA  Issuer total  Apple Inc  037833AK6 APPLE INC 2  Issuer total  Pfizer Inc  717081DZ3 PFIZER INC 2  Issuer total  JPMorgan Chase & 46625HQJ2 JPMORGAN 6							500,000.00	509,155.00	2.13	510,867.43	2.14	2.97
Issuer total  Caterpillar Inc  149123BX8 CATERPILLA  Issuer total  Apple Inc  037833AK6 APPLE INC 2  Issuer total  Pfizer Inc  717081DZ3 PFIZER INC 2  Issuer total  JPMorgan Chase &  46625HQJ2 JPMORGAN 6												
Caterpillar Inc  149123BX8 CATERPILLA  Issuer total  Apple Inc  037833AK6 APPLE INC 2  Issuer total  Pfizer Inc  717081DZ3 PFIZER INC 2  Issuer total  JPMorgan Chase &  46625HQJ2 JPMORGAN 6	NK NA 3.4%	3.400	07/23/2021	06/23/2021	A+	Aa3	500,000.00	507,030.00	2.13	510,737.44	2.14	1.42
Issuer total  Apple Inc 037833AK6 APPLE INC 2 Issuer total  Pfizer Inc 717081DZ3 PFIZER INC 2 Issuer total  JPMorgan Chase & 46625HQJ2 JPMORGAN 6							500,000.00	507,030.00	2.13	510,737.44	2.14	1.42
Issuer total  Apple Inc 037833AK6 APPLE INC 2 Issuer total  Pfizer Inc 717081DZ3 PFIZER INC 2 Issuer total  JPMorgan Chase & 46625HQJ2 JPMORGAN 6												
Apple Inc  037833AK6 APPLE INC 2  Issuer total  Pfizer Inc  717081DZ3 PFIZER INC 2  Issuer total  JPMorgan Chase &  46625HQJ2 JPMORGAN 6	PILLAR INC 2.6%	2.600	06/26/2022	03/26/2022	А	А3	500,000.00	500,300.00	2.10	508,866.35	2.13	2.22
037833AK6 APPLE INC 2  Issuer total  Pfizer Inc 717081DZ3 PFIZER INC 2  Issuer total  JPMorgan Chase & 46625HQJ2 JPMORGAN 6							500,000.00	500,300.00	2.10	508,866.35	2.13	2.22
Issuer total  Pfizer Inc 717081DZ3 PFIZER INC 2  Issuer total  JPMorgan Chase & 46625HQJ2 JPMORGAN 6												
Pfizer Inc 717081DZ3 PFIZER INC 2 Issuer total JPMorgan Chase & 46625HQJ2 JPMORGAN	INC 2.4%	2.400	05/03/2023		AA+	Aa1	500,000.00	506,880.00	2.12	508,531.75	2.13	3.18
717081DZ3 PFIZER INC 2  Issuer total  JPMorgan Chase &  46625HQJ2 JPMORGAN							500,000.00	506,880.00	2.12	508,531.75	2.13	3.18
JPMorgan Chase & 46625HQJ2 JPMORGAN												
JPMorgan Chase & 46625HQJ2 JPMORGAN	. INC 2.2%	2.200	12/15/2021		AA-	A1	500,000.00	503,615.00	2.11	504,900.09	2.11	1.91
46625HQJ2 JPMORGAN							500,000.00	503,615.00	2.11	504,900.09	2.11	1.91
	se & Co											
lection total	GAN CHASE & CO	2.550	03/01/2021	02/01/2021	A-	A2	500,000.00	494,725.00	2.07	503,867.48	2.11	1.06
issuer total							500,000.00	494,725.00	2.07	503,867.48	2.11	1.06
American Honda Fi	da Finance Corp	)										
02665WBT7 AMERICAN H	CAN HONDA	1.950	07/20/2020		А	A2	500,000.00	492,340.00	2.06	500,261.75	2.09	0.54
Issuer total							500,000.00	492,340.00	2.06	500,261.75	2.09	0.54

Cusip	Description	Coupon	Maturity date	Call date	S&P rating	Moody rating	Par value or shares	Historical cost	% Portfolio hist cost	Market value	% Portfolio mkt value	Effective dur (yrs)
Toyota	Motor Credit Corp											
89236TCF	0 TOYOTA MOTOR CREDIT	2.150	03/12/2020		AA-	Aa3	500,000.00	504,545.00	2.12	500,130.55	2.09	0.20
Issuer to	tal						500,000.00	504,545.00	2.12	500,130.55	2.09	0.20
Cash a	nd Cash Equivalents											
	INVESTED CASH	0.000					39,382.07	39,382.07	0.00	39,382.07	0.16	0.00
Issuer to	tal						39,382.07	39,382.07	0.00	39,382.07	0.16	0.00
Grand to	tal						23,604,482.07	23,853,582.18	100.00	23,901,948.42	100.00	2.10

SAN RAFAEL

## **SECURITIES PURCHASED**

## For the period December 1, 2019 - December 31, 2019

Cusip / Description / Broker	Trade date Settle date	Coupon	Maturity/ Call date	Par value or shares	Unit cost	Principal cost	Accrued interest purchased
Corporate Bonds							
254687CK0	12/17/2019	4.500	02/15/2021	500,000.00	103.04	(515,190.00)	(7,750.00)
WALT DISNEY COMPANY/THE 4.5% 15FEB2021	12/19/2019						
TORONTO DOMINION BANK, THE							
0258M0EB1	12/17/2019	2.250	05/05/2021	550,000.00	100.49	(552,667.50)	(1,512.50)
AMERICAN EXPRESS CREDIT 2.25% 05MAY2021 (CALLABLE 04APR21)	12/19/2019		04/04/2021				
TORONTO DOMINION BANK, THE							
717081DZ3	12/17/2019	2.200	12/15/2021	500,000.00	100.72	(503,615.00)	(122.22)
PFIZER INC 2.2% 15DEC2021	12/19/2019						
STIFEL NICOLAUS & CO,INCORORATED							
91159HHA1	12/18/2019	4.125	05/24/2021	500,000.00	102.98	(514,880.00)	(1,718.75)
US BANCORP 4.125% 24MAY2021 (CALLABLE 23APR21)	12/24/2019		04/23/2021				
WELLS FARGO BANK, N.A.							
Total Corporate Bonds				2,050,000.00		(2,086,352.50)	(11,103.47)
Grand total				2,050,000.00		(2,086,352.50)	(11,103.47)

## **SECURITIES SOLD AND MATURED**

## For the period December 1, 2019 - December 31, 2019

Cusip/ Description/ Broker	Trade date Settle date	Coupon	Maturity/ Call date	Par value or shares	Historical cost	Amortized cost at sale or maturity /Accr (amort)	Price	Fair value at sale or maturity / Chg.in fair value	Realized gain (loss)	Accrued interest sold	Interest received	Interest earned
Corporate Bonds												
90331HNB5 US BANK NA CINCINNATI 2% 24JAN2020 (CALLABLE 24DEC19)	12/24/2019 12/24/2019	2.000		(500,000.00)	493,330.00	499,563.10 349.52	0.00	500,000.00 (52.41)	436.90	0.00	4,166.67	666.67
Total (Corporate Bonds)				(500,000.00)	493,330.00	499,563.10 349.52		500,000.00 (52.41)	436.90	0.00	4,166.67	666.67
Grand total				(500,000.00)	493,330.00	499,563.10 349.52		500,000.00 (52.41)	436.90	0.00	4,166.67	666.67

SAN RAFAEL

## TRANSACTION REPORT

## For the period December 1, 2019 - December 31, 2019

Trade date Settle date	Cusip	Transaction	Sec type	Description	Maturity	Par value or shares	Realized gain(loss)	Principal	Interest	Transaction total
11/30/2019 11/30/2019	912828U57	Income	Government Bonds	USA TREASURY 2.125%	11/30/2023	650,000.00	0.00	0.00	6,906.25	6,906.25
12/09/2019 12/09/2019	3130A3KM5	Income	Government Agencies	FEDERAL HOME LOAN BANK	12/09/2022	1,000,000.00	0.00	0.00	12,500.00	12,500.00
12/11/2019 12/11/2019	313373ZY1	Income	Government Agencies	FEDERAL HOME LOAN BANK	06/11/2021	1,000,000.00	0.00	0.00	18,125.00	18,125.00
12/12/2019 12/12/2019	313383HU8	Income	Government Agencies	FEDERAL HOME LOAN BANK	06/12/2020	1,000,000.00	0.00	0.00	8,750.00	8,750.00
12/17/2019 12/19/2019	0258M0EB1	Bought	Corporate Bonds	AMERICAN EXPRESS CREDIT	05/05/2021	550,000.00	0.00	(552,667.50)	(1,512.50)	(554,180.00)
12/17/2019 12/19/2019	254687CK0	Bought	Corporate Bonds	WALT DISNEY COMPANY/THE	02/15/2021	500,000.00	0.00	(515,190.00)	(7,750.00)	(522,940.00)
12/17/2019 12/19/2019	717081DZ3	Bought	Corporate Bonds	PFIZER INC 2.2% 15DEC2021	12/15/2021	500,000.00	0.00	(503,615.00)	(122.22)	(503,737.22)
12/18/2019 12/24/2019	91159HHA1	Bought	Corporate Bonds	US BANCORP 4.125%	05/24/2021	500,000.00	0.00	(514,880.00)	(1,718.75)	(516,598.75)
12/24/2019 12/24/2019	90331HNB5	Income	Corporate Bonds	US BANK NA CINCINNATI 2%	01/24/2020	500,000.00	0.00	0.00	4,166.67	4,166.67
12/24/2019 12/24/2019	90331HNB5	Capital Change	Corporate Bonds	US BANK NA CINCINNATI 2%	01/24/2020	(500,000.00)	436.90	500,000.00	0.00	500,000.00
12/26/2019 12/26/2019	149123BX8	Income	Corporate Bonds	CATERPILLAR INC 2.6%	06/26/2022	500,000.00	0.00	0.00	6,500.00	6,500.00
12/31/2019		Income	Cash and Cash Equivalents	Cash		0.00	0.00	0.00	1,706.07	1,706.07

## ADDITIONAL INFORMATION

## As of December 31, 2019

Past performance is not a guide to future performance. The value of investments and any income from them will fluctuate and is not guaranteed (this may partly be due to exchange rate changes) and investors may not get back the amount invested. Transactions in foreign securities may be executed and settled in local markets. Performance comparisons will be affected by changes in interest rates. Investment returns fluctuate due to changes in market conditions. Investment involves risk, including the possible loss of principal. No assurance can be given that the performance objectives of a given strategy will be achieved. The information contained herein is for your reference only and is being provided in response to your specific request and has been obtained from sources believed to be reliable; however, no representation is made regarding its accuracy or completeness. This document must not be used for the purpose of an offer or solicitation in any jurisdiction or in any circumstances in which such offer or solicitation is unlawful or otherwise not permitted. This document should not be duplicated, amended, or forwarded to a third party without consent from Insight. This is a marketing document intended for professional clients only and should not be made available to or relied upon by retail clients

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Where indicated, performance numbers used in the analysis are gross returns. The performance reflects the reinvestment of all dividends and income. INA charges management fees on all portfolios managed and these fees will reduce the returns on the portfolios. For example, assume that \$30 million is invested in an account with INA, and this account achieves a 5.0% annual return compounded monthly, gross of fees, for a period of five years. At the end of five years that account would have grown to \$38,500,760 before the deduction of management fees. Assuming management fees of 0.25% per year are deducted monthly from the account, the value at the end of the five year period would be \$38,022,447. Actual fees for new accounts are dependent on size and subject to negotiation. INA's investment advisory fees are discussed in Part 2A of its Form ADV.

Unless otherwise stated, the source of information is Insight. Any forecasts or opinions are Insights own at the date of this document (or as otherwise specified) and may change. Material in this publication is for general information only and is not advice, investment advice, or the recommendation of any purchase or sale of any security. Insight makes no implied or expressed recommendations concerning the manner in which an account should or would be handled, as appropriate investment strategies depend upon specific investment guidelines and objectives and should not be construed to be an assurance that any particular security in a strategy will remain in any fund, account, or strategy, or that a previously held security will not be repurchased. It should not be assumed that any of the security transactions or holdings referenced herein have been or will prove to be profitable or that future investment decisions will be profitable or will equal or exceed the past investment performance of the securities listed.

Please compare the information provided in this statement to the information provided in the statement received from your Custodian.

For trading activity the Clearing broker will be reflected. In certain cases the Clearing broker will differ from the Executing broker.

In calculating ratings distributions and weighted average portfolio quality, Insight assigns U.S Treasury and U.S agency securities a quality rating based on the methodology used within the respective benchmark index. When Moodys, S&P and Fitch rate a security, Bank of America and Merrill Lynch indexes assign a simple weighted average statistic while Barclays indexes assign the median statistic. Insight assigns all other securities the lower of Moodys and S&P ratings.

Information about the indices shown here is provided to allow for comparison of the performance of the strategy to that of certain well-known and widely recognized indices. There is no representation that such index is an appropriate benchmark for such comparison. You cannot invest directly in an index and the indices represented do not take into account trading commissions and/or other brokerage or custodial costs. The volatility of the indices may be materially different from that of the strategy. In addition, the strategys holdings may differ substantially from the securities that comprise the indices shown.

The BofA Merrill Lynch 3 Mo US T-Bill index is an unmanaged market index of U.S. Treasury securities maturing in 90 days that assumes reinvestment of all income.

The BofA Merrill Lynch 6 Mo US T-Bill index measures the performance of Treasury bills with time to maturity of less than 6 months.

The BofA Merrill Lynch Current 1-Year US Treasury Index is a one-security index comprised of the most recently issued 1-year US Treasury note. The index is rebalanced monthly. In order to qualify for inclusion, a 1-year note must be auctioned on or before the third business day before the last business day of the month.

The BofA Merrill Lynch Current 3-Year US Treasury Index is a one-security index comprised of the most recently issued 3-year US Treasury note. The index is rebalanced monthly. In order to qualify for inclusion, a 3-year note must be auctioned on or before the third business day before the last business day of the month.

The BofA Merrill Lynch Current 5-Year US Treasury Index is a one-security index comprised of the most recently issued 5-year US Treasury note. The index is rebalanced monthly. In order to qualify for inclusion, a 5-year note must be auctioned on or before the third business day before the last business day of the month.

The BofA Merrill Lynch 1-3 US Year Treasury Index is an unmanaged index that tracks the performance of the direct sovereign debt of the U.S. Government having a maturity of at least one year and less than three years.

The BofA Merrill Lynch 1-5 US Year Treasury Index is an unmanaged index that tracks the performance of the direct sovereign debt of the U.S. Government having a maturity of at least one year and less than five years

## **ADDITIONAL INFORMATION**

## As of December 31, 2019

Insight does not provide tax or legal advice to its clients and all investors are strongly urged to consult their tax and legal advisors regarding any potential strategy or investment.

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### **ACCOUNT STATEMENT**

For the Month Ending **December 31, 2019** 

#### **Client Management Team**

#### **Monique Spyke**

**City of San Rafael** 

Managing Director 50 California Street, Suite 2300 San Francisco, CA 94111 415-982-5544 spykem@pfm.com

#### **Jeremy King**

Key Account Manager 213 Market Street Harrisburg, PA 17101-2141 1-800-729-7665 kingj@pfm.com

#### **Rachael Miller**

Client Consultant 213 Market Street Harrisburg, PA 17101-2141 1-800-729-7665 millerr@pfm.com

#### **Contents**

Cover/Disclosures Summary Statement Individual Accounts

#### **Accounts included in Statement**

/023-001	Lease Revenue Bonds Series 2018 Project Fund
7023-002	Lease Revenue Bonds Series 2018 Capitalized Intere

#### **Important Messages**

CAMP will be closed on 01/01/2020 for New Year's Day.

CAMP will be closed on 01/20/2020 for Martin Luther King Jr Day.

CITY OF SAN RAFAEL NADINE HADE 1400 FIFTH AVENUE SAN RAFAEL, CA 94901

Online Access www.camponline.com Customer Service 1-800-729-7665



#### For the Month Ending December 31, 2019

### **Important Disclosures**

### **Important Disclosures**

This statement is for general information purposes only and is not intended to provide specific advice or recommendations. PFM Asset Management LLC ("PFM") is an investment advisor registered with the Securities and Exchange Commission, and is required to maintain a written disclosure statement of our background and business experience. If you would like to receive a copy of our current disclosure statement, please contact Service Operations at the address below.

**Proxy Voting** PFM does not normally receive proxies to vote on behalf of its clients. However, it does on occasion receive consent requests. In the event a consent request is received the portfolio manager contacts the client and then proceeds according to their instructions. PFM's Proxy Voting Policy is available upon request by contacting Service Operations at the address below

Questions About an Account PFM's monthly statement is intended to detail our investment advisory activity as well as the activity of any accounts held by clients in pools that are managed by PFM. The custodian bank maintains the control of assets and executes (i.e., settles) all investment transactions. The custodian statement is the official record of security and cash holdings and transactions. PFM recognizes that clients may use these reports to facilitate record keeping and that the custodian bank statement and the PFM statement should be reconciled and differences resolved. Many custodians use a settlement date basis which may result in the need to reconcile due to a timing difference.

Account Control PFM does not have the authority to withdraw funds from or deposit funds to the custodian. Our clients retain responsibility for their internal accounting policies; implementing and enforcing internal controls and generating ledger entries or otherwise recording transactions.

Market Value Generally, PFM's market prices are derived from closing bid prices as of the last business day of the month as supplied by ICE Data Services or Bloomberg. Where prices are not available from generally recognized sources the securities are priced using a yield-based matrix system to arrive at an estimated market value. Prices that fall between data points are interpolated. Non-negotiable FDIC-insured bank certificates of deposit are priced at par. Although PFM believes the prices to be reliable, the values of the securities do not always represent the prices at which the securities could have been bought or sold. Explanation of the valuation methods for money market and TERM funds is contained in the appropriate fund information statement.

Amortized Cost The original cost of the principal of the security is adjusted for the amount of the periodic reduction of any discount or premium from the purchase date until the date of the report. Discount or premium with respect to short term securities (those with less than one year to maturity at time of issuance) is amortized on a straightline basis. Such discount or premium with respect to longer term securities is amortized using the constant yield basis.

Tax Reporting Cost data and realized gains / losses are provided for informational purposes only. Please review for accuracy and consult your tax advisor to determine the tax consequences of your security transactions. PFM does not report such information to the IRS or other taxing authorities and is not responsible for the accuracy of such information that may be required to be reported to federal, state or other taxing authorities.

Financial Situation In order to better serve you, PFM should be promptly notified of any material change in your investment objective or financial

Callable Securities Securities subject to redemption prior to maturity may be redeemed in whole or in part before maturity, which could affect the yield represented

Portfolio The securities in this portfolio, including shares of mutual funds, are not guaranteed or otherwise protected by PFM, the FDIC (except for certain non-negotiable certificates of deposit) or any government agency. Investment in securities involves risks, including the possible loss of the amount invested. Actual settlement values, accrued interest, and amortized cost amounts may vary for securities subject to an adjustable interest rate or subject to principal paydowns. Any changes to the values shown may be reflected within the next monthly statement's beginning values.

Rating Information provided for ratings is based upon a good faith inquiry of selected sources, but its accuracy and completeness cannot be guaranteed. Shares of some money market and TERM funds are marketed through representatives of PFM's wholly owned subsidiary, PFM Fund Distributors, Inc. PFM Fund Distributors, Inc. is registered with the SEC as a broker/dealer and is a member of the Financial Industry Regulatory Authority ("FINRA") and the Municipal Securities Rulemaking Board ("MSRB"). You may reach the FINRA by calling the FINRA Regulator Public Disclosure Hotline at 1-888-289-9999 or at the FINRA Regulation Internet website address www.nasd.com. A brochure describing the FINRA Regulation Public Disclosure Program is also available from the FINRA upon request.

#### **Key Terms and Definitions**

Dividends on money market funds consist of interest earned, plus any discount ratably amortized to the date of maturity, plus all realized gains and losses on the sale of securities prior to maturity, less ratable amortization of any premium and all accrued expenses to the fund. Dividends are accrued daily and may be paid either monthly or quarterly. The monthly earnings on this statement represent the estimated dividend accrued for the month for any program that distributes earnings on a quarterly basis. There is no guarantee that the estimated amount will be paid on the actual distribution date.

Current Yield is the net change, exclusive of capital changes and income other than investment income, in the value of a hypothetical fund account with a balance of one share over the seven-day base period including the statement date, expressed as a percentage of the value of one share (normally \$1.00 per share) at the beginning of the seven-day period. This resulting net change in account value is then annualized by multiplying it by

365 and dividing the result by 7. The yields quoted should not be considered a representation of the yield of the fund in the future, since the yield is not fixed.

Average maturity represents the average maturity of all securities and investments of a portfolio, determined by multiplying the par or principal value of each security or investment by its maturity (days or years), summing the products, and dividing the sum by the total principal value of the portfolio. The stated maturity date of mortgage backed or callable securities are used in this statement. However the actual maturity of these securities could vary depending on the level or prepayments on the underlying mortgages or whether a callable security has or is still able to be called.

Monthly distribution yield represents the net change in the value of one share (normally \$1.00 per share) resulting from all dividends declared during the month by a fund expressed as a percentage of the value of one share at the beginning of the month. This resulting net change is then annualized by multiplying it by 365 and dividing it by the number of calendar days in the month.

YTM at Cost The yield to maturity at cost is the expected rate of return, based on the original cost, the annual interest receipts, maturity value and the time period from purchase date to maturity, stated as a percentage, on an annualized basis.

YTM at Market The yield to maturity at market is the rate of return, based on the current market value, the annual interest receipts, maturity value and the time period remaining until maturity, stated as a percentage, on an annualized basis.

Managed Account A portfolio of investments managed discretely by PFM according to the client's specific investment policy and requirements. The investments are directly owned by the client and held by the client's custodian.

Unsettled Trade A trade which has been executed however the final consummation of the security transaction and payment has not yet taken place.

Please review the detail pages of this statement carefully. If you think your statement is wrong, missing account information, or if you need more information about a transaction, please contact PFM within 60 days of receipt. If you have other concerns or questions regarding your account you should contact a member of your client management team or PFM Service Operations at the address below.

PFM Asset Management LLC Attn: Service Operations 213 Market Street Harrisburg, PA 17101

For the Month Ending December 31, 2019

## **Consolidated Summary Statement**

## City of San Rafael

Portfolio Summary			
	Cash Dividends	Closing	Current
Portfolio Holdings	and Income	Market Value	Yield
CAMP Pool	11,064.14	8,334,111.30	1.77 %
CAMP Managed Account	43,944.12	14,520,643.92	* N/A
Total	\$55,008.26	\$22,854,755.22	

<sup>\*</sup> Not Applicable

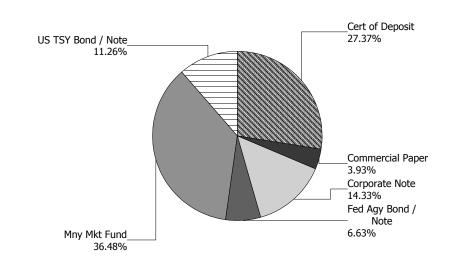
Investment Allocation		
Investment Type	Closing Market Value	Percent
Certificate of Deposit	6,256,124.71	27.37
Commercial Paper	899,045.10	3.93
Corporate Note	3,276,200.33	14.33
Federal Agency Bond / Note	1,515,404.28	6.63
Money Market Mutual Fund	8,334,111.30	36.48
U.S. Treasury Bond / Note	2,573,869.50	11.26
Total	\$22,854,755.22	100.00%

#### **Maturity Distribution (Fixed Income Holdings)**

Portfolio Holdings	Closing Market Value	Percent
Under 30 days	8,789,502.60	38.45
31 to 60 days	4,711,890.34	20.62
61 to 90 days	1,910,147.46	8.36
91 to 180 days	6,378,543.79	27.91
181 days to 1 year	1,064,671.03	4.66
1 to 2 years	0.00	0.00
2 to 3 years	0.00	0.00
3 to 4 years	0.00	0.00
4 to 5 years	0.00	0.00
Over 5 years	0.00	0.00
Total	\$22,854,755.22	100.00%

Weighted Average Days to Maturity 61

#### **Sector Allocation**





For the Month Ending **December 31, 2019** 

## **Consolidated Summary Statement**

Account		Opening Market	Purchases /	Redemptions / Sales/	Unsettled	Change in	Closing Market	Cash Dividends
Number	Account Name	Value	Deposits	Maturities	Trades	Value	Value	and Income
7023-001	Lease Revenue Bonds Series 2018 Project Fund	20,897,711.84	4,332,411.71	(4,301,757.79)	0.00	(3,481.95)	20,924,883.81	53,762.81
7023-002	Lease Revenue Bonds Series 2018 Capitalized Intere	1,929,634.55	1,245.45	(200.51)	0.00	(808.08)	1,929,871.41	1,245.45
Total		\$22,827,346.39	\$4,333,657.16	(\$4,301,958.30)	\$0.00	(\$4,290.03)	\$22,854,755.22	\$55,008.26



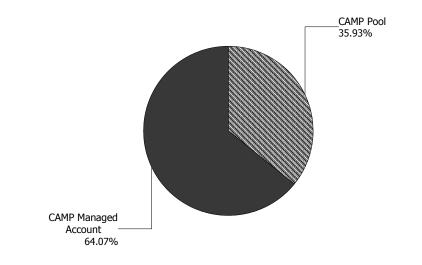
### **Account Statement - Transaction Summary**

43,944.12

## City of San Rafael - Lease Revenue Bonds Series 2018 Project Fund - 7023-001

Closing Market Value	\$13,406,306.04
Change in Value	(3,481.95)
Unsettled Trades	0.00
Redemptions	(1,670,106.64)
Purchases	1,085,118.82
Opening Market Value	13,994,775.81
CAMP Managed Account	
Cash Dividends and Income	9,818.69
Closing Market Value	\$7,518,577.77
Change in Value	0.00
Unsettled Trades	0.00
Redemptions	(2,631,651.15)
Purchases	3,247,292.89
Opening Market Value	6,902,936.03

Asset Summary		
	December 31, 2019	November 30, 2019
CAMP Pool	7,518,577.77	6,902,936.03
CAMP Managed Account	13,406,306.04	13,994,775.81
Total	\$20,924,883.81	\$20,897,711.84
Asset Allocation		



Cash Dividends and Income



## **Managed Account Summary Statement**

City	y of San Rafael -	Lease Revenue F	Bonds Series	2018 Project	ct Fund -	7023-001 - (	(12517708)
$\sim$ 10	y or sam ranaci	LCase revenue L	Joinas Scries	2010 1 10 0	cc i aiia	,023 001 (	1231//00/

Transaction Summary - Money Market		Transaction Summary - Mana	Transaction Summary - Managed Account		Account Total		
Opening Market Value	\$6,902,936.03	Opening Market Value	\$13,994,775.81	Opening Market Value	\$20,897,711.84		
Purchases	3,247,292.89	Maturities/Calls	(760,000.00)				
Redemptions	(2,631,651.15)	Principal Dispositions	(910,106.64)				
		Principal Acquisitions	1,085,118.82				
		Unsettled Trades	0.00				
		Change in Current Value	(3,481.95)				
Closing Market Value	\$7,518,577.77	Closing Market Value	\$13,406,306.04	Closing Market Value	\$20,924,883.81		
Dividend	9,818.69						

Earnings Reconciliation (Cash Basis) - Managed Account	
Interest/Dividends/Coupons Received	16,136.68
Less Purchased Interest Related to Interest/Coupons	(1,954.17)
Plus Net Realized Gains/Losses	29,761.61
Total Cash Basis Earnings	\$43,944.12

Cash Balance	
Closing Cash Balance	\$0.00

Earnings Reconciliation (Accrual Basis)	Managed Account	Total
Ending Amortized Value of Securities	13,391,858.81	20,910,436.58
Ending Accrued Interest	76,557.54	76,557.54
Plus Proceeds from Sales	917,052.69	3,548,703.84
Plus Proceeds of Maturities/Calls/Principal Payments	760,000.00	760,000.00
Plus Coupons/Dividends Received	9,190.63	9,190.63
Less Cost of New Purchases	(1,087,072.99)	(4,334,365.88)
Less Beginning Amortized Value of Securities	(13,968,820.60)	(20,871,756.63)
Less Beginning Accrued Interest	(67,454.93)	(67,454.93)
Dividends	0.00	9,818.69
Total Accrual Basis Earnings	\$31,311.15	\$41,129.84

Maturities/Calls	760,000.00
Sale Proceeds	917,052.69
Coupon/Interest/Dividend Income	9,190.63
Principal Payments	0.00
Security Purchases	(1,087,072.99)
Net Cash Contribution	(599,170.33)
Reconciling Transactions	0.00

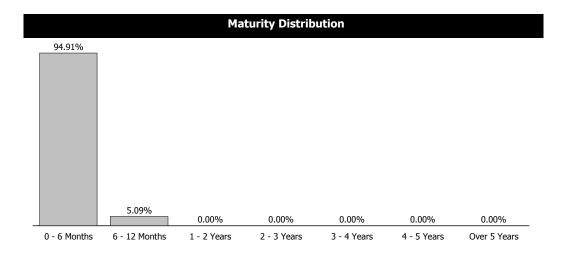


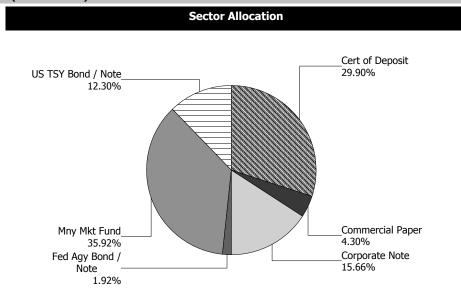
## **Portfolio Summary and Statistics**

## City of San Rafael - Lease Revenue Bonds Series 2018 Project Fund - 7023-001 - (12517708)

	Account Summary		
Description	Par Value	Market Value	Percent
U.S. Treasury Bond / Note	2,575,000.00	2,573,869.50	12.30
Federal Agency Bond / Note	400,000.00	401,066.40	1.92
Corporate Note	3,275,000.00	3,276,200.33	15.66
Commercial Paper	905,000.00	899,045.10	4.30
Certificate of Deposit	6,255,000.00	6,256,124.71	29.90
Managed Account Sub-Total	13,410,000.00	13,406,306.04	64.08%
Accrued Interest		76,557.54	
Total Portfolio	13,410,000.00	13,482,863.58	
CAMP Pool	7,518,577.77	7,518,577.77	35.92
Total Investments	20.928.577.77	21,001,441.35	100.00%

Unsettled Trades 0.00 0.00





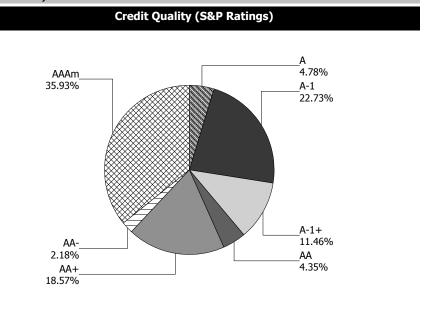
Characteristics							
Yield to Maturity at Cost	2.29%						
Yield to Maturity at Market	1.89%						
Duration to Worst	0.25						
Weighted Average Days to Maturity	92						



## **Managed Account Issuer Summary**

City of San Rafael - Lease Revenue Bonds Series 2018 Project Fund - 7023-001 - (12517708)

Issuer S	Summary	
	Market Value	
Issuer	of Holdings	Percent
AMERICAN HONDA FINANCE	455,030.03	2.17
APPLE INC	910,661.57	4.35
CAMP Pool	7,518,577.77	35.92
CHEVRON CORPORATION	909,838.93	4.35
CISCO SYSTEMS INC	455,391.30	2.18
CREDIT AGRICOLE SA	624,744.22	2.99
FREDDIE MAC	401,066.40	1.92
HSBC HOLDINGS PLC	545,278.50	2.61
MITSUBISHI UFJ FINANCIAL GROUP INC	799,987.43	3.82
MIZUHO FINANCIAL GROUP INC.	625,080.31	2.99
NORINCHUKIN BANK	1,904,888.89	9.10
SOCIETE GENERALE	801,992.96	3.83
TORONTO-DOMINION BANK	1,499,430.90	7.17
TOYOTA MOTOR CORP	899,045.10	4.30
UNITED STATES TREASURY	2,573,869.50	12.30
Total	\$20,924,883.81	100.00%





## **Managed Account Detail of Securities Held**

City of San Rafael - Lease Revenue Bonds Series 2018 Project Fund - 7023-001 - (12517708)

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
U.S. Treasury Bond / Note											
US TREASURY NOTES DTD 01/31/2018 2.000% 01/31/2020	9128283S7	820,000.00	) AA+	Aaa	07/25/18	07/26/18	813,017.19	2.58	6,863.04	819,619.15	820,217.30
US TREASURY NOTES DTD 05/31/2013 1.375% 05/31/2020	912828VF4	1,150,000.00	AA+	Aaa	07/25/18	07/26/18	1,123,810.55	2.65	1,382.51	1,144,048.54	1,148,652.20
US TREASURY NOTES DTD 06/30/2015 1.625% 06/30/2020	912828XH8	605,000.00	AA+	Aaa	07/25/18	07/26/18	593,490.82	2.64	27.01	601,978.88	605,000.00
Security Type Sub-Total		2,575,000.00	)				2,530,318.56	2.62	8,272.56	2,565,646.57	2,573,869.50
Federal Agency Bond / Note											
FHLMC NOTES DTD 04/19/2018 2.500% 04/23/2020	3137EAEM7	400,000.00	AA+	Aaa	07/25/18	07/26/18	398,772.40	2.68	1,888.89	399,778.59	401,066.40
Security Type Sub-Total		400,000.00	)				398,772.40	2.68	1,888.89	399,778.59	401,066.40
Corporate Note											
CISCO SYSTEMS INC CORP NOTE DTD 11/17/2009 4.450% 01/15/2020	17275RAH5	455,000.00	) AA-	A1	07/27/18	07/31/18	465,728.90	2.78	9,336.35	455,290.60	455,391.30
CHEVRON CORP (CALLABLE) NOTES DTD 03/03/2015 1.961% 03/03/2020	166764AR1	910,000.00	) AA	Aa2	07/25/18	07/27/18	897,924.30	2.81	5,849.23	908,681.25	909,838.93
HSBC USA INC NOTES DTD 03/05/2015 2.350% 03/05/2020	40428HPR7	170,000.00	) A	A2	08/28/19	08/30/19	170,210.80	2.11	1,287.28	170,073.03	170,086.87
HSBC USA INC NOTES DTD 03/05/2015 2.350% 03/05/2020	40428HPR7	375,000.00	) A	A2	08/28/19	08/30/19	375,510.00	2.08	2,839.58	375,176.67	375,191.63
AMERICAN HONDA FINANCE CORP NOTES DTD 03/13/2015 2.150% 03/13/2020	02665WAU5	455,000.00	) A	A2	07/25/18	07/27/18	449,248.80	2.95	2,934.75	454,282.52	455,030.03
APPLE INC CORP NOTE DTD 05/13/2015 2.000% 05/06/2020	037833BD1	910,000.00	AA+	Aa1	07/25/18	07/27/18	898,224.60	2.75	2,426.67	907,657.57	910,661.57
Security Type Sub-Total		3,275,000.00	)				3,256,847.40	2.69	24,673.86	3,271,161.64	3,276,200.33



## **Managed Account Detail of Securities Held**

City of San Rafael - Lease Re	venue Bonds	Series 2018	3 Proj	ect Fund	- 7023-	-001 - (12	2517708)				
Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Commercial Paper											
TOYOTA MOTOR CREDIT CORP COMM PAPER DTD 11/22/2019 0.000% 05/05/2020	89233GE51	905,000.00	A-1+	P-1	11/22/19	11/22/19	897,284.88	1.88	0.00	899,155.21	899,045.10
Security Type Sub-Total		905,000.00					897,284.88	1.88	0.00	899,155.21	899,045.10
Certificate of Deposit											
MIZUHO BANK LTD/NY CERT DEPOS DTD 10/08/2019 2.010% 02/07/2020	60710AF23	625,000.00	A-1	P-1	12/02/19	12/03/19	625,118.82	1.95	2,966.15	625,066.61	625,080.31
NORINCHUKIN BANK NY CERT DEPOS DTD 08/21/2019 2.020% 02/21/2020	65602VOX7	800,000.00	A-1	P-1	08/27/19	08/28/19	800,000.00	2.02	5,970.22	800,000.00	800,095.68
TORONTO DOMINION BANK NY CERT DEPOS DTD 11/26/2019 1.890% 02/26/2020	89114NBJ3	1,040,000.00	A-1+	P-1	11/27/19	11/29/19	1,040,024.83	1.88	1,965.60	1,040,015.63	1,039,759.87
SOCIETE GENERALE NY CERT DEPOS DTD 02/27/2019 2.830% 02/27/2020	83369Y3V6	800,000.00	A-1	P-1	08/27/19	08/28/19	803,101.15	2.37	19,369.78	800,965.94	801,992.96
CREDIT AGRICOLE CIB NY CERT DEPOS DTD 11/27/2019 1.840% 02/28/2020	22535CJQ5	625,000.00	A-1	P-1	11/27/19	11/29/19	625,000.00	1.84	1,118.06	625,000.00	624,744.22
NORINCHUKIN BANK NY CERT DEPOS DTD 10/29/2019 1.940% 04/24/2020	65602VTG1	1,105,000.00	A-1	P-1	10/30/19	10/31/19	1,105,105.93	1.92	3,811.02	1,105,068.62	1,104,793.21
MUFG BANK LTD/NY CERT DEPOS DTD 08/22/2019 2.000% 04/30/2020	55379WY75	800,000.00	A-1	P-1	08/21/19	08/22/19	800,000.00	2.00	5,866.67	800,000.00	799,987.43
TORONTO DOMINION BANK NY CERT DEPOS DTD 12/04/2019 1.830% 06/30/2020	89114NC52	460,000.00	A-1+	P-1	12/04/19	12/04/19	460,000.00	1.83	654.73	460,000.00	459,671.03
Security Type Sub-Total		6,255,000.00					6,258,350.73	1.98	41,722.23	6,256,116.80	6,256,124.71
Managed Account Sub-Total		13,410,000.00					13,341,573.97	2.29	76,557.54	13,391,858.81	13,406,306.04



Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Money Market Mutual Fund											
CAMP Pool		7,518,577.7	7 AAAm	NR			7,518,577.77		0.00	7,518,577.77	7,518,577.7
Money Market Sub-Total		7,518,577.7	7				7,518,577.77		0.00	7,518,577.77	7,518,577.77
Securities Sub-Total	\$	20,928,577.7	7			\$	20,860,151.74	2.29%	\$76,557.54	\$20,910,436.58	\$20,924,883.81
Accrued Interest											\$76,557.54
Total Investments											\$21,001,441.3

## **Managed Account Fair Market Value & Analytics**

For the Month Ending **December 31, 2019** 

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	Broker	Next Call Date	Market Price	Market Value	Unreal G/L On Cost	Unreal G/L Amort Cost	Effective Duration	Duration to Worst	
U.S. Treasury Bond / Note											
US TREASURY NOTES DTD 01/31/2018 2.000% 01/31/2020	9128283S7	820,000.00	GOLDMAN		100.03	820,217.30	7,200.11	598.15	0.08	0.08	1.67
US TREASURY NOTES DTD 05/31/2013 1.375% 05/31/2020	912828VF4	1,150,000.00	GOLDMAN		99.88	1,148,652.20	24,841.65	4,603.66	0.41	0.41	1.66
US TREASURY NOTES DTD 06/30/2015 1.625% 06/30/2020	912828XH8	605,000.00	JPM_CHAS		100.00	605,000.00	11,509.18	3,021.12	0.50	0.50	1.63
Security Type Sub-Total		2,575,000.00				2,573,869.50	43,550.94	8,222.93	0.33	0.33	1.65
Federal Agency Bond / Note											
FHLMC NOTES DTD 04/19/2018 2.500% 04/23/2020	3137EAEM7	400,000.00	TD		100.27	401,066.40	2,294.00	1,287.81	0.31	0.31	1.62
Security Type Sub-Total		400,000.00				401,066.40	2,294.00	1,287.81	0.31	0.31	1.62
Corporate Note											
CISCO SYSTEMS INC CORP NOTE DTD 11/17/2009 4.450% 01/15/2020	17275RAH5	455,000.00	MKTX		100.09	455,391.30	(10,337.60)	100.70	0.04	0.04	2.05
CHEVRON CORP (CALLABLE) NOTES DTD 03/03/2015 1.961% 03/03/2020	166764AR1	910,000.00	MORGAN_S	02/03/20	99.98	909,838.93	11,914.63	1,157.68	0.09	0.17	2.02
HSBC USA INC NOTES DTD 03/05/2015 2.350% 03/05/2020	40428HPR7	170,000.00	TD		100.05	170,086.87	(123.93)	13.84	0.18	0.18	2.01
HSBC USA INC NOTES DTD 03/05/2015 2.350% 03/05/2020	40428HPR7	375,000.00	MORGAN_S		100.05	375,191.63	(318.37)	14.96	0.18	0.18	2.01
AMERICAN HONDA FINANCE CORP NOTES DTD 03/13/2015 2.150% 03/13/2020	02665WAU5	455,000.00	MORGAN_S		100.01	455,030.03	5,781.23	747.51	0.20	0.20	2.07
APPLE INC CORP NOTE DTD 05/13/2015 2.000% 05/06/2020	037833BD1	910,000.00	MORGAN_S		100.07	910,661.57	12,436.97	3,004.00	0.35	0.35	1.77
Security Type Sub-Total		3,275,000.00				3,276,200.33	19,352.93	5,038.69	0.19	0.21	1.96

## **Managed Account Fair Market Value & Analytics**

For the Month Ending **December 31, 2019** 

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Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	Broker	Next Call Date	Market Price	Market Value	Unreal G/L On Cost	Unreal G/L Amort Cost		Duration to Worst	
Commercial Paper											
TOYOTA MOTOR CREDIT CORP COMM PAPER DTD 11/22/2019 0.000% 05/05/2020	89233GE51	905,000.00	TOYOTA		99.34	899,045.10	1,760.22	(110.11)	0.34	0.34	1.89
Security Type Sub-Total		905,000.00				899,045.10	1,760.22	(110.11)	0.34	0.34	1.89
Certificate of Deposit											
MIZUHO BANK LTD/NY CERT DEPOS DTD 10/08/2019 2.010% 02/07/2020	60710AF23	625,000.00	GOLDMAN		100.01	625,080.31	(38.51)	13.70	0.10	0.10	1.93
NORINCHUKIN BANK NY CERT DEPOS DTD 08/21/2019 2.020% 02/21/2020	65602VQX7	800,000.00	RBC		100.01	800,095.68	95.68	95.68	0.14	0.14	1.95
TORONTO DOMINION BANK NY CERT DEPOS DTD 11/26/2019 1.890% 02/26/2020	89114NBJ3	1,040,000.00	RBC		99.98	1,039,759.87	(264.96)	(255.76)	0.15	0.15	1.96
SOCIETE GENERALE NY CERT DEPOS DTD 02/27/2019 2.830% 02/27/2020	83369Y3V6	800,000.00	MIZUHO		100.25	801,992.96	(1,108.19)	1,027.02	0.16	0.16	1.96
CREDIT AGRICOLE CIB NY CERT DEPOS DTD 11/27/2019 1.840% 02/28/2020	22535CJQ5	625,000.00	CREDAG		99.96	624,744.22	(255.78)	(255.78)	0.16	0.16	1.96
NORINCHUKIN BANK NY CERT DEPOS DTD 10/29/2019 1.940% 04/24/2020	65602VTG1	1,105,000.00	MERRILL		99.98	1,104,793.21	(312.72)	(275.41)	0.31	0.31	1.99
MUFG BANK LTD/NY CERT DEPOS DTD 08/22/2019 2.000% 04/30/2020	55379WY75	800,000.00	MITSU		100.00	799,987.43	(12.57)	(12.57)	0.33	0.33	1.99
TORONTO DOMINION BANK NY CERT DEPOS DTD 12/04/2019 1.830% 06/30/2020	89114NC52	460,000.00	TD		99.93	459,671.03	(328.97)	(328.97)	0.49	0.49	1.97
Security Type Sub-Total		6,255,000.00				6,256,124.71	(2,226.02)	7.91	0.22	0.22	1.96
Managed Account Sub-Total		13,410,000.00			1	13,406,306.04	64,732.07	14,447.23	0.24	0.25	1.89
Money Market Mutual Fund											
CAMP Pool		7,518,577.77			1.00	7,518,577.77	0.00	0.00	0.00	0.00	
Money Market Sub-Total		7,518,577.77				7,518,577.77	0.00	0.00	0.00	0.00	



## **Managed Account Fair Market Value & Analytics**

For the Month Ending **December 31, 2019** 

City of San Rafael - Lease Revenue Bonds Series 2018 Project Fund - 7023-001 - (12517708)										
Securities Sub-Total	\$20,928,577.77	\$20,924,883.81	\$64,732.07	\$14,447.23	0.24	0.25	1.89%			
Accrued Interest		\$76,557.54								
Total Investments		\$21,001,441.35								



### **Managed Account Security Transactions & Interest**

		•**	anagea Ace	ount occurre	y i i alisactions	d Interest			3	•
City of	City of San Rafael - Lease Revenue Bonds Series 2018 Project Fund - 7023-001 - (12517708)									
Transact Trade	ion Type Settle	Security Description	CUSIP	Par	Principal Proceeds	Accrued Interest	Total	Realized G/L Cost	Realized G/L Amort Cost	Sale Method
BUY										
12/02/19	12/03/19	MIZUHO BANK LTD/NY CERT DEPOS DTD 10/08/2019 2.010% 02/07/2020	60710AF23	625,000.00	(625,118.82)	(1,954.17)	(627,072.99)			
12/04/19	12/04/19	TORONTO DOMINION BANK NY CERT DEPOS DTD 12/04/2019 1.830% 06/30/2020	89114NC52	460,000.00	(460,000.00)	0.00	(460,000.00)			
Transacti	on Type Su	b-Total		1,085,000.00	(1,085,118.82)	(1,954.17)	(1,087,072.99)			
INTER	EST									
12/31/19	12/31/19	US TREASURY NOTES DTD 06/30/2015 1.625% 06/30/2020	912828XH8	605,000.00	0.00	4,915.63	4,915.63			
12/31/19	12/31/19	US TREASURY NOTES DTD 12/31/2012 1.125% 12/31/2019	912828UF5	760,000.00	0.00	4,275.00	4,275.00			
Transacti	on Type Su	b-Total		1,365,000.00	0.00	9,190.63	9,190.63			
MATUR	RITY									
12/31/19	12/31/19	US TREASURY NOTES DTD 12/31/2012 1.125% 12/31/2019	912828UF5	760,000.00	760,000.00	0.00	760,000.00	15,289.06	0.00	
Transacti	on Type Su	b-Total		760,000.00	760,000.00	0.00	760,000.00	15,289.06	0.00	
SELL										
12/04/19	12/04/19	US TREASURY NOTES DTD 06/30/2015 1.625% 06/30/2020	912828XH8	455,000.00	455,106.64	3,154.40	458,261.04	8,762.30	2,722.15	FIFO
12/27/19	12/27/19	NATIONAL RURAL UTIL COOP CORP NOTES DTD 01/27/2015 2.000% 01/27/2020	637432NC5	455,000.00	455,000.00	3,791.65	458,791.65	5,710.25	321.75	FIFO
Transacti	on Type Su	b-Total		910,000.00	910,106.64	6,946.05	917,052.69	14,472.55	3,043.90	
Managed	Account Su	ıb-Total			584,987.82	14,182.51	599,170.33	29,761.61	3,043.90	
Total Security Transactions					\$584,987.82	\$14,182.51	\$599,170.33	\$29,761.61	\$3,043.90	



City of San Rafael - Lease Revenue Bonds Series 2018 Project Fund - 7023-001

Trade Date	Settlement Date	Transaction Description	Share or Unit Price	Dollar Amount of Transaction	Total Shares Owned
<b>CAMP Pool</b>					
pening Balar	ıce				6,902,936.03
12/02/19	12/02/19	Reversal 11/29/19, Redemption - Principal 22535CJQ5	1.00	624,999.70	7,527,935.73
12/02/19	12/02/19	Reversal 11/29/19, Redemption - Interest 22535CJQ5	1.00	63.89	7,527,999.62
12/02/19	12/02/19	Purchase - Interest 912828VF4	1.00	7,906.25	7,535,905.87
12/02/19	12/02/19	Redemption - Principal 22535CJQ5	1.00	(625,000.00)	6,910,905.87
12/03/19	12/03/19	Redemption - Interest 60710AF23	1.00	(1,954.17)	6,908,951.70
12/03/19	12/03/19	Redemption - Principal 60710AF23	1.00	(625,118.82)	6,283,832.88
12/04/19	12/04/19	Reverse Duplicate - Redemption - Principal 89114NC52	1.00	460,000.00	6,743,832.88
12/04/19	12/04/19	Purchase - Principal 912828XH8	1.00	455,106.64	7,198,939.52
12/04/19	12/04/19	Purchase - Interest 912828XH8	1.00	3,154.40	7,202,093.92
12/04/19	12/04/19	Purchase - Interest 912828XH8	1.00	3,154.40	7,205,248.32
12/04/19	12/04/19	Purchase - Principal 912828XH8	1.00	455,106.64	7,660,354.96
12/04/19	12/04/19	Redemption - Principal 89114NC52	1.00	(460,000.00)	7,200,354.96
12/04/19	12/04/19	Redemption - Principal 89114NC52	1.00	(460,000.00)	6,740,354.96
12/04/19	12/04/19	Reverse Duplicate - Purchase - Principal 912828XH8	1.00	(455,106.64)	6,285,248.32
12/04/19	12/04/19	Reverse Duplicate - Purchase - Interest 912828XH8	1.00	(3,154.40)	6,282,093.92
12/26/19	12/26/19	IP Fees November 2019	1.00	(1,220.64)	6,280,873.28
12/26/19	12/26/19	U.S. Bank Fees October 2019	1.00	(96.48)	6,280,776.80
12/27/19	12/27/19	Purchase - Principal 637432NC5	1.00	455,000.00	6,735,776.80
12/27/19	12/27/19	Purchase - Interest 637432NC5	1.00	3,791.65	6,739,568.45
12/31/19	12/31/19	Purchase - Interest 912828UF5	1.00	4,275.00	6,743,843.45
12/31/19	12/31/19	Purchase - Interest 912828XH8	1.00	4,915.63	6,748,759.08



City of San	Kafael - Leas	se Revenue Bonds Series	2018 Project Fund	- 7023-001			
Trade Date	Settlement Date	Transaction Description			Share or Unit Price	Dollar Amount of Transaction	Total Shares Owned
CAMP Pool							
12/31/19	12/31/19	Purchase - Principal 912828UF5			1.00	760,000.00	7,508,759.08
12/31/19	01/02/20	Accrual Income Div Reinvestmen	t - Distributions		1.00	9,818.69	7,518,577.77
Closing Balance	ce						7,518,577.77
		Month of December	Fiscal YTD July-December				
-	(Excl. Checks)	6,902,936.03 3,247,292.89 (2,631,651.15)	15,168,680.19 13,117,780.84 (20,767,883.26)	Closing Balance Average Monthly Balance Monthly Distribution Yield	I	7,518,577.77 6,421,334.50 1.80%	
Check Disburs Closing Balance		7,518,577.77	7,518,577.77				
<b>Cash Dividend</b>	ls and Income	9,818.69	128,413.12				

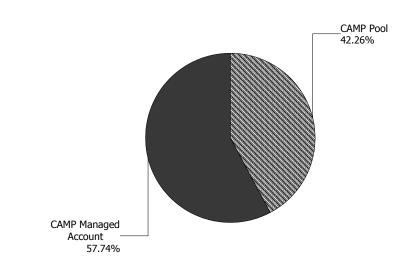


### **Account Statement - Transaction Summary**

## City of San Rafael - Lease Revenue Bonds Series 2018 Capitalized Intere - 7023-002

CAMP Pool	
Opening Market Value	814,488.59
Purchases	1,245.45
Redemptions	(200.51)
Unsettled Trades	0.00
Change in Value	0.00
Closing Market Value	\$815,533.53
Cash Dividends and Income	1,245.45
CAMP Managed Account	
Opening Market Value	1,115,145.96
Purchases	0.00
Redemptions	0.00
Unsettled Trades	0.00
Change in Value	(808.08)
Closing Market Value	\$1,114,337.88
Cash Dividends and Income	0.00

Asset Summary		
	December 31, 2019	November 30, 2019
CAMP Pool	815,533.53	814,488.59
CAMP Managed Account	1,114,337.88	1,115,145.96
Total	\$1,929,871.41	\$1,929,634.55
Asset Allocation		





### **Managed Account Summary Statement**

City of San Rafael - Lease Revenue Bonds Series 2018 Capitalized Intere - 7023-002 - (12517707)

Transaction Summary - Money Market		Transaction Summary - Mana	ged Account	Account Total	
Opening Market Value	\$814,488.59	Opening Market Value	\$1,115,145.96	Opening Market Value	\$1,929,634.55
Purchases	1,245.45	Maturities/Calls	0.00		
Redemptions	(200.51)	Principal Dispositions	0.00		
		Principal Acquisitions	0.00		
		Unsettled Trades	0.00		
		Change in Current Value	(808.08)		
Closing Market Value	\$815,533.53	Closing Market Value	\$1,114,337.88	Closing Market Value	\$1,929,871.41
Dividend	1,245.45	-			

Earnings Reconciliation (Cash Basis) - Managed Account	
Interest/Dividends/Coupons Received	0.00
Less Purchased Interest Related to Interest/Coupons	0.00
Plus Net Realized Gains/Losses	0.00
Total Cash Basis Earnings	\$0.00

Cash Balance	
Closing Cash Balance	\$0.00

Earnings Reconciliation (Accrual Basis)	Managed Account	Total
Ending Amortized Value of Securities	1,110,010.27	1,925,543.80
Ending Accrued Interest	2,670.94	2,670.94
Plus Proceeds from Sales	0.00	200.51
Plus Proceeds of Maturities/Calls/Principal Payments	0.00	0.00
Plus Coupons/Dividends Received	0.00	0.00
Less Cost of New Purchases	0.00	(1,245.45)
Less Beginning Amortized Value of Securities	(1,110,012.37)	(1,924,500.96)
Less Beginning Accrued Interest	(242.81)	(242.81)
Dividends	0.00	1,245.45
Total Accrual Basis Earnings	\$2,426.03	\$3,671.48

	Cash Transactions Summary- Managed Account	
	Maturities/Calls	0.00
	Sale Proceeds	0.00
	Coupon/Interest/Dividend Income	0.00
	Principal Payments	0.00
	Security Purchases	0.00
)	Net Cash Contribution	0.00
)	Reconciling Transactions	0.00
)		
_		

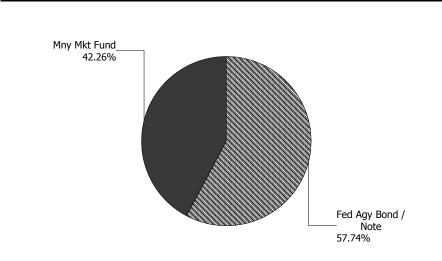


### **Portfolio Summary and Statistics**

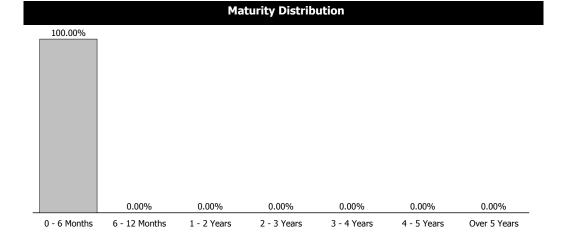
## City of San Rafael - Lease Revenue Bonds Series 2018 Capitalized Intere - 7023-002 - (12517707)

Account Summary							
Description	Par Value	Market Value	Percent				
Federal Agency Bond / Note	1,110,000.00	1,114,337.88	57.74				
Managed Account Sub-Total	1,110,000.00	1,114,337.88	57.74%				
Accrued Interest		2,670.94					
Total Portfolio	1,110,000.00	1,117,008.82					
CAMP Pool	815,533.53	815,533.53	42.26				
Total Investments	1,925,533.53	1,932,542.35	100.00%				

Unsettled Trades 0.00 0.00



**Sector Allocation** 



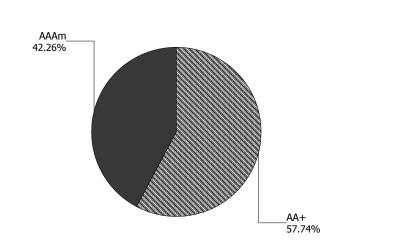
Characteristics	
Yield to Maturity at Cost	2.62%
Yield to Maturity at Market	1.65%
Duration to Worst	0.41
Weighted Average Days to Maturity	149



## **Managed Account Issuer Summary**

City of San Rafael - Lease Revenue Bonds Series 2018 Capitalized Intere - 7023-002 - (12517707)

Issu	ier Summary	
	Market Value	
Issuer	of Holdings	Percent
CAMP Pool	815,533.53	42.26
FEDERAL HOME LOAN BANKS	1,114,337.88	57.74
Total	\$1,929,871.41	100.00%



Credit Quality (S&P Ratings)



## **Managed Account Detail of Securities Held**

City of San Rafael - Lease Revenue Bonds Series 2018 Capitalized Intere - 7023-002 - (12517707)											
Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Federal Agency Bond / Note											
FEDERAL HOME LOAN BANKS NOTES DTD 05/21/2018 2.625% 05/28/2020	3130AECJ7	1,110,000.00	AA+	Aaa	07/11/18	07/12/18	1,110,028.86	2.62	2,670.94	1,110,010.27	1,114,337.88
Security Type Sub-Total		1,110,000.00					1,110,028.86	2.62	2,670.94	1,110,010.27	1,114,337.88
Managed Account Sub-Total		1,110,000.00					1,110,028.86	2.62	2,670.94	1,110,010.27	1,114,337.88
Money Market Mutual Fund											
CAMP Pool		815,533.53	AAAm	NR			815,533.53		0.00	815,533.53	815,533.53
Money Market Sub-Total		815,533.53					815,533.53		0.00	815,533.53	815,533.53
Securities Sub-Total		\$1,925,533.53					\$1,925,562.39	2.62%	\$2,670.94	\$1,925,543.80	\$1,929,871.41
Accrued Interest											\$2,670.94
Total Investments											\$1,932,542.35



## **Managed Account Fair Market Value & Analytics**

For the Month Ending **December 31, 2019** 

City of San Rafael - Lease Re	venue Bonds	Series 2018	Capitalize	ed Intere - 70	023-002	- (12517707	<b>'</b> )				
Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	Broker	Next Call Date	Market Price	Market Value	Unreal G/L On Cost	Unreal G/L Amort Cost	Effective Duration	Duratio to Wors	n YTM t at Mkt
Federal Agency Bond / Note											
FEDERAL HOME LOAN BANKS NOTES DTD 05/21/2018 2.625% 05/28/2020	3130AECJ7	1,110,000.00	BARCLAYS		100.39	1,114,337.88	4,309.02	4,327.61	0.41	0.41	1.65
Security Type Sub-Total		1,110,000.00				1,114,337.88	4,309.02	4,327.61	0.41	0.41	1.65
Managed Account Sub-Total		1,110,000.00				1,114,337.88	4,309.02	4,327.61	0.41	0.41	1.65
Money Market Mutual Fund											
CAMP Pool		815,533.53			1.00	815,533.53	0.00	0.00	0.00	0.00	
Money Market Sub-Total		815,533.53				815,533.53	0.00	0.00	0.00	0.00	
Securities Sub-Total		\$1,925,533.53				\$1,929,871.41	\$4,309.02	\$4,327.61	0.41	0.41	1.65%
Accrued Interest						\$2,670.94					
Total Investments					:	\$1,932,542.35					



#### **Account Statement**

City of San Rafael - Lease Revenue Bonds Series 2018 Capitalized Intere - 7023-002

For the Month Ending December 31, 2019

•	Kalael - Leas		-		Chaus au	Dellas Assesset	Tatal
Trade Date	Settlement Date	Transaction Description			Share or Unit Price	Dollar Amount of Transaction	Total Shares Owned
CAMP Pool	Date	Hansaction Description			Offic Price	or Transaction	Shares Owned
Opening Balan	ce						814,488.59
12/26/19	12/26/19	IP Fees November 2019			1.00	(172.63)	814,315.96
12/26/19	12/26/19	U.S. Bank Fees October 2019			1.00	(27.88)	814,288.08
12/31/19	01/02/20	Accrual Income Div Reinvestment	- Distributions		1.00	1,245.45	815,533.53
Closing Balance	e						815,533.53
		Month of December	Fiscal YTD July-December				
Opening Balan	ce	814,488.59	781,134.96	Closing Balance		815,533.53	
Purchases		1,245.45	1,152,724.50	<b>Average Monthly Balance</b>		814,489.96	
Redemptions (	Excl. Checks)	(200.51)	(1,118,325.93)	<b>Monthly Distribution Yield</b>		1.80%	
<b>Check Disburs</b>	ements	0.00	0.00				
Closing Balanc	e	815,533.53	815,533.53				

#### **ORDINANCE NO. 1978**

AN ORDINANCE OF THE CITY OF SAN RAFAEL REGARDING SPEED LIMIT CHANGE ON FRANCISCO BOULEVARD WEST, WOODLAND AVENUE, AND DU BOIS STREET PURSUANT TO SECTION 22357 OF THE CALIFORNIA VEHICLE CODE

THE CITY COUNCIL OF THE CITY OF SAN RAFAEL DOES ORDAIN AS FOLLOWS:

#### **DIVISION 1. FINDINGS.**

**WHEREAS**, pursuant to Section 22357 of the California Vehicle Code, the City of San Rafael has the right to determine that a speed limit greater than 25 miles per hour (mph) on certain streets would facilitate the orderly movement of vehicular traffic and would be reasonable and safe; and

**WHEREAS**, the speed limit on Du Bois Street is now 25 mph, the speed limit on Woodland Avenue is 25 mph, and the speed limit on Francisco Boulevard West is now 35 mph; and

**WHEREAS**, engineering and traffic studies have been prepared for Du Bois Street, Woodland Avenue, and Francisco Boulevard West consistent with Section 627 of the California Vehicle Code that identify recommended maximum speed limits, and based thereon, the City's Traffic Engineer has determined and recommended that the maximum speed limit on both streets should be changed to 30 mph to facilitate the orderly movement of vehicular traffic, and would be reasonable and safe:

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SAN RAFAEL DOES ORDAIN AS FOLLOWS:

#### DIVISION 2. SPEED LIMIT ESTABLISHED.

The prima facie speed limit on Du Bois Street from Irwin Street to Woodland Avenue is hereby increased to 30 mph and shall be effective when appropriate signs giving notice thereof are erected upon the street.

#### **DIVISION 3. SPEED LIMIT ESTABLISHED.**

The prima facie speed limit on Woodland Avenue from Du Bois Street to Auburn Street is hereby increased to 30 mph and shall be effective when appropriate signs giving notice thereof are erected upon the street.

#### DIVISION 4. SPEED LIMIT ESTABLISHED.

The prima facie speed limit on Francisco Boulevard West from 2<sup>nd</sup> Street to Rice Drive is hereby decreased to 30 mph and shall be effective when appropriate signs giving notice thereof are erected upon the street.

#### **DIVISION 5. ENVIRONMENTAL REVIEW.**

This Ordinance is exempt from environmental review pursuant to the California Environmental Quality Act (CEQA) pursuant to 14 Cal. Code Regs. Section 15061(b)(3) as it can be seen with certainty that it will not have a significant effect on the environment.

#### **DIVISION 6. PUBLICATION. EFFECTIVE DATE.**

This Ordinance shall be published once, in full or in summary form, before its final passage, in a newspaper of general circulation, published, and circulated in the City of San Rafael, and shall be in full force and effect thirty (30) days after its final passage. If published in summary form, the summary shall also be published within fifteen (15) days after the adoption, together with the names of those Councilmembers voting for or against same, in a newspaper of general circulation published and circulated in the City of San Rafael, County of Marin, State of California.

GARY O./PHILLIPS, Mayor

ATTEST:

LINDSAY LARA, City Clerk

The foregoing Ordinance No. 1978 was introduced at a Regular Meeting of the City Council of the City of San Rafael, held on the 16th day of December 2019 and ordered passed to print by the following vote, to wit:

AYES: COUNCILMEMBERS: Bushey, Colin, Gamblin, McCullough & Mayor Phillips

NOES: COUNCILMEMBERS: None

ABSENT: COUNCILMEMBERS: None

and will come up for adoption as an Ordinance of the City of San Rafael at a Regular Meeting of the Council to be held on the 21st day of January 2020.

LINDSAY LARA, City Clerk

#### **SUMMARY OF ORDINANCE NO. 1978**

# AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SAN RAFAEL REGARDING SPEED LIMIT CHANGE ON DU BOIS STREET, WOODLAND AVENUE, AND FRANCISCO BOULEVARD WEST PURSUANT TO SECTION 22357 OF THE CALIFORNIA VEHICLE CODE

This Summary concerns a proposed ordinance of the City Council of the City of San Rafael, designated as Ordinance No. 1978 which will amend the prima facie speed limits on Du Bois Street from Irwin Street to Woodland Avenue, Woodland Avenue from Du Bois Street to Auburn Street, and Francisco Boulevard West from Second Street to Rice Drive. Ordinance No. 1978 is scheduled for adoption by the San Rafael City Council at its regular meeting of January 21, 2020. The City Clerk has been directed to publish this Summary pursuant to City Charter and California Government Code section 36933(c)(1).

#### SUMMARY OF AMENDMENT TO MUNICIPAL CODE

The Ordinance will amend the prima facie speed limits from 25 miles per hour (mph) to 30 mph on Du Bois Street from Irwin Street to Woodland Avenue and on Woodland Avenue from Du Bois Street to Auburn Street. The ordinance will amend the prima facie speed limit from 35 mph to 30 mph on Francisco Boulevard West from Second Street to Rice Drive. Pursuant to Section 22357 of the California Vehicle Code, the City of San Rafael has the right to determine that a speed limit greater than 25 miles per hour on certain streets would facilitate the orderly movement of vehicular traffic and would be reasonable and safe. Engineering and Traffic Surveys have been prepared for both roadway segments consistent with Section 627 of the California Vehicle Code that identifies recommended maximum speed limits. Based on that information, it is determined and recommended that the maximum speed limit on both streets should be changed to 30 mph.

The City has determined that adoption of the ordinance is exempt from review under the California Environmental Quality Act (CEQA) as it does not have the potential to cause a significant, physical environmental effect on the environment.

Copies of Ordinance No. 1978 will be available for public review as of Thursday, January 2, 2020, at the San Rafael City Clerk's Office, 1400 Fifth Avenue, 2<sup>nd</sup> Floor, Room 209 during regular business hours, 8:30 a.m. to 5:00 p.m., and on the City's website: https://www.cityofsanrafael.org. You may also contact the City Clerk at (415) 485-3066 for information.

LINDSAY LARA San Rafael City Clerk Dated: 12/20/2019

#### **Marin Independent Journal**

4000 Civic Center Drive, Suite 301 San Rafael, CA 94903 415-382-7335 legals@marinij.com

2070419

CITY OF SAN RAFAEL CITY OF SAN RAFAEL CITY CLERK, ROOM 209 1400 FIFTH AVENUE, SAN RAFAEL, CA 94901 SAN RAFAEL, CA 94915-1560

# PROOF OF PUBLICATION (2015.5 C.C.P.)

# STATE OF CALIFORNIA County of Marin

I am a citizen of the United States and a resident of the County aforesaid: I am over the age of eighteen years, and not a party to or interested in the above matter. I am the principal clerk of the printer of the MARIN INDEPENDENT JOURNAL, a newspaper of general circulation, printed and published daily in the County of Marin, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Marin, State of California, under date of FEBRUARY 7, 1955, CASE NUMBER 25566; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

12/24/2019

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Dated this 26th day of December, 2019.

Donna Lagarus

Signature

PROOF OF PUBLICATION

Legal No.

0006440367

#### **SUMMARY OF ORDINANCE NO. 1978**

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SAN RAFAEL REGARDING SPEED LIMIT CHANGE ON DU BOIS STREET, WOODLAND AVENUE, AND FRANCISCO BOULEVARD WEST PURSUANT TO SECTION 22357 OF THE CALIFORNIA VEHICLE CODE

This Summary concerns a proposed ordinance of the City Council of the City of San Rafael, designated as Ordinance No. 1978 which will amend the prima facie speed limits on Du Bois Street from Irwin Street to Woodland Avenue, Woodland Avenue from Du Bois Street to Auburn Street, and Francisco Boulevard West from Second Street to Rice Drive. Ordinance No. 1978 is scheduled for adoption by the San Rafael City Council at its regular meeting of January 21, 2020. The City Clerk has been directed to publish this Summary pursuant to City Charter and California Government Code section 36933(c)(1).

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The Ordinance will amend the prima facie speed limits from 25 miles per hour (mph) to 30 mph on Du Bois Street from Irwin Street to Woodland Avenue and on Woodland Avenue from Du Bois Street to Auburn Street. The ordinance will amend the prima facie speed limit from 35 mph to 30 mph on Francisco Boulevard West from Second Street to Rice Drive. Pursuant to Section 22357 of the California Vehicle Code, the City of San Rafael has the right to determine that a speed limit greater than 25 miles per hour on certain streets would facilitate the orderly movement of vehicular traffic and would be reasonable and safe. Engineering and Traffic Surveys have been prepared for both roadway segments consistent with Section 627 of the California Vehicle Code that identifies recommended maximum speed limits. Based on that information, it is determined and recommended that the maximum speed limit on both streets should be changed to 30 mph.

mph.

The City has determined that adoption of the ordinance is exempt from review under the California Environmental Quality Act (CEQA) as it does not have the potential to cause a significant, physical environmental effect on the environment

Copies of Ordinance No. 1978 will be available for public review as of Thursday, January 2, 2020, at the San Rafael City Clerk's Office, 1400 Fifth Avenue, 2nd Floor, Room 209 during regular business hours, 8:30 a.m. to 5:00 p.m., and on the City's website: https://www.cityofsanrafael.org, You may also contact the City Clerk at (415) 485-3066 for information.

LINDSAY LARA San Rafael City Clerk Dated: 12/20/2019

No. 1679 Dec. 24, 2019



Agenda Item No: 5.a

Meeting Date: January 21, 2020

#### SAN RAFAEL CITY COUNCIL AGENDA REPORT

**Department: Public Works** 

Prepared by: Bill Guerin,

**Director of Public Works** 

**City Manager Approval:** 



**TOPIC:** SAN QUENTIN PUMP STATION RECONSTRUCTION

SUBJECT: RESOLUTION ADOPTING A MITIGATED NEGATIVE DECLARATION AND

ASSOCIATED MITIGATION MONITORING AND REPORTING PROGRAM FOR THE SAN QUENTIN PUMP STATION RECONSTRUCTION PROJECT, CITY

PROJECT NO. 11334

#### **RECOMMENDATION:**

Open the public hearing, accept public comment on the Initial Study/Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program, and adopt a resolution adopting the Mitigated Negative Declaration for the San Quentin Pump Station Reconstruction Project and associated Mitigation Monitoring and Reporting Program. Direct staff to proceed with final design and submittal of regulatory environmental permits.

#### **BACKGROUND:**

The City of San Rafael owns and operates 12 stormwater pump stations, which pump water from low-lying areas to prevent flooding during storms. The San Quentin Pump Station, located in the saltwater marsh wetland behind Target and Home Depot off Shoreline Parkway, was originally constructed in 1971. Since its construction, this pump station has been a workhorse for the area lifting storm water from the detention ponds through the levee for discharge into the Bay.

On <u>December 18, 2017</u>, the City Council approved an agreement with CSW/Stuber-Stroeh Engineering Group, Inc. ("CSW/Stuber-Stroeh") for preliminary engineering services resulting in a Basis of Design/Feasibility Study. After amending the agreement on <u>October 1, 2018</u>, the design team commenced environmental studies and construction drawings.

**ANALYSIS:** As the project is progressing, staff recommends the City Council take the actions described below.

1. <u>Resolution re Adoption of the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program</u>

Beginning in March 2019, the design team developed environmental documentation for the State of California in compliance with the California Environmental Quality Act (CEQA). An Initial Study was prepared to determine the potential environmental impacts, which found that the proposed project would potentially affect biological resources, cultural resources, tribal cultural resources, hazardous material, noise and mandatory findings of significance. The project impacts would be mitigated to a less-than-significant level

	FOR CITY CLERK ONLY	
Council Meeting:		
Disposition:		

#### SAN RAFAEL CITY COUNCIL AGENDA REPORT / Page: 2

through implementation of recommended mitigation measures as required in the included Mitigation Monitoring and Reporting Program or through compliance with certain applicable agency requirements.

A Notice of Public Hearing and Intent to Adopt the Initial Study/Mitigated Negative Declaration was published in the Marin *IJ* on November 8, 2019 (see Attachment 2) and was mailed to residents/businesses residing within 1,000 feet of the pump station. As required by CEQA Guidelines Section 15073, a minimum 30-day public review period was provided for the Initial Study/Mitigated Negative Declaration.

The Initial Study/Mitigated Negative Declaration, including the Mitigation Monitoring and Reporting Program, is on the City's website, and can be accessed for review at: <a href="https://www.cityofsanrafael.org/san-quentin-pump-station/">https://www.cityofsanrafael.org/san-quentin-pump-station/</a> (Attachment 3). The formal public review period closed on December 13<sup>th</sup>, 2019 with the City receiving two letters providing public comments and/or indicating that the City complied with State Clearinghouse review requirements (see Attachment 4). As a courtesy, City staff provided copies of the Initial Study/Mitigated Negative Declaration to the Marin Audubon Society and the property owner of the Canalways property, which directly adjoins the pump station project location.

The primary environmental impacts for this project relate to biological resources and hazardous material. The project has the potential to impact special status and native species, sensitive communities, and wetlands; however as outlined in the Mitigated Negative Declaration, Mitigation Measures BIO-1 through BIO-5 would implement avoidance and minimization measures to protect the salt-marsh harvest mouse, nesting birds, and roosting bats and require 404/401 permits to protect wetlands, thus mitigating these impacts.

Due to the location of the Project being near undocumented fill and a closed landfill, and because demolition is occurring, there is some potential for impacts related to accidental release of hazardous materials; however, Mitigation Measures HAZ-1 and HAZ-2 require a Phase II environmental assessment and a signed assessment report documenting a lack of hazardous building materials. Thus, these impacts would also be mitigated.

The recommended resolution would adopt the Mitigated Negative Declaration and approve the Mitigation Monitoring and Reporting Program in accordance with CEQA Guidelines and clear this project for construction from the environmental clearance standpoint except for necessary permits required from environmental regulatory agencies. It is anticipated that permits will be required from the following agencies: US Army Corps and Regional Water Quality Control Boards.

#### 2. Motion Directing Staff to Proceed with Final Design and Environmental Permitting

With City Council approval of the recommended resolution, staff recommends that the City Council authorize staff to proceed with final design work and procurement of environmental regulatory permits.

**FISCAL IMPACT:** No immediate fiscal impact is associated with the approval and adoption of the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program.

**OPTIONS:** 

#### SAN RAFAEL CITY COUNCIL AGENDA REPORT / Page: 3

- 1. Adopt the resolution as presented and move to authorize staff to proceed with final design work and procurement of environmental regulatory permits.
- 2. Adopt the resolution with modifications.
- 3. The City Council may decline to approve the resolution, which will result in the project being unable to move forward.
- 4. The City Council may defer action and request staff to provide further information or modifications at a future Council meeting.

#### **RECOMMENDED ACTION:**

- 1. Adopt the resolution adopting the Mitigated Negative Declaration and Associated Mitigation Monitoring and Reporting Program for the San Quentin Pump Station Reconstruction Project.
- 2. Move to authorize staff to proceed with final design and submittal of regulatory environmental permits.

#### **ATTACHMENTS:**

#### Mitigated Negative Declaration

- 1. Resolution adopting the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program
- 2. Public Hearing Notices
- 3. Initial Study/Mitigated Negative Declaration dated November 2019 including Mitigation Monitoring and Reporting Program
- 4. Comments received to date
- 5. Memorandum Response to Comments on Initial Study/Mitigated Negative Declaration

RESOLUTION NO.	
----------------	--

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SAN RAFAEL ADOPTING A MITIGATED NEGATIVE DECLARATION AND ASSOCIATED MITIGATION MONITORING AND REPORTING PROGRAM FOR THE SAN QUENTIN PUMP STATION RECONSTRUCTION PROJECT, CITY PROJECT NO. 11334

WHEREAS, the City has determined it is necessary to replace the San Quentin Pump Station and has retained consultants to design the project and prepare construction drawings, City Project No. 11334; and

WHEREAS, the construction plans are approximately 65% completed for the Project's proposed pump station reconstruction and, pursuant to the California Environmental Quality Act (CEQA) Guidelines, it was determined that, for purposes of CEQA, the improvements are defined as a "project" subject to environmental review; and

**WHEREAS**, pursuant to CEQA Guidelines Section 15063, an Initial Study was prepared to determine the potential environmental impacts of the Project; and

**WHEREAS**, in preparing the Initial Study, an offer of tribal consultation was made to the local Native American Tribe (Federated Indians of Graton Rancheria) consistent with Public Resources Code Sections 21080.3.1; and

**WHEREAS**, on February 28, 2019, the Federated Indians of Graton Rancheria (FIGR) responded to the offer of consultation requesting additional information on the project; and

**WHEREAS**, as demonstrated in the preparation of the Initial Study, the proposed Project would result in a number of potentially significant environmental impacts for which mitigation is recommended to reduce these impacts to a less-than-significant level; and

**WHEREAS**, consistent with CEQA Guidelines Section 15070, the Initial Study supports and recommends the adoption of a Mitigated Negative Declaration; and

**WHEREAS**, pursuant to CEQA Guidelines Section 15073, on November 8<sup>th</sup>, 2019, the City published a Notice of Public Hearing and Intent to Adopt the Initial Study/Mitigated Negative Declaration which was made available for a 30-day public review period. Two comments were received on the Initial Study/Mitigated Negative Declaration. One

comment by the State Clearinghouse stated that the City complied with CEQA Guidelines; and

WHEREAS, on January 21<sup>st</sup>, 2020, the City Council held a duly noticed public hearing to review the Initial Study/Mitigated Negative Declaration and associated Mitigation Monitoring and Reporting Program and considered all oral and written public testimony; and

**WHEREAS**, the custodian of documents which constitute the record of proceedings upon which this decision is based, is the City Clerk;

**NOW, THEREFORE, BE IT RESOLVED,** that the City Council of the City of San Rafael hereby adopts the Mitigated Negative Declaration for the San Quentin Pump Station Reconstruction Project, City Project No. 11334, and the associated Mitigation Monitoring and Reporting Program, based on the following findings:

- 1. The Initial Study/Mitigated Negative Declaration has been prepared in accordance with CEQA, the CEQA Guidelines, and the provisions of the City of San Rafael Environmental Assessment Procedures Manual. Further, in preparing the Initial Study/Mitigated Negative Declaration, the City followed the steps and procedures required by Public Resources Code Sections 21080.3 and 21080.3.2 (AB 52) by offering and completing tribal consultation with the local Native American Tribe (Federated Indians of Graton Rancheria). As a result of this consultation, mitigation measures required to address potential archaeological resources have been incorporated into the Mitigated Negative Declaration.
- As prescribed by CEQA Guidelines Section 15073, a public review period of a minimum of 30 days was observed for public comment (30-days observed commencing on November 8<sup>th</sup>, 2019 and closing on December 13<sup>th</sup>, 2019).
- The Mitigated Negative Declaration has been presented to the City Council who
  has reviewed and considered the information in the Initial Study for adopting a
  Mitigated Negative Declaration. Further, the City Council finds that the Initial Study

is adequate and complete to support the adoption of a Mitigated Negative

Declaration.

4. The City Council has exercised its independent judgment in evaluating the Initial

Study and has considered the comments received during the public review period

and public hearing. Based on this review, the City Council has determined that a)

there is no substantial evidence that the Project will have a significant impact on

the environment; and b) revisions have been made to the Project or have been

included in the Project as conditions of approval which reduce the potentially

significant impacts related to biological resources, cultural resources, hazards and

hazardous materials, noise, and air quality for which mitigation measures are

required; and c) result in either no environmental impacts or impacts that are

deemed to be less-than-significant in other topic areas listed in the Initial Study

Checklist.

I, LINDSAY LARA, Clerk of the City of San Rafael, hereby certify that the foregoing

resolution was duly and regularly introduced and adopted at a regular meeting of the

Council of said City on the 21<sup>st</sup> day of January 2020, by the following vote, to wit:

AYES: **COUNCILMEMBERS:** 

NOES: **COUNCILMEMBERS:** 

**ABSENT: COUNCILMEMBERS:** 

LINDSAY LARA, City Clerk

File No.: 08.06.69

3

#### **Marin Independent Journal**

4000 Civic Center Drive, Suite 301 San Rafael, CA 94903 415-382-7335 legals@marinij.com

2072889

DEPARTMENT OF PUBLIC WORKS PO BOX 4186 SAN RAFAEL, CA 94913-4186

# PROOF OF PUBLICATION (2015.5 C.C.P.)

# STATE OF CALIFORNIA County of Marin

I am a citizen of the United States and a resident of the County aforesaid: I am over the age of eighteen years, and not a party to or interested in the above matter. I am the principal clerk of the printer of the MARIN INDEPENDENT JOURNAL, a newspaper of general circulation, printed and published daily in the County of Marin, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Marin, State of California, under date of FEBRUARY 7, 1955, CASE NUMBER 25566; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

11/08/2019

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Dated this 8th day of November, 2019.

Donna Lajarus

Signature

PROOF OF PUBLICATION

Legal No.

0006422932

CITY OF SAN RAFAEL
NOTICE OF PUBLIC HEARING AND INTENT TO ADOPT
AN INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
CEQA Public Review Period: November 8, 2019 to December 13, 2019

You are being informed of the availability of a Draft Initial Study/Mitigated Negative Declaration for public review and invited to attend the City Council hearing on the following project:

DATE/TIME/PLACE: Tuesday, January 21, 2020 at 7:00 P.M. City Hall Council Chambers, 1400 Fifth Avenue, San Rafael, CA 94901

PROJECT: San Quentin Pump Station Replacement Project. Located behind Target at APN 009-010-25. Project calls for the replacement of the existing San Quentin Pump Station with a new pump station in the same location. City File No: 08.06.69.

Consistent with the provisions of the California Environmental Quality Act (CEQA) Guidelines, this project is subject to environmental review and an Initial Study. Mitigated Negative Declaration has been prepared. The Initial Study and supportive appendices have been posted on the City of San Rafael website and can be accessed via the following link: https://www.cityofsanrafael.org/san-quentin-pump-station/. A hard copy of the Initial Study is available for review at the Department of Public Works, 111 Morphew Street, San Rafael. A 30-day public review period is being observed for review and comment on the Initial Study Mitigated Negative Declaration, commencing on Friday, November 8th, 2019 and closing on Friday, December 13th, 2019. All written comments on the Initial Study must be submitted to the City by December 13th, 2019. The City Council will then hold a public hearing on the matter on the date listed above.

**WHAT WILL HAPPEN:** You can comment on the project. The City Council will consider all public testimony and decide whether to approve or deny the application.

IF YOU CANNOT ATTEND: You can send written correspondence by email to the address below, or by mail/hand delivery to the Public Works Department, City of San Rafael, 111 Morphew St, San Rafael, CA 94901.

FOR MORE INFORMATION: Visit the project webpage at https://www.cityofsanrafael.org/san-quentin-pump-station/ or contact Theo Sanchez, Associate Civil Engineer at (415) 458-5326 or Theo.Sanchez@CityofSanRafael.org. You can also come to the Public Works office, located at 111 Morphew Street, to look at the file for the proposed project. The office is open from 8 a.m. to 5 p.m. Monday thru Thursday and 8 a.m. to 4p.m. on Friday. You can also view the staff report after 5:00 p.m. on the Friday before the meeting at http://www.cityofsanrafael.org/meetings.

#### SAN RAFAEL CITY CLERK

/s/ Lindsay Lara Lindsay Lara CITY CLERK

No. November 8, 2019

# Draft Initial Study / Proposed Mitigated Negative Declaration

# San Quentin Pump Station Replacement Project

CITY OF SAN RAFAEL, MARIN COUNTY, CALIFORNIA

#### **Prepared For:**

City of San Rafael Department of Public Works 111 Morphew Street San Rafael, CA 94901 Contact: Theo Sanchez

#### **Prepared By:**

WRA, Inc. 2169-G East Francisco Boulevard San Rafael, California 94901 Contact: Geoff Reilly, AICP reilly@wra-ca.com

Date: November, 2019







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#### **BACKGROUND**

1. Project Title: San Quentin Pump Station Replacement Project

2. Lead Agency and Project Applicant: City of San Rafael

Department of Public Works

111 Morphew Street

San Rafael, California 94901

3. Contact Person and Phone Number: Theo Sanchez

Tel: (415) 458-5326

Email: Theo.Sanchez@cityofsanrafael.org

**4. Project Location:** Adjacent and north of the Target property at 123

Shoreline Parkway in the City of San Rafael, Marin

County, California (see Figures 1 and 2)

#### 5. Surrounding Land Uses and Setting:

The proposed project is located at Assessor's Parcel Number (APN) 009-010-25, directly north of and adjacent to the Target property at 123 Shoreline Parkway in San Rafael, Marin County (Figure 1). Project plans involve replacement of the deteriorated San Quentin Pump Station, demolition of the existing station, and improvements to the outfall pipe that extends from the pump station to San Rafael Bay. The project footprint is on City of San Rafael land and does not encroach on other properties, though lands of Kerner Blvd. LLC (APN 009-010-23) and Target Corporation (APN 009-320-51) are directly to the north and south, respectively.

The proposed project is located on former marshland, which continues to the north, west, and east of the project site before abutting San Rafael Bay approximately 0.20 miles to the east (Figure 2). The San Quentin Pump Station watershed is approximately 403 acres and flows into a storage basin created as part of the East San Rafael Drainage Assessment District.

Commercial properties including Target and Home Depot are located to the south and southwest of the project site, and Interstate 580 runs in a northwest-southeasterly direction approximately 0.32 miles southwest of the pump station. The San Quentin Disposal Site (SQDS), located immediately south of the site, was a permitted Class III landfill that accepted construction and landscape debris from 1968 to 1987. The Regional Water Quality Control Board (RWQCB) landfill closure report (2001) indicates the landfill does not extend onto the pump station site.

The zoning district designated for the project site is W-WO (Water District-Water Overlay District). The General Plan land use designation for the site is Conservation, and the land use designations in the project vicinity include Conservation to the north, Light Industry/Office to the south, Conservation and Light Industry/Office to the west, and Conservation and the San Rafael Bay to the east.

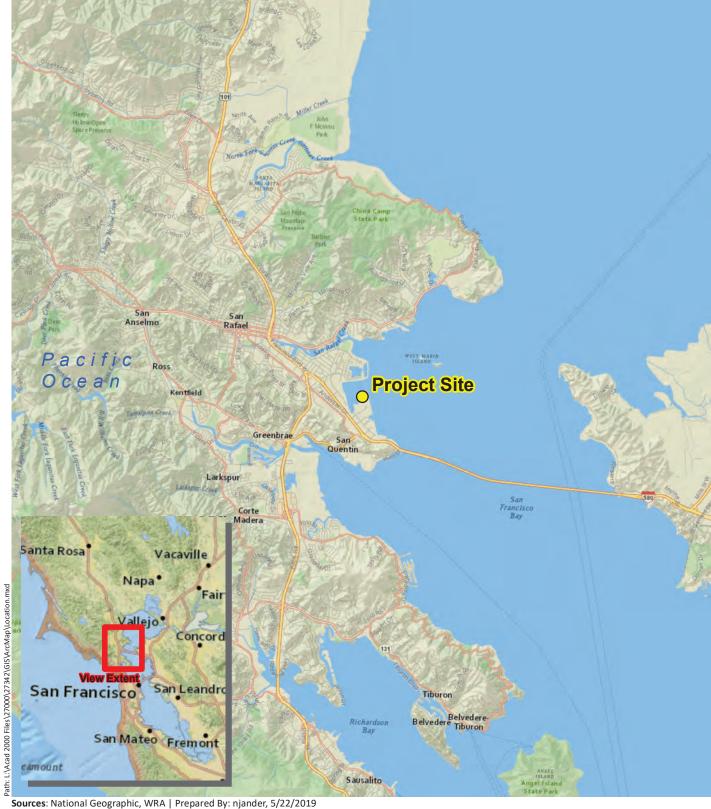
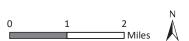


Figure 1. Project Site Regional Location Map







Sources: National Geographic, WRA | Prepared By: njander, 1/30/2019

Figure 2. Aerial Location Map





#### 6. Existing System:

The San Quentin Pump Station was constructed in 1972 to serve a portion of east San Rafael that was envisioned as a major light industrial area extending toward the Richmond-San Rafael Bridge from the canal area. The pump station is underlain by artificial fill over Bay Mud, as it is located on former marshland that was reportedly filled in the 1960s as a part of the East San Rafael Drainage Assessment District. The pump station lifts storm water from the large low-lying detention ponds for discharge to San Rafael Bay. Views of the project site, including the pump station and detention ponds, are included in Figures 3 and 4.

The site is protected from inundation by a levee along and beneath the San Francisco Bay Trail along the San Rafael Bay. At the east end of the site, the outfall pipe lies under this levee before terminating in the outboard bank of the levee. The adjacent 20-foot-high embankment was constructed for the Target store in 2013 and is located immediately south of the outfall pipeline. Views of the surrounding land uses, including the San Rafael Bay and commercial uses, are included in Figure 5.

The existing pump station building is approximately 722 square feet in size, located 0.2 miles inland from the San Rafael Bay. It consists of a wet well, a pressure vault and associated controls, and two vertical pumps. To connect to the Bay, the pump station building is also associated with a 962-foot-long storm drainage pipe that discharges into the San Rafael Bay. Views of the pump station and project site can be seen in Figure 3.

In its 46 years of operation, the outfall pipe has become deteriorated to the point where leaks are noticeable at the ground surface when the pumps are in use. The pump station itself also shows signs of age and continues to settle in the fill differentially relative to the outfall pipe and site. Under the existing pump system, if the pump station loses power or one of the two pumps fail, then flooding occurs in the neighboring industrial areas and along Highway 580 leading to the Richmond-San Rafael Bridge.

#### 7. Project Design Alternatives:

Pump Station Replacement Considerations

Several site locations for the proposed pump station were evaluated in the project design phase. Since the existing station must stay operational until the new station is ready to function, demolishing the station and building the new one in its place was not an option. One option considered was placing the new station immediately adjacent to the existing station, and the other option was moving the station closer to the Bay. The most cost-effective pump station location is typically at the low point of the watershed and, as indicated in the Environment Technical Memorandum (Appendix A, Sub-Appendix B), the existing pump station is already located at the low point. As part of the East San Rafael Drainage Assessment District project, the area was excavated to create a low point at the existing pump station.



**View 1.** View of the north and west side of the pump station, facing southeast, as it abuts marsh area. The Target store is in the background.



**View 3.** View of the south side of the pump station, utility poles, and equipment access and turnaround circle, facing northwest.



**View 2.** View of the north side of the pump station and utility poles, facing south.



**View 4.** View looking west-southwest toward the pump station from the gravel levee road, under which the outfall pipe runs toward the San Rafael Bay.



San Quentin Pump Station Replacement Project City of San Rafael, California





**View 1.** View of the south and west side of the pump station, facing northeast.



**View 3.** View of the south side of the pump station and adjoining lagoon and grasses, facing north.



View 2. View of the culvert directly south of the pump station, facing east.



**View 4.** View of the electric undergrounding area directly southeast of the pump station adjacent to the turnaround area, facing northeast.



San Quentin Pump Station Replacement Project City of San Rafael, California





**View 1.** View from the pump station toward the adjacent lagoon, marsh, and multi-family residential, mixed commercial area to the west.



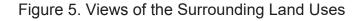
**View 3.** View from the levee road (that runs from the site to the bay) of the adjacent Target store property directly to the southeast of the site.



**View 2.** View from the pump station toward the Home Depot store to the southwest of the site.

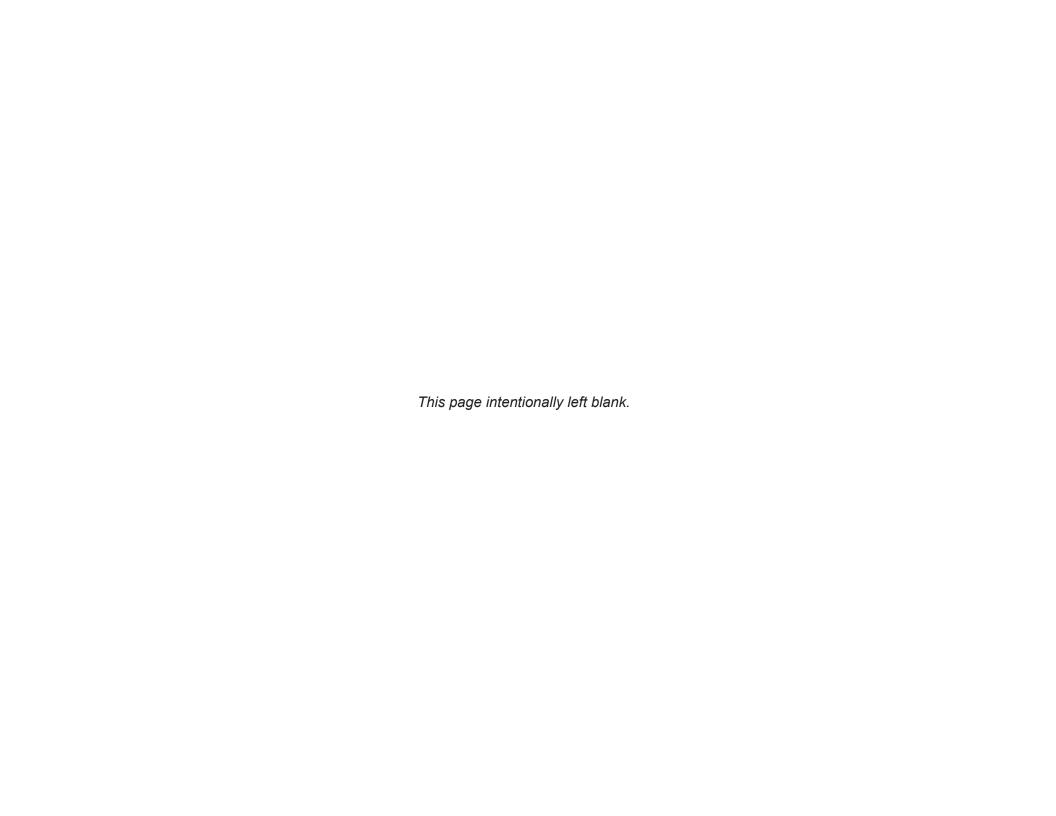


**View 4.** View of the San Rafael Bay and rip rap embankment to the east of the bay trail running along the eastern side of the site, facing southwest.



San Quentin Pump Station Replacement Project City of San Rafael, California





Furthermore, while moving the pump station closer to the Bay would reduce the length of outfall pipe necessary and reduce the potential for long-term settlement relative to the outfall pipe, the area excavated for the lagoon surrounding the existing station is now considered sensitive habitat (wetland) and potential habitat for special-status wildlife species. Relocating the pump station closer to the Bay would require excavation and a net loss of wetland area for a new drainage channel, increasing costs related to mitigation and monitoring for this loss of wetland. Locating the pump station closer to the Bay would also place the station between the toe of the building pad for the Target store and the top of the bank of the storage pond. This is a narrow area and does not provide an easy staging area from which to build the pump station.

#### Outfall Pipe Replacement Considerations

Based on discussions with City maintenance crews, the existing 60-inch reinforced concrete pipe (RCP) leaks and has settled unevenly in the bay mud causing sags. Ground Penetrating Radar (GPR) and potholing were used to help locate potential pipe sags (Appendix A, CSW San Quentin Pump Station Basis of Design Report). Three sags were located, consisting of either a dislocated or broken pipe segment. The magnitude of the sags appears to be less than 12 inches. The locations of the existing pipe deficiencies and anomalies are approximate due to limited access for study.

Three potential options were studied to improve the 900 feet of discharge outfall pipe. These options include: 1) slip lining the existing 60-inch RCP with the new 48-inch diameter high-density polyethylene (HDPE) pipe; 2) installing a Cured in Place Pipe (CIPP) within the 60-inch RCP; and 3) open trench removal of the existing pipe and installing a new 48-inch diameter HDPE pipe. The outfall repairs would extend from the existing pump station eastward to just before the Bay Trail; project work is not proposed at the outfall into the Bay nor within 100 feet of the shoreline. Additionally, the contractor would be required to dewater the existing storm drain and maintain operation of the existing pump station while thoroughly cleaning and installing the new pipe.

#### 8. Project Description:

#### Pump Station Replacement

Due to the sensitive habitat and staging and access considerations discussed previously, the chosen location for the new pump station construction is immediately south of the existing pump station. This would minimize wetland disturbance and provide the benefit of a relatively large construction staging area with good access.

Development of the new pump station would require the removal of approximately 60 feet of corrugated metal pipe (CMP) leading to an existing storm drain turning structure (to be preserved), as well as the removal of existing riprap rock, base rock, and asphalt and concrete pavement directly to the south of the existing station. This would be followed by installation of an approximately 2,105-square-foot concrete slab to be placed partially over the area of removed rock and concrete adjacent to the existing station. Pump station elements, such as new vertical and submersible pumping units, a pressure chamber, motor control centers, and electric equipment would be installed on top of the slab.

Once the new pump station is operational, the existing 722-square-foot station would be removed and disposed of, including the pump station walls and stairway, pumps, electric facilities, screens, pressure relief plumbing, and the wet well. In addition to these pump station elements, the overhead power lines and electrical poles surrounding the existing station would be disconnected and removed as well, all of which are situated on gravel within the project disturbance footprint. The proximity to the proposed pump station should not significantly affect the operation of the existing pump station during construction. Further design details can be viewed in the Site Plans (Figures 6-8).

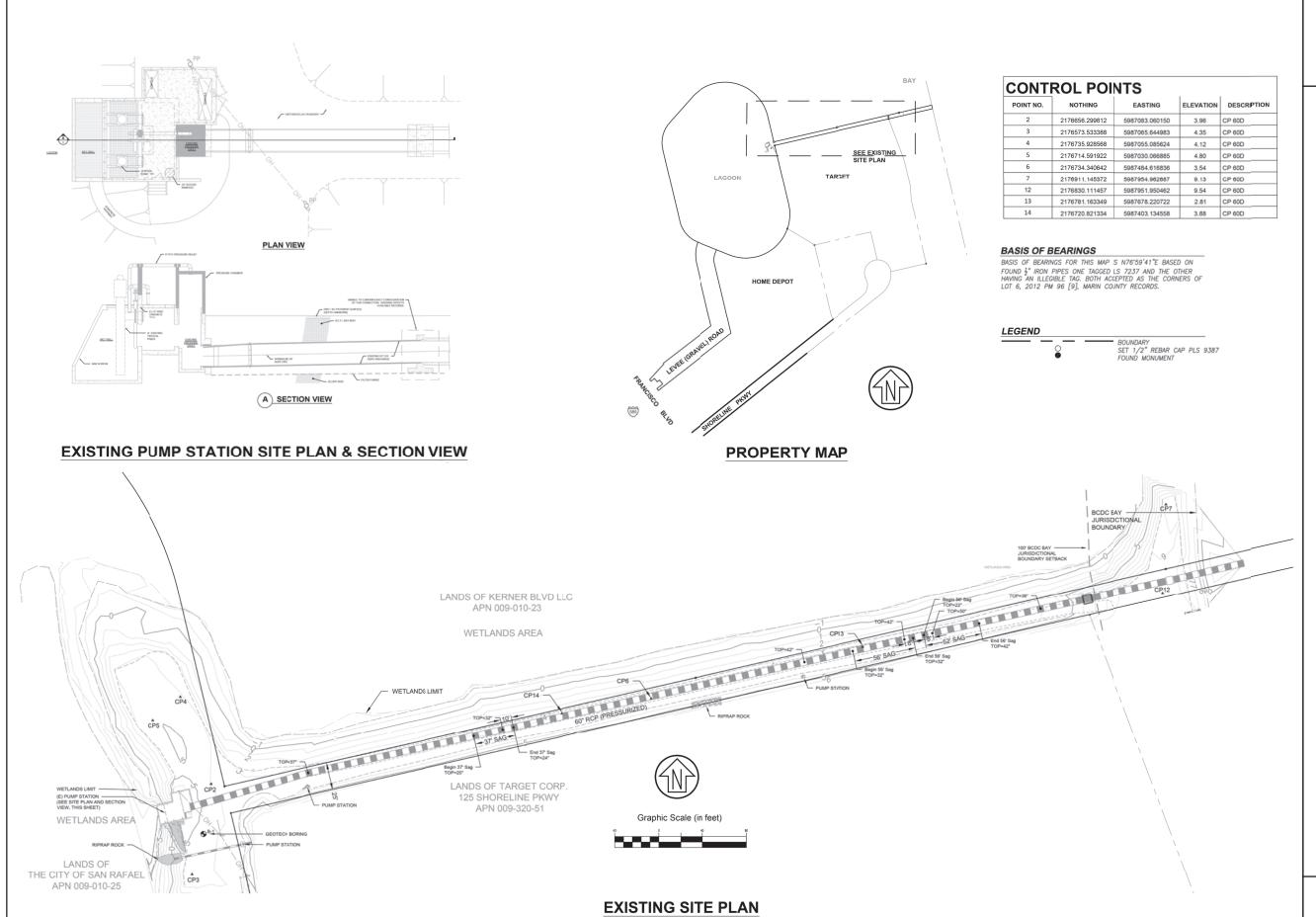
As indicated in the Draft Geotechnical Investigation Report (Appendix A, Sub-Appendix A), the planned pump station is feasible from a geotechnical standpoint. The weight of the new pump station is anticipated to be less than the weight of the excavated soil to build the pump station. The weight of the removed soil should offset the weight of the new pump station, minimizing additional settlement of the structure and causing it to "float" on the mud. Primary geotechnical considerations for the project include:

- Excavation through soft Bay Mud
- Providing appropriate temporary support for excavations
- Providing appropriate seismic and structural design for any new structures
- Providing for proper bedding and trench backfill
- Minimizing the extent of excavation and associated backfills for new manholes and other below-grade structures that are underlain by Bay Mud

To provide enough pressure for the storm water discharged from the pumps to reach the Bay, water would be pumped into a pressure chamber, which would be connected to the outfall pipe. The proposed discharge assembly pressure box would be configured to better drive the outflow from the pump discharges to the outfall pipe through directed discharge assemblies and other miscellaneous equipment housed in the pump station and pressure chamber.

The pump station would use three vertical axial flow pumps to maximize efficiency. Utilizing three smaller pumps capable of discharging 66 cubic feet per second (cfs) provides flexibility and increases efficiency for the more frequent, smaller storm events while also providing capacity for the 100-year storm event. Utilizing three 100 cfs pumps provides more flexibility for larger storm events with increased pump rest time and a higher freeboard over the maximum 4-foot water surface elevation. A smaller high pressure (HP) submersible pump would be included in the final design as well, for nuisance water during dry weather season and maintenance purposes.

The Motor Control Center and other electrical components are currently housed outside the pump station. An electrical instrumentation and controls design would be incorporated in the final pump station design. Based upon initial review of the PG&E electrical facilities, the existing transformer would be a ground-mounted transformer and, as indicated in Site Plans (Figures 6-8), an area would be designated for an existing City-supplied portable generator. Alarm monitoring and controls would be determined by City staff and incorporated in the final design plans.





San Quentin
Pump Station
Replacement
Project

City of San Rafael, California

Figure 6. Site Plan (1 of 3)

Date: November 2018 Source: CSW | ST2

#### **KEYNOTES**

REMOVE & DISPOSE 18" CMP

REMOVE & DISPOSE 60" (±) Ø STORM DRAIN PIPE

3 REMOVE & DISPOSE EXISTING OVERHEAD LINES

4 GRAVEL ROAD, AS NEEDED, FOR ANCHOR REMOVAL REMOVE & DISPOSE ELECTRICAL POLE, FOUNDATION, &

REMOVE & DISPOSE GUY WIRE AND ANCHOR. REPAIR

6 REMOVE & DISPOSE RIPRAP ROCK

REMOVE & DISPOSE ASPHALT PAVEMENT & BASE ROCK REMOVE & DISPOSE CONCRETE PAVEMENT & BASE

10 PROTECT IN PLACE EXISTING SURVEY MONUMENT

11 REPAIR SAGS AS INDICATED IN C3.0 &C3.1

PROTECT IN PLACE EXISTING STORM DRAIN TURNING STRUCTURE 12

13 PROTECT IN PLACE EXISTING UTILITY POLE & METER

14 PROTECT IN PLACE EXISTING PUMP STATION 15 WETLANDS LIMITS

REMOVE & DISPOSE OF (2) VERTICAL PUMPS, MOTORS, DISCHARGE TUBE, & APPURTENANCES 16

17 REMOVE & DISPOSE PRESSURE RELIEF PLUMBING

REMOVE & DISPOSE EXISTING WET WELL, BAR SCREENS, & APPURTENANCES

REMOVE & DISPOSE EXISTING PRESSURE VAULT & APPURTENANCES

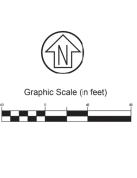
REMOVE & DISPOSE ACCESS MANHOLE & APPURTENANCES

#### **LEGEND**

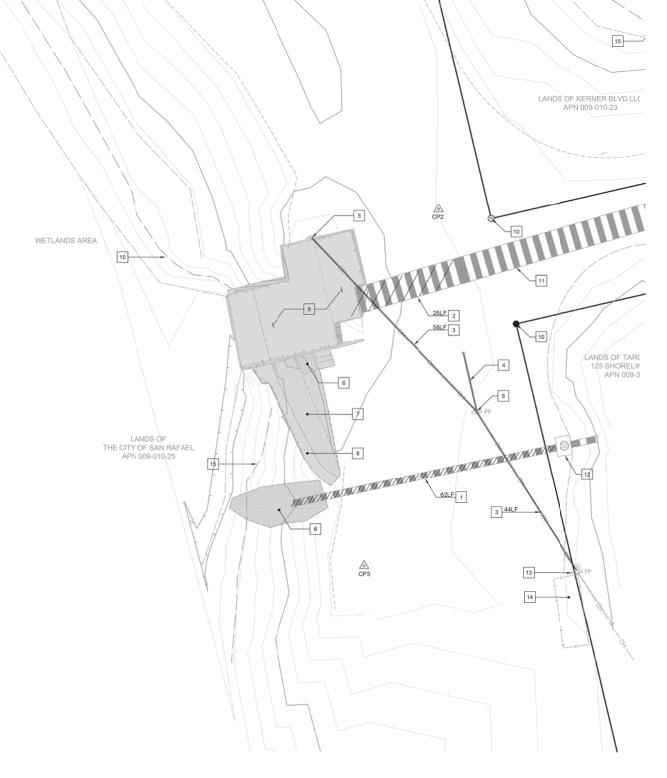
REMOVE & DISPOSE OF EXISTING UTILITY

CONTROL POINT - PROTECT AS NEEDED











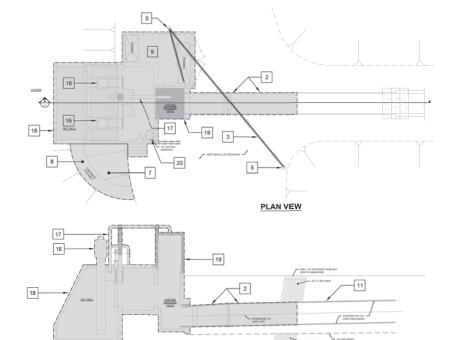


San Quentin **Pump Station** Replacement Project

City of San Rafael, California

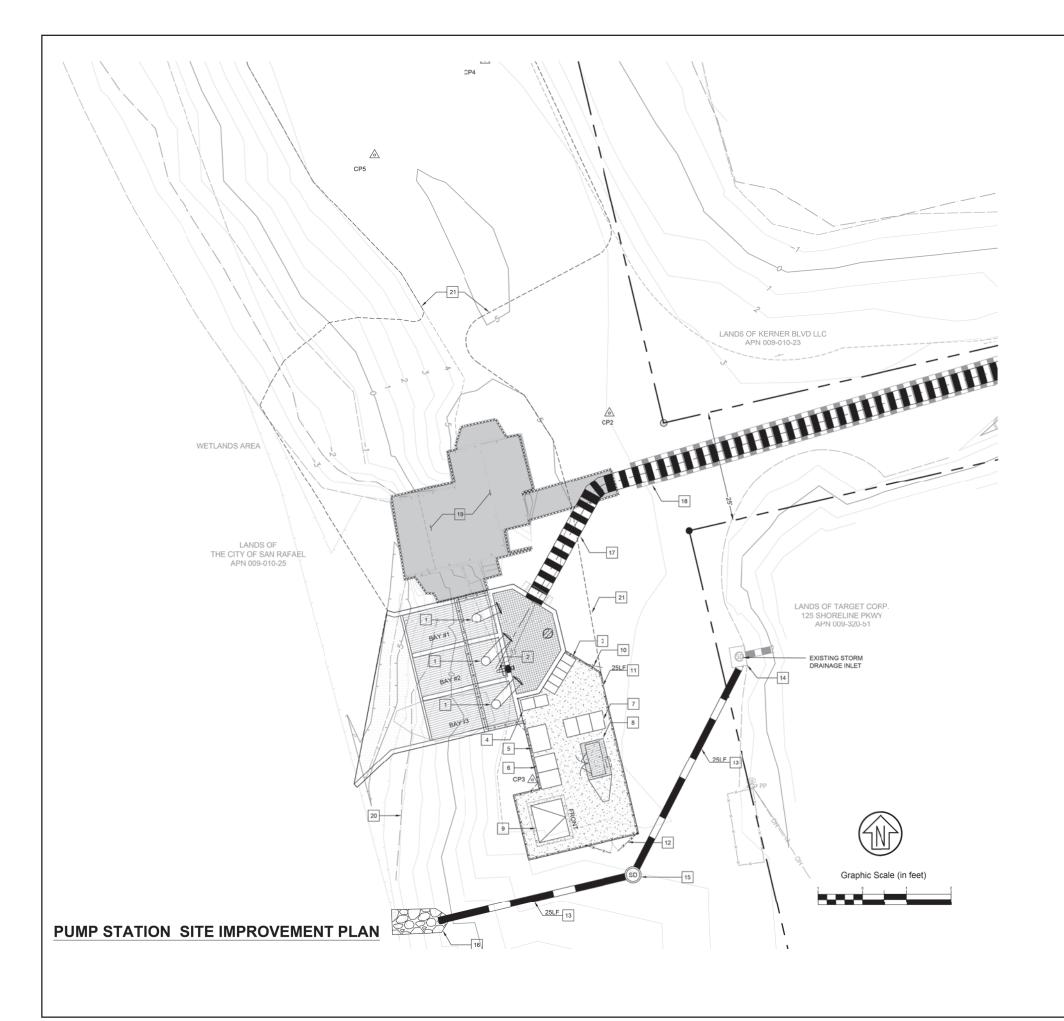
Figure 7. Site Plan (2 of 3)

Date: November 2018 Source: CSW | ST2



**EXISTING PUMP STATION SITE PLAN & SECTION VIEW** 

A SECTION VIEW





San Quentin
Pump Station
Replacement
Project

City of San Rafael, California

Figure 8. Site Plan (3 of 3)



**KEYNOTES** 

5

13

14

21

GRADING LIMITS

NEW VERTICAL PUMPING UNIT

NEW MOTOR CONTROL CENTER

PORTABLE GENERATOR (NIC)

NEW 6' HIGH PEDESTRIAN GATE

NEW 6' HIGH CHAIN LINK FENCE

NEW 6' HIGH VEHICULAR GATE

NEW 18" CMP (LENGTH PER PLAN)

NEW STORM DRAINAGE DROP INLET - UCS #260

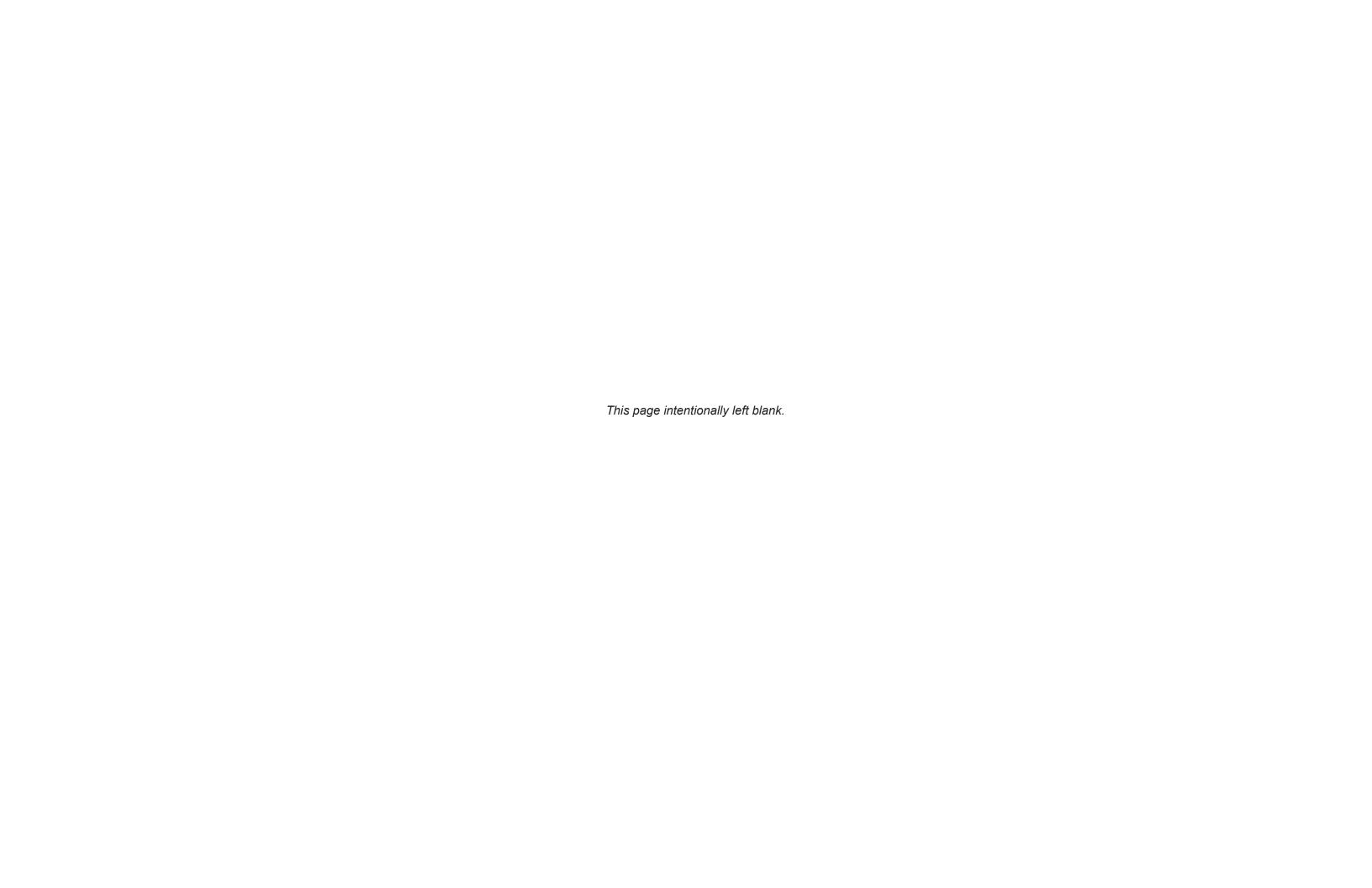
STORM DRAIN MANHOLE - UCS #205 TYPE "A"

48" STORM DRAIN - OPEN TRENCH CONSTRUCTION

48" STORM DRAIN - SLIP LINE INTO EX STORM DRAIN

REMOVE & DISPOSE EXISTING PUMP STATION & APPURTENANCES

Date: November 2018 Source: CSW | ST2



Discharge piping and miscellaneous equipment housed in the pump station would be necessary for normal operations. The existing pump station utilizes a pressure vault, which connects to a 60-inch diameter outfall pipe. A pressure vault minimizes pressure loss, construction costs, and future maintenance; therefore, a pressure vault would be used in the final design of the new pump station as well.

#### Outfall Pipe Replacement

As indicated in the Site Plans (Figures 6-8), the pressure vault would connect to a pressurized outfall pipe. Based on the environmental sensitivity of the area and limited work area (25 feet wide), it was decided that slip lining (option 1 discussed previously) would be used to improve the discharge outfall pipe. This would involve 35 feet of 48-inch storm drain to be installed via open trench construction in order to connect the new pump station to the existing outfall pipe, where slip lining would begin. Approximately 25 feet of 60-inch storm drain would be removed to disconnect the existing station from the existing outfall pipe as well.

The benefits of the slip lining option include a smoother lining and less headloss, as well as avoidance of extensive open trenching and the resulting ground disturbance and air and water quality impacts. Slip line rehabilitation technology has been historically successful and works well with long straight pipe segments (Appendix A, CSW San Quentin Pump Station Basis of Design Report).

#### Staging and Access

The City of San Rafael construction contract specifications would contractually require the construction Contractor to locate the construction staging area on-site. The specifications for this staging area would include, at minimum, the following requirements:

- The staging area will be included in the Contractor's Stormwater Pollution Prevention Plan (SWPPP).
- The staging area will not be located in an environmentally or culturally sensitive area and/or impact water resources (rivers, streams, bays, inlet, lakes, drainage sloughs).
- The staging area will not be located in a regulatory floodway or within the base floodplain (100-year).
- The staging area will not affect access to properties or roadways.

The staging area for the proposed project would be located adjacent and to the south of the existing pump station, along with a turn-around point for construction vehicles via the gravel road in front of the existing station. The site would be reached via the existing access road that connects the pump station to Francisco Boulevard East (Figure 2).

#### Construction

Construction of the proposed project would last for approximately 33 weeks. All improvements would be made within the existing City right-of-way. Construction would require a pick-up truck, excavator, dump truck, dozer or grader, backhoe, and a crane with a hydraulic hammer. Sheet piles would be driven around the area designated for new pump station installation to dewater the

site and prevent water from entering the new wet well during construction. Additionally the new pump station would be built on a concrete slab that "floats" on the bay mud. The intent of this design is to minimize the differential settlement between the pump station and the outfall pipe. The total footprint of all permanent and temporary impacts from the pump station and outfall pipe replacement, as well as construction access and staging, is approximately 6,960 square feet.

At least one week prior to the commencement of work, the Contractor would provide project information signs to notify drivers of the upcoming project and potential traffic delays. Additionally, the City or its contractor would notify and coordinate with law enforcement and emergency service providers prior to the start of construction to ensure minimal disruption to service during construction.

The Bay Area Air Quality Management District (BAAQMD) recommends basic construction measures to ensure minimal impacts on regional air quality. The contractor would be responsible for implementing the following basic measures during construction:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas) will be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site will be covered.
- All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations).
- Clear signage will be provided for construction workers at all access points.
- All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications, and all equipment will be checked by a certified visible emissions evaluator.
- A publicly visible sign with the telephone number and person to contact at the lead agency regarding any dust complaints will be posted in or near the project site. The contact person will respond to complaints and take corrective action within 48 hours. The Air District's phone number will also be visible to ensure compliance with applicable regulations.

#### Grading

The project proposes to excavate 617 cubic yards (CY) of soil and to fill 305 CY, creating a net cut of 312 CY, which would be placed on-site at the graveled spit peninsula directly adjacent and northeast of the existing pump station.

### Parking

Construction of the proposed project would not require the use of any on-street parking, as there is none within the project site. The proposed project does not add any new parking on-site. Construction vehicles would park in the staging area.

#### Traffic

Traffic interference is in no way expected due to the location of the project off of main streets, but any traffic control would conform to the California Manual on Uniform Traffic Control Devices (CAMUTCD), as well as City standard specifications. There is a possibility that some pedestrians and bicyclists use the gravel levee road for recreational purposes. The Contractor would install advance warning signs to alert pedestrians and bicyclists of the work zone. Advance warning signs may be reflective signs, changeable message boards, cones, and/or barricades. The work would be limited to 7:00 A.M. to 5:00 P.M., Monday through Friday, unless otherwise approved in writing by the Director of Public Works.

#### **Utilities**

The project site includes a PG&E utility pole, used to power the existing pump station. This pole would remain unaltered for the newly built station adjacent to the existing station. This is one of the benefits of building the new pump station next to the existing station, rather than closer to the Bay.

#### Tree Loss

The project has been designed to avoid tree loss and tree trimming to the maximum degree possible. Standard avoidance and minimization measures would be implemented to ensure the project complies with all applicable City regulations regarding tree removal.

## 9. Other Public Agencies Whose Approval May Be Required:

The information contained in this Initial Study will be used by the City of San Rafael (the California Environmental Quality Act [CEQA] Lead Agency) as it considers whether or not to approve the proposed project. If the project is approved, the Initial Study, as well as the associated Mitigated Negative Declaration (MND) would be used by the City and responsible and trustee agencies in conjunction with various approvals and permits. These actions include, but may not be limited to, the following approvals by the agencies indicated:

### City of San Rafael

City Council Approval

Army Corps of Engineers (Corps)

Clean Water Act, Section 404 Discharge into Waters of the U.S.

Regional Water Quality Control Board (RWQCB)

Clean Water Act, Section 401 Water Quality Certification

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# **ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED**

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is potentially significant unless mitigation is incorporated, as indicated by the checklist on the following pages.

	Aesthetics		Greenhouse Gas		Public Services
	Agricultural Resources		Hazards/Hazardous		Recreation
	Air Quality		Hydrology/Water		Transportation
$\boxtimes$	Biological Resources		Land Use/Planning		Tribal Cultural Resources
$\boxtimes$	Cultural Resources		Mineral Resources		Utilities and Service Systems
	Energy	$\boxtimes$	Noise		Wildfire
	Geology/Soils		Population/Housing	$\boxtimes$	Mandatory Findings of Significance
Dete	rmination:				
On th	ne basis of this initial ev	alua	ition:		
П	I find that the project NEGATIVE DECLAR			ignifica	nt effect on the environment and a
	be a significant effect	t in	this case because revi	isions i	ffect on the environment, there will not in the project have been made by or NEGATIVE DECLARATION will be
			MAY have a signific CT REPORT is required		ffect on the environment, and an
	unless mitigated" imp analyzed in an earlie addressed by mitigat	er do	on the environment, but ocument pursuant to a measures based on the ENTAL IMPACT REPO	t at lea pplicab e earli	cant impact" or "potentially significant ast one effect 1) has been adequately ble legal standards, and 2) has been er analysis as described on attached required, but it must analyze only the
	potentially significant NEGATIVE DECLAR mitigated pursuant to	ATIO	ects (a) have been a DN pursuant to applicat t earlier EIR or NEGA	analyze ole star TIVE D	effect on the environment, because all ed adequately in an earlier EIR or ndards, and (b) have been avoided or ECLARATION, including revisions or ed project, nothing further is required.
Signa Name	- 1 - 1	socia	ate Civil Engineer, City	of San	Date: 11/05/2019 Rafael Department of Public Works

### INITIAL STUDY CHECKLIST

This section describes the existing environmental conditions in and near the project area and evaluates environmental impacts associated with the proposed project. The environmental checklist, as recommended in the CEQA Guidelines (Appendix G), was used to identify environmental impacts that could occur if the proposed project is implemented. The right-hand column in the checklist lists the source(s) for the answer to each question. The cited sources are identified at the end of this section.

Each of the environmental categories was fully evaluated, and one of the following four determinations was made for each checklist question:

- "No Impact" means that no impacts to the resource would occur as a result of implementing the project.
- "Less than Significant Impact" means that implementation of the project would not result in a substantial and/or adverse change to the resource, and no mitigation measures are required.
- "Less than Significant with Mitigation Incorporated" means that the incorporation of one or more mitigation measures is necessary to reduce the impact from potentially significant to less than significant.
- "Potentially Significant Impact" means that there is either substantial evidence that a project-related effect may be significant, or, due to a lack of existing information, could have the potential to be significant.

I.	<b>AESTHETICS</b> — Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant	No Impact	Source
a)	Have a substantial adverse effect on a scenic vista?					1,2
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?					1,2,3
c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?					1
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?					1

### **Environmental Setting**

There are no designated scenic highways in Marin County. Portions of Highway 101, State Route (SR) 1, and SR-37 are, however, eligible for listing. The project site is not located along any eligible portion of these highways, which are located more than 10 miles to the west (Highway 101) and more than nine miles north (Highway 101 and SR-37) of the project site (California Department of Transportation, 2012). The San Rafael General Plan Community Design Element, Policy CD-5 states, "Respect and enhance to the greatest extent possible, views of the Bay and its islands, Bay Wetlands, St. Raphael's church bell tower, Canalfront, marinas, Mt. Tamalpais, Marin Civic Center and hills and ridgelines from public streets, parks and publicly accessible pathways." The proposed pump station site does not consist of, nor would it block, one of these City-designated scenic views. Existing land uses adjacent to the project site consist of light industry, commercial, residential, and conservation, and the San Francisco Bay Trail runs along the San Rafael Bay approximately 0.18 miles to the east of the site. Views of the site from the residential neighborhood to the north and the Bay Trail to the east are mostly screened by vegetation, and the distance is too great for clear views of the low-lying pump station. Views from some angles within the private commercial parking lots to the south and southwest are possible but unlikely, as the pump station sits on the backside of the large commercial stores. Motorists would not be able to view the project site, as views from any major road are blocked by buildings.

Existing sources of nighttime light in the project area include vehicle headlights, commercial development lighting, parking lot lights and residential security lighting. Existing sources of glare are mainly limited to automobile windshields and reflective building materials associated with residential and commercial uses.

### **Discussion of Impacts**

- a, b) **No Impact.** No scenic vistas exist in or near the project site. Furthermore, there is no state or locally designated scenic highway, road or corridor within the vicinity of the project site. The project also would not result in impacts within a state scenic highway, such as the removal of trees, rock outcroppings, or historic buildings.
- c) Less than Significant Impact. There is the potential for temporary impacts to the existing visual quality of the surrounding area during construction. The only potential public view of the project site comes from the San Francisco Bay Trail directly to the east. Recreationists using the Bay Trail may be able to view the project site from certain angles, though it is mainly screened by vegetation. Temporary visual impacts could therefore result from the presence of construction vehicles or ground disturbance during project construction activities. However, construction activities would be temporary. The permanent development of the site would be consistent with the existing conditions of the site, as the new pump station would replace the current, dilapidated station. The new station would be slightly larger, but this size difference would not be noticeable nearly 0.20 miles away from the Bay Trail. The proposed pump station site does not consist of, nor would it block, any of the City-designated scenic views as described in the San Rafael General Plan. Impacts would be less than significant.
- d) No Impact. Construction of the proposed project would not create a significant source of light or glare during daytime. The long-term operation of the project would not result in the addition of new sources of light and glare. Upon completion of construction the light and glare conditions at the project site would be nearly identical to existing conditions. The proposed project would not create a new source of substantial light or glare which adversely affect day or nighttime views in the area.

II.	AGRICULTURAL AND FORESTRY RESOURCES — (Farmland Mapping and Monitoring Program Website) In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant	No Impact	Source
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?					4
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?					2
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?					2

11.	AGRICULTURAL AND FORESTRY RESOURCES — (Farmland Mapping and Monitoring Program Website) In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant	No Impact	Source
d)	Result in the loss of forest land or conversion of forest land to non-forest use?					1
e)	Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use??					1,4

### **Environmental Setting**

The project site does not contain any farmland or forestry land and is not designated for agricultural or forestry uses or Prime, Statewide, or Locally Important Farmland (California Department of Conservation, 2010). The proposed project is located in residential and commercial areas and follows existing roads. Surrounding land is developed with residential, commercial, light industrial, and conservation uses.

### **Discussion of Impacts**

a-e) **No Impact.** There are no agricultural or forestry resources within the project site. There are no Prime, Unique, Statewide or Locally Important farmlands in the area. The project

site is not under a Williamson Act Contract, nor is the project zoned as forest land or timber production. The project would be confined nearly entirely to the gravel road and turnaround point for the existing station, and all work and staging would take place on City of San Rafael land. No impacts to agricultural or forestry resources would occur.

III.	<b>AIR QUALITY</b> — Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant	No Impact	Source
a)	Conflict with or obstruct implementation of the applicable air quality plan?					1,11
b)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?					1,11
c)	Expose sensitive receptors to substantial pollutant concentrations?					1,11
d)	Result in other emissions (such as those leading to odors) affecting a substantial number of people?					1,11

## **Environmental Setting**

The project site is in the San Francisco Bay Area air basin, where air quality is monitored and regulated by the Bay Area Air Quality Management District (BAAQMD). Ambient concentrations of key air pollutants have decreased considerably over the course of the last several decades. Air pollution is generated by anything that burns fuel (including but not limited to cars and trucks, construction equipment, backup generators, boilers and hot water heaters, barbeques and broilers, gas-fired cooking ranges and ovens, fireplaces, and wood-burning stoves), almost any evaporative emissions (including the evaporation of gasoline from service stations and vehicles, emissions from food as it is cooked, emissions from paints, cleaning solvents, and adhesives, etc.), and other processes (fugitive dust generated from roadways and construction activities, etc.).

A sensitive receptor is generally defined as a location where human populations, especially children, seniors, and sick persons, are located where there is a reasonable expectation of continuous human exposure to air pollutants. These typically include residences, hospitals, and schools. The site is surrounded by residential, commercial, and light industrial land uses.

The Bay Area is currently classified as "attainment" or "unclassifiable" with respect to every National Ambient Air Quality Standard (NAAQS) except ozone and fine particulate matter PM<sub>2.5</sub>, for which it is still classified as "nonattainment." Ozone concentrations in the Bay Area have also decreased considerably over the last several decades, but NAAQS are required to be set to be protective of public health "allowing an adequate margin of safety" and have also become more

stringent. Prior to 2008, attaining the ozone NAAQS required that the "design value"--i.e., the peak 8-hour average concentration on the 4<sup>th</sup>-worst day of the year (averaged over three consecutive years)--be below 0.08 parts per million (ppm); the Bay Area was classified as "marginal" nonattainment with respect to that standard.<sup>1</sup> In 2008, the ozone NAAQS was revised to 0.075 ppm. Therefore, while EPA has not yet finalized its attainment designations for the 2008 ozone standard, it is proposing to designate the Bay Area as "marginal nonattainment" (0.076 - 0.086 ppm) with respect to that standard.<sup>2</sup>

The State of California also has its own ambient air quality standards (CAAQS) which are equivalent to or more stringent than the NAAQS; the Bay Area is currently classified as nonattainment with respect to the CAAQS for ozone, particulate matter smaller than 10 microns  $(PM_{10})$ , and "fine" particulate matter smaller than 2.5 microns  $(PM_{2.5})$ .

### **Discussion of Impacts**

- Less Than Significant Impact. Construction activities would result in short-term a) increases in emissions from the use of heavy equipment that generates dust, exhaust, and tire-wear emissions; soil disturbance; materials used in construction; and construction traffic. Project construction would produce fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) during ground disturbance and would generate carbon monoxide, ozone precursors, and other emissions from vehicle and equipment operation. BAAQMD released a Clean Air Plan for the Bay Area in 2010, which would be the applicable air quality plan for the proposed project. Best management practices (BMPs) recommended by BAAQMD and identified above in the project description would be implemented during construction to minimize fugitive dust. Pump station development activities would mainly take place within an existing developed footprint. Construction emissions would be temporary, lasting approximately 33 weeks, and would not have long-term effects on air quality in the Bay Area. Because of the small area of disturbance, temporary nature of the emissions, and implementation of construction measures, impacts on air quality would be less than significant and would comply with the Bay Area 2010 Clean Air Plan.
- b) Less Than Significant Impact. As discussed under item a), the project would result in minor construction-related emissions. It would not result in a cumulatively considerable net increase of any criteria pollutant. The project would cause short-term air quality impacts as a result of construction activities; however, it would not result in long-term or cumulatively considerable increases in air quality pollutant emissions for which the Bay Area is currently in non-attainment (ozone and particulate matter). Implementation of BAAQMD BMPs would ensure that the temporary increase in air pollutant emissions

San Quentin Pump Station Replacement Project

City of San Rafael

Initial Study/Mitigated Negative Declaration November 2019

<sup>&</sup>lt;sup>1</sup> The Bay Area Air Quality Management reported that the maximum 8-hour ozone concentration only exceeded the standard once in 2005 and once in 2007, but exceeded the standard on 12 days in 2006.

<sup>&</sup>lt;sup>2</sup> EPA's proposed criterion for the "marginal" classification was proposed in the Federal Register on February 14, 2012.

associated with construction activities would result in less than significant contributions to cumulative pollutant levels in the region.

- c) Less Than Significant Impact. The primary sensitive receptors in the vicinity are residents and shoppers, which may include children, elderly people, or people with respiratory illnesses. Sensitive receptors located in close proximity to several locations adjacent to the construction area could be exposed to temporary air pollutants from construction activities, such as fugitive dust, ozone precursors, and carbon monoxide. The duration of construction activities would be limited. Basic construction measures recommended by BAAQMD would be implemented during construction to minimize air pollutants. New construction equipment has been subject to increasingly stringent emissions requirements at the Federal level (e.g., 40 CFR 89 and 1039), designated "Tier 1", "Tier 2", "Tier 3", etc.; older construction equipment is subject to potential retrofit requirements required by the State of California (13 CCR 2449, 13 CCR 2450-2466, and 17 CCR 93116). As a result, sensitive receptors in the vicinity of the project would not be exposed to substantial pollutant concentrations, and impacts would be less than significant.
- d) Less Than Significant Impact. Construction activities would involve the use of gasoline or diesel-powered equipment that emits exhaust fumes. These activities would take place intermittently throughout the workday, and the associated odors are expected to dissipate within the immediate vicinity of the work area. Persons near the construction work area may find these odors objectionable. However, the proposed project would not include uses that have been identified by BAAQMD as potential sources of objectionable odors, such as restaurants, manufacturing plants, landfills, and agricultural and industrial operations. The infrequency of the emissions, rapid dissipation of the exhaust and other odors into the air, and short-term nature of the construction activities would result in less-than-significant odor impacts.

IV.	BIOLOGICAL RESOURCES — Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant	No Impact	Source
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?					1,5,13
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		$\boxtimes$			1,5,13
c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?					1, 13
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?					1, 13
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?					1,2, 13
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?					1,13

The following discussion related to biological resources is based on a Biological Resources Memorandum prepared by WRA, Inc. in May, 2019 that is provided in Appendix B.

## **Regulatory Setting**

#### Sensitive Biological Communities

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, or riparian habitat. These habitats are protected under federal regulations such as the Clean Water Act; state regulations such as the Porter-Cologne Act, the CDFW Streambed Alteration Program, and CEQA; or local ordinances or policies such as city or county tree ordinances, Special Habitat Management Areas, and General Plan Elements.

#### Waters of the United States

The U.S. Army Corps of Engineers (Corps) regulates "Waters of the United States" under Section 404 of the Clean Water Act. Waters of the U.S. are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water mark (OHWM). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the U.S generally requires an individual or nationwide permit from the Corps under Section 404 of the Clean Water Act.

### Waters of the State

The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be regulated by the Corps under Section 404. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State, are required to comply with the terms of the Water Quality Certification determination. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

## Other Sensitive Biological Communities

Other sensitive biological communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW; formerly the California Department of Fish and Game [CDFG]). The CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in its California Natural Diversity Database (CNDDB) (CDFW 2013). Sensitive plant communities are also identified by CDFW (CDFG 2003, 2007, 2009). CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2010) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G). Specific habitats may also be identified as sensitive in city or county general plans or ordinances.

### **Environmental Setting**

The proposed project footprint, as described in the Project Description, encompasses the area where planned activities would occur, including the existing pump station and associated underground pipe that runs to the east under the gravel walkway, as well as the footprint of a new pump station and associated underground culverts. The Biological Study Area (Figure 9) is a 3.8-acre area situated at the base of a slope created from infill that was placed between 1968 and 1987 (Historical Aerials 2018<sup>3</sup>). The entire area was diked in the mid 1950's.

The project footprint is located between the ruderal vegetation on the infill soil and the naturally occurring muted salt marsh vegetation within the diked baylands. The majority of the Biological Study Area is composed of biological communities typically located on degraded or impacted natural areas, a result of past and present disturbance including maintenance of utility easements (mowing and other vegetation disturbance), infill, and the effects of urbanization. The northern and western outer edges of the Biological Study Area are dominated by less impacted salt marsh biological community types.

Table 1 summarizes the area of each biological community type observed in the Biological Study Area and in the project footprint. Non-sensitive biological communities are the ruderal/non-native and developed areas. Sensitive biological communities include salt marsh, seasonal wetland, vegetation and Waters of the U.S./State consisting of a drainage channel (Figure 10). Descriptions for each biological community are provided below.

<sup>&</sup>lt;sup>3</sup> Historical Aerials. 2018. Available at: https://www.historicaerials.com/

Table 1. Biological Communities within the Biological Study Area and Project Area

Biological Community	Acreage within Bio. Study Area	Acreage within Project Footprint	
Non-Sensitive			
Developed	0.65	0.20	
Ruderal/Non-native	2.51	0.08	
Sensitive			
Salt Marsh	0.44	0.01 (363 sq. ft.)	
Seasonal Wetland	0.01	0.00	
Waters of the U.S./State	0.17	<0.01 (228 sq. ft.)	



Figure 9. Biological Study Area around Project Footprint

50 100 N Epst N SONSWIAN

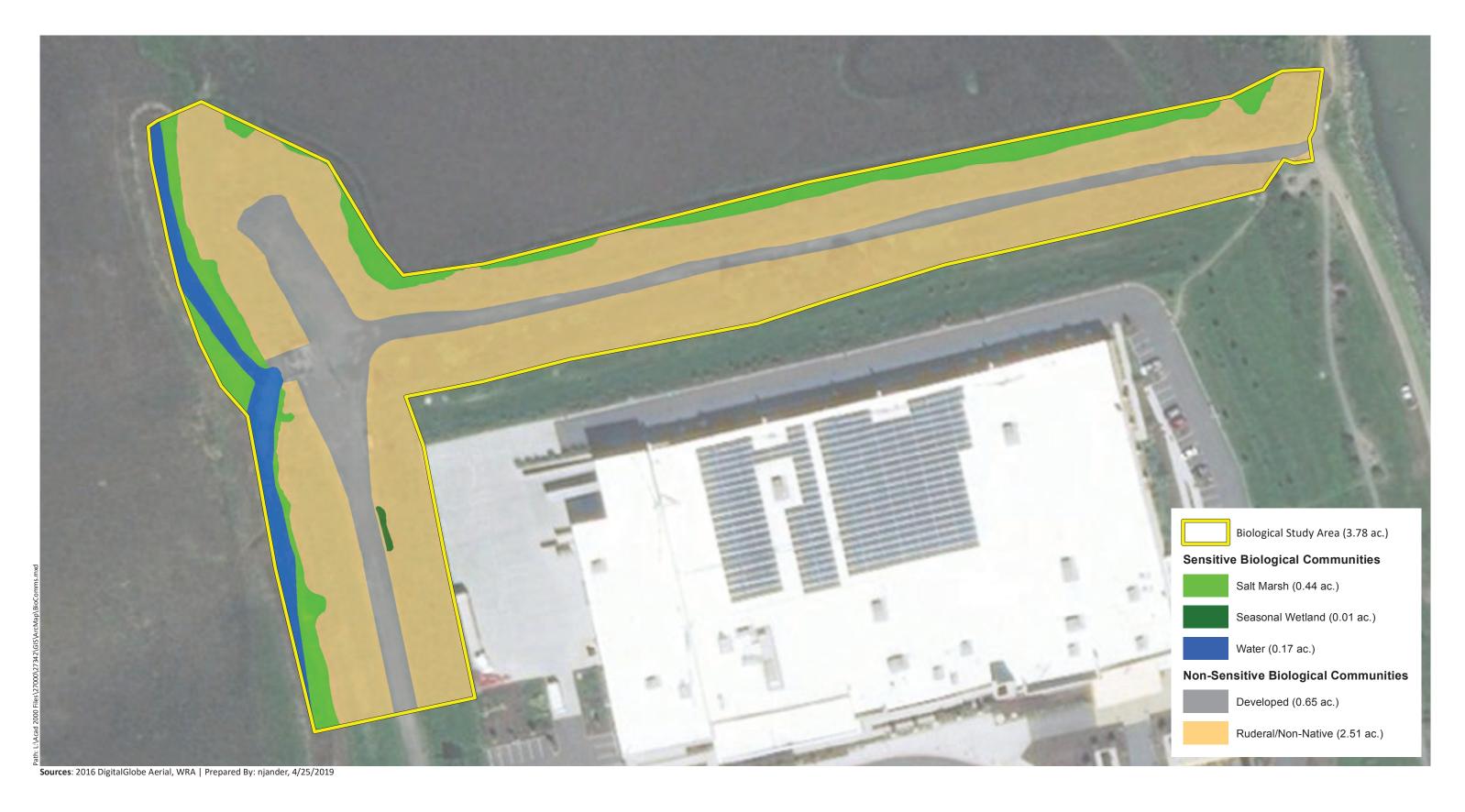


Figure 10. Biological Communities in the Study Area

0 50 100 N



### Non-Sensitive Biological Communities

### <u>Developed</u>

Approximately 0.65 acres of developed area is located within the Biological Study Area, which includes the existing pump station, the gravel pathway and gravel landing to the north of the existing pump station.

### Ruderal/Non-native

Approximately 2.51 acres of ruderal/non-native vegetation is located in the Biological Study Area on uplands along the gravel pathway and gravel landing. The ruderal/non-native vegetation community is composed of areas that are characterized as fennel (*Foeniculum vulgare*) patches and iceplant (*Carpobrotus* spp.) mats. This vegetation type typically occur in ruderal locations which have been partially developed or been used in the past for agriculture. Fennel is dominant or co-dominant in the herbaceous canopy layer with more than 50 percent relative cover. In areas of ice plant, a nearly monotypic mat with emergent non-native grasses and pickleweed (*Salicornia pacifica*) is present.

Additional species within this community includes wild oats (*Avena* sp.), wild radish (*Raphanus sativus*), ripgut brome (*Bromus diandrus*), Bermuda buttercup (*Oxalis pes-caprae*), stinkwort (*Dittrichia graveolens*), crane's bill geranium (*Geranium molle*), Italian thistle (*Carduus pycnocephalus*), bristly ox-tongue (*Helminthotheca echioides*), and perennial pepperweed (*Lepidium latifolium*).

Sensitive Biological Communities

#### Salt Marsh

The areas of salt marsh habitat best fits Alkali Heath Marsh (*Frankenia salina* Herbaceous Alliance, Pickleweed Mat (*Salicornia pacifica* Herbaceous Alliance), and Salt Grass Flats (*Distichlis spicata* Herbaceous Alliance) CDFW vegetation alliances (CNPS 2018b). A combined 0.44 acre of salt marsh is located within the Biological Study Area (Figure 10). Alkali heath marsh is located along the edge of the drainage channel north of the existing pump station. The areas of alkali heath marsh are dominated by alkali heath with associated species of curly leaf dock (*Rumex crispus*), Harding grass (*Phalaris aquatica*) and annual grasses. The small area of pickleweed mat which occurs along the northern boundary of the Biological Study Area is the southern edge of a larger expanse of an isolated patch of pickleweed mat; areas of pickleweed mat are nearly 100 percent relative cover of pickleweed. Within the Biological Study Area, salt grass flat is located along the drainage channel south of the existing pump station and on the opposite side of the channel, across from the existing pump station. Areas of salt grass flats are nearly 100 percent relative cover of salt grass with ripgut brome, perennial pepperweed occurring at low cover.

Both alkali heath marsh and pickleweed mat are considered sensitive by CDFW as indicated by an S3 rank; additionally, these communities are wetlands and within jurisdiction of the U.S. Army Corps of Engineers (Corps) and RWQCB under Section 404/401 of the CWA. Salt grass flats are

not considered sensitive by CDFW, it is a wetland and within the jurisdiction of the Corps and RWQCB under Section 404/401 of the CWA.

## Seasonal Wetland

A 0.01 acre seasonal wetland, dominated by non-native grasses and forbs is located along the eastern edge of the access road near the proposed pump station site. Vegetation is dominated by seaside barley (*Hordeum marinum*) and Italian ryegrass (*Festuca perennis*), both of which are facultative wetland species. Redoximorphic features (soil color patterns indicating oxidation of iron and manganese compounds resulting from water saturation) were observed in the soil, below the rocky road base. Soils were saturated to the surface at the time of the site visit. This community is considered sensitive as it is a potential seasonal wetland which are within the jurisdiction of the Corps and RWQCB under Section 404/401 of the CWA.

### Waters of the U.S./State

Approximately 0.17 acre of a drainage channel is located along the western portion of the Biological Study Area. Stormwater runoff enters this channel at Highway 580. Water is present throughout the year within this feature; however, there is a fluctuation of depth and width throughout the year, with lower depth and smaller width occurring in the summer and fall months (Google Earth 1987-2018). The ordinary high water mark (OHWM) and top-of-bank (TOB) of this feature are similar and were determined based on shift of vegetation, change in topography, and wrack line. Vegetation along the edges of the channel within the Biological Study Area include alkali heath marsh and salt grass flats as described above. Some patches of pickleweed and alkali bulrush were observed within the OHWM of the feature. This channel extends westward to Highway 580 and receives freshwater from stormwater runoff from adjacent developed areas. This channel is considered sensitive because it is within jurisdiction of the Corps and RWQCB under Section 404/401 of the CWA.

### Special-Status Species

### **Plants**

Based upon a review of the resources and databases listed above, it was determined that 106 special-status plant species have been documented in the vicinity of the Biological Study Area. The majority of the Biological Study Area (3.2 acres) is dominated by ruderal/non-native vegetation and developed areas. These communities are unlikely to support special-status plant species due to presence of aggressive non-native annual and perennial plant species which likely preclude special-status plants. The remaining salt marsh vegetation types comprise 0.44 acre of the 3.78-acre Biological Study Area, and are therefore limited in extent within the Biological Study Area.

Based on assessment of biological communities present within the Biological Study Area, no special status plants are determined to have potential to occur within it. The Biological Study Area is located within an area that was diked off from the bay within the mid 1950's (Historical Aerials 2018), and has received no direct tidal influence since that time. Known occurrences of nearby special-status plants that are known to occur in the biological communities present within

the Biological Study Area typically require direct tidal influence, which is not present at the project site. Therefore, while the biological communities within the Biological Study Area are potentially suitable for these salt marsh species to occur, the isolation of the Biological Study Area from direct tidal influence makes their occurrence unlikely.

#### Wildlife

Eighteen special-status species of wildlife have been recorded in the vicinity of the Biological Study Area in the California Natural Diversity Database.<sup>4</sup> Two of the species are considered extirpated from the region, and 15 species have little to no potential to occur within the Biological Study Area due to lack of suitable habitat (see Appendix B). The remaining species, the salt marsh harvest mouse (*Reithrodontomys raviventris*), has a moderate potential to occur within the Biological Study Area. Nesting birds and roosting bats also have the potential to occur within the Biological Study Area.

Salt marsh harvest mouse; Federal Endangered Species, State Endangered, CDFW Fully Protected Species. The salt-marsh harvest mouse (SMHM) is a relatively small rodent found only in suitable salt and brackish marsh habitat in the greater San Francisco Bay, San Pablo Bay, and Suisun This species has been divided into two subspecies: the northern SMHM Bay areas. (Reithrodontomys raviventris halicoetes) which lives in the brackish marshes of the San Pablo and Suisun bays, and the southern SMHM (R. r. raviventris) which is found in the marshes of San Francisco Bay. The Biological Study Area occurs near the presumed boundary between the northern and subspecies, likely within the range of the southern subspecies, though the exact location of the boundary and whether the two subspecies hybridize are both unknown.<sup>5</sup> The southern subspecies generally persists in smaller and more isolated populations relative to the northern subspecies, as most of the marshes of the South San Francisco Bay are narrow, striplike marshes and thus support fewer SMHM compared to marshes in the northern portions of the species' range.<sup>6</sup> Northern marshes also tend to be more brackish, and have a more diverse assemblage of vegetation, thus the northern subspecies is more likely to occur in habitats that are not dominated by pickleweed, which dominates habitat in the southern range.<sup>7</sup>

<sup>&</sup>lt;sup>4</sup> California Department of Fish and Wildlife. 2018. California Natural Diversity Data Base (CNDDB). RareFind 5. Natural Heritage Division, California Department of Fish and Game. Sacramento, California. Accessed: November 2018.

<sup>&</sup>lt;sup>5</sup> Smith, Katherine R, Melissa K Riley, Laureen Barthman–Thompson, Mark J Statham, Sarah Estrella, and Douglas Kelt. 2018. Towards Salt Marsh Harvest Mouse Recovery: Research Priorities. San Francisco Estuary and Watershed Science 16, no. 2.

<sup>&</sup>lt;sup>6</sup> U.S. Fish and Wildlife Service. 2010. Five Year Review for the Salt Marsh Harvest Mouse (Reithrodontomys raviventris). U.S. Fish and Wildlife Service. Sacramento, CA.

<sup>&</sup>lt;sup>7</sup> Smith, Katherine R, Melissa K Riley, Laureen Barthman–Thompson, Isa Woo, Mark J Statham, Sarah Estrella, and Douglas A Kelt. 2018. Towards Salt Marsh Harvest Mouse Recovery: A Review. San Francisco Estuary and Watershed Science 16, no. 2

The SMHM was last recorded in the Biological Study Area in 1987. The lack of more recent records is not unusual, especially for a privately owned property where state and Federal resource managers may have difficulty obtaining access, and may not accurately reflect an absence of the species on the Biological Study Area. Pickleweed, alkali heath, and saltgrass-dominated marsh occurs within the Biological Study Area, and these habitat patches are directly connected to over a quarter square kilometer of adjacent, high-quality, pickleweed marsh. However, the wetland complex is completely isolated from any other marshes that could support SMHM, and has a long history of disturbance. If any population-level extinction events occurred in the Biological Study Area and surrounding marsh, there would be virtually no chance of recolonization. However, the marsh is large with abundant upland refuge, so it is possible that a SMHM population has persisted here since the late 1980's. The species is presumed present within the pickleweed and salt grass marsh within the Biological Study Area, and within suitable habitat in the surrounding marsh.

Nesting Birds. Within the Biological Study Area, native birds may nest on the ground, in shrubbery, and on infrastructure. Most native birds have baseline protections under the federal Migratory Bird Treaty Act of 1918 (MBTA) as well as the California Fish and Game Code (CFGC). Under these laws/codes, the intentional killing, collecting or trapping of covered species, including their active nests (those with eggs or young), is prohibited. Work in the Biological Study Area could lead to damage or mortality to nests, or disturbance of adults leading to abandonment of nests.

Roosting Bats. The pump station that is to be demolished in the Biological Study Area may support roosting bats. Bats could potentially use the structure for hibernation, or for maternity roosting. Hibernation roosting usually occurs between the fall and early spring in California. Disturbing bats during hibernation has high metabolic costs to the animals and can lead to reduced survival. Maternity colonies are composed of adult females and young, and disturbance of these can lead to abandonment of the colony, and/or mortality of young. The pump station contains abundant crevices that could accommodate roosting bats, and while the structure is small and subject to regular disturbance the potential for bat roosting cannot be ruled out.

#### Methods

Prior to the site visit, background literature was reviewed to determine the potential presence of sensitive vegetation types, aquatic communities, and special-status plant and wildlife species. Resources reviewed for sensitive vegetation communities and aquatic features include aerial photography, mapped soil types, the California Native Plant Society (CNPS) Online Database

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<sup>&</sup>lt;sup>8</sup> The U.S. Department of the Interior recently issued guidance clarifying that the MBTA only applies to intentional/deliberate killing, harm or collection of covered species (including active nests) (USDOI 2017). According to the guidance, unintentional impacts to birds/nests that occur within the context of otherwise lawful activities are not MBTA violations. However, ambiguity remains regarding application of the CFGC, as well as the extent to which minimization and avoidance measures are still required under the MBTA. Additionally, challenges to the Opinion are anticipated.

(2018a<sup>9</sup>), the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB, CDFW 2018<sup>10</sup>), and the US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPac) database (USFWS 2018<sup>11</sup>). For database queries, the San Rafael and eight surrounding U.S. Geological Survey (USGS) 7.5-minute quadrangles were included as the focal search area (USGS 1980<sup>12</sup>).

On January 8, 2018, WRA biologists conducted a field assessment of the Biological Study Area to evaluate the potential presence of sensitive vegetation communities and aquatic features and evaluate on-site habitats to determine the potential for occurrence of special-status plant and wildlife species. Observed plant communities, aquatic features, and plant and wildlife species were noted. Site conditions were noted as they relate to habitat requirements of special-status plant and wildlife species known to occur in the vicinity as determined by the background literature research.

The Biological Study Area was assessed in terms of potential biological resources impacts on the redevelopment project. This analysis was performed to a level of detail necessary to understand what types of major biological impacts are likely to be associated with the proposed project activities, with a focus on the project footprint within the Biological Study Area.

The conclusions of this analysis are based on conditions observed at the time of the field assessments and regulatory policies and practices in place at the time the Biological Resources Memorandum (Appendix B) was prepared; changes that may occur in the future with regard to conditions, policies, or practices could affect the conclusions presented in this assessment.

#### **Discussion of Impacts**

a) Less than Significant with Mitigation Incorporated. Noise, ground disturbance, and other construction activities could cause a temporary disturbance to salt-marsh harvest mouse (SMHM), a federal and state-protected endangered species, within and adjacent to the Biological Study Area. Activities could lead to injury or mortality to SMHM within the Biological Study Area. Implementation of the avoidance and minimization measures listed in Mitigation Measure BIO-1 would reduce construction phase impacts to less than significant. The operational phase of the project, which would require very little disturbance except for the occasional maintenance activity, would leave the area very similar to its current baseline condition and would therefore have less than significant impacts to state or federal special status species.

<sup>9</sup> California Native Plant Society. 2018a. Online Rare Plant Inventory. Available at: http://rareplants.cnps.org/

<sup>&</sup>lt;sup>10</sup> California Dept. of Fish and Wildlife California Natural Diversity Database. CDFW 2018. Available at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data

<sup>&</sup>lt;sup>11</sup> US. Fish and Wildlife Service. 2018. Information for Planning and Consultation. Available at: https://ecos.fws.gov/ipac/

<sup>&</sup>lt;sup>12</sup> U.S. Geologic Society.1980. San Rafael 7.5-Minute Topographic Quadrangle.

**Mitigation Measure BIO-1:** Mitigation measures for avoidance and minimization of effects to SMHM shall be incorporated into the permits or required authorizations and specifications, which the project proponent shall follow. The following avoidance and minimization measures are required:

- 1. A qualified biological monitor (i.e., biologist whose credentials for SMHM monitoring have been previously approved by the USFWS) shall be present on-site during all construction work taking place adjacent to emergent marsh, including all vegetation removal and initial ground-disturbing work in these areas. The biological monitor shall document compliance with the Action permit conditions and all take avoidance and minimization measures. The monitor(s) shall have the authority to halt construction, if necessary, if there is the potential for a listed species to be harmed or when non-compliance events occur. The biological monitor(s) shall be the contact person for any employee or contractor who might inadvertently kill or injure a listed species, or anyone who finds a dead, injured, or entrapped listed species.
- 2. If any mouse is observed at any time during construction, work shall not be initiated or shall be stopped immediately by the biological monitor until the mouse leaves the vicinity of the work area of its own accord. The biological monitor or any other persons at the site shall not pursue, capture, or handle any mouse observed.
- 3. Night work is not anticipated and shall be avoided to the fullest extent feasible. If night work is necessary, all lighting shall be directed away from marsh and wetland areas to avoid impacting the natural behavior of SMHM.
- 4. All vehicles and heavy equipment stored outside of exclusion fencing and in the vicinity of suitable SMHM habitat shall be checked for mice before work commences each morning.
- 5. When construction activities are to take place in potential SMHM habitat (emergent marsh and upland areas within 50 feet of emergent marsh), vegetation removal in work areas shall be performed to remove cover and render these areas unattractive to SMHM.
  - a. Only non-motorized equipment or hand-held motorized equipment (i.e., string trimmers) shall be used to remove the vegetation.
  - b. Vegetation shall be cut in at least two passes: with the first pass cutting vegetation at approximately half of its height above the ground (mid-canopy) and the next pass, or subsequent passes, cutting vegetation to ground-level or no higher than 1 inch.
  - c. The biological monitor shall inspect areas of vegetation removal immediately prior to the initiation of removal to search for SMHM and "flush" small mammals out of the area and toward adjacent marsh areas that will not be subject to removal. If any mouse is observed, work shall be stopped immediately by the biological monitor until the mouse leaves the vicinity of the vegetation removal of its own accord.

- d. Vegetation removal shall start in the position furthest from the highest quality and most accessible SMHM habitat outside of the work area, and progress toward that habitat, such that SMHM are protected to the greatest degree possible as they move out of the focal area.
- e. Cut vegetation shall be removed from the exclusion area (work area) so that no cut vegetation remains there once the exclusionary fence is installed, to discourage SMHM from being attracted to the area.
- f. All non-native, invasive vegetation removed shall be discarded at a location outside of any marsh areas to prevent reseeding.
- 6. Following completion of vegetation removal, temporary exclusionary fencing shall be installed to isolate work areas and prevent SMHM from entering work areas during construction.
  - a. The fencing shall be installed between suitable habitat areas (e.g., salt marsh) and the defined work area (or areas) adjacent to suitable habitat immediately following vegetation removal and prior to the start of construction/excavation activities. Areas to be fenced should include the vicinity of the old and new pump structures and the area to be graded to the north of the pumps. As there is no suitable habitat for SMHM adjacent to the linear work area where the underground pipe is to be replaced, fencing would have limited value there.
  - b. The fence shall consist of a non-textured, slick material that does not allow SMHM to pass through or climb, or silt fence with slick tape (or an effectively similar material) a minimum of 6 inches wide fixed to the fence to render it non-climbable. The bottom should be buried to a depth of at least 4 inches so that animals cannot crawl under the fence. Fence height should be at least 12 inches higher than the highest adjacent vegetation with a maximum height of 4 feet.
  - c. Fence posts should be placed facing the work area side (i.e., vegetation-cleared side) and not the side of the fencing facing intact habitat areas. The fencing shall be installed under the supervision of a biological monitor.
  - d. The biological monitor shall routinely inspect exclusionary fencing to ensure that it remains intact and effective. Fencing deficiencies noted shall be immediately reported to the contractor and repaired promptly.
- b) Less than Significant with Mitigation Incorporated. Approximately 247 square feet of salt marsh habitat (salt grass mats), a sensitive riparian biological community per CDFW as indicated by an S3 rank, would be permanently impacted through the development of the new pump station, and an additional 116 square feet would be temporarily impacted through the removal of the existing station (Figure 11). Project activities would require permits from pertinent regulatory agencies, such as the Corps and the Regional Water Board, which would require mitigation for the small footprint of the project's wetland impacts. Furthermore, the proposed project, via the re-contouring of the pond slope after

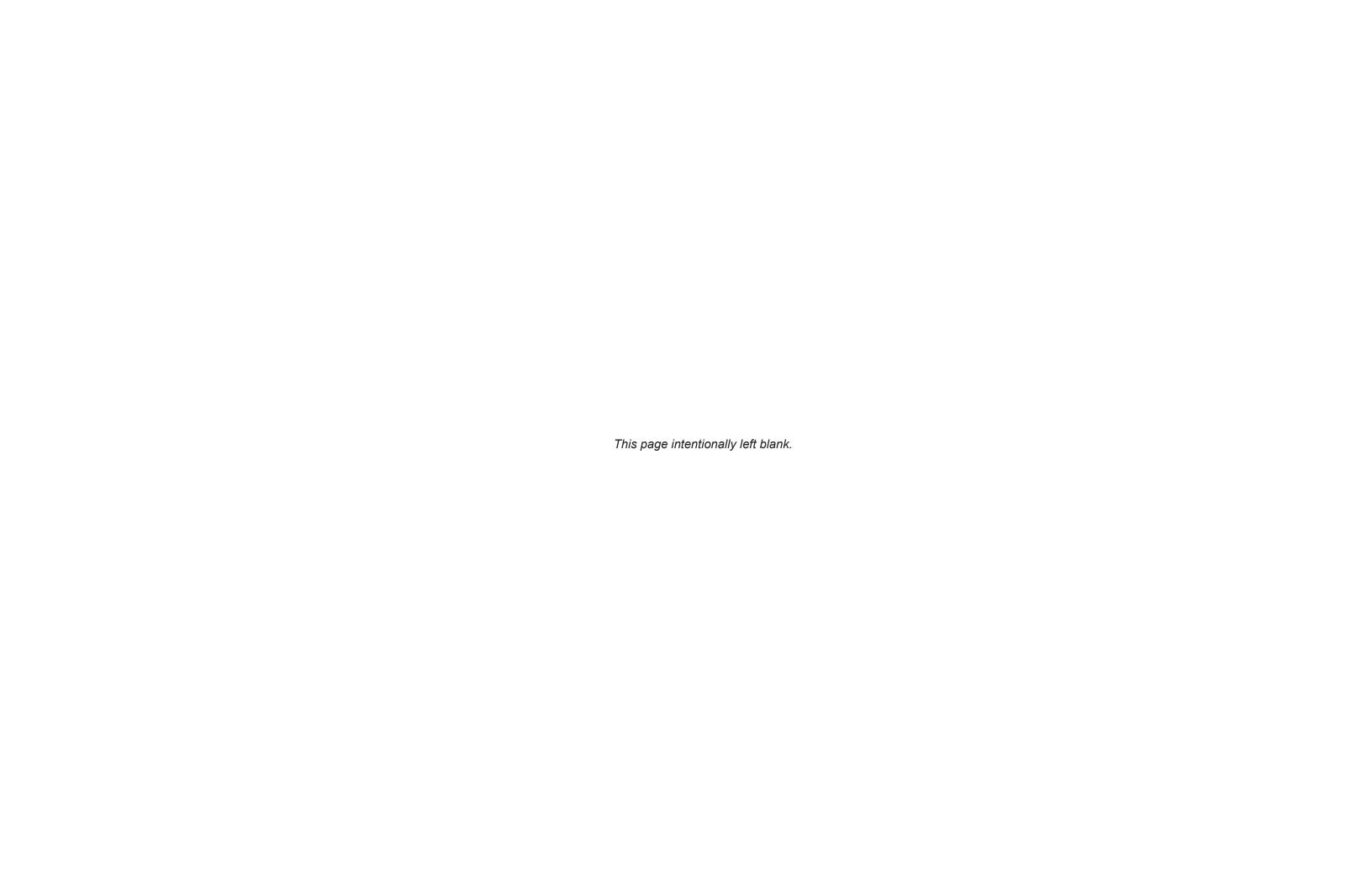
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Figure 11. Impacts in the Biological Study Area

50 100





pump station replacement, would create approximately 736 square feet of area that would be naturally reclaimed by water and salt marsh habitat. These calculated areas can be seen in detail on Figure 11. With this and implementation of Mitigation Measures BIO-2 and BIO-3 below, calling for the applicant to be bound to specific mitigation as written into the appropriate regulatory permits, the project's substantial adverse effects on sensitive biological communities would be less than significant.

**Mitigation Measure BIO-2:** The applicant shall obtain a Section 404 permit from the Corps, and a Section 401 Certification from the Regional Water Quality Control Board (RWQCB). Mitigation measures shall be incorporated into the permits, which the project proponent shall follow. The following avoidance and minimization measures are proposed as a part of the permit applications:

- 1. Best management practices shall be employed to reduce impacts to vegetation and to limit erosion. Vegetation removal shall be minimized to the greatest extent feasible. Areas in which vegetation is removed should be replanted or seeded with native plants appropriate for the site. Erosion control measures, such as the use of silt fencing or straw wattles, should be implemented in areas of ground disturbance or vegetation removal.
- 2. All impacts to the drainage channel from deconstruction would be temporary as vegetation is expected to recolonize the excavated areas. To reduce potential temporary impacts to waters in the Project Area, best management practices shall be employed to reduce impacts associated with excavation and grading including erosion and sedimentation. Best management practices recommended by the Marin Countywide Water Pollution Prevention Program shall be implemented to minimize pollutants carried from the Project Area in runoff. The project shall comply with terms of the San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System Permit.
- 3. All staging, maintenance, and storage of construction equipment shall be performed in a manner to preclude any direct or indirect discharge of fuel, oil, or other petroleum products into the drainage channel or salt marsh vegetation. No other debris, rubbish, creosote-treated wood, soil, silt, sand, cement, concrete or washings thereof, or other construction related materials or wastes shall be allowed to enter into or be placed where they may be washed by rainfall or runoff into the drainage channel or salt marsh vegetation. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.
- 4. No equipment shall be operated in areas of flowing or standing water. No fueling, cleaning, or maintenance of vehicles or equipment shall take place within any areas where an accidental discharge to the drainage channel or salt marsh vegetation may occur.
- 5. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete construction.
- 6. Where areas of bare soil other than in the excavated drainage channel are

exposed during the rainy season, sediment and erosion control measures shall be used to prevent sediment from entering waters in the drainage channel or salt marsh vegetation. Sediment and erosion control structures shall be monitored and repaired or replaced as needed. Build-up of soil behind silt fences shall be removed promptly and any breaches or undermined areas repaired promptly. Revegetation of disturbed surfaces other than the excavated drainage channel shall occur prior to the start of the first rainy season after construction.

7. The work area shall be delineated where necessary with orange construction fencing in order to minimize impacts to habitat beyond the work limit.

Mitigation Measure BIO-3: Prior to filling of jurisdictional waters, or construction activities within Corps or RWQCB jurisdiction, necessary regulatory permits shall be obtained from the appropriate agencies. Regulatory permits to be obtained include a Corps Permit, Regional Water Quality Control Board Section 401 Water Quality Certification and/or Waste Discharge Requirement. Prior to proposed filling of jurisdictional waters, compliance with all regulatory agency permit conditions shall be demonstrated. Permanent impacts to jurisdictional wetlands or waters shall be mitigated at a minimum 1:1 ratio on a functions and values basis by: (1) replacing permanent impacted features through bank re-contouring at the old pump station location to create new area of waters and wetlands in the Biological Study Area; (2) purchasing an appropriate amount of mitigation credits by an approved mitigation bank, or (3) another type of mitigation as approved by the Corps and/or RWQCB through the permitting process.

c) Less than Significant with Mitigation Incorporated. The proposed project would temporarily impact 151 square feet of Waters of the U.S./State and 116 square feet of salt marsh habitat as discussed above, which is considered wetland within jurisdiction of the U.S. Army Corps of Engineers (Corps) and RWQCB under Section 404/401 of the CWA, through the removal of the existing pump station. If not adequately controlled, soil and material from the existing structure may enter the Waters during deconstruction of the existing pump station. Additionally, removal of material would cause turbidity within the Waters. Once the existing pump station is removed, installation of the new pump station would permanently impact approximately 77 square feet of Waters and 247 square feet of salt marsh, a total of 324 square feet of permanent impact. The proposed project includes placing fill within the Waters to stabilize and support the concrete slab upon which the new pump station would be placed.

However, upon completion of pump station replacement, the bank would be regraded and new Waters would be gained; the bank adjacent to the newly gained Waters would have the potential to support salt marsh habitat. Approximately 736 square feet of wetlands and Waters of the U.S. would be gained, which is 547 square feet more Waters and wetland area than is being permanently impacted.

Given a net increase in wetlands and Waters, and with implementation of Mitigation Measures BIO-2 and BIO-3 above, the project's impacts to wetlands and Waters of the U.S. and State would be less than significant.

d) Less than Significant with Mitigation Incorporated. The project would not impede the movement of a native resident or migratory fish or wildlife species, as drainage patterns and topographic features would not be changed. However, the project has the potential to temporarily impede the use of native wildlife nursery sites during the construction phase by damaging bird nests and causing injury or mortality to eggs or chicks, or disturbance of nesting adults resulting in reduced clutch survival or nest abandonment, and/or by causing disturbance to roosting bats or injury or mortality of bat pups (young). Implementation of Mitigation Measures BIO-4 and BIO-5 would ensure that impacts to native wildlife nursery sites are less than significant during the construction phase. The operation phase would have a less than significant impact on this topic, as it would leave the site in nearly the exact condition it is currently.

**Mitigation Measure BIO-4:** Mitigation measures for avoidance and minimization of effects to nesting birds shall be incorporated into the permits or required authorizations and specifications, which the project proponent shall follow. For the avoidance of impacts to native nesting birds protected by the MBTA and CFGC, the following avoidance and minimization measures are proposed as a part of the permit applications:

- 1. Project activities shall be initiated to the extent feasible, outside of the nesting season. The nesting season is defined here as being from February 1 to August 31 and therefore work shall commence between September 1 and January 31.
- 2. If this is not possible, and project activities are initiated during the nesting season, then a nesting bird survey shall be conducted by a qualified wildlife biologist no more than 14 days prior to the start of project activities.
- 3. If nests are identified, a no-disturbance buffer shall be implemented to avoid impacts to nesting birds and should remain in place until all young are fledged or the nest otherwise becomes inactive. Buffers typically range from 25 feet to 500 feet depending on the species.

**Mitigation Measure BIO-5:** Mitigation measures for avoidance and minimization of effects to roosting bats shall be incorporated into the permits or required authorizations and specifications, which the project proponent shall follow. The following avoidance and minimization measures are required:

1. Preconstruction surveys for bats shall be conducted by a qualified biologist no less than 14 days prior to removal of the pump house if the work should begin during the maternity roosting season (April 1 through August 31) or during the hibernation season (November 1 through February 28).

- 2. If special-status bat species are detected during surveys, appropriate, species and roost specific mitigation measures shall be developed. Such measures may include postponing demolition of the pump house until the end of the maternity roosting season.
- 3. Demolition of the pump house can be conducted outside of the maternity roosting and hibernation seasons (during the months of September, October and March) without performing preconstruction bat surveys.
- e) Less than Significant. The City of San Rafael provides for the protection of street trees along any public street, sidewalk or walkway in the city (Ord. 972 § 2, 1970; Ord. 865 § 2, 1966: Ord. 609). The project site is not along any public street, sidewalk or walkway, and is not expected to impact or require the removal of any protected trees. If a protected tree must be removed or impacted, it would be replaced in accordance with the municipal code. Tree removal as a result of project implementation would not conflict with any local provisions for tree protection, and no significant impacts are anticipated.
- f) **No Impact.** No state, regional, or federal habitat conservation plans or Natural Community Conservation Plans have been adopted for the project site.

V.	CULTURAL RESOURCES — Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant	No Impact	Source
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?					1,2,14
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?					1,2,14
c)	Disturb any human remains, including those interred outside of formal cemeteries?					1,2,14

The following analysis of cultural resource impacts is based on a report compiled by Alta Archaeological Consulting in May, 2019, which is included as Appendix C. Sources consulted for the report included a records search with the Northwest Information Center (NWIC), review of historic registers and maps, literature review, and a field survey.

### **Environmental Setting**

The project area is situated within the Coast Range geologic province (Jenkins 1969). The northern Coast Ranges are a geologic province comprised of numerous rugged north-south trending ridges and valleys that run parallel to a series of faults and folds. Formation of these ranges is generally attributed to events associated with subduction of the Pacific Plate beneath the western border of North America. The bedrock that underlies the region is a complex assemblage of highly deformed, fractured, and weathered sedimentary, igneous, and metamorphic rocks. The bedrock geology of the project area consists of Jurassic-Cretaceous age Franciscan Formation rock (Schoenherr 1995:7). Rocks of this formation, the oldest in the area, are often weakly metamorphosed, and consist of greywacke shale interspersed with discontinuous bodies of ultramafic rock such as greenstone, schist, and serpentine. The repeated folding and faulting is reflected in the complex structure of Franciscan rocks and area topography (Schoenherr 1995:265).

The project area is situated on a wetland flat bordering the San Rafael Bay on the north side of the San Quentin Peninsula. The vegetation community surrounding the project area consists mainly of high grasses with sparse deciduous forest. Common hardwood trees in the region include California bay laurel (*Umbellularia californica*), Valley oak (*Quercus lobata*), Interior live oak (*Quercus wislizeni*), and Coast live oak (*Quercus agrifolia*). Softwoods include Coast redwood (*Sequoia sempervirens*) and Monterey pine (*Pinus radiata*). Throughout the North Coast Ranges, many trees imported into the region have thrived, particularly blue-gum eucalyptus (*Eucalyptus globulus*) (Little 1980). The project area is situated in the southern portion of highly-developed

San Rafael. The parcel is surrounded on three sides by industrial parks and housing developments.

## **Regulatory Setting**

Federal and state criteria have been established for the determination of historical resource significance as defined in National Register (NR) criteria contained in National Register Bulletin 16 (U.S. Department of the Interior 1986:1) and for the purposes of CEQA under Section 5024.1(g) of the Public Resource Code and Section 15064.5 of the State CEQA Guidelines.

The NHPA applies to certain projects undertaken requiring approval by federal agencies. Property owners, planners, developers, as well as State and local agencies are responsible for complying with NHPA's requirements regarding the identification and treatment of historic and prehistoric cultural resources. Under NHPA, cultural resources must be evaluated to determine their eligibility for listing in the NR. If an archaeological resource is determined ineligible for listing on the NR, then the resource is released from management responsibilities and a project can proceed without further cultural resource considerations. Similarly, the CEQA applies to certain projects undertaken requiring approval by State and/or local agencies. Under CEQA, cultural resources must be evaluated to determine their eligibility for listing in the California Register of Historic Resources (CRHR). If a cultural resource is determined ineligible for listing on the CRHR the resource is released from management responsibilities and a project can proceed without further cultural resource considerations.

The San Quentin Pump Station was evaluated for eligibility for listing on the NRHP per the four criteria established in 36 CFR 60.4: Criteria for evaluation and for listing on the CRHR per Sections 15064.5 (b), 21083.2, and 21084.1 of the Public Resource Code (PRC) and the CEQA Guidelines (California Code of Regulations Title 14, Section 15064.5).

As set forth in Title 36, Part 63 of the Code of Federal Regulations, for a cultural resource to be deemed significant under the NHPA and thus eligible for listing on the NR, it must meet at least one of the following criteria:

- (A) associated with events that have made a significant contribution to the broad patterns of our history; or
- (B) associated with the lives of persons significant in our past; or
- (C) embodies distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (D) yielded, or may be likely to yield, information important in prehistory or history.

Furthermore, in order to be considered eligible for listing on the NR, a property must retain aspects of integrity, or its ability to convey its historical significance. These aspects are as follows: Location, Design, Setting, Materials, Workmanship, Feeling, and Association.

As set forth in Section 5024.1(c) of the Public Resources Code for a cultural resource to be deemed "important" under CEQA and thus eligible for listing on the California Register of Historic Resources (CRHR), it must meet at least one of the following criteria:

- (1) is associated with events that have made a significant contribution to the broad patterns of California History and cultural heritage; or
- (2) is associated with the lives of persons important to our past; or
- (3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possess high artistic value; or
- (4) has yielded or is likely to yield, information important to prehistory or history.

Archaeological resources are commonly evaluated with regard to Criteria D/4 (research potential).

Historic-era structures older than 50 years are most commonly evaluated in reference to Criteria 1/A (important events), Criteria B/2 (important persons) or Criteria C/3 (architectural value). To be considered eligible under these criteria the property must retain sufficient integrity to convey its important qualities. Integrity is judged in relation to seven aspects including: location, design, setting, materials, workmanship, feeling, and association.

### **Discussion of Impacts**

a) Less than Significant with Mitigation Incorporated. Pursuant to State CEQA guideline 15064.5, the City's General Plan (Culture and Arts Element) was consulted to identify any National, State, or Local historical landmarks with the project site. The project site does not contain any resource listed as one of the 21 historic landmarks in the City's General Plan. Review of historic registers and inventories indicate that no listed historical resources are present in the project area or located within the 0.5-mile visual area of the Area of Potential Effect (APE).

A records search identified four cultural resources are present within the one-half mile records search radius. There are three prehistoric and one historic-era resources located between a quarter and half a mile to the north and southwest of the project site; however, no cultural resources are documented within the project area limits.

ALTA staff archaeologists conducted a field survey of the project on January 17, 2019. Project design drawing, project maps and aerial imagery were used to correctly identify the project area. Ground surface visibility was moderate (25-30%) due to dense seasonal grasses and imported gravel road fill. The entire APE and the access road was surveyed using intensive survey coverage with transects no greater than 10 meter intervals. A total of about 5.2 acres of land was surveyed. Survey efforts included an evaluation of the current historic-era pump station to determine historical and/or architectural significance.

The San Quentin Pump Station does not fulfill Criterion A/1 of the National Register Criteria for Evaluation or the California Register of Historical Resources Criteria for Designation. The pump station is associated with the reclamation of San Francisco Bay marshes and wetlands. This location is one of many wetlands reclaimed for urban

development in the 20th century. However, these events are not significant enough to national, state, or regional history to associate the pump station with a pattern of history significant to the cultural heritage of the United States or California. No documentation indicates the association of the pump station with significant local, state, or national persons. No architect or builder is known at present. Therefore, the pump station fails to fulfill Criterion B/2. The pump station does not demonstrate aesthetic qualities that speak to an investment of artistic consideration in its design. Rather, the design qualities and construction qualities indicate a primary emphasis on functionality. The pump station does not represent a type, period, region, or method of construction. With these considerations, the pump station fails to fulfill Criterion C/3.

Considering its relatively recent construction and its location on relatively recently reclaimed land, the pump station and its vicinity are unlikely to yield any information important to the history of the region or the nation.

In sum, the San Quentin Pump Station does not fulfill Criterion A/1 through D/4 of the National Register Criteria for Evaluation or the California Register of Historical Resources Criteria for Designation, nor does it retain enough integrity to convey its significance. The ALTA survey deems the pump station ineligible for inclusion on the National Register of Historic Places or the California Register of Historical Resources.

Given the above-described studies to identify potential cultural resources and the lack of any such resources being identified, it is unlikely the proposed project would have a significant impact on cultural resources. In the event that cultural resources are uncovered in the course of construction, however, the following mitigation measure would ensure that impacts remained less than significant.

Mitigation Measure CULT-1: If previously unidentified cultural resources are encountered during project implementation, avoid altering the materials and their stratigraphic context. A qualified professional archaeologist shall be contacted to evaluate the situation. The Federated Indians of the Graton Rancheria shall be contacted to solicit their input with regard to proposed treatment and disposition of materials. Project personnel should not collect cultural resources. Prehistoric resources include, but are not limited to, chert or obsidian flakes, projectile points, mortars, pestles, and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources include stone or abode foundations or walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.

b) Less than Significant with Mitigation Incorporated. The project area has a low sensitivity for archaeological resources. Historically, the project area was part of the waters of San Rafael bay. The area was diked and reclaimed during the mid-20<sup>th</sup> century as part of reclamation efforts (USGS 1956, 1960). As such, there is a low sensitivity for encountering either prehistoric or historic-era archaeological resources. Additionally, all proposed project improvements would occur within existing rights-of-way and no improvements would require additional large-scale excavation. Furthermore, the areas

for which project work is proposed have already been disturbed as a result of the original construction of the existing pump station and storm drainage pipe. The previous construction activity would likely have reduced or eliminated the significance of archaeological resources if they were encountered.

However, the City of San Rafael implements specific adopted archeological resource measures in the event resources are encountered during grading. Impacts would be less than significant with implementation of the following mitigation measure:

*Mitigation Measure CULT-2:* The City or its contractor shall comply with California Health and Safety Code Section 7050.5 and California Public Resources Code Sections 5097.5, 5097.9 et seq., regarding the discovery and disturbance of cultural materials, should any be discovered during project construction.

In keeping with the CEQA guidelines, if archaeological remains are uncovered, work at the place of discovery shall be halted immediately until a qualified archaeologist can evaluate the finds (§15064.5 [f]). Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

c) Less than Significant Impact. There are no formal cemeteries on the site, nor are human remains likely to exist on the site. However, the possibility remains that a resource of cultural significance may be encountered. Per Public Resources Code 5097.98 and Health and Human Safety Code 7050.5, if human remains are encountered, excavation or disturbance of the location shall be halted in the vicinity of the find, and the County Coroner contacted. If the Coroner determines the remains are Native American, the Coroner shall contact the Native American Heritage Commission. The Native American Heritage Commission shall identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity. With the compliance of State law, a less-than-significant impact would result.

VI.	ENERGY — Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant	No Impact	Source
a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?					1, 2
b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?					1, 2

#### California

Energy usage is typically quantified using the British thermal unit ("BTU"). As a point of reference, the approximate amount of energy contained in common energy sources are as follows: gasoline, 115,000 BTUs per gallon; diesel, 138,500 BTUs per gallon; natural gas, 21,000 BTUs per pound ("lb"); electricity, 3,414 BTUs per kilowatt-hour ("kWh"). 13

Total energy usage in California was 7,640.8 trillion BTUs in 2012, which equates to an average of 201 million BTUs per capita. Of California's total energy usage, the breakdown by sector is 39 percent transportation, 23 percent industrial, 19 percent residential, and 19 percent commercial. Petroleum satisfies 55 percent of California's energy demand, natural gas 32 percent, and electricity 12 percent. Coal fuel accounts for less than one percent of California's total energy demand. Electric power and natural gas in California are generally consumed by stationary users, whereas petroleum consumption is generally accounted for by transportation-related energy use. The other sources are made up of renewable energy sources, which includes wind and solar power, among other uses.

Given the nature of the proposed project, the main uses of energy would occur via construction vehicle fuel and electricity during operation. These two sources of energy are discussed in further detail below.

#### City of San Rafael

The City of San Rafael receives its electricity from Pacific Gas & Electric Company (PG&E), a

San Quentin Pump Station Replacement Project City of San Rafael

<sup>&</sup>lt;sup>13</sup> U.S. Department of Energy, 2014. Alternative Fuels Data Center – Fuel Properties Comparison. http://www.afdc.energy.gov/fuels/fuel\_comparison\_chart.pdf

<sup>&</sup>lt;sup>14</sup> U.S. Department of Energy, Energy Information Administration, 2014. "Official Energy Statistics from the U. S. Government," http://tonto.eia.doe.gov/state/state\_energy\_profiles.cfm?sid=CA.

<sup>15</sup> Ibid.

natural gas and electric utility, as well as Marin Clean Energy (MCE), which supplies customers with 50 to 100% renewable energy as an alternative to PG&E. MCE's 100% renewable electricity program is called Deep Green, and it supplies non-polluting wind and solar power for public buildings, streetlights, and other civic accounts in Marin County. San Rafael chose to join the Deep Green program in 2018.

# **Regulatory Setting**

Federal and state agencies regulate energy use and consumption through various means and programs. At the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency (EPA) are three federal agencies with substantial influence over energy policies and programs. Generally, federal agencies influence and regulate transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through funding of energy related research and development projects, and through funding for transportation infrastructure improvements.

At the state level, the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) are two agencies with authority over different aspects of energy. The CPUC regulates privately owned utilities in the energy, rail, telecommunications, and water fields. The CEC collects and analyzes energy-related data, prepares statewide energy policy recommendations and plans, promotes, and funds energy efficiency programs, and adopts and enforces appliance and building energy efficiency standards. California is exempt under federal law from rules that otherwise would preempt setting state fuel economy standards for new onroad motor vehicles. Some of the more relevant federal and state energy-related laws and plans are discussed below.

#### Federal Regulations

### Energy Policy Act of 2005

Passed by Congress in July 2005, the Energy Policy Act includes a comprehensive set of provisions to address energy issues. The act includes tax incentives for the following: energy conservation improvements in commercial and residential buildings; fossil fuel production and clean coal facilities; and construction and operation of nuclear power plants, among other things. Subsidies are also included for geothermal, wind energy, and other alternative energy producers. It directs the USDOE to study and report on alternative energy sources such as wave and tidal power, and includes funding for hydrogen research. The Act also increases the amount of ethanol required to be blended with gasoline, and extends daylight saving time (to begin earlier in spring and end later in fall) to reduce lighting requirements. It also requires the federal vehicle fleet to maximize use of alternative fuels. The Act further includes provisions for expediting construction

of major energy transmission corridors, such as high-voltage power lines, and fossil fuel transmission pipelines. These are just a few examples of the provisions contained in the Act. <sup>16</sup>

# Energy Independence and Security Act of 2007

Signed into law in December 2007, this broad energy bill included an increase in auto mileage standards, and also addressed biofuels, conservation measures, and building efficiency. The U.S. EPA administers the Corporate Average Fuel Economy (CAFE) program, which determines vehicle manufacturers' compliance with existing fuel economy standards. The bill amended the CAFE standards to mandate significant improvements in fuel efficiency (i.e., average fleet wide fuel economy of 35 miles per gallon (mpg) by 2020, versus the previous standard of 27.5 mpg for passenger cars and 22.2 mpg for light trucks).<sup>17</sup>

Another provision includes a mandate to increase use of ethanol and other renewable fuels by 36 billion gallons by 2022, of which 21 million gallons is to include advanced biofuels, largely cellulosic ethanol, that have 50 to 60 percent lower GHG emissions. The bill also includes establishment of a new energy block grant program for use by local governments in implementing energy-efficiency initiatives, as well as a variety of green building incentives and programs, among other things.<sup>18</sup>

# State Regulations

### Energy Action Plan

In 2003, the three key energy agencies in California— the CEC, the California Power Authority (CPA), and the CPUC— jointly adopted an Energy Action Plan (EAP) that listed goals for California's energy future and set forth a commitment to achieve these goals through specific actions. In 2005, the CPUC and the CEC jointly prepared the EAP II to identify the further actions necessary to meet California's future energy needs. The EAP II describes the priority sequence for actions to address increasing energy needs, also known as "loading order." The loading order identifies energy efficiency and demand response as the state's preferred means of meeting growing energy needs. After cost-effective efficiency and demand response, the state is to rely on renewable sources of power and distributed generation, such as combined heat and power applications. To the extent that efficiency, demand response, renewable resources, and distributed generation are unable to satisfy increasing energy and capacity needs, the EAP II supports the use of clean and efficient fossil fuel-fired generation.

In 2008, the CPUC and CEC released an Energy Action Plan Update using information and analysis prepared for the Energy Commission's 2007 Integrated Energy Policy Report (IEPR).

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<sup>&</sup>lt;sup>16</sup> United States Congress, Energy Policy Act of 2005 (Public Law 109-58), passed July 29, 2005. https://www.congress.gov/bill/109th-congress/house-bill/6

<sup>&</sup>lt;sup>17</sup> EPA. 2007. Summary of the Energy Independence and Security Act. Available online at: https://www.epa.gov/laws-regulations/summary-energy-independence-and-security-act

<sup>&</sup>lt;sup>18</sup> Ibid 33

The Update was partially written in response to the California Global Warming Solutions Act of 2006 (discussed below), intended to keep the EAP I and EAP II process alive while capturing changes in the policy landscape and describing intended activities to accomplish those policies. The focus areas included: energy efficiency, demand response, renewable energy, electricity reliability and infrastructure, electricity market structure, natural gas supply and infrastructure, research and development, and climate change.<sup>19</sup>

The EAP identifies key actions to be taken in all of these areas in order to meet the state's growing energy requirements. The plan recommendations are implemented by the governor through executive orders, by the legislature through new statutes, and by the responsible state agencies through regulations and programs.

# Title 24 (California Energy Code)

The California Energy Code (Title 24, Part 6, of the California Code of Regulations, California's Energy Efficiency Standards for Residential and Nonresidential Buildings), provides energy conservation standards for all new and renovated commercial and residential buildings constructed in California. The provisions of the California Energy Code apply to the building envelope, space-conditioning systems, and water-heating and lighting systems of buildings and appliances; they also give guidance on construction techniques to maximize energy conservation. Minimum efficiency standards are given for a variety of building elements, including appliances; water and space heating and cooling equipment; and insulation for doors, pipes, walls, and ceilings. The CEC adopted the 2005 changes to the Building Efficiency Standards, which emphasized saving energy at peak periods and seasons, and improving the quality of installation of energy-efficiency measures. It is estimated that implementation of the 2005 Title 24 standards have resulted in an increased energy savings of 8.5 percent relative to the previous Title 24 standards. Compliance with Title 24 standards is verified and enforced through the local building permit process.<sup>20</sup> The 2008 Title 24 Standards, which had an effective date beginning August 1, 2009, include added provisions that require, for example, "cool roofs" on commercial buildings; increased efficiency in heating, ventilating, and air conditioning systems; and increased use of skylights and more efficient lighting systems.<sup>21</sup> Title 24 Standards were further updated with the 2013 Building Energy Efficiency Standards, which are estimated to lead to 25 percent less energy consumption for residential buildings and 30 percent savings for nonresidential buildings over 2008 Energy Standards. 2013 standards, which updated codes for lighting, space heating and cooling, ventilation, and water heating, took effect on July 1<sup>st</sup> 2014.

<sup>19</sup> State of California, Energy Commission and Public Utilities Commission, "Energy Action Plan 2008 Update," February 2008. <a href="http://www.cpuc.ca.gov/uploadedFiles/CPUC\_Public\_Website/Content/Utilities\_and\_Industries/Energy\_Electricity\_and\_Natural\_Gas/2008%20Energy%20Action%20Plan%20Update.pdf">http://www.cpuc.ca.gov/uploadedFiles/CPUC\_Public\_Website/Content/Utilities\_and\_Industries/Energy\_Electricity\_and\_Natural\_Gas/2008%20Energy%20Action%20Plan%20Update.pdf</a>

<sup>&</sup>lt;sup>20</sup> California Energy Commission (2016) Web site (Building Efficiency Standards), http://www.energy.ca.gov/title24

<sup>&</sup>lt;sup>21</sup> Ibid.

### California Green Building Standards Code

All new construction must adhere to the California Green Building Standards Code (CCR, Title 24, Part 11) in place at the time of construction. As an example, the 2013 Title 24 California Green Building Standards, referred to as CALGreen:

- Sets a threshold of a 20 percent reduction in indoor water use and includes voluntary goals for reductions of 30 percent, 35 percent, and 40 percent.
- Requires separate meters for indoor and outdoor water use at nonresidential buildings; and at those sites, irrigation systems for larger landscaped areas must be moisturesensing.
- Calls for 50 percent of construction waste to be diverted from the landfills and lists higher, voluntary diversion amounts of 65 percent to 75 percent for new homes, and 80 percent for commercial construction.
- Mandates inspections of energy systems -- such as the heat furnace, air conditioning, and mechanical equipment -- for nonresidential buildings that are larger than 10,000 square feet to "ensure that all are working at their maximum capacity according to design efficiencies."
- Requires that paint, carpet, vinyl flooring, particle board, and other interior finish materials be low-emitting in terms of pollutants.

## California Global Warming Solutions Act of 2006

In September 2006, the governor signed AB 32, the Global Warming Solutions Act of 2006, which mandates that California's GHG emissions be reduced to 1990 levels by 2020. The act directs the California EPA to work with state agencies to implement a cap on GHG emissions (primarily carbon dioxide) from stationary sources of such as electric power generation facilities, and industrial, commercial, and waste-disposal sectors. Since carbon dioxide emissions are directly proportional to fossil fuel consumption, the cap on emissions is expected to have the incidental effect of forcing a reduction in fossil fuel consumption from these stationary sources. Specifically, AB 32 directs the California EPA to work with other state agencies to accomplish the following: 1) promulgate and implement GHG emissions cap for the electric power, industrial, and commercial sectors through regulations in an economically efficient manner; 2) institute a schedule of greenhouse gas reductions; 3) develop an enforcement mechanism for reducing GHG; 4) establish a program to track and report GHG emissions.<sup>22</sup>

# Senate Bill 32

Enacted in 2016, Senate Bill (SB) 32 (Pavley, 2016) codifies the 2030 GHG emissions reduction goal of Executive Order B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030. Similar to AB 32, a reduction in GHG emissions typically corresponds with a reduction in energy usage as the bulk of GHGs result from the

<sup>&</sup>lt;sup>22</sup> Assembly Bill 32, Passed August 31, 2006, http://www.arb.ca.gov/cc/docs/ab32text.pdf.

combustion of fossil fuel.

SB 32 was coupled with a companion bill: AB 197 (Garcia, 2016). Designed to improve the transparency of CARB's regulatory and policy-oriented processes, AB 197 created the Joint Legislative Committee on Climate Change Policies, a committee with the responsibility to ascertain facts and make recommendations to the Legislature concerning statewide programs, policies and investments related to climate change. AB 197 also requires CARB to make certain GHG emissions inventory data publicly available on its web site; consider the social costs of GHG emissions when adopting rules and regulations designed to achieve GHG emission reductions; and, include specified information in all Scoping Plan updates for the emission reduction measures contained therein.

### Local Regulations

In addition to federal and state regulations and guidelines, the following is a synopsis of local City of San Rafael regulations and goals relative to reducing or avoiding significant impacts on energy use.

# City of San Rafael General Plan 2020

Policy SU-6 Resource Efficiency in Site Development. Encourage site planning and development practices that reduce energy demand, support transportation alternatives and incorporate resource and energy-efficient infrastructure.

**Policy SU-6a.** Site Design. Evaluate as part of development review, proposed site design for energy-efficiency, such as shading of parking lots and summertime shading of south-facing windows.

**Policy SU-14d. City Electricity**. Participate in the Marin Energy Authority by switching all City accounts over to the Light Green option in 2010 and the Deep Green option (100% renewable power) by 2020. Consider the use of renewable energy technology such as solar, cogeneration and fuel cells in the construction or retrofitting of City facilities.

**Policy SU-14I**. Backup Energy Provision. Evaluate backup energy provisions for critical city facilities and upgrade as needed. Encourage the use of alternatives, such as fuel cell and solar generator backups, to the sustained use of gasoline-powered generators.

City of San Rafael Climate Change Action Plan 2011

LF11: Adopt a Zero Waste Goal and adopt a Zero Waste Strategic Plan for San Rafael.

**LF15**: Adopt a construction debris recycling and reuse ordinance.

**EN7:** Develop a program of levee analysis, including inventorying heights, testing and maintaining public and private levees.

### **Discussion of Impacts**

a) **Less than Significant Impact.** The proposed project would require the use of diesel and other fuels for trucks and equipment during construction, but these activities would be

short-term and completed as efficiently as possible for practical and financial reasons, among other considerations. The only ongoing energy consumption in the operational phase of the project would be from a City-supplied portable generator, very similar to, or the same as, the one used by the existing pump station. Given the important flood control functions of the pump station, the relatively minor amount of energy used to power the vertical pumps is not wasteful, inefficient, or unnecessary. Furthermore, any energy usage increase from the baseline condition would be very minor, if anything. Impacts in this regard would therefore be less than significant.

b) Less than Significant Impact. The proposed project would replace an existing pump station with a similarly sized station. The degree of energy consumption due to the new station would therefore not be changed from current baseline conditions. While the proposed pump station may not necessarily advance state and local renewable energy plans, it certainly would not hinder or obstruct such plans either. Furthermore, given San Rafael's enrollment in the Deep Green 100% renewable program, electricity from the generator could be from renewable sources. Impacts would be less than significant.

VI.	GEOLOGY AND SOILS — Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Source
a)	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:					
	i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?					1,10
	ii) Strong seismic ground shaking?			$\boxtimes$		1,10
	iii) Seismic-related ground failure, including liquefaction?					1,6,10
	iv) Landslides?			$\boxtimes$		1,6,10
b)	Result in substantial soil erosion or the loss of topsoil?					1,6,15
c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?					1,6,15
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?					1,6
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?					1,15

VI.	<b>GEOLOGY AND SOILS</b> — Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Source
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?					1

### Regional Geologic Setting

The project site lies within the Coast Ranges geomorphic province of California. Regional topography within the Coast Ranges province is characterized by northwest-southeast trending mountain ridges and intervening valleys that parallel the major geologic structures, including the San Andreas Fault System. The province is also generally characterized by abundant landsliding and erosion, owing in part to its typically high levels of precipitation and seismic activity.

Earthquakes are the product of the build-up and sudden release of strain along a "fault" or zone of weakness in the earth's crust. Stored energy may be released as soon as it is generated or it may be accumulated and stored for long periods of time. Faults are seldom single cracks in the earth's crust but are typically comprised of localized shear zones which link together to form larger fault zones. Within the Bay Area, faults are concentrated along the San Andreas fault system, which extends nearly 700 miles along a northwest trend from Mexico to offshore northern California. The movement between rock formations along either side of a fault may be horizontal, vertical, or a combination and is radiated outward in the form of energy waves. The amplitude and frequency of earthquake ground motions partially depends on the material through which it is moving. The earthquake force is transmitted through hard rock in short, rapid vibrations, while this energy becomes a long, high-amplitude motion when moving through soft ground materials, such as Bay Mud.

An "active" fault is one that shows displacement within the last 11,000 years (i.e. Holocene) and has a reported average slip rate greater than 0.1 mm per year. The California Division of Mines and Geology (1998) has mapped various active and inactive faults in the region. The nearest known active faults to the site are the San Andreas and Hayward Faults.

### Local Geologic Setting

The project site is located immediately west of San Pablo Bay. Regional geologic mapping (California Division of Mines and Geology, 1976) indicates that the site is underlain by artificial fill over Bay Mud with marsh deposits mapped directly to the north. A Regional Geologic Map and descriptions of the mapped geologic units are shown on Figure 3 of Appendix A, Sub-Appendix A (Draft Geotechnical Investigation Report).

The project site, like all properties in the San Francisco Bay area, is situated in a seismically active area. In the San Francisco Bay Area, the San Andreas fault system includes the San Andreas,

Hayward, Calaveras, and other related faults in the San Francisco Bay area. According to the U.S. Geological Survey (Working Group on California Earthquake Probabilities 2003), there is a 62% chance of at least a magnitude 6.7 (or greater) earthquake in the San Francisco Bay region between 2003 and 2032.

The Biological Study Area is not located within a State of California Earthquake Fault Zone for active faulting and no active faults are mapped on the property. The San Andreas Fault is located approximately 16.2 kilometers (10 miles) southwest of the site whereas the Hayward Fault is located approximately 11.4 kilometers (7 miles) to the northeast.

## **Discussion of Impacts**

- a-i,) **No Impact.** The project site is not located within a State of California designated Alquist-Priolo Earthquake Fault Zone (California Department of Conservation, 1974). Earthquake fault zones are regulatory zones that encompass surface traces of active faults that have a potential for future surface fault rupture. The closet active faults to the site are the San Andreas Fault, located approximately 10 miles to the west-southwest of the project site at its closest point, and the Hayward Fault, approximately 7 miles northeast at its closest point. No faults cross through the project site, and surface rupture associated with a fault is not anticipated in the City. No impacts would occur.
- Less than Significant Impact. The potential for seismic ground-shaking at the project a-ii) site is "very strong" according to the Association of Bay Area Government's (ABAG) Resilience Program hazards map, but seismic-related ground failure is not anticipated. The project site's proximity to two active bay area faults (San Andreas and Hayward) leaves it vulnerable to some degree of ground shaking, which is common in the Bay Area. The proposed project would not create a need or opportunity for people to reside on-site and thus be exposed to such ground shaking long-term. If an earthquake were to occur during the construction phase, it could create a risk for workers on-site, but under the obligation of the Occupational Safety and Health Act (OSHA), construction workers would be trained to take the necessary precautions to maintain worker safety in the event of an earthquake. Structures associated with the proposed work would be designed to conform to the most recent edition of the California Building Code (2016) with flexible connections and CBC design features as discussed in the geotechnical report compiled for the project (Appendix A, Sub-Appendix A). Given these legal obligations, the impacts related to this topic would be less than significant.
- a-iii) Less than Significant Impact. Liquefaction occurs when a saturated or partially saturated soil substantially loses strength and stiffness in response to an applied stress, such as seismic shaking, which causes a solid to behave like a liquid. Soils susceptible to liquefaction are saturated, loose, granular deposits. Liquefaction can result in flow failure, lateral spreading, ground movement, settlement, and other related effects. Buried pipelines embedded within liquefied soils may also experience uplift due to buoyancy.

According to ABAG's Resilience Program hazards map, the project site has a moderate susceptibility to liquefaction; however, according to the geologic mapping and the results of subsurface exploration completed for the proposed work, the project site is underlain by relatively thick deposits of bay mud which are not susceptible to liquefaction. The fill material is mostly comprised of clayey soils that are not susceptible to liquefaction either. Therefore, the likelihood of damage to the new pump station and outfall pipe due to liquefaction is low. In addition, the project would be subject to all Federal, State, and local regulations for seismic conditions, including the CBC. Impacts would be less than significant.

a-iv) Less than Significant Impact. Landslides are frequently triggered by strong ground motions. They are an important secondary earthquake hazard. The term landslide includes a wide range of ground movement, such as rock falls, deep failure of slopes, and shallow debris flows. Landslides from seismic activity are a very low risk at the project site given its flat topography and general lack of slopes, cliffs, or flowing water.

The project is subject to all Federal, State, and local regulations and standards for seismic conditions, including the CBC, and would be designed to conform to all building requirements. Given the low risk of landslides at the project site and the legal obligations associated with seismic building design, impacts associated with seismic landslides would be less than significant.

- b) Less than Significant Impact. Construction would involve limited soil disturbance, which could temporarily expose soils to wind and water erosion. However, the project would not cause a substantial change to erosion and accretion patterns of the area long-term because the pump station improvements would not alter the existing drainage pattern of the area. Temporary construction impacts related to run-off from the cut soil stored on-site could occur, but standard measures from the Marin Countywide Water Pollution Prevention Program and from the State Water Board's General Permit would be implemented to ensure impacts from runoff would remain less than significant. Additionally, there would be almost no disturbance of native topsoil, as construction activities would take place mainly within existing paved roads and the soil in the area is non-native fill material. The fill material cut for the new pump station and stockpiled onsite would be wet and therefore unsusceptible to soil erosion, and would then be naturally vegetated over time, further reducing erosion risk. BAAQMD construction measures would be implemented to minimize the potential for erosion and indirect effects associated with soil erosion (i.e., water quality impacts, fugitive dust). Impacts on soil would therefore be less than significant.
- c, d) Less than Significant Impact. The potential for geologic and soil hazards from unstable or expansive soils in the project site is considered low based on the geologic units, soil types, and flat topography discussed previously. The ground disturbance associated with the proposed project would cause soil disturbance but these actions would not result in substantial changes in topography, ground surface relief features, or geologic

substructures, and would therefore not change the stability of the soil conditions. The pump station itself would be designed to "float" on a concrete slab on top of the soil to avoid settlement over time, and the outfall pipe would mainly be sliplined into existing infrastructure. Furthermore, the project is subject to all Federal, State, and local regulations and standards for seismic conditions including the California Building Code (CBC) and would be designed to conform to all building requirements. Therefore, the proposed project's impacts would not destabilize the soil or expose human life or structures to increased risk of on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Impacts in these areas would be less than significant.

- e) **No Impact.** The project does not involve construction of septic tanks or alternative wastewater disposal systems.
- f) Less than Significant Impact. The project site follows mainly existing rights-of-way on graveled and previously disturbed land. Excavation of soil would be required, but the soil would be non-native fill and is unlikely to contain any paleontological resources. The ground disturbance associated with the project would not change the topography or geologic substructures of the vicinity, and would therefore not change any unique geologic features. The project area was historically part of the waters of the San Rafael Bay and was diked and reclaimed in the mid-20th century, covered in fill material. Unique paleontological or geologic features would therefore only exist in the deeper layers of soil and would remain undisturbed. Impacts would be less than significant.

VII.	GREENHOUSE GAS EMISSIONS — Would the project:	Potentially Significant Impact	Less than Significant Impact	No Impact	Source
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?				1
b)	Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?				1,11

Assembly Bill 32, adopted in 2006, established the Global Warming Solutions Act of 2006 which requires the State to reduce greenhouse gas (GHG) emissions to 1990 levels by 2020. Senate Bill 97, adopted in 2007, required the Governor's Office of Planning and Research to develop CEQA guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions," and the Resources Agency certified and adopted the amendments to the guidelines on December 30, 2009.

GHGs are recognized by wide consensus among the scientific community to contribute to global warming/climate change and associated environmental impacts. The major GHGs released from human activity are carbon dioxide, methane, and nitrous oxide (Governor's Office of Planning and Research, 2008). The primary sources of GHGs are vehicles (including planes and trains), energy plants, and industrial and agricultural activities (such as dairies and hog farms).

### **Discussion of Impacts**

- a) Less Than Significant Impact. GHG emissions from the project would be produced from construction-related equipment emissions. Based on the nature of the project and short duration of construction, GHG emissions resulting from construction activities would be both minor and temporary. While the project would have an incremental contribution to GHG emissions within the City and region, the individual impact is less than significant. During the operational phase, the pump station would utilize a City-supplied portable generator, which would emit small amounts of greenhouse gases from diesel fuel usage. However, the current station already uses a portable generator and there would be no change in greenhouse gas emissions over current baseline conditions. Less than significant impacts would occur.
- b) Less Than Significant Impact. The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. GHG emissions from off-road equipment and utility electrical usage are identified and planned for in the BAAQMD's 2010 Clean Air Plan as well as the BAAQMD's Source

Inventory of Bay Area Greenhouse Gas Emissions (BAAQMD 2010a and 2010b). A primary objective of the 2010 Clean Air Plan is to reduce greenhouse gas emissions to 1990 levels by 2020 and 40% below 1990 levels by 2035. The project would generate emissions similar to existing conditions and, therefore, a less-than-significant impact would occur.

VIII.	HAZARDS AND HAZARDOUS MATERIALS — Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Source
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?					1
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?					1
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?					1
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?					1
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?					1
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?					1
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?					1

The following Hazards and Hazardous Materials Appendix G thresholds analysis was prepared by hazardous materials specialists at Baseline Environmental Consulting.

# **Environmental Setting**

The site is located on relatively flat land adjacent to the San Rafael Bay. Regional geologic mapping indicates that the site is underlain by artificial fill over Bay Mud with marsh deposits mapped directly to the north.<sup>23</sup>

The proposed pump station site and outfall pipe alignment are located immediately north of a former landfill (referred to as the San Quentin Landfill). The San Quentin Landfill is a closed, unlined Class III landfill that operated from 1968 to 1987. The site was used for the disposal of non-hazardous solid wastes such as construction debris. No waste has been disposed of at the landfill since 1987. In 1987 the landfill began final closure. Final cover of the landfill consisted of approximately 1 foot of foundation soil, a minimum of at least 1 foot of low hydraulic conductivity layer, and approximately 3 feet of topsoil.

Several separate monitoring programs are being implemented for the site including groundwater monitoring, leachate monitoring, and surface water monitoring and are being performed under the Regional Water Quality Control Board (Water Board) Order No. R2-2012-0064.

Groundwater conditions at the landfill are monitored by eight monitoring wells (generally located around the perimeter of the landfill). The monitoring program requires the dischargers to monitor groundwater levels quarterly and groundwater chemistry semi-annually in the eight monitoring wells. Constituents of Concern (COCs, considered potential contaminants given the nature of the waste and are monitored once every five years) include volatile organic compounds (VOCs), semi-volatile organic compound (SVOCs), organochlorine pesticides and poly-chlorinated biphenyls (PCBs). According to Order R2-2012-0064, the groundwater quality in the monitoring wells has consistently shown no significant impacts from the landfill.<sup>25</sup>

The landfill contains six leachate monitoring wells. Monitoring parameters include field parameters (pH, EC, groundwater elevation) and inorganics (TDS, ammonia, nitrate). COCs include VOCs, SVOCs, organochlorine pesticides, and PCBs. Anthropogenic compounds have been detected in leachate at the landfill, but the frequency of their detection is low. According to Order R2-2012-0064, the concentrations of the compounds do not exceed the Water Board's Environmental Screening Levels and do not pose significant risk to either human health or the environment.

Marin County, California, OFR 76-2 S.F. Plate 1D, South Central Marin Geology", 1976.

<sup>&</sup>lt;sup>23</sup> California Division of Mines and Geology, "Geology for Planning in Central and Southeastern

<sup>&</sup>lt;sup>24</sup> CSS Environmental Services, 2019. First Semi-Annual 2019 Groundwater Monitoring Report, Former San Quentin Landfill 1615 East Francisco Boulevard San Rafael, California, March 5.

<sup>&</sup>lt;sup>25</sup> San Francisco Bay Regional Water Quality Control Board, 2012. Updated Waste Discharge Requirements and Rescission of Order No. 01-022 for: San Quentin Solid Waste Disposal Landfill, Order No. R2-2012-0064.

Landfills are known to generate methane gas as the waste in the landfill breaks down. The Water Board order R2-2012-0064 specifies that "methane and other landfill gases shall be adequately vented, removed from the landfill, or otherwise controlled to minimize the danger of explosion, adverse health effects, nuisance conditions and the impairment of beneficial uses of water due to gas migration." However, no monitoring data or information on the methane venting systems is included in the order.

# **Discussion of Impacts**

a) Less than Significant Impact. Project construction activities are expected to involve the routine transport, use, and disposal of hazardous materials (e.g., motor fuels, paints, oils, and grease) that could pose a significant threat to human health or the environment if not properly managed. Although small amounts of these materials would be transported, used, and disposed of during project construction, these materials are typically used in construction projects and are not considered acutely hazardous. Workers who handle hazardous materials are required to adhere to health and safety requirements enforced by the federal Occupational Health and Safety Administration (OSHA) and California Division of Occupational Safety and Health (Cal/OSHA). Hazardous materials must be transported to and from the project site in accordance with Resource Conservation and Recovery Act (RCRA) and U.S. Department of Transportation regulations. Hazardous materials must also be disposed of in accordance with RCRA regulations at a facility that is permitted to accept the waste. Because compliance with existing regulations is mandatory, project construction is not expected to create a significant hazard to public health or the environment through the routine transport, use, or disposal of hazardous materials.

During project operation, it is anticipated that the project would involve the use of hazardous materials that are typical of stormwater pumping facilities (e.g., oil and grease, hydraulic fluid). These materials would be used in small and localized amounts. As described above, the routine transport, use, and disposal of hazardous materials are subject to federal and State regulations. On the local level, the County of Marin, Waste Management Division is the Certified Unified Program Agency (CUPA) that implements regulatory programs for sites that routinely use relatively large quantities of hazardous materials to ensure the safe storage, management, and disposal of such materials in accordance with the Unified Program. While the project is not expected to handle large quantities of hazardous materials, compliance with existing laws, regulations, and CUPA programs, as applicable, would be mandatory; therefore, project operations are not expected to create a significant hazard to public health or the environment through the routine transport, use, or disposal of hazardous materials.

<sup>&</sup>lt;sup>26</sup> Ibid, page 12.

As a result, impacts related to the routine transport, use, or disposal of hazardous materials during project construction and operation would be less than significant.

b) Less than Significant with Mitigation Incorporated. Potential accident and upset conditions resulting in the release of hazardous materials used or encountered during general project construction and operation activities are discussed below.

Accidental Hazardous Materials Release Related to Undocumented Fill and the Closed Landfill during Project Construction and Operation

Surface soils at the project site are comprised of undocumented fill. The quality of this fill is unknown and may contain elevated levels of contaminants, including metals, petroleum hydrocarbons, and PCBs. In addition, the precise limits of the former landfill in relation to the project alignment are not known. It is possible that contaminants associated with the landfill have affected the project site (both the new pump station site and the outfall pipeline alignment). Contaminants from the landfill may have affected the project site in the following ways:

- Solids (including contaminated soils) may have been spread onto the site during landfill operation and/or closure, or migrated onto the site as a result of erosion;
- Affected groundwater, potentially containing VOCs, SVOCs, pesticides, and PCBs may have migrated off the landfill site to the surrounding area. VOCs, SVOCs, pesticides, and PCBs have been identified in landfill leachate wells.<sup>27</sup>
- Soil and landfill gas (including methane and VOCs) could migrate through the soil column and affect off-site areas.

Excavation of material from the project site during grading activities could potentially expose workers and the surrounding public to hazardous materials in dust or vapors that could be released if the excavated fill material is contaminated. Re-use of the fill material as engineered fill could potentially expose future maintenance workers to hazardous materials if contaminated material is re-used on-site. Dewatering during construction could generate contaminated effluent that could potentially expose workers to hazardous materials if not characterized, handled, and disposed of correctly. Elevated concentrations of methane in soil gas can potentially pose explosion hazards, as vapor intrusion from the subsurface could cause methane to accumulate in potentially explosive concentrations in the proposed pump station, subsurface utility conduits, vaults, or other poorly ventilated/confined spaces that may be subject to vapor intrusion. The potential for accidental hazardous materials release is a potentially significant impact. Implementation of Mitigation Measure HAZ-1 would ensure that potential hazardous materials in the landfill and groundwater effluent are properly identified through sampling and removed and/or addressed in accordance with applicable regulations during construction and operation.

<sup>&</sup>lt;sup>27</sup> CSS Environmental Services, 2016. First Semi-Annual 2016 and 5-Year Groundwater Monitoring Report, Former San Quentin Landfill 1615 East Francisco Boulevard San Rafael, California., March 4.

With implementation of Mitigation Measure HAZ-1, the project would create a less-thansignificant impact related to accidental releases of hazardous materials during construction and operation.

**Mitigation Measure HAZ-1:** Phase II environmental site assessment (ESA) sampling of soil, groundwater, and soil gas shall be performed at the project site by a qualified environmental professional to evaluate potential impacts from hazardous materials in soil, groundwater, and soil gas, and potential elevated methane levels in soil gas. This information shall also be used to characterize and properly manage any dewatering effluent that would be generated during project construction.

A work plan for the proposed sampling activities shall be prepared by the qualified environmental professional and submitted to the City for review and approval. The work plan shall outline the proposed sampling locations and the proposed sample collection procedures and laboratory analytical methods. At a minimum, laboratory analysis of soil and groundwater samples shall include Title 22 metals, petroleum hydrocarbons (gasoline, diesel, and motor oil), VOCs, SVOCs, and PCBs. Soil gas samples shall be analyzed for VOCs and methane. Soil and groundwater sampling and analysis shall be performed in accordance with the U. S. Environmental Protection Agency's SW-846 guidelines. Sampling of soil gas shall be performed in accordance with State Department of Toxic Substances Control's (DTSC) Active Soil Gas Investigations Advisory and analysis of methane in soil gas shall be performed in accordance with DTSC's Guidance for Evaluation of Biogenic Methane.

A Phase II ESA report documenting the results of the sampling and analysis activities shall be prepared by the qualified environmental professional and submitted to the City for review and approval. The report shall document the sampling activities performed and subsurface characteristics observed, and shall evaluate sample results based on applicable regulatory agency screening levels and guidance documents (e.g., the San Francisco Bay Regional Water Quality Control Board's Environmental Screening Levels for soil, groundwater, and soil gas, and the DTSC's methane guidance). The report shall include recommendations for the following: further investigation if warranted; soil handling, disposal, and potential re-use options; and groundwater handling and discharge/disposal options.

If soil, groundwater, or soil gas sample analytical results exceed ESLs for unrestricted land use and naturally-occurring background concentrations for metals in soil, and/or if elevated methane is detected in soil gas, the applicant shall prepare and implement health and safety procedures and worker training requirements; a soil management plan; and/or methane management measures (e.g., installation of vapor barriers and/or other soil gas mitigation systems for the proposed new pump house and any other utility vaults where vapors could collect).

### Accidental Hazardous Materials Release during Building Demolition

The existing San Quentin Pump Station was constructed in 1972 and may contain asbestos-containing materials (ACM), lead-based-paint (LBP), and/or PCBs. Asbestos is a known human carcinogen that was commonly used in building materials until the early 1980s. Lead is a suspected human carcinogen, a known teratogen, and a reproductive toxin, and was widely used as an additive in paints prior to 1978. PCBs are known to cause cancer as well as other adverse health effects, and were used as additives to building materials (e.g. caulking, light ballasts, electrical equipment) prior to 1979.

The removal of hazardous building materials prior to demolition is governed by federal and State laws and regulations. Workers who conduct hazardous materials abatement and demolition activities must be trained in accordance with OSHA and Cal/OSHA requirements. Hazardous building materials removed during construction must be transported in accordance with U.S. Department of Transportation regulations and disposed of in accordance with RCRA, the California Code of Regulations, and/or the California Universal Waste Rule at a facility permitted to accept the wastes. The Bay Area Air Quality Management District (BAAQMD) requires notification from contractors and/or building owners 10 working days prior to renovation of buildings that contain asbestos. Implementation of Mitigation Measure HAZ-2 would ensure that potential hazardous building materials are properly identified and removed in accordance with applicable regulations prior to renovation. With implementation of Mitigation Measure HAZ-2, the project would create a less-than-significant impact related to accidental releases of hazardous materials during building demolition.

Mitigation Measure HAZ-2: Prior to demolition of the existing pump station, the project contractor shall submit a comprehensive assessment report to the City, signed by a qualified environmental professional, documenting the presence or lack thereof of ACMs, LBP, PCBs, and any other hazardous building materials. If hazardous building materials are present, the contractor shall submit specifications prepared and signed by a qualified environmental professional, for the stabilization and/or removal and disposal of the identified hazardous materials in accordance with all applicable laws and regulations. The contractor shall implement the approved recommendations and submit to the City evidence of any proposed remedial actions.

- c) **No Impact.** There are no schools within one-quarter mile of the project site. Therefore, there would be no impacts on schools.
- d) No Impact. The provisions of Government Code Section 65962.5 require the State Water Resources Control Board, Department of Toxic Substances Control, California Department of Health Services, and California Department of Resources Recycling and Recovery to submit information to the California Environmental Protection Agency pertaining to sites that were associated with solid waste disposal, hazardous waste disposal, and/or hazardous materials releases. The compilation of hazardous materials release sites that meet criteria specified in Section 65962.5 of the California Government

Code is known as the Cortese List. The State Water Board's Geotracker website lists the off-site San Quentin Landfill site, which is adjacent to the project site, as a "Land Disposal Site."

There are currently no hazardous materials release sites on the project site that meet the criteria for inclusion on the Cortese List. Therefore, the project would have no impacts related to development on a hazardous materials release site included on the Cortese List.

e) **No Impact.** The project site is located more than four miles south of the nearest airport, the San Rafael Airport (a private use airport). Gnoss Field is the nearest public use airport, located over 12 miles to the north of the project site.

The project site is not located within an airport influence area; therefore, project structures would not be considered a potential obstruction to aircraft. Furthermore, the project would not result in a substantial increase in bird populations, solar glare, misleading lighting, or other visual impairments in proximity to the airport's approach and departure zones. Therefore, the project would have no impacts on the navigable airspace of public use airports and would not result in a safety hazard for people residing or working in the project area.

- f) Less than Significant Impact. The proposed project is located at the end of a private dirt road and is not near or within any designated emergency access routes. Therefore, construction of the proposed project would not temporarily block or impair any existing emergency evacuation routes. Based on the project design, the project would have a less-than-significant impact on the implementation of any emergency response and evacuation plans.
- g) Less than Significant Impact. The project site is surrounded by paved urbanized uses, marshland, and an open body of water (the San Rafael Bay) and is not located in an area mapped as Very High Fire Hazard Severity Zone by California Department of Forestry and Fire Protection.<sup>28</sup> Therefore, the project would have a less-than-significant impact related to wildland fire hazards.

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<sup>&</sup>lt;sup>28</sup> CAL FIRE, 2007. Fire Hazard Severity Zones in SRA, Adopted by Cal FIRE on November 7, 2007.

IX.		OLOGY AND WATER ITY — Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Source
a)	waste o	any water quality standards or discharge requirements or otherwise ntially degrade surface or ground quality?					1
b)	ground may i	intially decrease groundwater es or interfere substantially with lwater recharge such that the project impede sustainable groundwater ement of the basin?					1
c)	pattern through stream	intially alter the existing drainage of the site or area, including in the alteration of the course of a or river or through the addition of ious surfaces, in a manner which					1,15
	(i)	result in substantial erosion or siltation on- or off-site?					1,15
	(ii)	substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?					1,15
	(iii)	create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?					1,15
	(iv)	impede or redirect flood flows?					1,7,15
d)		d hazard, tsunami, or seiche zones, lease of pollutants due to project tion?					1,11
e)	a wate	t with or obstruct implementation of r quality control plan or sustainable lwater management plan?					1

According to the RWQCB's Water Quality Control Plan for the San Francisco Basin, the project site is located in the Marin Coastal Basin and discharges to the San Rafael Bay. The San Rafael Creek watershed is 403 acres, consisting of urban/commercial development, hillside woods, and wetlands. The wetlands act as a storage basin for the pump station. The watershed is bisected by Interstate 580, which includes large roadside ditches for drainage that are inundated during rain events. Anecdotal evidence indicates that the parcels on the west side of Interstate 580 flood as a result of the existing pump flow rates. This evidence indicates that the existing pump system is insufficient. The at-risk properties are located at an elevation of four feet. See Appendix A, Sub-Appendix C for the full Drainage Study.

The project site is covered with pervious surfaces in the form of gravel/dirt roadways and marshland, with drainage flowing into the existing detention basins adjacent to the current pump station. According to the Federal Emergency Management Agency (FEMA) Federal Insurance Rate Maps (FIRM), the project site is in flood zone AE, which is defined as an area within the 100-year flood zone where a base flood elevation has been determined (FEMA, 2019).

# **Regulatory Setting**

The City of San Rafael is part of the Marin Countywide Stormwater Pollution Prevention Program (MCSTOPPP) whose goals are to: prevent stormwater pollution, protect and enhance water quality in creeks and wetlands, preserve beneficial uses of local waterways, and comply with State and Federal regulations. MCSTOPPP staff implement permit compliance and track stormwater regulations on behalf of the member agencies.

The federal Clean Water Act (CWA) Section 402, promulgated by rules developed by the US EPA in 1990, establishes the National Pollutant Discharge Elimination System (NPDES) stormwater program. The program requires that urban stormwater runoff pollution of the nation's water be regulated for Municipal Separate Storm Sewer Systems (MS4s). The San Francisco Bay Regional Water Board issued one Municipal Regional Stormwater NPDES Permit (MRP) in 2015 covering MS4s that serve populations of 100,000 or greater. For smaller MS4s, such as the City of San Rafael, discharges are currently regulated under a General Permit renewal issued by the State Water Resources Control Board in 2013 for Storm Water Discharges from Small MS4s (Water Quality Order No. 2013-0001-DWQ, NPDES General Permit No. CAS000004).

## **Discussion of Impacts**

a) Less than Significant Impact. Construction activities would require ground disturbance for excavation, demolition, grinding and paving, and retaining for pump station installation. The net cut of these activities is expected to be 312 cubic yards. Soil removed would be stockpiled at the project site and, if not properly controlled, soil particles and other materials could be carried in stormwater runoff to drainage facilities, which could degrade water quality in the San Rafael Bay. Standard construction measures recommended by the Marin Countywide Water Pollution Prevention Program would be implemented to minimize pollutants carried from the project site in runoff. The project would comply with

- terms of the State Water Board's Storm Water Discharges from Small MS4s General Permit. Water quality impacts during construction would therefore be less than significant, and operational water quality impacts would not change from current baseline conditions.
- b) Less than Significant Impact. The project would not require use of groundwater supplies or affect groundwater recharge in the area. The project would install a new pump station, creating impervious surface, but it would demolish and remove the existing station. Any impacts to wetland land cover would be mitigated pursuant to the measures listed in Section IV (Biological Resources). The pump station pumps surface water, as opposed to groundwater, that collects in the adjacent detention ponds and discharges it to the San Rafael Bay. This function is unchanged from the current condition and would not impede or interfere with groundwater recharge or groundwater management.
- c-i-iv) Less than Significant Impact. The proposed project would not alter the course of a stream or river, nor would it add substantial impervious surface. The project would install a new pump station, creating impervious surface, but it would demolish and remove the existing station and any impacts to wetland land cover would be mitigated pursuant to the measures listed in Section IV (Biological Resources). Therefore the project would not result in an increase in impermeable surfaces or an increase in runoff compared to existing conditions. The project would not cause a substantial change to the erosion and accretion patterns long-term because the pump station improvements would not alter the existing drainage pattern of the area. Temporary construction impacts related to run-off from the cut soil stored on-site could occur, but standard measures from the Marin Countywide Water Pollution Prevention Program and from the State Water Board's General Permit would be implemented to ensure impacts from runoff would remain less than significant. The proposed project is located with the 100-year flood zone, however it would not impede flood flow; as the pump station's purpose is to reduce stormwater and increase flood conveyance in the surrounding areas, flood flows would be benefited. Impacts would be less than significant.
- d, e) Less than Significant Impact. The project would not have other water quality or groundwater sustainability impacts beyond those discussed under items a) and b) above. Due to its proximity to the San Rafael Bay, the proposed project site is located in a tsunami inundation area; however, the operational project would leave the area very similar to its current condition with no additional risk of pollutants being released due to inundation. The project would comply with the Marin Countywide Water Pollution Prevention Program and the State Water Board's General Permit. Impacts would be less than significant.

XI.	LAND USE AND PLANNING – Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Source
a)	Physically divide an established community?					1
b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?					2

The project site is in a commercial portion of the City of San Rafael. Existing land uses adjacent to the project site consist of open space, single and multi-family residences, recreational uses, and commercial retail uses. The project site is within existing roads and access routes and their associated rights-of-way. The City of San Rafael General Plan, adopted in 2004 with various subsequent chapter amendments, provides policies and implementation strategies for management of the resources and land uses in the City, and the City Codes provide restrictions and requirements to protect resources and comply with local, state, and federal laws. Applicable General Plan policies are listed below. No habitat conservation plans have been adopted for the area.

#### **Regulatory Setting**

San Rafael General Plan

### Land Use Element

**LU-1. Planning Area and Growth to 2020**. Plan the circulation system and infrastructure to provide capacity for the total development expected by 2020.

#### Safety Element

- **S-2.** Location of Public Improvements. Avoid locating public improvements and utilities in areas with identified flood, geologic and/or soil hazards to avoid any extraordinary maintenance and operating expenses. When the location of public improvements and utilities in such areas cannot be avoided, effective mitigation measures will be implemented.
- **S-10.** Location of Public Improvements. To minimize threat to human health or any extraordinary construction and monitoring expenses, avoid locating improvements and utilities in areas with dangerous levels of identified hazardous materials. When the location of public improvements and utilities in such areas cannot feasibly be avoided, effective mitigation measures will be implemented.

- **S-17a. Title 18 Flood Protection Standards.** Evaluate and revise the City's Title 18 flood protection standards for new development based on Federal and regional criteria.
- **S-18 Storm Drainage Improvements.** Require new development to improve local storm drainage facilities to accommodate site runoff anticipated from a "100-year" storm.
- **S-19a.** Incremental Flood Control Improvements. Where needed and possible, new development/redevelopment projects shall include measures to improve area flood protection. Such measures would be identified and required through the development review process.
- **S-22a.** Erosion Control Programs. Review and approve erosion control programs for projects involving grading one acre or more or 5,000 square feet of built surface as required by Standard Urban Stormwater Management Plans. Evaluate smaller projects on a case-by-case basis.
- **2-22b. Grading During the Wet Season** Discourage grading during the wet season and require that development projects implement adequate erosion and/or sediment control and runoff discharge measures.
- **S-25.** Regional Water Quality Control Board (RWQCB) Requirements. Continue to work through the Marin County Stormwater Pollution Prevention Program to implement appropriate Watershed Management plans as dictated in the RWQCB general National Pollutant Discharge Elimination System permit for Marin County and the local stormwater plan.

# **Discussion of Impacts**

- a) **No Impact.** The project involves replacement of a pump station within an adjacent footprint to that of the existing station. The project location is mainly in a previously developed, gravel access road surrounded by open marsh land. The project would not physically divide an established community. No impacts would occur.
- b) Less than Significant Impact. A proposed project would have a significant impact if it were to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The proposed project is subject to several local policies, plans, and regulations, as described above. The primary objective of the proposed project is to replace the dilapidated existing pump station to improve storm water conveyance and reduce flooding in the surrounding areas. The project therefore meets General Plan policies related to safety via storm drainage improvements and flood control. The proposed project would be subject to a Stormwater Pollution Prevention Plan (SWPPP) approved by the RWQCB, which would outline all appropriate erosion control best practices. The proposed project would not conflict with the City of San Rafael General Plan or other applicable land use plans or policies. Impacts would be less than significant.

XII.	MINERAL RESOURCES — Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Source
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?					2,12
b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?					2,12

## **Discussion of Impacts**

a, b) **No Impact.** The project site is not in or adjacent to any important mineral resource areas. Furthermore, the development of the proposed project would not preclude future excavation of oil or minerals should such extraction become viable. As such, there would be no loss of availability of known mineral resources and no impacts to mineral resources.

XIII.	NOISE — Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Source
a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?					1,2, 9
b)	Generation of excessive groundborne vibration or groundborne noise levels?					1
c)	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?					1

The City of San Rafael Noise Ordinance limits construction hours to 7:00 A.M. to 5:00 P.M. Monday through Friday. The Director of Public Works/City Engineer may grant exemptions. Noise in the project site and vicinity is primarily from commercial development, residences, and vehicular traffic along roads. There are no schools or nursing homes adjacent to the project site. The nearest sensitive noise receptors are residences in the community 0.31 miles north of the proposed project site and students attending Bahia Vista Elementary school, located approximately 0.75 miles north-northwest of the site. However, shoppers at the commercial retail centers along Shoreline Parkway could also be potentially impacted by project-induced noise.

#### **Discussion of Impacts**

a) Less than Significant Impact with Mitigation Incorporated. Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Since the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound. A typical noise environment consists of a base of steady "background" noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway.

Several rating scales have been developed to analyze the adverse effect of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- L<sub>eq</sub> A L<sub>eq</sub>, or equivalent energy noise level, is the average acoustic energy content
  of noise for a stated period of time. Thus, the L<sub>eq</sub> of a time-varying noise and that
  of a steady noise are the same if they deliver the same acoustic energy to the ear
  during exposure. For evaluating community impacts, this rating scale does not
  vary, regardless of whether the noise occurs during the day or the night.
- L<sub>max</sub> The maximum instantaneous noise level experienced during a given period of time.
- L<sub>min</sub> The minimum instantaneous noise level experienced during a given period of time.
- CNEL The Community Noise Equivalent Level is a 24-hour average Leq with a 5 dBA "weighting" during the hours of 7:00 P.M. to 10:00 P.M. and a 10 dBA "weighting" added to noise during the hours of 10:00 P.M. to 7:00 A.M. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24 hour L<sub>eq</sub> would result in a measurement of 66.7 dBA CNEL.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day, night, or over a 24-hour period. For residential uses, environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60–70 dBA range, and high above 70 dBA. Noise levels greater than 85 dBA can cause temporary or permanent hearing loss. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet suburban residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate level noise environments are urban residential or semi-commercial areas (typically 55–60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher

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<sup>&</sup>lt;sup>29</sup> Office of Planning and Research, State of California General Plan Guidelines, October 2003 (in coordination with the California Department of Health Services).

levels associated with more noisy urban residential or residential-commercial areas (60–75 dBA) or dense urban or industrial areas (65–80 dBA).

It is widely accepted that in the community noise environment the average healthy ear can barely perceive CNEL noise level changes of 3 dBA. CNEL changes from 3 to 5 dBA may be noticed by some individuals who are extremely sensitive to changes in noise. A 5 dBA CNEL increase is readily noticeable, while the human ear perceives a 10 dBA CNEL increase as a doubling of sound.

Noise levels from a particular source generally decline as distance to the receptor increases. Other factors, such as the weather and reflecting or barriers, also help intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically "hard" locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically "soft" locations (i.e., the area between the source and receptor is normal earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels are also generally reduced by 1 dBA for each 1,000 feet of distance due to air absorption. Noise levels may also be reduced by intervening structures – generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The normal noise attenuation within residential structures with open windows is about 17 dBA, while the noise attenuation with closed windows is about 25 dBA.30

Table 2 lists the Federal Transit Administrations typical construction equipment noise levels at 50 feet.

**Table 2. Construction Equipment Noise Generation** 

Equipment	Typical Noise Level (dBA) 50 ft from Source	Equipment	Typical Noise Level (dBA) 50 ft from Source
Air Compressor	81	Jack Hammer	88
Backhoe	80	Loader	85
Ballast Equalizer	82	Paver	89
Ballast Tamper	83	Pile-driver (Impact)	101
Compactor	82	Pile-driver (Sonic)	96

<sup>&</sup>lt;sup>30</sup> National Cooperative Highway Research Program Report 117, Highway Noise: A Design Guide for Highway Engineers, 1971.

Equipment	Typical Noise Level (dBA) 50 ft from Source	Equipment	Typical Noise Level (dBA) 50 ft from Source
Concrete Mixer	85	Pneumatic Tool	85
Concrete Pump	82	Pump	76
Concrete Vibrator	76	Roller	74
Crane, Derrick	88	Saw	76
Crane, Mobile	83	Scarifier	83
Dozer	85	Scraper	89
Generator	81	Shovel	82
Grader	85	Spike Driver	77
Impact Wrench	85	Truck	88

Source: Federal Transit Administration. Transit Noise and Vibration Impact Assessment, 2006

Construction activities would generate temporary noise from equipment use; the most common noise generated would be from mobile diesel equipment such as excavators, dozers, trucks, front end loaders and compactors. Activities would be restricted to the hours of 7:00 A.M. to 5:00 P.M. Monday through Friday, unless otherwise approved in writing by the Director of Public Works.

Table 2 illustrates typical noise levels from construction equipment at a reference distance of 50 feet. Noise levels from construction equipment attenuate at a rate of six dBA per doubling of distance. Therefore, the noise levels at a distance of 100 feet would be 6 dBA less than those shown in Table 2. Construction equipment would generate maximum noise levels of approximately 101 decibels (dB) at 50 feet.

Construction noise levels may periodically exceed noise standards in the existing Noise Ordinance, but the temporary noise from construction would not cause a substantial increase in ambient noise or expose sensitive receptors to unacceptable noise levels for long periods of time. Impacts associated with construction noise would cause a potentially significant, temporary increase in noise levels, but incorporation of Mitigation Measure NOISE-1 would reduce noise impacts to a less-than-significant level.

Long-term operational noise impacts would be less than significant because the conditions would be similar to existing noise levels.

**Mitigation Measure NOISE-1:** The City shall incorporate the following practices into the construction documents to be implemented by the project contractor:

- Construction hours shall be limited to 7:00 A.M. to 5:00 P.M. Monday through Friday, unless otherwise approved in writing by the Director of Public Works.
- Notify businesses, residences, and noise-sensitive land uses adjacent to construction sites of the construction schedule in writing. Designate the City's construction manager as responsible for responding to any local complaints about construction noise. The construction manager shall determine the cause of the noise complaints (for example starting too early, or a bad muffler) and institute reasonable measures to correct the problem. Conspicuously post a telephone number for the construction manager at the construction site.
- Maximize the physical separation between noise generators and noise receptors.
   Such separation includes, but is not limited to, the following measures:
  - Use heavy-duty mufflers for stationary equipment and barriers around particularly noisy areas of the site or around the entire site;
  - Where feasible, use shields, impervious fences, or other physical sound barriers to inhibit transmission of noise to sensitive receptors;
  - Locate stationary equipment to minimize noise impacts on the community; and
  - Minimize backing movements of equipment.
- Use quiet construction equipment whenever possible.
- Impact equipment (e.g., jack hammers and pavement breakers) shall be hydraulically
  or electrically powered wherever possible to avoid noise associated with compressed
  air exhaust from pneumatically-powered tools. Compressed air exhaust silencers
  shall be used on other equipment. Other quieter procedures, such as drilling rather
  than using impact equipment, shall be used whenever feasible.
- Prohibit unnecessary idling of internal combustion engines.
- b) Less than Significant Impact. Ground-borne vibration and noise is typically associated with blasting operations, the use of pile drivers, and large-scale demolition activities. The proposed project would require driving sheet piles around the new pump station location to exclude water from entering the wet well during construction. This work would be very short-term, most likely being completed in two work days. The short-term use of pile drivers in soft ground would not generate noise that would be considered excessive, especially given the project location in open space, over 0.3 miles (1,600 feet) south of the closest residence and 0.75 miles southeast of the nearest school. As such, no excessive ground-borne vibrations would be generated by the proposed project and these impacts would be less than significant.
- c) No Impact. The nearest public airport to the project site is the Marin County Airport (Gnoss Field), located approximately 13 miles to the north-northwest. The project site is also located approximately 4.5 miles southeast of the private San Rafael airport. This distance precludes the possibility that the project would expose people residing or working in the project area to excessive noise in combination with aviation noise. No impacts in this regard would occur.

XIV.	POPULATION AND HOUSING — Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Source
a)	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?					1
b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?					1

The project site is in an open marshland area of the City of San Rafael, zoned for conservation, and surrounded by commercial, light industry, and residential land uses. There are no homes located within the project site.

# **Discussion of Impacts**

a, b) No Impact. The project would replace an existing pump station with a new pump station directly adjacent to the current location. The pump station would improve stormwater conveyance and flood control in the surrounding commercial areas and on Highway 580 as it leads to the Richmond Bridge. The project would be constructed mainly within a previously developed gravel road and turnaround area and would not displace people or housing. As the project does not include new housing, it would not result in a substantial increase in population or housing units in the City. No impacts would occur.

XV.	PUBLIC SERVICES — Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Source
a)	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:					
	Fire protection?					1
	Police protection?					1
	Schools?					1
	Parks?				$\boxtimes$	1
	Other public facilities?				$\boxtimes$	1

#### San Rafael Fire Department

The San Rafael Fire Department provides life safety emergency and non-emergency services in the areas of fire protection, technical rescue, emergency medical services, and disaster response. The Department operates 7 Fire Stations with 90 personnel 24/7 that provide these services within the City limits and other areas as defined through contracts and mutual aid agreements with bordering areas.

### San Rafael Police Department

The San Rafael Police Department has been in existence since 1855. In its current configuration, the Chief of Police directs a staff of 65 sworn and 24 non-sworn employees. Patrol is the largest division led by a Captain and includes the Traffic Unit, SWAT team, and Foot-beat. The Support Services Captain oversees Investigations, which is comprised of one lieutenant, one sergeant and four detectives, one School Resource Officer, a one sergeant-two officer Directed Patrol Unit, Youth Services Counseling, Records, Property Evidence, Dispatch, Permits and Personnel and Training.

### San Rafael City Schools

The San Rafael City Schools (SRCS) includes the San Rafael Elementary School District and the San Rafael High School District, with a total student population of nearly 7,000. The two districts are governed by one school board and one district office administration. The Elementary District is composed of nine schools. The High School District provides secondary education to students residing in two elementary districts: Dixie School District and San Rafael Elementary District. The High School District has two comprehensive 9-12 high schools (San Rafael High and Terra Linda High) and a continuation high school (Madrone High).

#### Parks and Recreational Facilities

The City of San Rafael has 25 City-owned parks totaling 140 acres, eight county parks totaling 532 acres, one State park with 1,640 acres and three community centers. There are 3,285 acres of open space within the city limits of San Rafael, or approximately 25 percent of the City's land area, which is owned or in part by the City of San Rafael. There is almost 7,300 acres of combined City and County open space within San Rafael's Sphere of Influence.

### **Discussion of Impacts**

a) Less than Significant Impact. Given the proposed project would not permanently increase the existing residential or employment population in the City, the project would not result in a long-term increase in the demand for public services or require construction of new governmental facilities. The purpose of the project is to improve stormwater conveyance and flood control in the surrounding commercial and residential areas. Therefore, no impacts related to schools, parks or other public facilities would occur. There is some potential for construction activities to slow emergency response times in a temporary and minor way; however this is very unlikely given the project's location in an open area away from major roads or emergency routes. Impacts to public services would therefore be less than significant.

XVI.	RECREATION — Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Source
a)	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?					1
b)	Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?					1

### **Environmental Setting**

No parks or recreational facilities are located in the project site. The San Francisco Bay Trial is located approximately 920 feet east of the current pump station and runs over the outfall pipe as it connects to the bay.

### **Discussion of Impacts**

a, b) **No Impact.** Given the proposed project would not permanently increase the existing residential or employment population in the City, the project would not increase the use of nearby recreational facilities. The purpose of the project is to improve stormwater conveyance and flood control in the surrounding commercial and residential areas and it does not include recreational facilities or require the construction or expansion of recreational facilities. Construction activities along the outfall pipe (excavating a pit to install a pressure vault at the end of the new pipe) could potentially occur within 70 feet of the San Francisco Bay Trail, but these activities would be temporary and would not disrupt or preclude recreational activities on the trail or cause frequent recreators to seek other recreational outlets. No impacts would occur.

XVII.	TRANSPORTATION — Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Source
a)	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?					1,2
b)	Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?					1,2
c)	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?					1,2
d)	Result in inadequate emergency access?					1,2

### **Environmental Setting**

The project site is located in uninhabited open space north of the Target store on Shoreline Parkway in the City of San Rafael. The current pump station is located on an unnamed, graveled turnaround area off of a levee road that connects to Francisco Boulevard East, along which an associated stormwater discharge pipe runs toward the San Rafael Bay. The area does not contain other structures or attractions that create utilization of the gravel levee road. However, the intersection of the levee road with Francisco Boulevard East is often highly trafficked, especially due to its proximity to Shoreline Boulevard and the commercial shopping centers that run along it, including Home Depot and Target, and its connection to the Richmond-San Rafael Bridge. The only pedestrian or bicyclist facility in the vicinity of the project area is the San Francisco Bay Trail, which runs along the east side of the project site adjacent to San Rafael Bay; however, the proposed work would be contained to an area outside of the 100-foot shoreline band, and would therefore stop short of the bay trail.

The San Rafael General Plan 2020 Circulation Element calls out San Rafael's circulation needs in the following categories: roadway improvements, school transportation, transit users, transit services, paratransit services, bicycle and pedestrian facilities, parking facilities, airport facilities, and funding needs. It also identifies the City's main highways and arterials. Highway 580, 0.32 miles southwest of the project site, is the closest highway. Francisco Boulevard East (0.3 miles southwest) and Bellam Boulevard (0.5 miles northwest) are the closest major arterial roads to the project site. Bellam Boulevard is the main route allowing vehicles access to the residential neighborhood to the north of the open marsh area in which the project site is located, and Francisco Boulevard is the only road to which the levee road used for accessing the project site

actually connects. Lastly, Kerner Boulevard, which creates access to the commercial and light industrial areas to the northwest and southeast of the project vicinity, is a minor arterial road.

### **Discussion of Impacts**

a) Less than Significant Impact. A significant impact may occur if the adopted California Department of Transportation (Caltrans) and Marin County Congestion Management Agency (CMA) thresholds for a significant project impact would be exceeded. To address the increasing public concern that traffic congestion is impacting the quality of life and economic vitality of the State of California, the Congestion Management Program (CMP) was enacted by Proposition 111. The CMP designated a transportation network including all State highways and some arterials within the County to be monitored by local jurisdictions. If the LOS standard deteriorates on the CMP network, then local jurisdictions must prepare a deficiency plan to be in conformance with the CMP program.

As discussed above, the proposed project would not permanently increase traffic on local roads or highways. The project would maintain all lanes of traffic on all main roads at all times during construction. The proposed project would not result in long-term traffic increases. Impacts would be less than significant.

b) Less than Significant Impact. A significant impact may occur if the proposed project were to be inconsistent with provisions outlined in CEQA Guidelines section 15064.3, subdivision (b), which sets forth criteria for analyzing transportation impacts. Under the CEQA Guidelines, a lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including a qualitative analysis.

The proposed project would have no impacts whatsoever on vehicle miles traveled in and around the project site on an operational level. The pump station would require very little maintenance once it is operational, and that which it would require would be consistent with current baseline conditions.

Construction traffic (equipment and materials transport and daily worker traffic) would slightly increase traffic on local roads during the temporary construction phase of the proposed project. Temporary construction traffic would be limited to equipment delivery and material transport, and a few employee vehicles on a daily basis, which would be parked on-site at the gravel turnaround and out of the way of main streets. The temporary construction-related traffic would not result in a noticeable increase in traffic on local roads. Vehicles transporting equipment and materials to the project site could cause slight delays for travelers as the construction vehicles slow to turn onto the levee access road from Francisco Boulevard East, but no temporary lane closures or detours would be required. Control measures to warn pedestrians and bicyclists that use the gravel levee road for recreational purposes, as described in the project description, would be in place during the construction phase to alert motorists to potential delays. These measures would include advance warnings signs such as reflective signs, changeable message boards,

cones, and/or barricades. With these measures and the temporary nature of construction-related traffic, impacts on traffic would be less than significant.

- No Impact. A significant impact may occur if a project were to include a new roadway design, introduce a new land use or permanent project features into an area with specific transportation requirements and characteristics that have not been previously experienced in that area, or if project access or other features were designed in such a way as to create hazardous conditions. The proposed project does not require features or structures that are not already characteristic of the baseline condition. The project site already contains a pump station, and the new pump station would be placed immediately adjacent in the same uninhabited, open space, gravel area off of main roads. The outfall pipe would be sliplined into the existing pipe, such that no changes to the character of the area would be created. The proposed work would not bring new traffic or travel to the area or introduce design features that are not already present, and the proposed uses are the same as those that area already in place and are therefore compatible. No impacts would occur in this area.
- dirt road and is not near or within any designated emergency access routes. During the temporary construction period, minor delays due to slower moving construction vehicle traffic may be experienced for emergency access to the residences to the north of the open marshland in which project work would occur. All lanes would remain open on all roads and no detours would be required, as all work is contained in the isolated gravel turnaround of the current pump station. As stated in the standard construction BMPs outlined in the Project Description, the City or its contractor would notify and coordinate with law enforcement and emergency service providers prior to the start of construction to ensure minimal disruption to service during construction. Due to this and the short-term nature of the construction, impacts would be less than significant.

XVII	I.TRIBAL CULTURAL RESOURCES — Would the project?	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant	No Impact	Source
a)	Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:					
i)	Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?					1
ii)	A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.					1

### **Environmental Setting**

The Native American Heritage Commission (NAHC) was contacted via email to request a review of the Sacred Lands file and to request a list of Native American contacts in this area. The response letter dated March 4, 2019 by Steven Quinn (NAHC Staff Services Analyst) indicated that the search of the Sacred Lands File had a positive result. The NAHC response letter identified two Native American individuals (Gene Buvelot and Greg Sarris) associated with the Federated Indians of the Graton Rancheria (FIGR) that may have knowledge of cultural resources within the project area.

Federated Indians of the Graton Rancheria 6400 Redwood Drive, Suite 300 Rohnert Park, CA 94928 On January 31, 2019 consultation letters were sent to both Native American individuals listed by the NAHC; as the City has worked with FIGR on other projects, they had contact information to send letters before hearing back from the NAHC. In a letter dated February 28, 2019, Buffy McQuillen, Tribal Historic Preservation Officer with the Federated Indians of the Graton Rancheria, responded to state that the Tribe requests formal consultation for the project.

On April 23, 2019, Theo Sanchez, City of San Rafael, provided the draft Archaeological Survey Report to Buffy McQuillen for review and comment. Later that day, Buffy McQuillen replied by email to provide comments on the draft report.

On May 7, 2019, Alex DeGeorgey spoke with Buffy McQuillen over the phone to discuss her comments on the draft report. Buffy stated that the positive results from the Sacred Lands File are the prehistoric shell mound sites that are documented in the vicinity of the project area. No Sacred Sites are present within the project area proper. Ms. McQuillen requested that the tribe be contacted if previously unidentified cultural resources are discovered during project implementation.

To date, no additional communications have been completed. Attachment B (Native American Consultation) of Appendix C (Archaeological Survey Report and Historic Resource Evaluation Report) provides documentation of Native American correspondences.

### **Regulatory Setting**

### Assembly Bill 52

In September 2014, the California Legislature passed Assembly Bill ("AB") 52, which added provisions to the Public Resources Code ("PRC") concerning the evaluation of impacts on tribal cultural resources under CEQA, and consultation requirements with California Native American tribes. In particular, AB 52 now requires lead agencies to analyze a project's impacts on "tribal cultural resources," separately from archaeological resources (PRC Section 21074; 21083.09). Under AB 52, "tribal cultural resources" include "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" that are either (1) listed, or determined to be eligible for listing, on the state or local register of historic resources; or (2) a resource that the lead agency chooses, in its discretion, to treat as a tribal cultural resource (PRC Section 21074).

AB 52 also requires lead agencies to engage in additional consultation procedures with respect to California Native American tribes (PRC Sections 21080.3.1, 21080.3.2, 21082.3). If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document must discuss (1) whether the proposed project has a significant impact on an identified tribal cultural resource and (2) whether feasible alternatives or mitigation measures avoid or substantially less the impact on the identified tribal cultural resource (PRC Section 21082.3(b)). Finally, AB 52 required the Office of Planning and Research to update Appendix G of the CEQA Guidelines by July 1, 2016 to provide sample questions regarding impacts to tribal cultural resources (PRC Section 21083.09). AB 52's provisions apply to projects that have a notice of preparation filed on or after July 1, 2015.

### California Register of Historical Resources

Criteria for important historical resources on the California Register or historic properties on the National Register are as follows:

- Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California.
- 2 Is associated with the lives of persons important to local, California history.
- 3 Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of a master or possess high artistic values.
- 4 Has yielded, or may be likely to yield, information important to the pre-history or history of the local area or California.

### **Discussion of Impacts**

a-i, ii) Less than Significant with Mitigation Incorporated. Review of historic registers and inventories indicate that no historical resources are present in the project area. No state, local, or National Register-listed or eligible properties are located with the 0.5-mile visual area of the APE. Review of the Sacred Land file by the NAHC identified the presence of a cultural resource within the project vicinity and recommended consultation with FIGR for more information. This consultation was completed via phone calls, emails, and cultural report reviews with FIGR Tribal Historic Preservation Officer, Buffy McQuillen. Consultation revealed that no Sacred Sites are present within the project area proper; however, as there is always some potential to uncover previously buried cultural resources, the tribe requested to be contacted if previously unidentified cultural resources are discovered during proposed project activities.

Furthermore, per Public Resources Code 5097.98 and Health and Human Safety Code 7050.5, if human remains are encountered, excavation or disturbance of the location shall be halted in the vicinity of the find, and the County Coroner contacted. If the Coroner determines the remains are Native American, the Coroner shall contact the Native American Heritage Commission, who shall identify the person or persons believed to be most likely descended from the deceased Native American in order to provide guidance on handling the remains.

Implementation of Mitigation Measure CULT-1 in Section V, along with compliance with State law, would ensure that impacts to tribal cultural resources remain less than significant.

XIX.	UTILITIES AND SERVICE SYSTEMS  — Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Source
a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?					1
b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?					1
c)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?					1
d)	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?					1
e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?					1

### **Discussion of Impacts**

a) Less than Significant Impact. The proposed project calls for replacement of the deteriorated storm drainage pipe that discharges water pumped from the current pump station into the San Rafael Bay. The outfall pipe has leaks and breaks in two separate locations where trenches would need to be cut to repair the existing pipe. However, the rest of the pipe would be replaced via sliplining a new 48-inch-diameter drainage pipe inside the existing 60-inch-diameter pipe. The project therefore does not require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage. The proposed project would not require much power, but an on-site

- generator would provide any needed electricity. No other utilities or telecommunication facilities would be required or affected. Less that significant impacts would occur.
- b, c) Less than Significant Impact. Neither construction nor operation of the project would generate wastewater or consume potable water. The project would repair or replace a pump station and storm drainage pipe. As the proposed project does not have an element that would increase the residential or employment population of the area and, in essence, replaces structures and function that are currently present and operational, there would be less than significant impacts related to water supply, wastewater treatment capacity, or infrastructure.
- d, e) Less than Significant Impact. The project would generate soil spoils and solid waste from removal of pavement and concrete structures comprising the existing pump station to be demolished. The 312 cubic yards of net cut soil would be stored on-site and allowed to revegetate. Other solid waste would be properly disposed of or recycled in a nearby landfill or approved disposal facility with capacity to receive the waste. Any materials used during construction would be properly disposed of in accordance with federal, state, and local regulations. Impacts related to solid waste facilities, statutes, and regulations would be less than significant.

XX.	<b>WILDFIRE</b> — If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant	No Impact	Source
a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?					1,2
b)	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?					1,10
c)	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?					1
d)	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?					1,10

### **Environmental Setting**

The project site is not with the Wildland Urban Interface and is therefore not designated as a Very High Severity Zone per the San Rafael Fire Department.<sup>31</sup> The proposed project site is within an open marshland area, with very little slope.

### **Discussion of Impacts**

a-d) Less than Significant Impact. The proposed project would not impair an adopted emergency response plan or emergency evacuation plan due to its location in an open area, away from residences, business, and major roads. The project site is flat, outside the Wildland Urban Interface, and is not considered a High Severity Zone for wildfire. The project is replacing an existing structure, and therefore does not require installation of additional utility infrastructure over the current baseline condition. The proposed project would pose less than significant impacts related to exacerbating or exposing people to wildfire risk.

<sup>&</sup>lt;sup>31</sup> https://www.cityofsanrafael.org/prepare-for-wildfire/. Accessed 4/30/2019.

XXI.	MANDATORY FINDINGS OF NIFICANCE	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Source
a)	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?					1
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?					1
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?					1

### **Discussion of Impacts**

a) Less than Significant with Mitigation Incorporation. The incorporation of the mitigation measures included in Section IV (Biological Resources) would reduce potential impacts to a less-than-significant level. The project site does not contain any resource listed in, or determined to be eligible by, the State Historical Resource Commission and does not contain a resource included in a local register of historic resources or identified as significant in a historical resource survey. Additionally, the project site does not contain any object, building, structure, site, area, place, record, or manuscript that a lead agency determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. However, cultural resources could potentially be uncovered during construction. Mitigation measures included in Section V (Cultural Resources) would reduce potential impacts to a less-than-significant level.

- b) Less Than Significant with Mitigation Incorporation. Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. The analysis within this Initial Study demonstrates that the project would not have any individually limited, but cumulatively considerable impacts. As presented in the analysis in Biological Resources, Cultural Resources, Hazards and Hazardous Materials, Noise, and Tribal Cultural Resources sections, any potentially significant impacts would be less than significant after mitigation. Due to the limited scope of direct physical impacts to the environment associated with construction, the project's impacts are project-specific in nature. Compliance with the conditions of approval issued for the proposed development would further assure that project-level impacts would not be cumulatively considerable. Consequently, the project along with other cumulative projects would create a less than significant cumulative impact with respect to all environmental issues.
- c) Less Than Significant Impact. With implementation of the construction measures and BMPs discussed in the Project Description, the project would not result in substantial adverse effects to human beings, either directly or indirectly.

### **CHECKLIST INFORMATION SOURCES**

- Professional judgment and expertise of the environmental/technical specialists evaluating the project, based on a review of existing conditions and project details, including standard construction measures and technical reports
- 2. City of San Rafael General Plan, 2004
- 3. California Department of Transportation, 2012
- 4. California Department of Conservation, 2016
- 5. U.S. Fish and Wildlife Service, California Department of Fish and Game, and California Native Plant Society species lists
- 6. Natural Resources Conservation Service, 2017
- 7. Federal Emergency Management Agency, 2016
- 8. California Department of Conservation, 2015
- 9. City of San Rafael Noise Ordinance
- 10. ABAG Hazards Mapping, 2019
- 11. Bay Area Air Quality Management District, 2010
- 12. USGS Mineral Resources Data System, 2011
- 13. Biological Resources Memorandum, WRA 2019
- 14. Archaeological Survey Report and Historic Resource Evaluation Report, Alta 2019
- 15. San Quentin Pump Station Basis of Design Report and Appendices, CSW|Stuber-Stroeh, 2018

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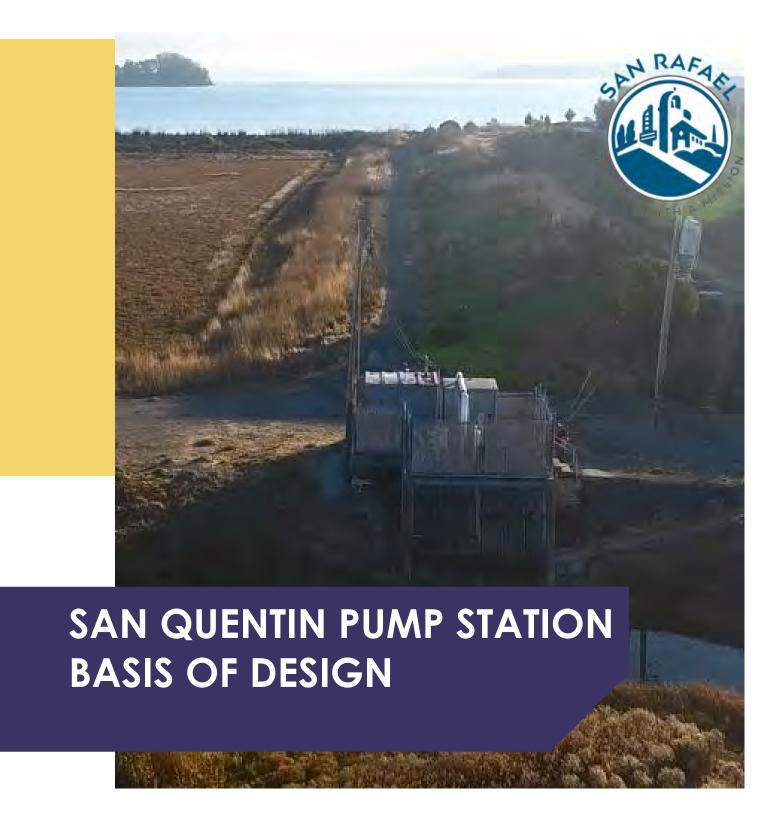
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## **APPENDIX A:**

San Quentin Substation Basis of Design Report

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- C. Drainage Study
- D. Vertical Pump Specification
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- F. Opinion of Probable Construction Cost
- G. Schematic Layout Options
- H. Concept Plan

## **EXECUTIVE SUMMARY**

The City of San Rafael retained CSW|Stuber-Stroeh Engineering Group (CSW|ST2) to provide a Basis of Design and Concept Plan to replace the San Quentin pump station and portions of the 60-inch diameter outfall pipe. The pump stations was built in 1972 and has been operational for 46 years. During that time the outfall pipe deteriorated to the point where leaks are noticeable at the ground surface when the pumps are in use. The pumps have been maintained, but are passed the efficient operating life and need to be repaired. Furthermore the station itself shows signs of age and continues to settle differentially relative to the outfall pipe and site. Repairing the structure is anticipated to be more expensive than replacement of the pump station. The purpose of the Concept Plan is to review the various options to replace the pump station and outfall pipe and set parameters under which the design will be completed. The Concept Plan provides a visual aid for pump station alternatives, whereas the Basis of Design provides the foundation for future construction documents.

CSW|ST2 completed a field and boundary survey to use as a base map in the design. The survey information includes existing site features, limits of wetland boundary, and property lines. The information may be utilized in future construction documents and for temporary construction easement and/or right of entry determinations.

CSW|ST2 coordinated the City's maintenance staff to better understand existing pump station conditions and flooding concerns within the watershed during large storm events. We subsequently modeled significant storm events to determine appropriate pump alternatives and pipe types and sizes. To establish the physical constraints and opportunities of the site the CSW|ST2 team studied the geotechnical and environmental conditions for inclusion within the Basis of Design and future construction documents.

The intent of the Basis of Design is to give City staff an opportunity to review and comment on the preferred alternatives and layout prior to completing construction documents. As shown in Appendix G, three (3) pump station layouts were considered in two (2) locations. In addition to the alternatives and layouts included herein, we considered relocating the pump station closer to the Bay (Option 2 in Appendix G). This option, however, proved to have significant costs resulting from environmental impacts, mitigation and monitoring, and land acquisition from neighboring private landowner(s). The relocated pump station option is not financially feasible as indicated in Table 7. Further discussion of the environmental challenges are listed in the WRA technical memorandum (Appendix B). As indicated in the Concept plan, locating the new pump station as close to the existing pump station as possible provides the following benefits:

- Maintains existing low point in the channel and lagoon drainage system
- Minimizes impacts to sensitive habitat areas
- Provides close proximity to the existing electrical service resulting in no electrical service relocation
- Provides sufficient area for construction staging
- Provides better access and staging areas including a turnaround for maintenance vehicles

Locating the new pump station in close proximity to the existing is not without some challenges. Those challenges include potential long-term settlement, a greater length of outfall pipe and minimizing the backwater to

the outfall pipe and pump caused by tidal fluctuation. CSW|ST2 feels these challenges can be mitigated by including the following in the design:

- Design structural elements to provide a floating foundation for the pump station and distribute loads to the soft underlying bay muds thus minimizing additional settlement and allowing more consistent settlement between the pump station and the outfall pipe.
- Utilize lightweight back fills to decrease the trench loading and settlement.
- Install flap gates to prevent intrusion of bay water into the new storm drain pipe.

Pump station layout is based on recommendations listed in the Hydraulic Institute Standards to increase pump efficiency. Per the findings of the Drainage Study report, either two (2) pumps each with a 100 cfs or three (3) pumps each with a 66 cfs capacity will provide approximately 1-foot freeboard elevation to the maximum water surface elevation indicated by staff (Appendix G). Utilizing three (3) 100 cfs pumps will further increase the freeboard to 2-foot and increase the time between pump runs. The pump type will be axial flow vertical pumps. Additionally, a smaller submersible pump will be utilized for nuisance water between storms and through the dry months. Benefits and constraints for the feasible pump types are listed in Tables 3 and 4. Opinion of probable construction costs for the pump station based on relocating closer to the Bay or adjacent to the existing pump station are listed in Tables 7 and 8. Differential costs associated with utilizing either a (2) or (3) pump configuration with either a pump vault or pressure chamber are indicated in Tables 5 and 6.

## INTRODUCTION

The San Quentin Pump Station was constructed over 40 years ago to serve a portion of east San Rafael that was envisioned as a major light industrial area extending toward the Richmond San Rafael Bridge from the canal area. The pump station lifts storm water from the large low-lying detention ponds through the levee for discharge to San Rafael Bay. Under the current pump system, if the pump station loses power or one of the two pumps fail, then flooding occurs in the industrial areas and along Highway 580 leading to the Richmond San Rafael Bridge.



Regional geologic mapping (California Division of Mines and Geology, 1976) indicates the project site is underlain by artificial fill over Bay Mud with marsh deposits to the north. The pump station is located on former marshland that was reportedly filled in the 1960s and was developed as a pump station in 1973 as a part of the East San Rafael Drainage Assessment District. The surface elevations at the site generally range between +2 and +5 and are protected from the bay by a levee along the San Rafael Bay. At the east end of the site the outfall pipe lies under the levee (elevation +9) before terminating in the outboard bank of the levee. The adjacent ±20-foot high embankment was constructed for the Target store in 2013 and is located immediately south of the outfall pipeline.

The San Quentin Disposal Site (SQDS), located immediately south of the site was a permitted Class III landfill that accepted construction and landscape debris from 1968 to 1987. Regional Water Quality Control Board (RWQCB) landfill closure report (2001) indicates the landfill does not extend onto the pump station site.

## HYDROLOGY AND HYDRAULIC STUDY

The San Quentin Pump Station watershed is approximately 403 acres (see Figure 1) and flows into a storage basin created as part of the East San Rafael Drainage Assessment. The watershed consists of Hydrologic Soil Groups "B" and "undefined" (which is assumed to be Group "D") according to the USDA Soil Survey. Hydrologic models were developed for a double storm event to determine potential flooding of at-risk properties if the detention basin is partially filled from a smaller significant storm which is preceded by a large storm event. Given the slow percolation of the bay muds, we assumed the detention basin will be partially filled. Consequently, we modeled a 5-year, 24-hour storm event followed by the 100-year, 24-hour storm event with a two hour overlap between the two events. Results of the 5- and 100-year peak discharge rates for the 24-hour storm event are indicated below and in the Drainage Study.

 Recurrence Interval
 Time to Peak (hours)
 Peak Discharge Rate (cfs)

 5-Year
 3.1
 153.28

 100-Year
 3.1
 329.10

Table 1: 24-Hour Rain Event Peak Discharge Rates

Anecdotal evidence indicates the parcels on the west side of Highway 101 flood since the current pumps only yield 50 cfs at their peak discharge flows. The at-risk properties are located at an elevation of approximately 4.0 foot (NAVD 88). This elevation was used as the allowable peak water elevation in developing the hydraulic model for the pond and pumps. Results of four (4) different pump sizing configurations based on the maximum 4.0 foot water surface elevation (WSEL) are indicated below and in the Drainage Study.

**Pump** Constraints / Benefits Maximum Flow Rate WSEL Pump On Pump Off Freeboard (2) 50 cfs N/A 24 hrs N/A 3.9 (3) 66 cfs 1' 2.9 8 hrs 2 hrs (2) 80 cfs 3.9 N/A 17 hrs 1 hr (2) 100 cfs 2.9 1' 10 hrs 2 hrs 2 (3) 100 cfs 2.1 6 hrs 3 hrs

**Table 2: Pump Analysis Results** 

The analysis indicates that either a three (3) 66 cfs pump system or a two (2) 100 cfs pump system has sufficient capacity to convey the peak discharge rate from the 5-year 24-hour and 100-year 24-hour storm in series while maintaining a 1' freeboard above the WSEL and allowing for pump rest periods.

## **PUMP SELECTION**

The pump station will house two (2) or three (3) Cascade vertical axial flow pumps. To provide enough head/pressure for the storm water discharged from the pumps to reach the bay, water will be pumped into a pressure chamber which will be connected to the outfall pipe. The pump efficiency for (3) 200 HP pumps capable of 66 cfs is over 81%. The pump efficiency for (2) 300 HP pumps capable of 100 cfs is approximately 80%. The proposed discharge assembly, pressure box will be configured to better drive the outflow from the pump discharges to the outfall pipe through directed discharge assemblies and other miscellaneous equipment housed in the pump station and pressure chamber. These improvements will improve normal operations as well. In our opinion, using (3) vertical axial flow pumps is the preferred option. Utilizing (3) smaller 66 cfs pumps provides flexibility and increase efficiency for the more frequent, smaller storm events while also having the capacity for the 100year storm event. Utilizing (3) 100 cfs pumps provides more flexibility on larger storm events with increased pump rest time and a higher freeboard over the maximum 4.0 foot water surface elevation. The benefits and constraints of the vertical pump are listed below.

**Table 3: Vertical Pump Review** 

Benefits	Constraints
Low Maintenance	Unsuitability of Shallow Sumps
Easy Access	Headloss in Suction & Discharge Assembly
Freshwater Flushing of Bearings	Limited Pump Access
Small Floor Area	Noise Level

Options reviewed for submersible pumps are shown in Appendix E. Flygt pumps capable of handling either 66 or 100 cfs were reviewed. Pump efficiency for (3) 185 HP pump capable of 66 cfs is approximately 81%. The pump efficiency for (2) 230 HP pump capable of 100 cfs is approximately 81%. A smaller 3 HP submersible pump shall be included in the final documents for nuisance water during dry weather season and maintenance purposes. The benefits and constraints of the submersible pump are listed below.

Table 4: Submersible Pump Review

Benefits	Constraints
Availability of Pump Sizes	More Expensive Pump & Motor
Natural Cooling by Stormwater	Need to Submerge Pump
Easy to Remove for Repairs	Limited Motor Sizes
Protection from Dry Well Flooding	

## PUMP STATION LOCATION AND LAYOUT

The most cost efficient pump station location is typically at the low point of the watershed. As indicated in the environmental technical memorandum (Appendix B), the existing pump station is already located at the low point. As part of the East San Rafael Drainage Assessment District project, the area was excavated to create a low point at the existing pump station. The area excavated for the lagoon is now considered to be sensitive habitat area (wetland) with special status plant and animal species. Relocating the pump station closer to the bay, as indicated in Option 2 (Appendix G), requires excavation and a net loss of wetlands area for a new drainage channel. Recent Corps regulations favor purchase of credits in mitigation banks over project-sponsored mitigation. The cost of these credits are expected to run approximately \$1 million. This cost does not include monitoring requirements or land acquisition costs, which will be required if this option is considered. Locating the pump station closer to the bay places the station between the toe of the building pad for the Target store and the top of the bank of the storage pond. This is a narrow area and does not provide an easy staging area from which to build the station.

Locating a new pump station south of the existing pump station minimizes wetland disturbance and provides the benefit of a relative large construction staging area with good access. As indicated in Options 1 and 3 (Appendix G), the pump station will be located near the existing PG&E power pole. The proximity to the current station should not significantly affect the operation of the existing pump station during construction. As indicated in the Concept plan, CSW|ST2 recommends the new pump station be located close to the existing watershed low point, south of the existing pump station.



As indicated in the geotechnical report, the planned pump station is feasible from a geotechnical standpoint. The weight of the new pump station is anticipated to be less than the weight of the excavated soil to build the station.

The weight of the removed soil will offset the weight of the new station, minimizing additional settlement of the structure. Primary geotechnical considerations for the project include:

- Excavation through soft Bay Mud
- Providing appropriate temporary support for excavations
- Providing appropriate seismic and structural design for any new structures
- Providing for proper bedding and trench backfill
- Minimizing the extent of excavation and associated backfills for new manholes and other below-grade structures that are underlain by Bay Mud

As indicated in the geotechnical report, the planned pump station is feasible from a geotechnical standpoint. The weight of the new pump station is anticipated to be less than the weight of the excavated soil to build the station. The weight of the removed soil will offset the weight of the new station, minimizing additional settlement of the structure. Primary geotechnical considerations for the project include:

The Motor Control Center and other electrical components are housed outside the pump station. An electrical instrumentation and controls design will be incorporated in the final pump station design. Based upon initial review of the PG&E electrical facilities, the existing transformer will be a ground mounted transformer. As indicated in the Concept plan, an area will be designated for an existing City supplied portable generator. Alarm monitoring and controls will be determined by City staff and incorporated in the final design plans.

## DISCHARGE PIPING

Discharge piping and miscellaneous equipment housed in the pump station will be necessary for normal operations. Options for use of a pressure vault or a manifold discharge assembly were reviewed. The current pump station utilizes a pressure vault which connects to a 60inch diameter outfall pipe. A pressure vault minimizes pressure loss, construction costs, and future maintenance.

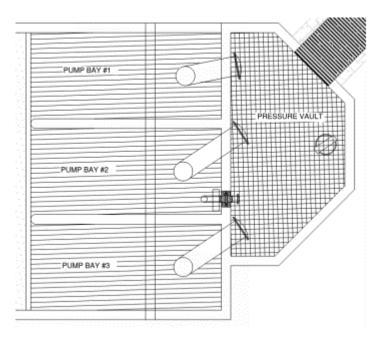


Figure 3: Pressure Vault

Hydraulic calculations for a pressurized manifold system revealed high headloss through the bends and valves, which would require larger pumps further increasing costs. Consequently, the pressure vault is recommended to be used for the final design of the pump station.

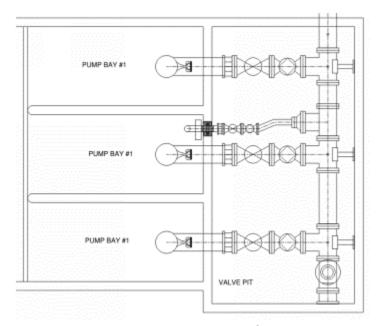


Figure 4: Pressure Manifold

As indicated in the Concept plan, the pressure vault will connect to a pressurized outfall pipe. Based on discussion with City maintenance crews, the existing 60-inch RCP outfall pipe leaks and has settled unevenly in the bay mud causing sags. Due to poor access and presence of water in the existing outfall pipe, TV inspection was not a viable option to determine the existing pipe condition. CSW|ST2 retained Bess Test Lab to utilize Ground Penetrating Radar (GPR) and potholing to help locate the size and magnitude of potential pipe sags. GPR is limited in moist clays as the electromagnetic signal is weak and the results are approximate. Based on results of the GPR, our preliminary opinion is that there are three (3) sags and either a dislocated or broken pipe segment. The magnitude of the sags appears to be less than 12-inches.



CSW|ST2 looked at three potential options to improve the 900 feet of discharge outfall pipe. These options include 1) slip lining the existing 60-inch RCP with the new 48-inch diameter HDPE, 2) installing a Cured in Place Pipe (CIPP) within the 60-inch RCP, and 3) open trench removal of the existing pipe and installing in a new 48-inch diameter HDPE pipe. Given the narrow (25-foot) work area and insignificant headloss, a larger diameter pipe was not considered for open trench construction. The following includes the benefits and constraints of each option.

### Option 1 – Slip Line

Slip lining the existing pipe may be feasible if the existing pipe sags and any dislocation(s) are repaired. Location of the existing pipe deficiencies and anomalies are approximate due to limited access. The contractor will be required to dewater the existing storm drain and maintain operation of the existing pump station while thoroughly cleaning and installing the new pipe inside of the existing pipe. The benefits of this option include a smoother lining and less headloss. Slip line rehabilitation technology has been historically successful and works well with long straight pipe segments. Given the environmentally sensitive habitat and limited work area (25-foot wide), slip lining provides a viable solution.

### Option 2 – Cured in Place Pipe

The second option, CIPP, requires fixing existing sags and dislocation and then placement of one or two layers of carbon fiber with thermosetting resin inside the existing 60-inch RCP. The impregnated liner is then filled with hot

water or steam and held at a temperature above 180°F until the resin chemically reacts, curing to form a new pipe inside the old pipe. Ultraviolet light is an alternative method for curing the CIPP liner. Major factors impacting the thickness of the CIPP liner include the extent of deterioration of the existing pipe, the depth of cover, and the presence of storm and/or groundwater.

The advantage of this method is the liner is thinner than the pipeline materials used for slip lining. The new pipeline is mechanically bonded to the host pipe and movement of the cured pipe is not likely to occur. Since the CIPP pipe essentially coats the existing pipe with a very smooth wall, the outfall pipe will more efficiently convey the storm water to the bay, reducing the headloss in the outfall pipe. CIPP is typically cost-competitive with slip lining. One major drawback with the CIPP method is the potential release of styrene from curing water to the bay. Special catchment may be required to mitigate the potential environmental impact. In addition, the existing outfall discharge pipe requires repairs and dewatering during the CIPP process. Given the environmentally sensitive habitat and potential release of styrene, this option is not included in the Concept plan.

### Option 3 – Open Trench for Pipe Replacement

Opencut replacement of the existing discharge pipe with a new 48inch HDPE pipe is a viable option. As indicated in the Concept plan, a new manhole located outside the 100foot BCDC shoreline band is recommended to provide access for future maintenance and to allow installation of a flap gate to prevent tidal water from the bay to enter the outfall pipe. Using a smaller 48inch HDPE will have an equivalent head loss through the outfall pipe as compared with the existing 60inch diameter RCP.

Hazen Williams Equation $H_{f} = \underbrace{3.022 * V^{1.85} * L}_{C^{1.85} * D^{1.165}}$		where	H <sub>f</sub> = headloss, ft V = velocity, ft/s C = roughness coefficient D = pipe diameter, ft
$H_{f} = \underbrace{3.022 * 10.21.85 * 986}_{130^{1.85} * 4^{1.165}}$	=	6.1 ft	48 inch HDPE
$H_{f} = \underbrace{3.022 * 10.2^{1.85} * 986}_{100^{1.85} * 5^{1.165}}$	=	6.7 ft	60 inch RCP

Disadvantages of installing a new pipe is the limited, narrow length of property and construction cost. A temporary construction easement or Right-of-Entry may be required by the adjacent private land owners.

Geotechnical review indicates the bottom of the new outfall pipeline excavation will typically not extend through the fill soils and into the underlying Bay Mud. Where excavations extend into soft, loose, or otherwise unstable soils, the trench bottoms will be overexcavated a minimum of 18 inches below the planned pipe invert and backfilled with a light weight backfill and/or drain rock.

### OPINION OF PROBABLE CONSTRUCTION COST

Throughout the Basis of Design, CSW|ST2 explored a variety of design options with varying approaches to the number and type of pumps, design of the pressure chamber or manifold at the pumps discharge, replacing the outfall, and location of the pump station. The following matrices show the options which could be considered from the various combinations of approaches. Within each cell we have identified a relative cost to the 3pump with pressure chamber and 48" opencut outfall pipe scenario indicated in the opinions of probable construction cost in Tables 7 and 8.

Table 5: Alternatives Cost Analysis for New Pump Station Near Bay

Pumps/Discharge	48" Open-Cut	48" Slip Line	60" CIPP
2 Pumps w/manifold	+75,000	+63,750	+58,750
2 Pumps w/pressure chamber	-237,500	-248,750	-253,750
3 Pumps w/manifold	+312,500	+301,250	+296,250
3 Pumps w/pressure chamber	-	-11,250	-16,250

Table 6: Alternatives Cost Analysis for New Pump Station Near Existing Station

Pumps/Discharge	48" Open-Cut	48" Slip Line	60" CIPP
2 Pumps w/manifold	-237,500	-300,000	-325,000
2 Pumps w/pressure chamber	+75,000	+12,500	-12,500
3 Pumps w/manifold	+312,500	+250,000	+225,000
3 Pumps w/pressure chamber	-	-62,500	-87,500

The matrices demonstrate the relative values of various combinations. In our opinion, the largest variables are the pump station location, use of a pressurized manifold, and use of CIPP in the existing outfall pipe. To explore the pump station location further, we included the anticipated incidental costs which include mitigation, monitoring, and property acquisition. As indicated in Tables 5 and 6, locating the pump station closer to the bay significantly increases the incidental costs. Utilizing a pressurized manifold significantly increases the construction cost and future maintenance cost to maintain the valves. Use of CIPP in the outfall pipe in Tables 5 and 6 does not show the potential high incidental cost for mitigation and monitoring. As previously indicated, use of CIPP is not anticipated due to the sensitive habitat and release of chemicals in the CIPP process.

The Concept plan of the three (3) pump station options are depicted in Appendix (H). The first layout option assumes locating the new pump station adjacent to the existing pump station. This option assumes the use of three (3) vertical axial flow pumps and provides two (2) alternatives for repair/replacement of the existing outfall discharge pipe outside the 100foot BCDC shoreline band. The second option assumes a similar pump layout (three (3) axial flow pumps) and also provides two alternatives for the repair/replacement of the existing out fall. The following two tables show the opinion of probable construction and incidental costs for Option 1 and Option 2:

Table 7: Layout Option 1 (3-Pumping Units)

Construction Cost =	\$ 2,940,000
Incidental Expenses =	\$ 2,691,640
Total =	\$ 5.631.640

**Table 8: Layout Option 2 (3-Pumping Units)** 

	<u> </u>	
Construction Cost =	\$	2,981,250
Incidental Expenses =	\$	254,000
Total =	\$	3,235,250

The two tables show a significant difference between probable costs: \$3.2 to \$5.6 million. While the outfall pipe line item cost for locating the pump station near the existing station is much higher, the cost is more than offset by the incidental costs of land acquisition and environmental mitigation. Additionally, there is an increase in cost for locating the new pump station closer to the bay resulting from a very confined site.

## **RECOMENDATIONS**

The Basis of Design report covered the following items pertinent to the San Quentin pump station construction and outfall pipe repair/replacement.

- Defined the watershed basin size draining to the San Quentin Pump Station
- Quantified the storm water runoff with the watershed basin based on a 5-year storm event followed by a 100-year storm event
- Confirmed the storage volume within the existing lagoon
- Defined options for locating the new pump station various layout configurations
- Defined the pump unit type, capacity, size, and quantity based on the design WSEL
- Identified existing conditions of the 60-inch RCP
- Identified Repair/replacement options for the pump station outfall discharge piping
- Developed opinions of probable construction and incidental costs for the new pump station

Of the two (2) potential pump station locations, the anticipated incidental cost for environmental mitigation and land acquisition to locate the pump station near the bay is nearly equivalent to the construction cost, which significantly increases the overall project cost. As a result, we recommend relocating the pump station within City lands at the low point of the watershed.

There are two (2) potential pump types appropriate for this application: Vertical axial flow and submersible. Based on lower maintenance requirements, ease of access, and physical site features, we recommend use of vertical axial flow pumps for the main pumps, while utilizing a smaller submersible pump for nuisance water during the dry weather season.

The report reviews the use of two (2) and three (3) pumping units in the new pump station. We recommend using three (3) vertical axial flow pumps either with a 66 or 100 cfs capacity. Three (3) pumps provides more flexibility for operation and maintenance for the more frequent, smaller storm events and larger storm events than options with two (2) pumps. In the three pump system, one (1) pump could be out of operation, and the remaining two pumps could handle a single 100-year storm event without exceeding the 4.0 maximum water surface elevation.

As discussed herein, the outfall can be improved in several ways. At this time we propose bringing both the slip lining and open trench approaches forward into the first construction document phase to best asses the City's options. As we identify whether or not land acquisition is required, we can determine the best outfall pipe option.

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# **APPENDIX A, SUB-APPENDIX A:**

Draft Geotechnical Investigation Report

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#### **GEOTECHNICAL INVESTIGATION** CSW/STUBER-STROEH ENGINEERING GROUP SAN QUENTIN PUMP STATION RECONSTRUCTION SAN RAFAEL, CALIFORNIA

March 30, 2018

Job No. 737,299

Prepared For: CSW/Stuber-Stroeh Engineering Group 45 Leveroni Court Novato, California 94949

#### CERTIFICATION

This document is an instrument of service, prepared by or under the direction of the undersigned professionals, in accordance with the current ordinary standard of care. The service specifically excludes the investigation of polychlorinated byphenols, radon, asbestos or any other hazardous materials. The document is for the sole use of the client and consultants on this project. No other use is authorized. If the project changes, or more than two years have passed since issuance of this report, the findings and

recommendations must be updated.

MILLER PACIFIC ENGINEERING GROUP (a California corporation)

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GEOTECHNICAL INVESTIGATION CSW/STUBER-STROEH ENGINEERING GROUP SAN QUENTIN PUMP STATION RECONSTRUCTION SAN RAFAEL, CALIFORNIA

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FIGURE 2: PRELIMINARY SITE PLAN

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APPENDIX A: SUBSURFACE EXPLORATION AND LABORATORY TESTING



GEOTECHNICAL INVESTIGATION CSW/STUBER-STROEH ENGINEERING GROUP SAN QUENTIN PUMP STATION RECONSTRUCTION SAN RAFAEL, CALIFORNIA

#### 1.0 INTRODUCTION

This report presents the results of our Geotechnical Investigation for the San Rafael Department of Public Works' San Quentin Pump Station Reconstruction Project in San Rafael, California. The site is located east of Francisco Boulevard East and immediately north of the Target Store, as shown on the Site Location Map, Figure 1.

Our work was performed in accordance with our Agreement for Professional Services dated January 10, 2018. The purpose of our Geotechnical Investigation was to explore subsurface conditions and to develop geotechnical criteria for design and construction of the pump station improvements and associated new sewer pipeline. The scope of our services includes:

- Review of geotechnical reference documents regarding development of the existing pump station and the adjacent Target Store.
- Exploration of subsurface conditions with one test boring located within the footprint of the planned pump station.
- Geotechnical laboratory testing to estimate pertinent engineering properties of the soils encountered during our exploration.
- Evaluation of relevant geologic hazards including seismic shaking, settlement, and other hazards.
- Preparing geotechnical recommendations and design criteria related to foundations, lateral pressures, temporary support of excavations, trench backfill, seismic design, and other geotechnical-related items.
- Preparation of this report which summarizes our subsurface exploration and laboratory testing programs, evaluation of relevant geologic hazards, including settlement, and geotechnical recommendations and design criteria.

#### 2.0 PROJECT DESCRIPTION

The project generally consists of replacing the existing pump station and 1,000 feet of discharge pipe with a new pump station located immediately south of the existing pump station. The site is located immediately north of a closed landfill and is underlain by relatively thick deposits of weak, compressible bay mud. We understand the ground around the pump station has experienced roughly 2-feet of settlement since it was constructed in 1972. Repairs have been made to the pump station/discharge pipe connection which continues to settle. The existing pump station is supported on deep driven piles and therefore is likely not experiencing settlement. The proposed improvements are shown on the Preliminary Site Plan, Figure 2.



#### 3.0 SITE CONDITIONS

#### 3.1 Regional Geology

The project site lies within the Coast Ranges geomorphic province of California. Regional topography within the Coast Ranges province is characterized by northwest-southeast trending mountain ridges and intervening valleys that parallel the major geologic structures, including the San Andreas Fault System. The province is also generally characterized by abundant landsliding and erosion, owing in part to its typically high levels of precipitation and seismic activity.

The oldest rocks in the region are the sedimentary, igneous, and metamorphic rocks of the Jurassic-Cretaceous age (190- to 65-million years old) Franciscan Complex. Within Marin County, a variety of sedimentary and volcanic rocks of Tertiary (1.8- to 65-million years old) and Quaternary (less than 1.8-million years old) age locally overlie the basement rocks of the Franciscan Complex. Tectonic deformation and erosion during late Tertiary and Quaternary time (the last several million years) formed the prominent coastal ridges and intervening valleys typical of the Coast Ranges province. The youngest geologic units in the region are Quaternary-age (last 1.8 million years) sedimentary deposits, including alluvial deposits which partially fill most of the valleys and colluvial deposits which typically blanket the lower portions of surrounding slopes.

The project site is located immediately west of San Pablo Bay. Regional geologic mapping (California Division of Mines and Geology, 1976) indicates that the site is underlain by artificial fill over Bay Mud with marsh deposits mapped directly to the north. A Regional Geologic Map and descriptions of the mapped geologic units are shown on Figure 3.

#### 3.2 Seismicity

The project site is located within the seismically active San Francisco Bay Area and will therefore experience the effects of future earthquakes. Earthquakes are the product of the build-up and sudden release of strain along a "fault" or zone of weakness in the earth's crust. Stored energy may be released as soon as it is generated or it may be accumulated and stored for long periods of time. Individual releases may be so small that they are detected only by sensitive instruments, or they may be violent enough to cause destruction over vast areas.

Faults are seldom single cracks in the earth's crust but are typically comprised of localized shear zones which link together to form larger fault zones. Within the Bay Area, faults are concentrated along the San Andreas Fault zone. The movement between rock formations along either side of a fault may be horizontal, vertical, or a combination and is radiated outward in the form of energy waves. The amplitude and frequency of earthquake ground motions partially depends on the material through which it is moving. The earthquake force is transmitted through hard rock in short, rapid vibrations, while this energy becomes a long, high-amplitude motion when moving through soft ground materials, such as Bay Mud.

An "active" fault is one that shows displacement within the last 11,000 years (i.e. Holocene) and has a reported average slip rate greater than 0.1 mm per year. The California Division of Mines and Geology (1998) has mapped various active and inactive faults in the region. These faults,



defined as either California Building Code Source Type "A" or "B," are shown in relation to the project site on the attached Active Fault Map, Figure 4. The nearest known active faults to the site are the San Andreas and Hayward Faults. The San Andreas Fault is located approximately 16.2 kilometers (10 miles) southwest of the site whereas the Hayward Fault is located approximately 11.4 kilometers (7 miles) to the northeast.

#### 3.3 Surface Conditions and Site History

The existing San Quentin Pump Station is located on former marshland that was reportedly filled in the 1960s and was developed as a pump station in 1973 as a part of the East San Rafael Drainage Assessment District. The surface elevations at the site generally range between about +2 and +3, except for the east end of the site where the outfall pipe levee terminates at the shoreline levee which is at elevation +9. An approximately 20-foot high embankment constructed for the Target store is located immediately south of the outfall pipeline.

Topographic mapping by the USGS (1948) shows the site and vicinity as being within the San Francisco Bay. Topographic mapping by the USGS (1959) shows the existing shoreline perimeter levee is in place, extending to Murphy Rock where it makes a 90 degree bend and terminates east of Highway 17. In 1969 additional grading was performed to raise the grades of the existing levees on which the pump station and outfall pipe were constructed. Additional fill was placed in 1972 and 1973 for development of the pump station and outfall pipe. Construction documentation for the pump station, including site grading is included in a report prepared by Harding Lawson Associates (HLA, 1974).

The San Quentin Disposal Site (SQDS), located immediately south of the site was a permitted Class III landfill that accepted construction and landscape debris from 1968 to 1987. Regional Water Quality Control Board (RWQCB) landfill closure report (2001) indicates the landfill does not extend onto the pump station site. The Shoreline Center, located south and southwest of the site was developed in the late 1980s and early 1990s with the Home Depot and other commercial developments. The Target store was developed about 4 or 5 years ago. Kleinfelder (2012) performed extensive subsurface exploration for the Target store and prepared a design level geotechnical report for the project.

#### 3.4 Field Exploration and Laboratory Testing

We explored subsurface conditions at the proposed pump station on February 9, 2018 with one boring at the approximate location shown on Figure 2. The boring was excavated using truck-mounted drilling equipment equipped with 6-inch diameter hollow stem augers to a depth of 51.5 feet below the ground surface. The boring was logged by our engineer and samples were obtained for classification and laboratory testing. Upon completion of the drilling, the boring was backfilled with neat cement grout and/or bentonite chips. Brief descriptions of the terms and methodology used in classifying soils are shown on the Soil Classification Chart, Figure A-1 and the exploratory boring log is presented on Figures A-2 through A-4.

Laboratory testing of relatively undisturbed samples included determination of moisture content, dry density, unconfined compressive strength, and consolidation in general accordance with applicable ASTM standards. The results of moisture, density, and compressive strength tests are shown on



the boring log, while consolidation test results are presented on Figures A-5 through A-7. The subsurface exploration and geotechnical laboratory testing program is discussed in further detail in Appendix A.

#### 3.5 Subsurface Conditions and Groundwater

Based on our field exploration, subsurface conditions are generally consistent with geologic mapping and the previous subsurface exploration by Harding Lawson and Associates. Boring 1 is located immediately south of the existing pump station, as shown on Figure 2. The boring encountered about 3-feet of medium dense sandy fill over 9-feet of medium stiff clayey fill over weak, compressible bay mud to the maximum depth explored, 52.5 feet.

Groundwater was encountered at Boring 1 at about 10 feet below ground surface. Because the boring was not left open for an extended period of time, a stabilized depth to groundwater may not have been observed. Groundwater elevations fluctuate seasonally and groundwater levels will likely be near the ground surface during periods of intense rainfall and/or high tides.

#### 3.6 Previous Geotechnical Investigation

Harding Lawson Associates (1972) performed a subsurface exploration of the site which included one exploratory boring at the location of the existing pump station and several other nearby borings for evaluation of improvements to the East San Rafael Drainage Assessment District. The Boring Log for the existing pump station is presented in Appendix A. HLA provided geotechnical recommendations for support of the pump station using deep driven piles that extend below the bottom of the bay mud into dense alluvium.

Kleinfelder (2012) performed a subsurface investigation for the Target store site which included 5 test borings and 15 cone penetration tests (CPTs). The Kleinfelder exploration encountered 5 to 9 feet of landfill cover material comprised of clay, silt, sand and gravel over 21 to 48 feet of landfill material comprised of soil (mostly clay), construction debris (concrete, wood, metal and yard waste) over 49 to 72 feet of bay mud. Beneath the bay mud they encountered 8 to 46 feet of Old Bay Clay and alluvium over bedrock that was encountered at depths ranging from 110 to 153 feet below the ground surface. The Target store is supported on concrete piles that extend to bedrock.

#### 4.0 GEOLOGIC HAZARDS

This section summarizes our review of commonly considered geologic hazards and discusses their potential impacts on the planned improvements. The primary geologic hazards which could affect the proposed development include strong seismic ground shaking, settlement due to ongoing consolidation of the soft bay mud, potentially corrosive soil and shallow groundwater conditions. Other geologic hazards are judged less than significant with regard to the proposed project. Each significant geologic hazard considered is discussed in further detail in the following paragraph.



#### 4.1 Seismic Shaking

The project site will likely experience seismic ground shaking similar to other areas in the seismically active Bay Area. The intensity of ground shaking will depend on the characteristics of the causative fault, distance from the fault, the earthquake magnitude and duration, and site-specific geologic conditions.

While a site specific seismic hazard analysis is beyond the scope of our work for this project, it should be noted that the potential for strong seismic shaking at the project site is high. Due to their proximity and historic rates of activity, the San Andreas and Hayward Faults present the highest potential for severe ground shaking. The significant adverse impact associated with strong seismic shaking is potential damage to the pump station, new pipelines and related improvements. Measures to mitigate the effects of ground shaking should, as a minimum, include using flexible connections and designing any new structures to resist seismic loads as discussed in Section 5.1.

#### 4.2 Liquefaction and Related Effects

Liquefaction refers to the sudden, temporary loss of soil strength during strong ground shaking. This phenomenon can occur in saturated, loose, granular deposits subjected to seismic shaking. Recent advances in liquefaction studies indicate that liquefaction can occur in granular materials with relatively high fines content provided the fines exhibit a plasticity index less than 7. Liquefaction can result in flow failure, lateral spreading, ground movement, settlement, and other related effects. Buried pipelines embedded within liquefied soils may also experience uplift due to buoyancy.

Geologic mapping and the results of our subsurface exploration indicate the project site is underlain by relatively thick deposits of bay mud which are not susceptible to liquefaction. The fill material is mostly comprised of clayey soils and not susceptible to liquefaction. Therefore, we judge the likelihood of damage to the new pump station and outfall pipe due to liquefaction is low.

#### 4.3 Settlement

Significant settlement can occur when new loads are applied to soft, compressible soils such as the bay mud that exists beneath the project site. The rate and magnitude of potential settlements are dependent on the new loads that are applied, the thickness of compressible material and the inherent compressibility properties of the bay mud. We anticipate loads associated with the new pump station and pipeline and will generally be roughly balanced by the soil that is removed during excavation. However, ongoing settlements from fill placement performed in the 1960s and fills placed in 1972 for development of the existing pump station and discharge pipeline are expected to impact the project. Fills from development of the adjacent Target Store are not expected to impact the pump station but will cause additional settlement of the levee that supports the outfall pipeline. Raising grades at the site will also induce additional settlement but we understand that grades will remain as is.

Construction of new below-grade pump station may reduce surface loading and future long-term settlement near the structure, and some minor differential settlements may therefore occur between the pump station and the outfall pipeline. The pump station and pipeline may experience



an additional 2 to 4-feet of settlement over the next 30 to 70 years. The pipeline should consist of a flexible material such as HDPE that tolerate differential settlements and should be attached to the pump station with a flexible connection. Future maintenance and repair of the pipeline should be expected as differential settlements occur.

Additional mitigation measures should include minimizing the extent of the excavation and required backfill to reduce the potential for new loads associated with compacted backfill. Lightweight backfill materials should be considered for excavations.

#### 4.4 Corrosive Soils

Corrosive soil can damage buried metallic structures, cause concrete spalling, and deteriorate rebar reinforcement. The project site is underlain by bay mud which typically exhibits high chloride concentrations and low electrical resistivity, each of which are indicators of soluble salts and a higher susceptibility to corrosion. We therefore judge there is a moderate to high risk of damage to new buried facilities and corrosion should be considered during design of the site improvements.

Minimum mitigation measures should include designing concrete structures in accordance with applicable durability requirements outlined in ACI 318. Metallic components should incorporate protective coatings or other measures aimed at improving corrosion resistance. A qualified corrosion engineer should be retained to provide additional mitigation measures as required.

#### 5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our subsurface exploration, we judge that the planned pump station and outfall pipeline are feasible from a geotechnical standpoint. Primary geotechnical considerations for the project include: excavation through soft Bay Mud; providing appropriate temporary support for excavations; providing appropriate seismic and structural design for any new structures; providing for proper bedding and trench backfill; and minimizing the extent of excavation and associated backfills for new manholes and other below-grade structures that are underlain by Bay Mud. Additional discussion and recommendations addressing these and other considerations are presented in the following sections.

#### 5.1 Seismic Design

Minimum mitigation of ground shaking includes seismic design of new structures in conformance with the provisions of the most recent edition (2016) of the California Building Code. The magnitude and character of these ground motions will depend on the particular earthquake and the site response characteristics. Based on the interpreted subsurface conditions and proximity of the San Andreas and Hayward Faults, we recommend the CBC coefficients and site values shown in Table 1 be used to calculate the design base shear of the new pump station improvements as applicable.



Table 1 - 2016 California Building Code Seismic Design Criteria

Parameter	Design Value
Site Class	Е
Site Latitude	37.956°N
Site Longitude	-122.493°W
Spectral Response (short), S <sub>S</sub>	1.500 g
Spectral Response (1-sec), S <sub>1</sub>	0.600 g
Site Coefficient, Fa	0.9
Site Coefficient, F <sub>V</sub>	2.4

Reference: USGS US Seismic Design Maps accessed on March 16, 2018.

#### 5.2 Earthwork

Earthwork for the pump station improvements and new outfall pipeline should be performed in accordance with the following recommendations:

#### 5.2.1 Excavations

Excavations for the pump station and discharge pipeline will generally encounter medium stiff clayey fill over soft bay mud. Shallow groundwater should also be expected and the contractor should anticipate the need for dewatering and shoring all excavations. In general, Bay Mud deposits are expected below the pump station but are not anticipated along the new outfall pipeline alignment. While not encountered in our borings, the backfill around and below the existing pump station may also include relatively permeable materials which may need to be dewatered prior to construction. Based on our subsurface exploration, we judge the majority of site excavation can be performed with typical equipment, such as medium-size excavators.

In unsupported excavations, the clayey fill soils will be susceptible to caving/sloughing below groundwater and the bay mud will be susceptible to squeezing. Definitions of the various ground behaviors are presented in the Tunnelman's Ground Classification for Soils, Figure 5. In accordance with OSHA soil type designations, the fill and bay mud are considered "Type C" soils. Temporary support for excavations should be installed prior to or during excavation to ensure the safety of workers and to reduce the potential for trench failure and damage to surrounding areas. Shoring and temporary support of excavations is discussed in further detail in Section 5.3

#### 5.2.2 Trench Bottom Stabilization

Based on planned pipeline invert depths and the fill thicknesses observed during our subsurface exploration, we anticipate the bottom of excavations for the new outfall pipeline will typically not extend through the fill soils and into the underlying Bay Mud. However, in areas where excavations extend into soft, loose, or otherwise unstable soils, we recommend the trench bottoms be overexcavated a minimum of 12 inches below the planned pipe invert and backfilled with drain rock. The drain rock should be completely wrapped with a geotextile filter fabric consisting of Mirafi FW300 or an approved equivalent.



#### 5.2.3 Fill Materials

Unless otherwise recommended by SRDPW or the pipe manufacturer, pipe bedding and embedment materials should consist of well-graded sand with 90 to 100 percent of particles passing the No. 4 sieve and no more than 5 percent finer than the No. 200 sieve. Provide the minimum bedding thickness beneath the pipe in accordance with the manufacturer's recommendations (typically 3 to 6 inches).

Fill materials used for pipe backfill should consist of non-expansive materials that are free of organic matter, have a Liquid Limit of less than 40 (ASTM D 4318), a Plasticity Index of less than 20 (ASTM D 4318), and have a minimum R-value of 20 (California Test 301). The fill material should contain no more than 50 percent of particles passing a No. 200 sieve and should have a maximum particle size of 4 inches. Some of the onsite fill soils may be suitable for re-use as trench backfill. The Bay Mud is not suitable for use as backfill and should be removed from the site.

In areas in which the pipe invert elevation is greater than 3 feet below the top of Bay Mud, we recommend using lightweight fill for backfilling to minimize new loads and the potential for settlement. The lightweight fill should be placed up to the top of Bay Mud and should consist of naturally-occurring volcanic rock with a maximum unit weight of 65 pounds per cubic foot, minimum Durability Index of 35 (California Test 229), minimum R-Value of 50 (California Test 301), and should meet the gradation requirements outlined below in Table 2. The lightweight fill should be completely wrapped with a geotextile filter fabric consisting of Mirafi FW300 or an approved equivalent.

Table 2 – Gradation Requirements for Lightweight Fill

Sieve Size	Percentage Passing
1-1/2 inch	100
1 inch	95 to 100
3/4 inch	90 to 100
3/8 inch	15 to 85
No. 4	0 to 9

Reference: Gradation to be determined in conformance with the requirements of California Test 202, except shaking in the sieves must be limited to 5 minutes.

#### 5.2.4 Fill Placement and Compaction

Fill materials should be moisture conditioned to near the optimum moisture content prior to compaction. Properly moisture conditioned fill materials should subsequently be placed in loose, horizontal lifts of 8 inches-thick or less and uniformly compacted to at least 90 percent relative compaction. In pavement areas, the upper 12 inches of backfill should be compacted to at least 95 percent relative compaction. The maximum dry density and optimum moisture content of fill materials should be determined in accordance with ASTM D1557. Where lightweight fill is used,



the fill should be placed in loose, horizontal lifts which are lightly compacted using vibratory equipment to avoid crushing of the individual aggregate pieces.

#### 5.3 Foundation and Pump Station Structural Design

The weight of the new pump station will likely be less than the weight of the excavated soil and relatively small volume of crushed rock backfill, so new settlement of the structure is not considered to be a significant issue. If the new improvements will weigh more than the excavated soils, deep foundations may be required. The vertical load of the structure will need to be resisted by a 300-psf skin friction on the sides and a 500 psf soil bearing capacity below the structure. Design criteria for the pump station are summarized in Table 3 and detailed on Figure 6.

A buoyant uplift force will develop when the water level within the pump station is lower than the exterior groundwater level. Under "wintertime" (rainy season) conditions or during a flood event, the groundwater elevation should be assumed to be at the ground surface for design purposes. The design engineer will need to determine the maximum differential between the exterior and interior water levels. Resistance to uplift includes the weight of the structure plus the skin friction on the exterior of the structure. If necessary, the uplift resistance can be increased by structurally extending the foundation beyond the limits of the walls. The buoyant weight of soil above the footing extensions could also be included in the total weight of the structure. Alternatively, helical anchors could be utilized to provide uplift resistance.

The walls of the pump station are expected to be restrained at the top and bottom which prevents lateral deflection of the wall. This type of wall is subject to a uniform lateral pressure distribution instead of the equivalent fluid pressure normally used for cantilevered walls. In addition, the walls need to withstand seismic loading and hydrostatic forces due to potential differential water levels inside and outside of the wet well. Design criteria for the pump station structure walls is presented in Table 4 and detailed on Figure 6.



#### Table 3 – Pump Station Design Criteria

<u>Condition</u>	<u>Value</u>
Allowable dead load bearing pressure <sup>1</sup> : Base friction: Restrained Active Soil Pressure <sup>2,3,4</sup> :	500 psf 0.30
Above the groundwater table:  Below the groundwater table:	35 H psf 15 H psf
Traffic Loading <sup>2</sup>	000 6
0 to 5 feet below the ground surface	200 psf
5 to 10 feet below the ground surface	50 psf
Hydrostatic Pressure Difference <sup>2,5</sup> :	(63 x Hw) psf
Earthquake Surcharge <sup>2, 4, 6</sup> :	15 H psf
Passive Soil Pressure <sup>7</sup> :	300 pcf

- (1) May increase design values by 1/3 for total design loads, including wind and seismic.
- (2) Uniform, rectangular lateral pressure distribution.
- (3) For compacted soil conditions.
- (4) H = Total height of wall (in feet).
- (5) Hw = Difference in water level (in feet).
- (6) Design for a factor of safety of 1.1 or greater for seismic conditions.
- (7) Equivalent Fluid Pressure

The Structural Engineer should design the concrete slab floors to resist the external hydrostatic pressures, as shown on Figure 6.

Deep foundations, while they would limit or eliminate settlement of the new pump station, have been considered but are not recommended due to expected differential settlement between the pump station and the outfall pipe.

#### 5.4 Temporary Support of Excavations

Temporary support of excavations will be required to ensure the safety of workers and to reduce the potential for trench failure and damage to surrounding areas. Shoring types may include trench boxes or shields, driven sheetpiles, vertical hydraulic shores, or other systems. While a variety of systems are available, shoring that applies positive pressure to the side walls of the excavation will be more effective in controlling ground movements and reducing the risk of damage to nearby utilities and structures.

The selected support system should be designed to resist lateral pressures from earth and construction surcharge loads. Watertight shoring systems (e.g. interlocking sheetpiles) which do not allow for drainage should also be designed to resist hydrostatic pressures. As a minimum, shoring systems should be designed based on the criteria provided in Table 4.



Table 4 - Shoring Design Criteria

Parameter	Design Value
Active Earth Pressure, Unrestrained <sup>1</sup>	45 pcf
Active Earth Pressure, Restrained <sup>2</sup>	35 x H psf
Ultimate Passive Resistance, Bay Mud¹	250 pcf
Minimum Surcharge Pressure <sup>2,3</sup>	125 psf

#### Notes:

- (1) Equivalent fluid pressure.
- (2) Rectangular distribution, H is wall height in feet
- (3) Apply to upper 10 feet of trench shoring. Surcharge load to be adjusted at the discretion of the Contractor's shoring designer.

Temporary dewatering will be required where excavations extend below the groundwater table. While various systems are available, dewatering would most likely consist of sumps or wells spaced as needed to keep the groundwater level below the excavation bottom. The selection, design, installation, monitoring, and removal of temporary shoring and dewatering should be the responsibility of the Contractor in accordance with their means and methods. The Contractor should be required to submit dewatering plans for review by SRDPW prior to implementation.

#### 6.0 SUPPLEMENTAL GEOTECHNICAL SERVICES

We must review the plans and specifications when they are nearing completion to confirm that the intent of our recommendations has been incorporated and to provide supplemental recommendations as needed. During construction, we must inspect geotechnical items relating to earthwork and new pavement construction. We should observe trench excavations, proper moisture conditioning of soils, fill placement and compaction, and other geotechnical-related work items.



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## APPENDIX A SUBSURFACE EXPLORATION AND GEOTECHNICAL LABORATORY TESTING

#### A. SUBSURFACE EXPLORATION

We explored subsurface conditions with one exploratory boring drilled with truck-mounted equipment on February 9, 2018 at the approximate locations shown on the Site Plan, Figure 2. The exploration was conducted under the technical supervision of our Field Engineer who examined and logged the soil materials encountered and obtained samples. The subsurface conditions encountered in the test boring is summarized and presented on the Boring Log, Figures A-2 through A-4.

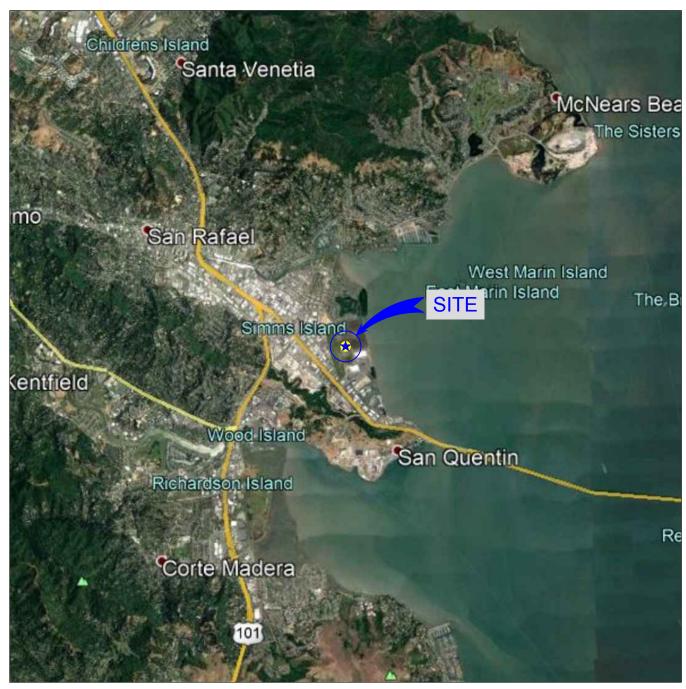
"Undisturbed" samples were obtained using a 3-inch diameter, split-barrel Modified California Sampler with 2.5 by 6-inch tube liners or a Standard Penetration Test (SPT) Sampler. The samplers were driven by a 140-pound hammer at a 30-inch drop. The number of blows required to drive the samplers 18 inches was recorded and is reported on the boring logs as blows per foot for the last 12 inches of driving. Bay Mud was sampled with 30-inch long, 3-inch diameter thinwalled "Shelby" tube sampler which is pushed directly into soft soils rather than driven with a sampling hammer. The samples obtained were examined in the field, sealed to prevent moisture loss, and transported to our laboratory

#### B. GEOTECHNICAL LABORATORY TESTING

We conducted geotechnical laboratory tests on selected intact samples to classify soils and to estimate engineering properties. The following laboratory tests were conducted in general accordance with the ASTM standard test method cited:

- Laboratory Determination of Water (Moisture Content) of Soil, Rock, and Soil-Aggregate Mixtures, ASTM D 2216
- Density of Soil in Place by the Drive-Cylinder Method, ASTM D 2937
- Unconfined Compressive Strength of Cohesive Soil, ASTM D 2166
- One-Dimensional Consolidation, ASTM D 2435.

The moisture content, dry density and unconfined compression test results are shown on the exploratory boring log, Figures A-2 through A-4 while consolidation test results are shown on Figures A-5 through A-7. The exploratory boring logs, description of soils encountered and the laboratory test data reflect conditions only at the location of the boring at the time they were excavated or retrieved. Conditions may differ at other locations and may change with the passage of time due to a variety of causes including natural weathering, climate and changes in surface and subsurface drainage.



SITE COORDINATES LAT. 37.9559° LON. -122.4931°

SITE LOCATION



REFERENCE: Google Earth, 2018



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#### SITE LOCATION MAP

CSW/Stuber-Stroeh
San Quentin Pump Station
San Rafael, California

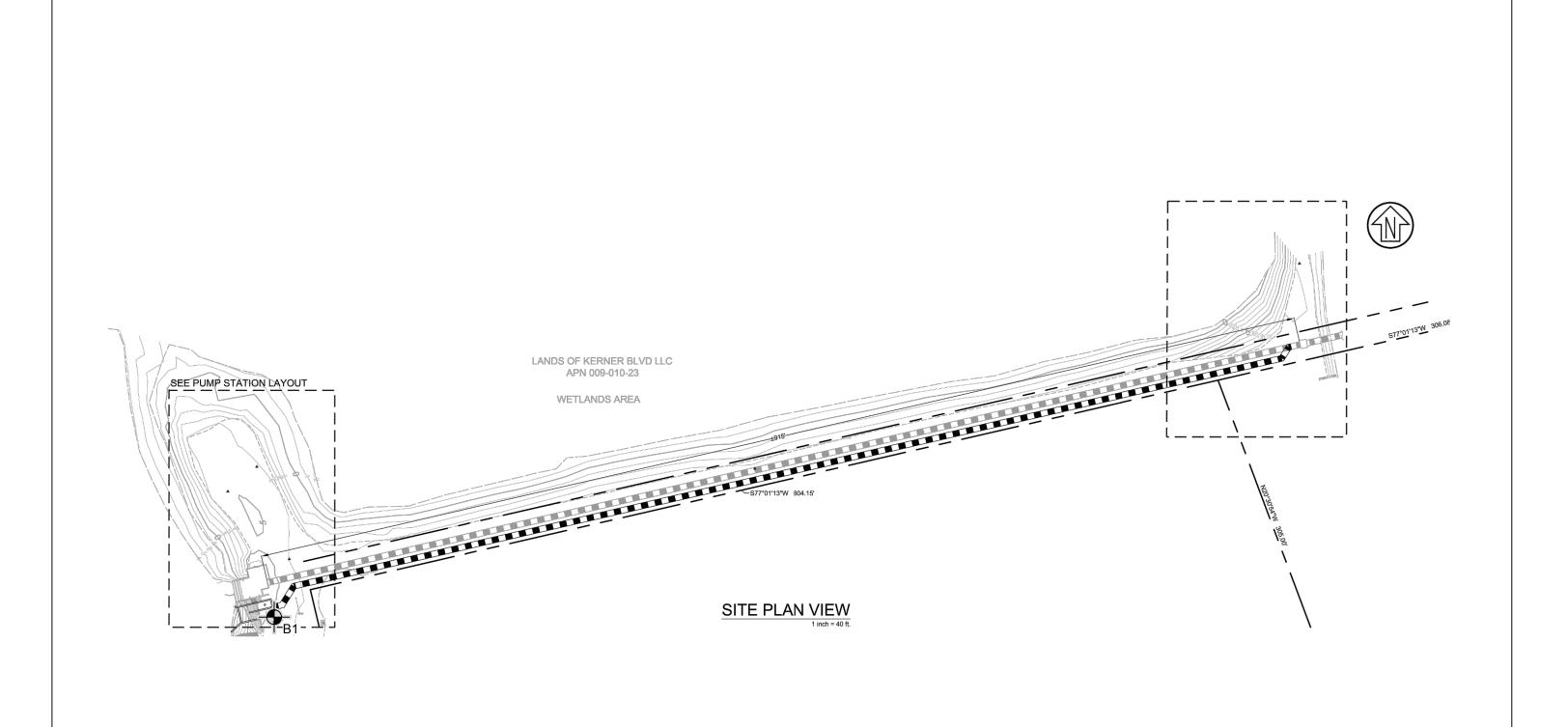
Project No. 739.299

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Date: 3/26/2018

Drawn NGK
Checked

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Approximate location of MPEG Boring, February 2018

**SCALE** 160 FEET



	504 Redwood Blvd.	
	Suite 220	
n	Novato, CA 94947	
r	T 415 / 382-3444	
	F 415 / 382-3450	

SITE PLAN CSW/Stuber-Stroeh San Quentin Pump Station

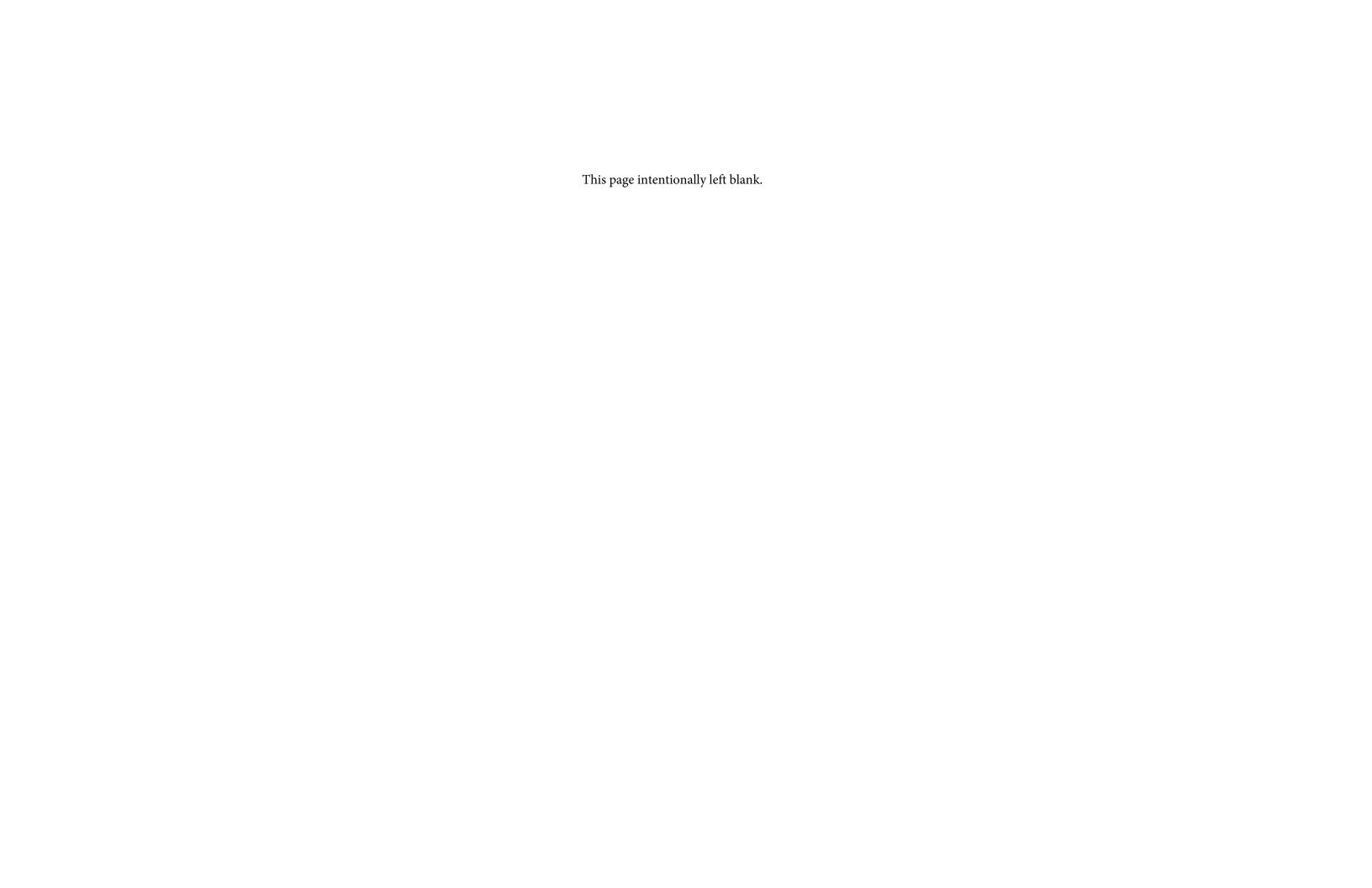
Date: 8/3/2016

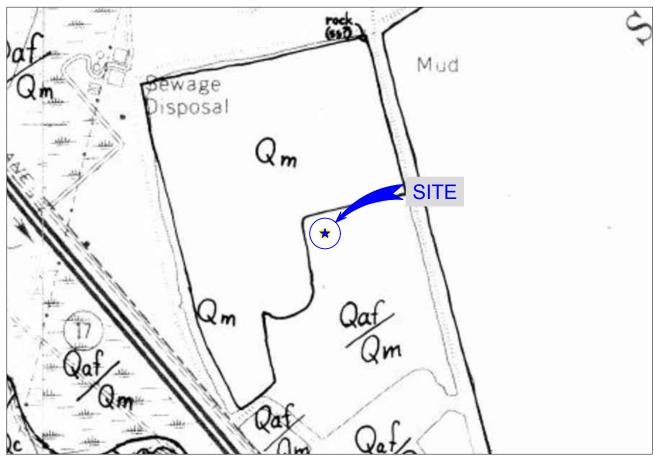
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Project No. 739.299

EAD **FIGURE** 

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### REGIONAL GEOLOGIC MAP

(NOT TO SCALE)



#### **LEGEND**

- **Qaf** Artificial Fill Deposits of rock, soil, garbage and trash, or bay mud placed my man upon natural surfaces.
- **Qm Bay Mud -** Marshlands, former marshlands, and mudflats bordering San Francisco and San Pablo Bays. Consist of thick deposits of unconsolidated, low-density, semi-fluid, highly compressible, highly impermeable silty clay.

Reference: Rice, Salem J., et al (1976), "Geology of the Eastern Part of the San Rafael Area, Marin County, California." California Department of Conservation, California Department of Mines and Geology, Open File Report OFR 76-2, Scale 1:12,000.



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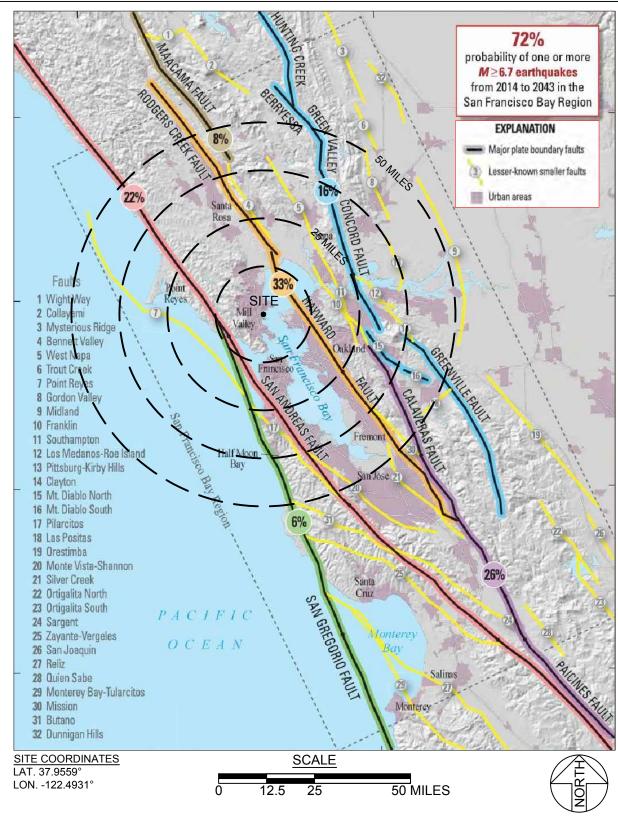
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San Quentin Pump Station
San Rafael, California

REGIONAL GEOLOGIC MAP

Date: 3/26/2018

Project No. 739.299

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#### DATA SOURCE

1) U.S. Geological Survey, U.S. Department of the Interior, "Earthquake Outlook for the San Francisco Bay Region 2014-2043", Map of Known Active Faults in the San Francisco Bay Region, Fact Sheet 2016-3020, Revised August 2016 (ver. 1.1).



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**ACTIVE FAULT MAP** 

Date: 3/26/2018

#### Tunnelman's Ground Classification for Soils<sup>1</sup>

Classification		Behavior	Typical Soil Types
Firm		Heading can be advanced without initial support, and final lining can be constructed before ground starts to move.	
Raveling Slow raveling Fast raveling		Chunks or flakes of material begin to drop out of the arch or walls sometime after the ground has been exposed, due to loosening or to over- stress and "brittle" fracture (ground separates or breaks along distinct surfaces, opposed to squeezing ground). In fast raveling ground, the process starts within a few minutes, otherwise the ground is slow raveling.	binder may be fast raveling below the water tale, slow raveling above. Stiff fissured clays may be slow or fast raveling depending upon degree of overstress.
Squeezing		Ground squeezes or extrudes plastically into tunnel, without visible fracturing or loss of continuity, and without perceptible increase in water content. Ductile, plastic yield and flow due to overstress.	squeeze depends on degree of overstress. Occurs at shallow to medium depth in clay of
Running Cohesive - running Running		Granular materials without cohesion are unstable at a slope greater than their angle of repose (+/- 30° – 35°). When exposed at steeper slopes they run like granulated sugar or dune sand until the slope flattens to the angle of repose.	cohesion in moist sand, or weak cementation in any granular soil, may allow the material to stand for a brief period of raveling before it
Flowing		A mixture of soil and water flows into the tunnel like a viscous fluid. The material can enter the tunnel from the invert as well as from the face, crown, and walls, and can flow for great distances, completely filling the tunnel in some cases.	without enough clay content to give significant cohesion and plasticity. May also occur in highly sensitive clay when such material is
Swelling		Ground absorbs water, increases in volume, and expands slowly into the tunnel.	Highly preconsolidated clay with plasticity index in excess of about 30, generally containing significant percentages of montmorillonite.

<sup>1</sup> Modified by Heuer (1974) from Terzaghi (1950)



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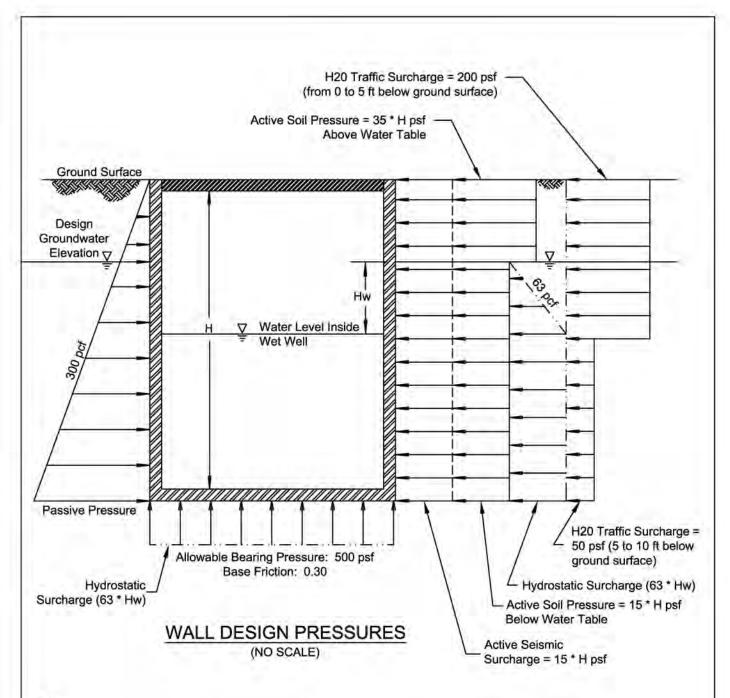
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San Rafael, California

Project No. 739.299

Date: 3/26/2018

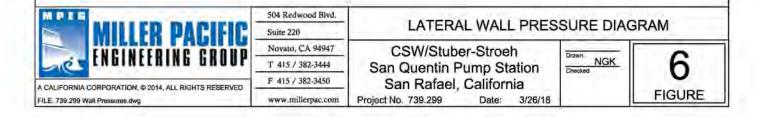
TUNNELMAN'S GROUND CLASSIFICATION

Drawn NGK
Checked



#### Notes:

- For seismic conditions, include a uniform seismic surcharge pressure of 15\*H psf over wall height (H).
   Passive resistance may be increased by 1/3 for short term seismic conditions. Design Factor of Safety should be greater than 1.1.
- 2.) Differential water level (Hw) to be determined by Civil Engineer.



MAJ	OR DIVISIONS	SYMBOL		DESCRIPTION			
	0	GW		Well-graded gravels or gravel-sand mixtures, little or no fines			
SOILS	CLEAN GRAVEL	GP		Poorly-graded gravels or gravel-sand mixtures, little or no fines			
	GRAVEL	GM		Silty gravels, gravel-sand-silt mixtures			
GRAINED sand and	with fines	GC		Clayey gravels, gravel-sand-clay mixtures			
E GRAIN % sand	CLEAN SAND	SW		Well-graded sands or gravelly sands, little or no fines			
COARSE over 50%	CLLAN SAND	SP		Poorly-graded sands or gravelly sands, little or no fines			
COA	SAND	SM		Silty sands, sand-silt mixtures			
	with fines	SC		Clayey sands, sand-clay mixtures			
ILS ay	SILT AND CLAY liquid limit <50%	ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity			
SO nd cl		CL		Inorganic clays of low to medium plasticity, gravely clays, sandy clays, silty clays, lean clays			
GRAINED SOILS 50% silt and clay		OL		Organic silts and organic silt-clays of low plasticity			
GRA 50%	SILT AND CLAY	МН		Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts			
FINE	liquid limit >50%	СН		Inorganic clays of high plasticity, fat clays			
		ОН		Organic clays of medium to high plasticity			
HIGHLY ORGANIC SOILS PT			Peat, muck, and other highly organic soils				
ROCK			Undifferentiated as to type or composition				

#### KEY TO BORING AND TEST PIT SYMBOLS

#### CLASSIFICATION TESTS

PI PLASTICITY INDEX LL LIQUID LIMIT SA SIEVE ANALYSIS

HYD HYDROMETER ANALYSIS

P200 PERCENT PASSING NO. 200 SIEVE P4 PERCENT PASSING NO. 4 SIEVE

#### SAMPLER TYPE

MODIFIED CALIFORNIA

HAND SAMPLER

S1

STANDARD PENETRATION TEST

X

ROCK CORE



THIN-WALLED / FIXED PISTON

X DISTURBED OR BULK SAMPLE

NOTE:

Test boring and test pit logs are an interpretation of conditions encountered at the excavation location during the time of exploration. Subsurface rock, soil or water conditions may vary in different locations within the project site and with the passage of time. Boundaries between differing soil or rock descriptions are approximate and may indicate a gradual transition.

#### STRENGTH TESTS

TV FIELD TORVANE (UNDRAINED SHEAR)
UC LABORATORY UNCONFINED COMPRESSION
TXCU CONSOLIDATED UNDRAINED TRIAXIAL
TXUU UNCONSOLIDATED UNDRAINED TRIAXIAL
UC, CU, UU = 1/2 Deviator Stress

#### SAMPLER DRIVING RESISTANCE

Modified California and Standard Penetration Test samplers are driven 18 inches with a 140-pound hammer falling 30 inches per blow. Blows for the initial 6-inch drive seat the sampler. Blows for the final 12-inch drive are recorded onto the logs. Sampler refusal is defined as 50 blows during a 6-inch drive. Examples of blow records are as follows:

25 sampler driven 12 inches with 25 blows after initial 6-inch drive

85/7" sampler driven 7 inches with 85 blows after initial 6-inch drive

50/3" sampler driven 3 inches with 50 blows during initial 6-inch drive or beginning of final 12-inch drive



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## SOIL CLASSIFICATION CHART

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Project No. 739.299

		BORING 1	(1)			(3)	۸T۸	۸T۸	
meters DEPTH feet	SAMPLE SYMBOL (4)	EQUIPMENT: Truck-Mounted Drill Rig with 8.0-inch Hollow Flight Auger DATE: 02/09/18 ELEVATION: 5 - feet* *REFERENCE: Google Earth, 2018	BLOWS / FOOT (1)	DRY UNIT WEIGHT pcf (2)	MOISTURE CONTENT (%)	SHEAR STRENGTH psf (	OTHER TEST DATA	OTHER TEST DATA	
-0-0-		SAND with Gravel (SC)  Dark to light gray, moist, medium dense, fine to coarse grained sand with varying amounts of 3/4" angular gravel, lens of low plasticity clay present from 0.5 to 1.0 [Fill]							
5- 5- - -2 -		Gravelly CLAY (CL)  Dark gray with red mottling, moist, medium stiff, low plasticity, ~15-30% angular gravel, typical diameter varies from ½"- ¾", brick and debris present [Fill]	21	117	10.8				
- -3 10- - - -		Auger chattering on large gravels/cobbles at 8.5'  Grades to ~30-50% angular gravels	10						
-4 - - 15- <b>-</b>		CLAY (CH) Gray, wet, soft, highly plastic, highly compressible, impermeable, trace shells, characteristic sulphuric odor, trace silt [Bay Mud]	4						
-5 - - -6 20-									
		Cont. on next page  NOTES: (1) UNCORRECTED FIELD	BLOW CC	DUNTS					
三	Water level encountered during drilling (2) METRIC EQUIVALENT DRY UNIT WEIGHT kN/m³= 0.1571 x DRY UNIT WEIGHT (pcf) (3) METRIC EQUIVALENT DRY UNIT WEIGHT kN/m³= 0.0479 x STRENGTH (pcf)								

▼ Water level measured after drilling

**BORING LOG** 

Date: 3/27/2018

(3) METRIC EQUIVALENT STRENGTH (kPa) = 0.0479 x STRENGTH (psf) (4) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY



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meters DEPTH feet	SYMBOL (4)	BORING 1 (CONTINUED)	BLOWS / FOOT (1)	DRY UNIT WEIGHT pcf (2)	MOISTURE CONTENT (%)	SHEAR STRENGTH psf (3)	OTHER TEST DATA	OTHER TEST DATA
-20 -		CLAY (CH) Gray, wet, soft, highly plastic, highly compressible, impermeable, trace shells, characteristic sulphuric odor, trace silt [Bay Mud]  As above, Bay Mud  Cont. on next page	2	60.5	67.0		CONSOL	

Water level encountered during drilling ✓ Water level encountered during dri✓ Water level measured after drilling

NOTES: (1) UNCORRECTED FIELD BLOW COUNTS
(2) METRIC EQUIVALENT DRY UNIT WEIGHT kN/m³ = 0.1571 x DRY UNIT WEIGHT (pcf)
(3) METRIC EQUIVALENT STRENGTH (kPa) = 0.0479 x STRENGTH (psf)
(4) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

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## **BORING LOG**

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Project No. 739.299

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CLAY (CH) Gray, wet, soft, highly plastic, highly compressible, impermeable, trace shells, characteristic sulphuric odor, trace silt [Bay Mud]  As above, Bay Mud  As above, Bay Mud  End of boring at 52.5 feet Groundwater encountered at 10.5 feet  To a company to the company t	meters DEPTH	SAMPLE	SYMBOL (4)		BLOWS / FOOT (1)	DRY UNIT WEIGHT pcf (2)	MOISTURE CONTENT (%)	SHEAR STRENGTH psf (3)	OTHER TEST DATA	OTHER TEST DATA
As above, Bay Mud  ONSO  End of boring at 52.5 feet Groundwater encountered at 10.5 feet	- -13 _ - 45-			impermeable, trace shells, characteristic sulphuric		65.5	54.2		CONSOL	
End of boring at 52.5 feet Groundwater encountered at 10.5 feet  55-	- - - 15			As above, Bay Mud					C	
	_					67.3	54.2		ONSOL	
- 18 60-	- - - 18									

 
 ∑ Water level encountered during dri

 ∑ Water level measured after drilling
 Water level encountered during drilling

NOTES: (1) UNCORRECTED FIELD BLOW COUNTS
(2) METRIC EQUIVALENT DRY UNIT WEIGHT kN/m³ = 0.1571 x DRY UNIT WEIGHT (pcf)
(3) METRIC EQUIVALENT STRENGTH (kPa) = 0.0479 x STRENGTH (psf)
(4) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

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## **BORING LOG**

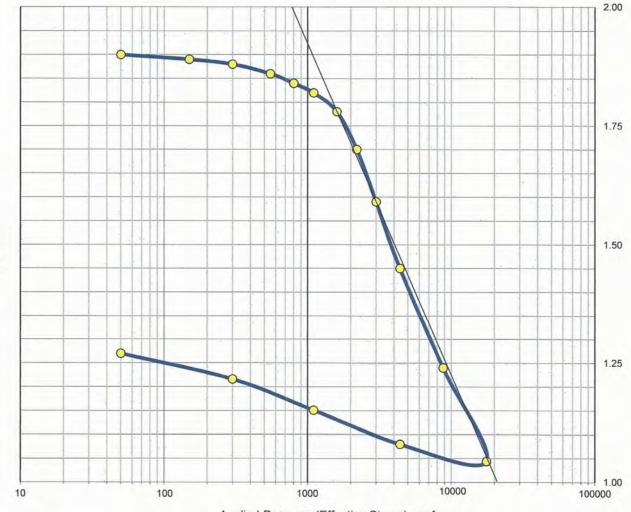
San Quentin Pump Station San Rafael, California

Project No. 739.299

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# Consolidation Test Report (ASTM D2435) Strain Log P-Curve





Applied Pressure (Effective Stress) - psf

	I	EST DATA			
Specimen Height, range (in):	1.00-0.7931	Total/Water Volumes, finals (co	59.78/33.71		
Specimen Diameter (in):	2.42	Void Ratio, initial (calc):		1.891	
Area (sq in):	4.60	Void Ratio, final (calc):		1.293	
Sample Mass, wet, range (gm):	121.9-106.7	Dry Weight, total (final):		72.99	
		Compression, loading, total (%	)	44.73	
Moisture, range (%): 67.0-46.2		Specific Gravity (gm/cc) [assumed]:		2.80	
Saturation, range %: Dry Density, range (lbs/cuft):	99.2-100.0 60.5-76.2	SAMPLE INFO	RMATION		
Wet Density, range (lbs/cuft):	101.0-111.4	Sample No.:		07668-1	
Matrix Porosity, range (%):	65.4-56.4	Sample ID:		B-1 @ 30'-32.5'	
Volume, total, range (cc):	75.37-59.78	Sample Condition:		Shelby Tube	
Volume, soil, range (cc):	26.07-26.07	Consolidometer Test Method:	ASTM D2	435 - 4 pt unload	
Volume, void, range (cc):	49.31-33.71	Gross Soil/SedimentTexture:		Gray Clay	



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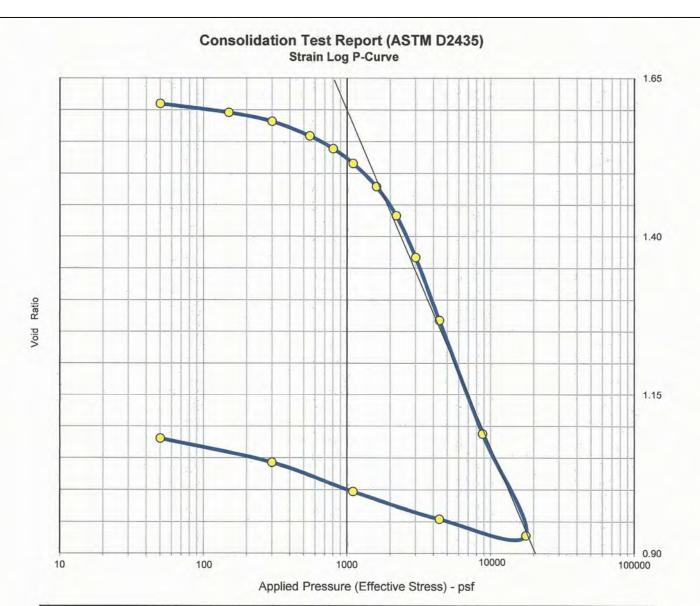
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**CONSOLIDATION TEST REPORT** 

Date: 3/27/2018



	I	EST DATA			
Specimen Height, range (in):	1.00-0.7995	Total/Water Volumes, finals (co	60.26/31.50		
Specimen Diameter (in):	2.42	Void Ratio, initial (calc):	1.620		
Area (sq in):	4.60	Void Ratio, final (calc):	1.095		
Sample Mass, wet, range (gm):	124.3-110.6	Dry Weight, total:	79.10		
Void Ratio, range:	1.610-0.9271	Compression, loading, total (%)	42.42		
Moisture, range (%):	57.1-39.8	Specific Gravity (gm/cc) [assum	ned]: 2.80		
Saturation, range %: Dry Density, range (lbs/cuft):	97.0-100.0 65.5-81.9	SAMPLE INFORMATION			
Wet Density, range (lbs/cuft):	102.9-114.6	Sample No.:	07668-2		
Matrix Porosity, range (%):	61.8-52.3	Sample ID:	B-1 @ 40'-42.5"		
Volume, total, range (cc):	75.37-60.26	Sample Condition:	Shelby Tube		
Volume, soil, range (cc):	28.76-28.76	Consolidometer Test Method:	ASTM D2435 - 4 pt unload		
Volume, void, range (cc):	46.61-31.50	Gross Soil/SedimentTexture:	Greenish Gray Clay		



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**CONSOLIDATION TEST REPORT** 

Date: 3/27/2018

A-6

## Consolidation Test Report (ASTM D2435) Strain Log P-Curve 1.65 1.40 Void Ratio 1.15 0.90 10000 10 100 1000 100000

Applied	Pressure	(Effective	Stress)	- psf

	1	EST DATA			
Specimen Height, range (in):	1.00-0.8196	Total/Water Volumes, finals (co	c):	61.77/31.70	
Specimen Diameter (in):	2.42	Void Ratio, initial (calc):		1.506	
Area (sq in):	4.60	Void Ratio, final (calc):		1.054	
Sample Mass, wet, range (gm):	125.2-112.9	Dry Weight, total:		81.20	
Void Ratio, range:	1.506-0.911	Compression, loading, total (%)		39.51	
Moisture, range (%):	54.2-39.0	Specific Gravity (gm/cc) [assur	2.80		
Saturation, range %: Dry Density, range (lbs/cuft):	97.1-100.0 67.3-82.1	SAMPLE INFORMATION			
Wet Density, range (lbs/cuft):	103.7-114.1	Sample No.:		07668-3	
Matrix Porosity, range (%):	60.1-51.3	Sample ID:		B-1 @ 50'-52.5'	
Volume, total, range (cc):	75.37-61.77	Sample Condition:		Shelby Tube	
Volume, soil, range (cc):	30.07-30.07	Consolidometer Test Method:	ASTM D	2435 - 4 pt unload	
Volume, void, range (cc):	45.30-31.70	Gross Soil/SedimentTexture:		n Gray Clay	

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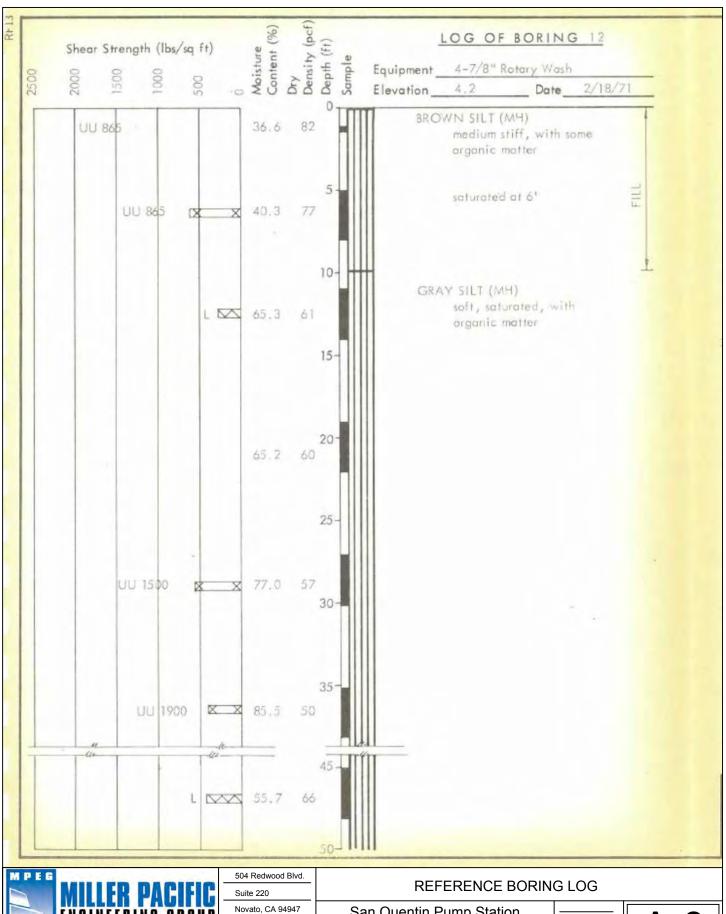
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#### **CONSOLIDATION TEST REPORT**

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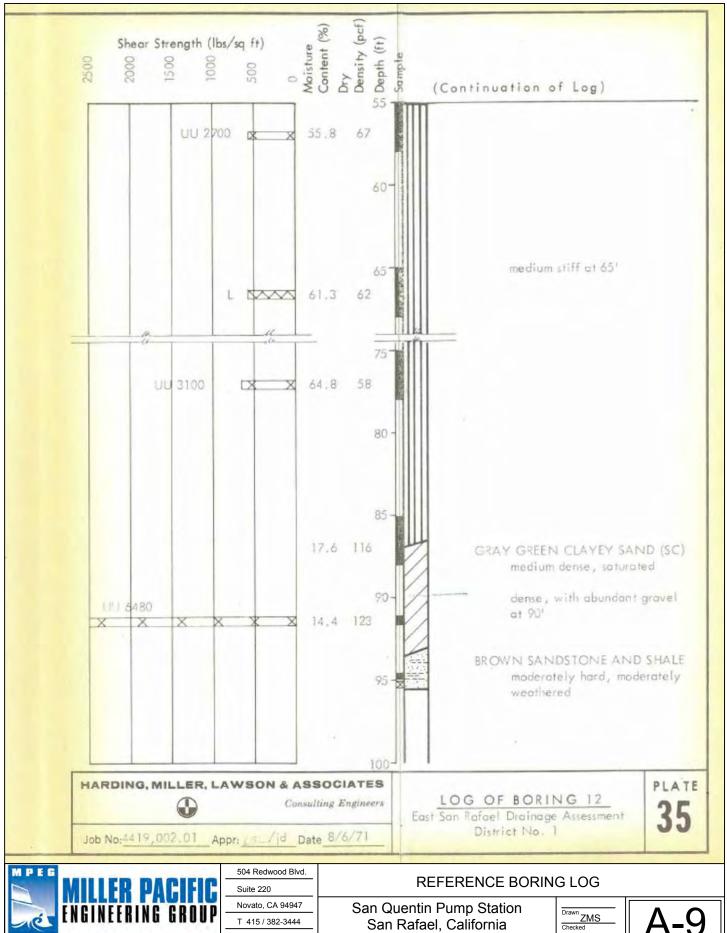
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## **APPENDIX A, SUB-APPENDIX B:**

**Environmental Technical Memorandum** 



### Memorandum

To: Rich Souza, P.E. From: Justin Semion, PWS,

CSW/Stuber-Stroeh Engineering Principal

Group, Inc Geoff Reilly, AICP, Sr.
Associate Environmental

Cc: Planner

Jordan Rosencranz, PWS,

Regulatory Permitting

Specialist

**Date:** April 20, 2018

**Subject:** Overview of San Quentin Pump Station Project Alternatives

The purpose of this memorandum is to provide an overview of wetlands and biological resources constraints that may be directly or indirectly affected by the proposed Alternatives for the San Quentin Pump Station Project, in San Rafael, Marin County, California (Project; Appendix A, Figures 1 and 2). The third Alternative is a No-Project Alternative, which would not result in any adverse effects to wetlands and biological constraints to the study area, and is therefore not analyzed in this memo. This memo provides analysis for the following components:

- Biological and Wetlands Constraints: Biological and wetlands constraints are the basis
  for most of the regulatory permitting requirements examined in this memo, and inform
  some of the logistical construction constraints (such as schedule and mitigation) that can
  affect overall project cost. The constraints for the Project are reviewed here to provide
  that background.
- Effects Analysis Overview for Two Alternative Pump Station Locations: This memo
  presents the two proposed Project Alternatives relative to their potential impacts to
  wetlands and sensitive species. Indirect Project-related effects are briefly discussed, as
  well as general avoidance and minimization measures that could be prescribed during the
  California Environmental Quality Act (CEQA) process or subsequent permitting
  processes.
- 3. **Permitting Approach Overview**: Finally, this memo discusses potential permitting process that could result from Project implementation. Any critical differences in required permits across the Alternatives are discussed.

This memo provides these analyses based on the professional experience and judgment of WRA WRA focuses on wetland resources and permit requirements that have the potential to materially affect project design, feasibility, cost, and timeline, and does not provide a complete analysis of biological resources required to support permitting or CEQA environmental review documentation. The analysis of biological resources constraints is developed based on WRA's expertise surrounding the Project Area, but does not constitute any formal survey, determination of species presence or absence, or jurisdictional delineation.

#### PROJECT DESCRIPTION

The City of San Rafael proposes to remove and construct a stormwater pump station, a drainage channel, and pipeline in San Rafael, California (Project). The Project is located on City lands in the first alternative (Figure 1) and on both City and lands of Kerner Blvd, LLC in the second alternative (Figure 2). The reconstruction is intended to reduce flood risk to parcels and Highway 580 during a significant storm event.

### **Project Alternatives**

Two Alternative pump station locations have been explored as possible solutions for meeting the Project's purpose and need. The two Alternative locations are described below. As previously mentioned, the No-Project Alternative is not assessed, or discussed further in this memo. The area of potential affect for the two Alternatives are depicted in Figure 1 and Figure 2.

### **Alternative 1 (Figure 1) – This Alternative proposes:**

- Removing and replacing an existing pump station
- Replacing or lining approximately 1,000 linear feet of 60" RCP outfall within a Gravel Road
- Wetlands would be avoided but a minor portion of waters could be impacted by removal and replacement of the pump station

### **Alternative 2 (Figure 2) – This Alternative proposes:**

- Removing and replacing existing pump station
- Abandoning portions of a 60" RCP Outfall
- Add new drainage channel within adjacent wetlands
- Approximately 0.55 acre of impacts to waters/wetlands would occur

### **REGULATORY BACKGROUND**

The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations and analysis of potential Project impacts and mitigation requirements.

**Sensitive Biological Communities**: Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, or riparian habitat. These habitats are protected under federal regulations such as the Clean Water Act; state regulations such as the Porter-Cologne Act, the California Department of Fish and Wildlife (CDFW) Streambed Alteration Program, and CEQA; or local ordinances or policies such as city or county tree ordinances, Special Habitat Management Areas, and General Plan Elements.

### Waters of the United States

The U.S. Army Corps of Engineers (Corps) regulates "Waters of the United States" under Section 404 of the Clean Water Act. Waters of the U.S. are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water mark (OHWM). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the U.S generally requires an individual or nationwide permit from the Corps under Section 404 of the Clean Water Act.

### Waters of the State

The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be regulated by the Corps under Section 404. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State, are required to comply with the terms of the Water Quality Certification determination. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

### San Francisco Bay and Shoreline

The San Francisco Bay Conservation and Development Commission (BCDC) has regulatory jurisdiction, as defined by the McAteer-Petris Act, over the Bay and its shoreline, which generally consists of the area between the shoreline and a line 100 feet landward of and parallel to the shoreline. BCDC has two areas of jurisdiction: San Francisco Bay and the Shoreline Band. Definitions of these areas, as described in the McAteer-Petris Act (PRC Section 66610), are given below.

San Francisco Bay: all areas that are subject to tidal action from the south end of the Bay to the Golden Gate (Point Bonita-Point Lobos) and to the Sacramento River line (a line between Stake Point and Simmons Point, extending northeasterly to the mouth of Marshall Cut), including all sloughs, and specifically, the marshlands lying between mean high tide and five feet above mean sea level; tidelands (land lying between mean high tide and mean low tide); and submerged lands (land lying below mean low tide).

**Shoreline Band:** all territory located between the shoreline of San Francisco Bay as defined above and a line 100 feet landward of and parallel with that line, but excluding any portions of such territory which are included in other areas of BCDC jurisdiction, provided that the Commission may, by resolution, exclude from its area of jurisdiction any area within the shoreline band that it finds and declares is of no regional importance to the Bay.

### Other Sensitive Biological Communities

Other sensitive biological communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2018). Sensitive plant communities are also identified by CDFW (CNPS 2018a). CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2010) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G). Specific habitats may also be identified as sensitive in city or county general plans or ordinances.

Sensitive Special-Status Species: Special-status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the Federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These acts afford protection to both listed species and those that are formal candidates for listing. Additionally, CDFW Species of Special Concern, CDFW California Fully Protected species, USFWS Birds of Conservation Concern, and CDFW Special-status Invertebrates are all considered special-status species. Although these aforementioned species generally have no special legal status, they are given special consideration under CEQA

In addition to regulations for special-status species, most native birds in the United States (including non-status species) are protected by the federal Migratory Bird Treaty Act of 1918 (MBTA) and the California Fish and Game Code (CFGC), i.e., sections 3503, 3503.5 and 3513. Under these laws, deliberately destroying active bird nests, eggs, and/or young is illegal.

Critical Habitat: Critical habitat is a term defined in the ESA as a specific and designated geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. In many cases, this level of protection is similar to that already provided to species by the ESA jeopardy standard. However, areas that are currently unoccupied by the species but which are needed for the species' recovery are protected by the prohibition against adverse modification of critical habitat.

### **BIOLOGICAL CONSTRAINTS ANALYSIS**

The Project site is located within San Rafael, Marin County. Sensitive areas adjacent to the Project are salt marshes (coastal wetlands), waters adjacent to the pump station, and shoreline of San Rafael Bay.

The primary biological constraints for the Project are the adjacent salt marshes and waters, and threatened and endangered mammal species that may reside in the adjacent salt marshes (Table 1).

Table 1. Summary of Key Biological Constraints for the San Quentin Pump Station Project						
Biological Constraint	Responsible Agency	Location(s) in Project Area	Project Considerations			
Jurisdictional waters/wetlands	Corps, RWQCB, BCDC	Salt marsh and waters surrounding and/or in the Project area	Impacts to jurisdictional areas require a permit; permanent loss of waters requires mitigation. The BCDC shoreline band extends 100 feet inward from the edge of the Bay and is also subject to BCDC permit requirements. However, Project Alternatives improvements are just outside of the 100-foot shoreline band.			
Salt marsh Harvest Mouse	USFWS, CDFW	Saltmarsh vegetation (specifically pickleweed) and immediately adjacent upland or fringe habitats.	Direct or indirect effects require a USFWS Biological Opinion. Permanent or temporary loss of habitat requires mitigation. Hand removal of vegetation, wildlife exclusion fencing, and biological monitoring likely required.			
Non-listed Special-status Plant and Wildlife Species	CEQA, USFWS, CDFW	Entirety of the Project Area	USFWS, CDFW, and CEQA regulations prohibit the removal of active bird nests. To avoid disturbance to active nests, preconstruction surveys and bird deterrence measures may be implemented. Avoidance or minimization measures for other wildlife to be determined during CEQA review.			

### Jurisdictional Wetlands/Waters and BCDC Shoreline Band

Alternative 1 is primarily located within an existing developed area and would avoid the wetlands to the north; however, the removal of the pump station may result in minor impacts to waters. Alternative 2 would result in direct impacts to 0.55 acre of salt marsh and possibly minor impacts to waters due to the removal of the pump station and installation of the new culvert.

### Special-status Species

There are various special-status species that could potentially occur within the Study Area. This memo does not assess the potential for all possible species that could be considered constraints under CEQA. Instead, this memo only addresses species listed under the Federal and/or State Endangered Species Acts which may present construction, feasibility, or permitting constraints for the Project.

Special-status species are known from the area, though generally the species present would be addressed during the CEQA process.

Species that have potential to occur are discussed below.

Salt marsh harvest mouse, (*Reithrodontomys raviventris*) Federal Endangered, State Endangered and CDFW Fully Protected. The salt marsh harvest mouse (SMHM) is a relatively small rodent found only in suitable salt- and brackish-marsh habitat in the greater San Francisco Bay, San Pablo Bay, and Suisun Bay areas. The habitat associated with SMHM has been described as pickleweed-dominated vegetation (Fisler 1965), though more recent studies have shown that SMHM is supported equally in pickleweed-dominated and mixed vegetation (including native and non-native salt- and brackish-marsh species) (Sustaita et al. 2005, Sustaita et al. 2011). SMHM prefers deep, dense vegetative cover between 11.8 and 23.6 inches height (USFWS 1984), though there are indications that shorter stands (5.9 inches is the shortest commonly used) of pickleweed may also support an abundance of this species (Fisler 1965; Shellhammer et al. 1982; USFWS 2013). Another key habitat requirement for this species is upland or tidal refuge habitat, which is used to escape high tides and storm events. Persistent, low numbers of SMHM are also found in grasslands at least 330 feet (100 meters) from the edge of marsh habitat, though their presence in grasslands may be seasonal and opportunistic (USFWS 2013). This species has the potential to be present in or adjacent to the Project site.

### Nesting Birds and other Special-Status Wildlife

Most nesting birds in California are protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC). As a result of these protections, the removal and disturbance of active nests is prohibited. To avoid impacts to nesting birds, project improvements can occur between September 1 and February 15. Another common measure to avoid impacts to nesting birds is to complete pre-construction surveys for breeding birds prior to construction during the breeding season. The risk of relying on preconstruction surveys is that if nesting birds are found, those nests cannot be removed and are at minimum required to be monitored during construction to ensure that construction is not affecting nesting success. Bird deterrence measures, such as netting, acoustic disturbance mechanisms, and reflective materials, can be put in place to deter bird nesting prior to construction. Experience has shown that these measures can help prevent some nesting, but are somewhat unreliable at completely preventing nest establishment, and consistent (sometimes daily) active management of bird nests as they are created can sometimes be necessary.

CEQA may identify additional species listed by CDFW as species of special concern, whereby the level of impact associated with the preferred alternative may exceed the significance threshold. Generally CEQA mitigation measures require surveys with appropriate performance standards, work windows, biological monitoring or other similar measures to avoid or reduce the impact to a less-than-significant level.

### PERMITTING APPROACH OVERVIEW

Table 2 below summarizes the biological and permitting constraints for the Project site. These constraints are discussed in more detail in the text below.

Table 2. Summary of Permit Requirements and Key Biological and Permitting Constraints					
Anticipated Permit Requirements	Key Biological and Permitting Constraints				
<ul> <li>U.S. Army Corps of Engineers (Corps)         Section 404</li> <li>San Francisco Bay Regional Water Quality         Control Board (RWQCB) Water Quality         Certification</li> <li>U.S. Fish and Wildlife Service (USFWS)         Section 7 Consultation</li> </ul>	<ul> <li>Agency requirements to minimize fill</li> <li>Potential effects on federally threatened and endangered bird and mammal species</li> <li>Potential effects on State threatened and endangered bird and mammal species</li> </ul>				

As discussed above, based on the current Project description and materials provided to WRA, the following permits may be required from the following agencies for the two Alternatives:

- Corps Section 404 Permit
- RWQCB Water Quality Certification
- USFWS Section 7 Consultation

Corps Individual Permit and RWQCB Water Quality Certification

Alternative 2 would result in impacts to potentially jurisdictional wetlands/waters that exceed the ½-acre threshold to qualify for a Nationwide Permit. Therefore this Alternative would require an Individual Permit. For the Corps to issue an Individual Permit, the Project design is required to meet the standard of the "least environmentally damaging practicable alternative" as determined by an alternatives analysis. The alternatives analysis requires the examination of technically and economically feasible 1 alternatives and gives the Corps the authority to determine the most appropriate design to minimize environmental impacts. In addition, Individual Permits often require NEPA documentation in the form of an Environmental Assessment/Finding of No Significant Impact (EA/FONSI). Similarly, the RWQCB may exert pressure to reduce fill, even if the Nationwide Permit standards are met. RWQCB regulations are much less clear on the requirements to minimize fill and standards applied to examine acceptable levels of fill, which gives much more leeway for staff to make their own decisions regarding acceptability of fill placed in the Bay. The Alternatives would need to provide substantial evidence as to the need for the impacts to jurisdictional areas, and demonstrate that impacts have been avoided to the greatest extent feasible. There is not a known recent precedent for a project of this size and nature

<sup>1</sup> Corps regulations do include economic feasibility, but no regulatory standards are established to determine what constitutes economic feasibility.

receiving authorization for the amount of fill potentially involved for each Alternative. Last, the Corps and RWQCB would require mitigation for all jurisdictional areas lost as a result of fill placed by the Project. As discussed further below, the cost for mitigation can be substantial. For these reasons, it is recommended that the total area of impacted waters/wetlands be reviewed to identify means by which fill can be avoided or minimized.

Conversely, Alternative 1 would avoid the wetlands to the north but could result in minor impacts to waters due to the removal of the pump station. As such, this Alternative would avoid the need for an Individual Permit from the Corps, and far less mitigation costs for waters/wetlands, if at all, compared to Alternative 2.

### USFWS Section 7 Consultation

The Corps would formally consult with the USFWS in order to determine impacts and mitigation of impacts to species listed as threatened or endangered under the Federal Endangered Species Act (e.g., Salt marsh harvest mouse).

### **Other Considerations**

### Mitigation Cost

For projects that result in a net loss of jurisdictional waters, the Corps and RWQCB require mitigation in the form of project-sponsored habitat creation or purchase of credits in a mitigation bank. Recent Corps regulations favor purchase of credits in mitigation banks over project-sponsored mitigation. The price for mitigation is based on recent sales of credits and price quotes from the San Francisco Bay Mitigation Bank, which does offer credits that would be available for purchase for the Project. The cost of those credits is anticipated to be approximately \$950,000-1,100,000 per acre, depending on the final impact area. For this reason, it is recommended that Project Alternatives be reviewed to identify means by which impacts to wetlands and other jurisdictional areas can be minimized.

### REFERENCES

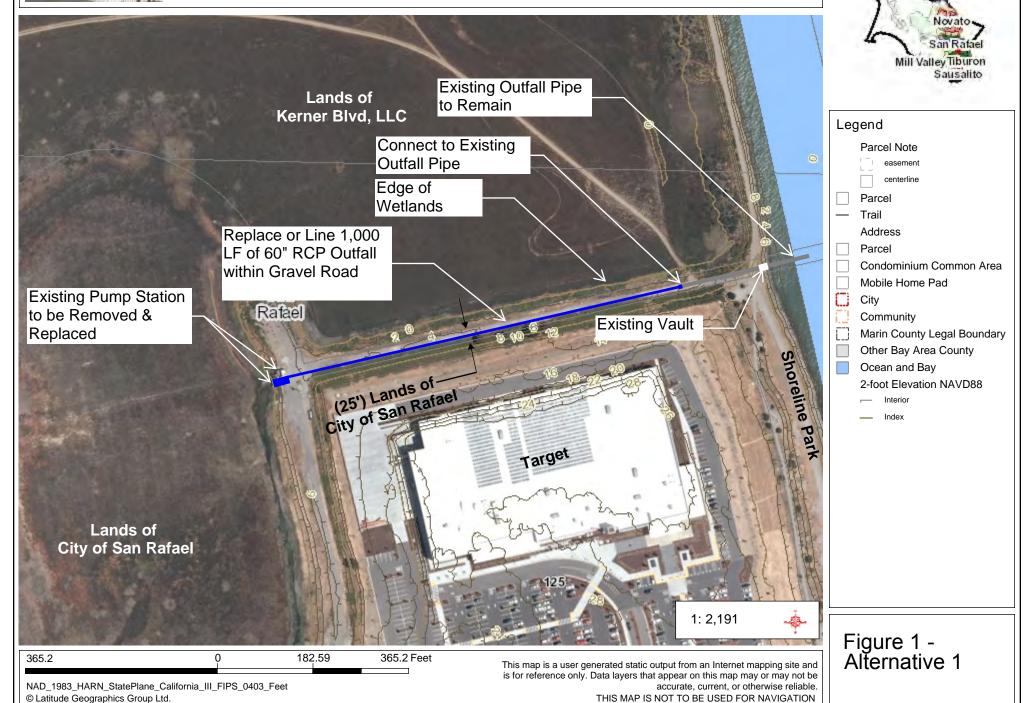
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**APPENDIX A. FIGURES** 

# Marin Map

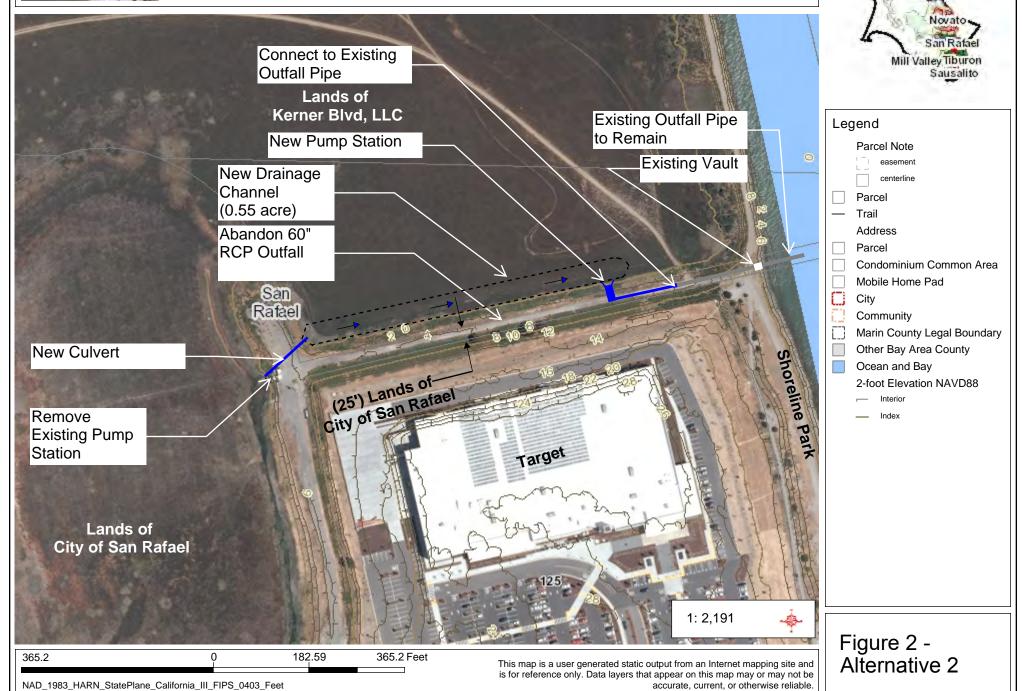
### SAN QUENTIN DESIGN OPTIONS



# Marin Map

© Latitude Geographics Group Ltd.

### SAN QUENTIN DESIGN OPTIONS



THIS MAP IS NOT TO BE USED FOR NAVIGATION

## **APPENDIX A, SUB-APPENDIX C:**

Drainage Study

### **DRAINAGE STUDY**

### **FOR**

### SAN QUENTIN PUMP STATION

Prepared For: City of San Rafael Department of Public Works

111 Morphew Street San Rafael, CA 94901

Prepared By:

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Prepared:

April 20, 2018

CSW | ST2 File No.:

4.1133.02



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#### 1. INTRODUCTION

In this Drainage Study, the existing condition hydrology was analyzed for the San Quentin Pump Station watershed with the intent to size the proposed pump station such that flooding risk to upstream properties is limited. This Study includes an analysis of the watershed, pump system alternatives and available storage.

### 2. EXISTING CONDITIONS

The San Quentin Pump Station is located in San Rafael, Marin County. The existing pump station consists of two (2) 50 cubic feet per second (cfs) pumps. The pump station discharges to San Francisco Bay.

The San Quentin Pump Station watershed is approximately 403 acres, consisting of urban/commercial development, hillside woods and wetlands. The wetlands act as a storage basin for the pump station. The watershed is bisected by Interstate 580, which includes large roadside ditches for drainage that are inundated during rain events. The watershed consists of Hydrologic Soil Groups "B" and "undefined" (which is assumed to be Group "D") according to the USDA Soil Survey.

Anecdotal evidence indicates that the parcels on the west side of Interstate 580 flood as a result of the existing pump flow rates. This evidence indicates that the existing pump system is insufficient. The at-risk properties are located at an elevation of 4.0'.

See Appendix 7.1 for the Existing Conditions Hydrology Map.

### 3. SCENARIO ANALYZED

The anecdotal evidence indicates that the existing pump system is insufficient. As such, the proposed design storm was assumed to be the 100-year, 24-hour storm event. However, due to the historic weather patterns for the region, which sees storm events occur in succession, an assumption of a 5-year, 24-hour storm event occurred prior to the 100-year, 24-hour storm event. A storm series, described below, was developed to size the pump station alternatives.

### **Storm Series:**

The proposed storm series analyzed was the 5-year, 24-hour storm event followed by the 100-year, 24-hour storm event with a two hour overlap between the two events.

### Assumptions:

- The proposed pump systems will include a two (2) or dual pump alternating system.
- The existing wetlands and highway swales can be utilized for runoff storage.
- Storage available between elevation -2.0 and -1.0 is already filled with water and not available for storage during the storm series.

### Pump Parameters:

Parameter	Value
Flood elevation of concern	4.0'
Freeboard Elevation	3.0'
Pump 1 on elevation	-0.5'
Pump 2 on elevation	0.5'
Pump off elevation	-1.0'

### 4. METHOD OF ANALYSIS

The existing watershed was analyzed using the National Resources Conservation Services (NRCS, formerly the Soil Conservations Survey or SCS) TR 55 Urban Hydrology for Small Watersheds methodology (see Appendix 7.3-NRCS Worksheets). Hydrographs were created for the 5-year, 24-hour storm event and 100-year, 24-hour storm and combined to create the analyzed storm series.

### 5. FACTORS USED IN ANALYSIS

a. <u>Subbasins</u>: The subbasin identified in these calculations was determined from topographic information, storm drain information and aerial photography taken from Marin Maps Geographical Information System (GIS).

See Appendix 7.1 for the Existing Hydrology Maps.

b. <u>Pump System</u>: Three pump system scenarios were analyzed; two (2) 50 cubic feet per second (cfs) pumps, two (2)80 cfs pumps, and two (2) 100 cfs pumps.

See Appendix 7.5 for the pump analysis.

c. <u>Available Storage</u>: The available storage in the wetlands and swales was determined from available topographic information taken from the Marin Maps GIS.

See Appendix 7.1 for sheet H1-Drainage Area Study.

d. <u>Hydrographs</u>: The hydrographs for the 5-year 24-hour and 100-year 24-hour storm events were determined using the computer modeling program Hydraflow Hydrograph Extension for AutoCAD Civil3D 2016. The computer model utilized the NRCS TR 55 methodology to create the hydrographs. The hydrographs were exported and utilized for the pump sizing calculations. The hydrograph flow data was calculated at 15 minute intervals. Precipitation data was taken from the NOAA Atlas 14, Volume 6, Version 2 Point Precipitation Frequency Estimates (See Appendix 7.2-Precipication Data).

See Appendix 7.4 the 5-Year and 100-Year Storm Event Hydraflow Hydrograph Output.

### 6. RESULTS AND CONCLUSIONS

### **Results**:

Table 6.1 depicts the 5- and 100-year peak discharge rates for the 24-hour storm event. Table 6.2 indicates the results of the pump sizing analysis in maximum water surface elevation (WSEL).

Table 6.1: 24-Hour Rain Event Peak Discharge Rates

_		Peak Discharge Rate		
Recurrence Interval	Time to Peak (hours)	(cfs)		
5-Year	3.1	153.28		
100-Year	3.1	329.10		

### Notes:

- 1. See Appendix 7.3 for time of concentration calculations.
- 2. See Appendix 7.4 for hydrograph data.

Table 6.2: Pump Analysis Results

Pump Flow	Maximum	
Rate	WSEL	Constraints/Benefits
(2) 50 cfs	3.9	No freeboard, no rest periods for pump
(2) 80 cfs	3.9	No freeboard/allows rest periods for pump
(3) 66 cfs	2.9	Allows 1' freeboard and rest periods for pump
(2) 100 cfs	2.9	Allows 1' freeboard and rest periods for pump

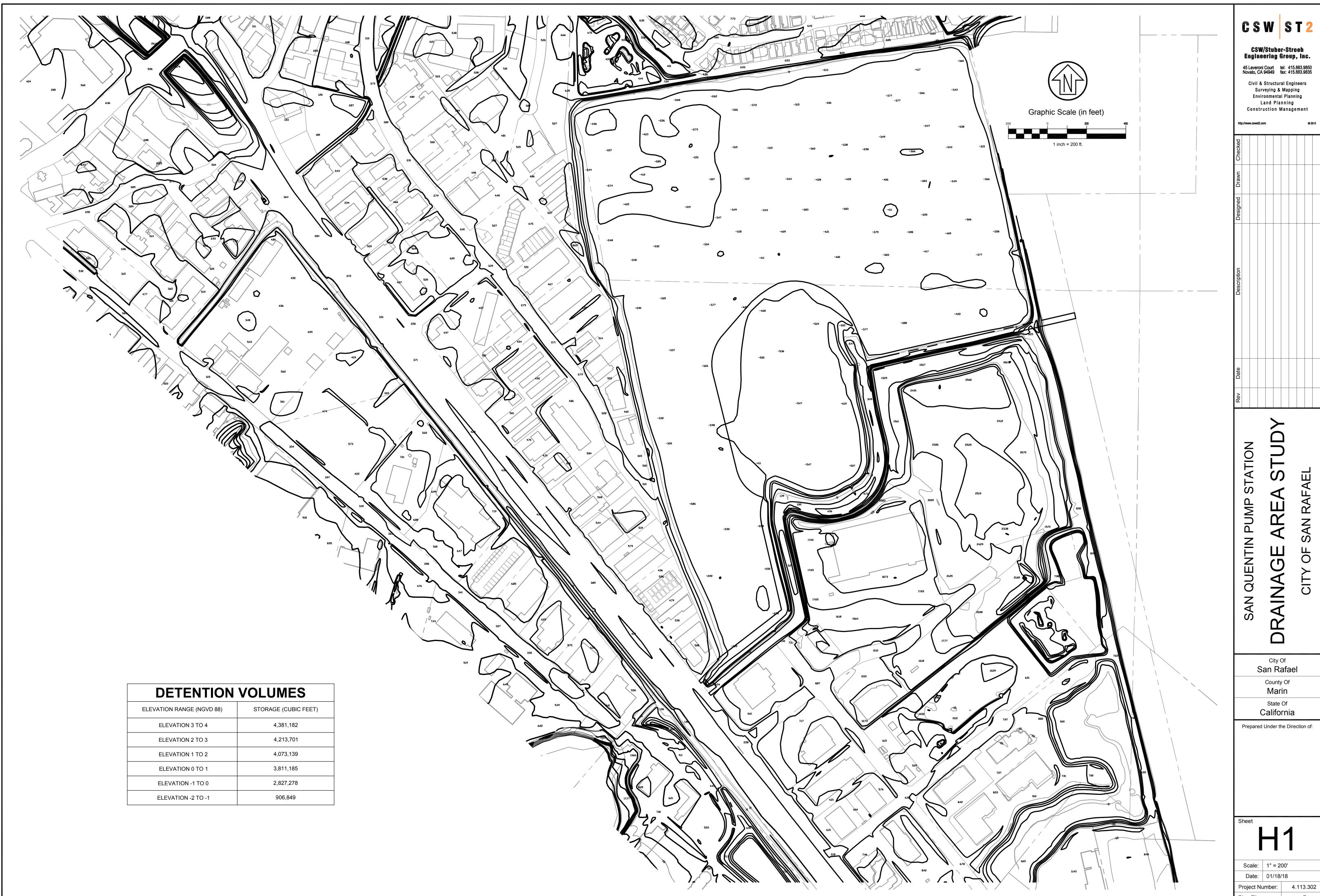
### Notes:

- 1. The elevation where the properties of concern begin to flood is elevation 4.0.
- 2. Analysis was performed assuming a 5-year, 24-hour event and a 100-year, 24-hour event in series.
- 3. Storm series duration is 52 hours.

<u>Conclusion</u>: The analysis indicates that a three (3) 66 cfs pump system and a two (2) 100 cfs pump system has sufficient capacity to convey the peak discharge rate form the 5-year 24-hour, 100-year 24-hour storm series maintaining a 1' freeboard below the elevation of concern and allowing for pump rest periods.

### 7.0 APPENDICES

### Appendix 7.1 Maps



CSW ST2

San Rafael

California



**DRAFT** 

CSW ST2 CSW/Stuber-Stroeh Engineering Group, Inc. 45 Leveroni Court tel: 415.883.9850 Novato, CA 94949 fax: 415.883.9835 Civil & Structural Engineers Surveying & Mapping Environmental Planning Land Planning Construction Management

City Of SAN RAFAEL County Of Marin

California

Prepared Under the Direction of:

State Of

Project Number: 7.7763.57

# Appendix 7.2 Precipitation Data



#### NOAA Atlas 14, Volume 6, Version 2 Location name: San Rafael, California, USA\* Latitude: 37.9553°, Longitude: -122.4913° Elevation: 26.42 ft\*\*



### \* source: ESRI Maps \*\* source: USGS

#### POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF tabular | PF graphical | Maps & aerials

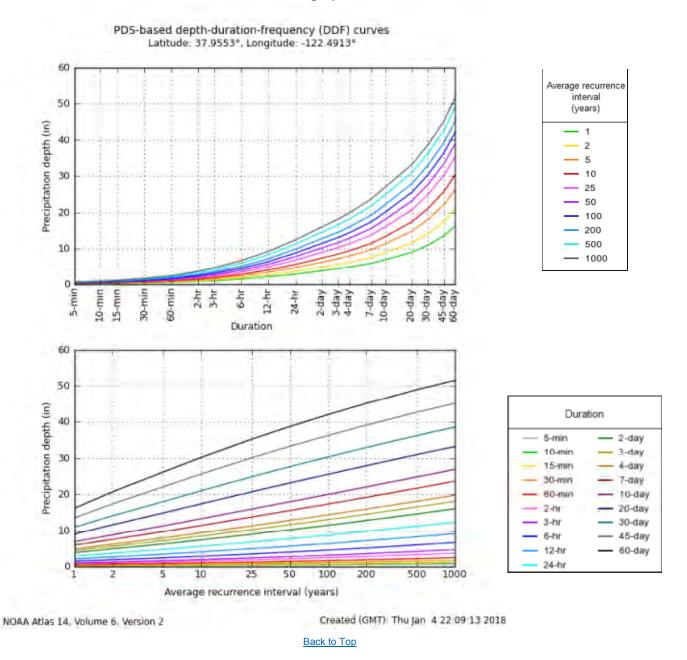
### PF tabular

PI	PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) <sup>1</sup>								es) <sup>1</sup>	
Duration	Average recurrence interval (years)									
Duration	1	2	5	10	25	50	100	200	500	1000
5-min	<b>0.155</b> (0.138-0.175)	<b>0.192</b> (0.171-0.218)	<b>0.244</b> (0.217-0.278)	<b>0.289</b> (0.254-0.333)	<b>0.354</b> (0.299-0.424)	<b>0.407</b> (0.335-0.500)	<b>0.464</b> (0.370-0.586)	<b>0.525</b> (0.405-0.686)	<b>0.612</b> (0.450-0.841)	<b>0.684</b> (0.483-0.978)
10-min	<b>0.222</b> (0.197-0.251)	<b>0.275</b> (0.245-0.313)	<b>0.350</b> (0.311-0.399)	<b>0.415</b> (0.364-0.477)	<b>0.508</b> (0.428-0.608)	<b>0.584</b> (0.480-0.717)	<b>0.665</b> (0.531-0.840)	<b>0.752</b> (0.581-0.983)	<b>0.878</b> (0.645–1.21)	<b>0.980</b> (0.692-1.40)
15-min	<b>0.268</b> (0.239-0.304)	<b>0.333</b> (0.296-0.378)	<b>0.424</b> (0.376-0.482)	<b>0.501</b> (0.440-0.577)	<b>0.614</b> (0.518-0.735)	<b>0.706</b> (0.580-0.867)	<b>0.804</b> (0.642-1.02)	<b>0.910</b> (0.703-1.19)	<b>1.06</b> (0.780-1.46)	<b>1.19</b> (0.837–1.70)
30-min	<b>0.389</b> (0.347-0.441)	<b>0.483</b> (0.430-0.549)	<b>0.615</b> (0.545-0.700)	<b>0.728</b> (0.639-0.837)	<b>0.891</b> (0.752-1.07)	<b>1.02</b> (0.842–1.26)	<b>1.17</b> (0.932–1.48)	<b>1.32</b> (1.02–1.73)	<b>1.54</b> (1.13–2.12)	<b>1.72</b> (1.22–2.46)
60-min	<b>0.555</b> (0.495-0.629)	<b>0.690</b> (0.614-0.783)	<b>0.877</b> (0.778-0.999)	<b>1.04</b> (0.912-1.20)	<b>1.27</b> (1.07–1.52)	<b>1.46</b> (1.20–1.80)	<b>1.67</b> (1.33–2.11)	<b>1.88</b> (1.46-2.46)	<b>2.20</b> (1.62–3.02)	<b>2.46</b> (1.73–3.51)
2-hr	<b>0.826</b> (0.736-0.936)	<b>1.02</b> (0.911–1.16)	<b>1.30</b> (1.16–1.48)	<b>1.54</b> (1.36–1.78)	<b>1.89</b> (1.60-2.27)	<b>2.18</b> (1.79–2.68)	<b>2.49</b> (1.98–3.14)	<b>2.82</b> (2.18–3.69)	<b>3.30</b> (2.42-4.53)	<b>3.69</b> (2.61–5.28)
3-hr	<b>1.05</b> (0.935–1.19)	<b>1.30</b> (1.16–1.48)	<b>1.65</b> (1.46–1.88)	<b>1.95</b> (1.72–2.25)	<b>2.39</b> (2.02–2.87)	<b>2.76</b> (2.27–3.39)	<b>3.14</b> (2.51–3.98)	<b>3.57</b> (2.76–4.66)	<b>4.18</b> (3.07-5.73)	<b>4.68</b> (3.30-6.69)
6-hr	<b>1.54</b> (1.37–1.74)	<b>1.90</b> (1.69–2.16)	<b>2.41</b> (2.14–2.75)	<b>2.85</b> (2.50–3.28)	<b>3.48</b> (2.94–4.17)	<b>4.00</b> (3.29-4.91)	<b>4.54</b> (3.63–5.75)	<b>5.14</b> (3.97–6.72)	<b>5.99</b> (4.40-8.23)	<b>6.69</b> (4.72-9.56)
12-hr	<b>2.14</b> (1.91–2.43)	<b>2.68</b> (2.39–3.05)	<b>3.43</b> (3.04-3.90)	<b>4.05</b> (3.56-4.66)	<b>4.93</b> (4.16-5.91)	<b>5.64</b> (4.64-6.93)	<b>6.39</b> (5.10-8.08)	<b>7.18</b> (5.55–9.39)	<b>8.29</b> (6.10-11.4)	<b>9.19</b> (6.49–13.1)
24-hr	<b>2.89</b> (2.61–3.28)	<b>3.67</b> (3.30–4.17)	<b>4.72</b> (4.24–5.37)	<b>5.59</b> (4.98-6.41)	<b>6.80</b> (5.88-8.03)	<b>7.76</b> (6.58–9.33)	<b>8.75</b> (7.26–10.8)	<b>9.79</b> (7.92–12.3)	<b>11.2</b> (8.76–14.7)	<b>12.4</b> (9.35–16.7)
2-day	<b>3.84</b> (3.46-4.35)	<b>4.88</b> (4.39–5.54)	<b>6.27</b> (5.62-7.13)	<b>7.41</b> (6.60-8.49)	<b>8.99</b> (7.77-10.6)	<b>10.2</b> (8.67–12.3)	<b>11.5</b> (9.53–14.1)	<b>12.8</b> (10.4–16.1)	<b>14.6</b> (11.4–19.1)	<b>16.0</b> (12.1–21.7)
3-day	<b>4.40</b> (3.96–4.99)	<b>5.60</b> (5.03-6.35)	<b>7.18</b> (6.44-8.17)	<b>8.48</b> (7.56-9.72)	<b>10.3</b> (8.87–12.1)	<b>11.6</b> (9.88–14.0)	<b>13.1</b> (10.8–16.1)	<b>14.5</b> (11.8–18.3)	<b>16.6</b> (12.9–21.7)	<b>18.1</b> (13.7–24.5)
4-day	<b>4.87</b> (4.38-5.51)	<b>6.19</b> (5.57-7.02)	<b>7.95</b> (7.13–9.04)	<b>9.38</b> (8.35–10.7)	<b>11.3</b> (9.80–13.4)	<b>12.8</b> (10.9–15.4)	<b>14.4</b> (11.9–17.7)	<b>16.0</b> (12.9–20.1)	<b>18.1</b> (14.1–23.7)	<b>19.8</b> (15.0–26.8)
7-day	<b>5.92</b> (5.33-6.71)	<b>7.56</b> (6.80–8.57)	<b>9.69</b> (8.70–11.0)	<b>11.4</b> (10.2–13.1)	<b>13.8</b> (11.9–16.2)	<b>15.6</b> (13.2–18.7)	<b>17.4</b> (14.4–21.3)	<b>19.2</b> (15.6–24.2)	<b>21.7</b> (16.9–28.4)	<b>23.7</b> (17.9–31.9)
10-day	<b>6.89</b> (6.20-7.81)	<b>8.81</b> (7.93–10.00)	<b>11.3</b> (10.1–12.8)	<b>13.3</b> (11.8–15.2)	<b>16.0</b> (13.8–18.9)	<b>18.0</b> (15.3–21.6)	<b>20.0</b> (16.6–24.6)	<b>22.1</b> (17.9–27.8)	<b>24.8</b> (19.4–32.5)	<b>26.9</b> (20.3–36.4)
20-day	<b>9.01</b> (8.11–10.2)	<b>11.6</b> (10.4–13.2)	<b>14.9</b> (13.3–16.9)	<b>17.4</b> (15.5–20.0)	<b>20.7</b> (17.9–24.5)	<b>23.2</b> (19.7–27.9)	<b>25.6</b> (21.2-31.4)	<b>27.9</b> (22.6-35.2)	<b>31.0</b> (24.2-40.6)	<b>33.2</b> (25.1–44.9)
30-day	<b>10.9</b> (9.85–12.4)	<b>14.1</b> (12.7–16.0)	<b>18.0</b> (16.2–20.5)	<b>21.0</b> (18.7–24.1)	<b>24.9</b> (21.5-29.4)	<b>27.7</b> (23.5–33.3)	<b>30.3</b> (25.2-37.3)	<b>32.9</b> (26.7-41.5)	<b>36.2</b> (28.3-47.4)	<b>38.6</b> (29.2–52.1)
45-day	<b>13.5</b> (12.2–15.3)	<b>17.4</b> (15.7–19.7)	<b>22.1</b> (19.8–25.1)	<b>25.6</b> (22.8–29.4)	<b>30.1</b> (26.0-35.5)	<b>33.3</b> (28.2–40.0)	<b>36.3</b> (30.1–44.6)	<b>39.1</b> (31.7-49.3)	<b>42.7</b> (33.3–55.9)	<b>45.2</b> (34.1–61.0)
60-day	<b>16.2</b> (14.6–18.3)	<b>20.7</b> (18.6–23.5)	<b>26.2</b> (23.5–29.7)	<b>30.2</b> (26.9–34.6)	<b>35.2</b> (30.5–41.6)	<b>38.8</b> (32.9–46.6)	<b>42.0</b> (34.9–51.7)	<b>45.2</b> (36.5–56.9)	<b>49.0</b> (38.2-64.1)	<b>51.6</b> (39.0-69.7)

Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

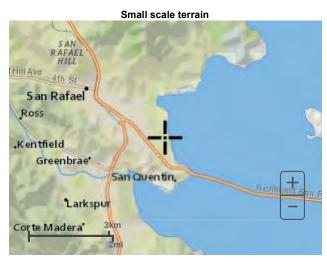
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

### PF graphical

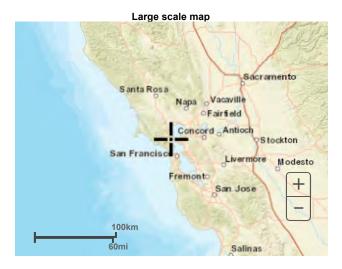


https://hdsc.nws.noaa.gov/hdsc/pfds/pfds\_printpage.html?lat=37.9553&lon=-122.4913&dat... 1/4/2018

Maps & aerials









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<u>US Department of Commerce</u> <u>National Oceanic and Atmospheric Administration</u> **National Weather Service** National Water Center 1325 East West Highway Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

# Appendix 7.3 NRCS Worksheets

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### Worksheet 2: Runoff curve number and runoff

Project SAN QUENTI	a Pump Station		BYBRB				Date 2//5	-/18
Location	AEL	-	Checked JA	14		<del>-</del>	Date	/21/18
	ent Developed					-		
1. Runoff curve n	umber						*	:
Soil name and	Cover descrip	otion		CN -	<u></u>	Area	Product of	
hydrologic group (appendix A)	(cover type, treatment, and hydrolo impervious; unconnected/connecte	d imper	vious area ratio)	Table 2-2	Figure 2-3	Figure 2-4	□ acres □ mi <sup>2</sup> □ %	CN x area
(Assume D)	AND BUSINESS	were	19-C	95	-		382.3	3L56.8
$\mathcal{B}$	woods			60			70,9	3156.8 4254
			-					
· · · · · · · · · · · · · · · · · · ·							-	
				,				
		<del>.</del>	· was	-				
1/ Use only one CN source	e per line		·	<u> </u>	Total	s 🖈	403.2	35822.5
CN (weighted) = <u>total</u> tota	product = <u>35822.5</u> al area <u>403.2</u>	_=_	<del>&amp;&amp;. &amp;</del> ;				89	
2. Runoff								
			Storm #1			m #2		Storm #3
	(0.4 h )	yr	5		16			
	(24-hour)	in in	4,72 3,51	-	5.5 u z			
(Use P and	I CN with table 2-1, figure 2-1, or 2-3 and 2-4)	п	J, U L		4.3	-1		<del></del>

### Worksheet 2: Runoff curve number and runoff

Project Sau Quel	UTIN PUMP STATION	By · BR	 3			Date 2/15	/18
Location SAN RAT		Checked JA 1				Date 2/21,	/18
	ent Developed						
1. Runoff curve n	umber						
Soil name and	Cover description			CN <sup>1</sup>	J .	Area	Product of
hydrologic group (appendix A)	(cover type, treatment, and hydrologic cond impervious; unconnected/connected impen		Table 2-2	Figure 2-3	Figure 2-4	⊠acres □mi² □%	CN x area
(ASSUME D)	URBAN DISTRICT.	E 2 S	95			332,3	31568.5
B	WOODS; FAIR		60	1 -		1	4254
			<del> </del>				\ <u>.</u>
					. <u>-</u>		
							· · · · ·
1/ Use only one CN source	e per line		-	 Γotal:	s 🖈	403,2	32.833.2
CN (weighted) = total	product = 358225 = -	<u> ४४.८</u> ;	11.	<b>.</b>	· 	00	
tota	al area 4032	,	USE	e CN	-	89	
2. Runoff					:		
-	-	Storm #1		Stori	m #2		Storm #3
	yr   (24-hour) in	25 600					
	(24-hour) in   in	6.80 5.52		, 7 5 1. 43			
(Use P and	I CN with table 2-1, figure 2-1, or 2-3 and 2-4)	- O1 - O	<b></b>				

SHEET NO. 4

JOBNO. 4113302 JOB SAN QUENTIN PUMP STATION BY BRB DATE 2/15/18

CLIENT SUBJECT RUNOFF CURVE NUMBER CALL CHK'D JAH DATE 2/21/18

S=1,23 IN1

Q = RUNOFF (IN)

P = RAINFALL (IN)

5 = POTENTIAL MAXIMUM RETENTION AFTER

RUNOFF BEGINS (IN)

P(24 HR, 5 YR) = 14.72 m; P (RAINFALL) NALUES DETERMINED FROM P(24 HR, 110 YR) = 5.59 in NOAA ATLAS 14, NOLUME 6, VERSION 2 P(24 HR, 25 YR) = 6.80 in USING 125 SHORELINE PKWY, SAN RAFAEL, P(24 HR, 100 YR) = 8.95 in CA 94901, USA FOR THE LOCATION.

Q10= (5.59-0.2(1.23))2 5.59+0.8(1.23)

Q10=4,3410

155° 31' 28" W

37° 58' 2" N

Web Soil Survey National Cooperative Soil Survey

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USDA

155° 31' 28" W

37° 56' 22" N

USDA

# **Hydrologic Soil Group**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
105	Blucher-Cole complex, 2 to 5 percent slopes	C/D	7.1	0.3%
157	Pits, quarries		43.0	2.1%
162	Saurin-Bonnydoon complex, 15 to 30 percent slopes	С	74.0	3.6%
165	Saurin-Urban land- Bonnydoon complex, 15 to 30 percent slopes		5.7	0.3%
179	Tocaloma-McMullin complex, 30 to 50 percent slopes	В	1.3	0.1%
182	Tocaloma-McMullin- Urban land complex, 30 to 50 percent slopes	В	179.5	8.7%
183	Tocaloma-Saurin association, steep	В	242.3	11.7%
202	Urban land-Xerorthents complex, 0 to 9 percent slopes		416.3	20.1%
203	Xerorthents, fill		316.5	15.3%
204	Xerorthents-Urban land complex, 0 to 9 percent slopes		75.3	3.6%
210	Water		709.9	34.3%
Totals for Area of Inter	rest		2,071.0	100.0%

#### **Description**

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

### **Rating Options**

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Worksheet 3: Time of Concentration (T<sub>c</sub>) or travel time (T<sub>t</sub>)

	(=0) == ================================	· (- ()
Project SAN QUENTIN PUMP STATION	BRB	Date 2/15//8
Location SAN RAFAEL	Checked JAI-	Date 2/21/18
Check one: Present Developed	H	
Check one: $\Box$ T <sub>C</sub> $\Box$ T <sub>t</sub> through subarea		
Notes: Space for as many as two segments per flow type Include a map, schematic, or description of flow		
Sheet flow (Applicable to Tc only)	g	
	Λ 2	
Segment ID		<del></del> -
Surface description (table 3-1)	Woods	<u>_</u>
2. Manning's roughness coefficient, n (table 3-1)	0.40	_ <del></del> :
3. Flow length, L (total L † 300 ft) ft	300	
4. Two-year 24-hour rainfall, P <sub>2</sub> in	3.64	
5. Land slope, s ft/ft	0,20	
6. $T_{t} = 0.007 \text{ (nL)}^{0.8}$ Compute $T_{t}$ hr	0.32 +	= 0.32
6. $T_t = \frac{0.007 \text{ (nL)}^{0.8}}{P_2^{0.5} \text{ s}^{0.4}}$ Compute $T_t$ hr		
Shallow concentrated flow		
Segment ID	ВС	
7. Surface description (paved or unpaved)	PAVED	<del></del>
8. Flow length, Lft	1,140	
9. Watercourse slope, s	0.14	
10. Average velocity, V (figure 3-1) ft/s	7.5	
11. T <sub>t</sub> = L Compute T <sub>t</sub>	0.04 +	= 0.04
3600 V	· · · · · · · · · · · · · · · · · · ·	0.07
Channel flow		
Segment ID	CD DE	
12. Cross sectional flow area, a ft <sup>2</sup>	12.57 140.8	
13. Wetted perimeter, p <sub>W</sub> ft	12.57 40.55	-
14. Hydraulic radius, r= $\frac{a}{}$ Compute r	1.0 3.47	
15 Channel slope, s	0.003 0.001	<del></del>
		·
16. Manning's roughness coefficient, n	0.014 0.4 5.83 0.27	<del></del> -
17. $V = 1.49 \text{ r}^{2/3} \text{ s}^{1/2}$ Compute Vft/s  18. Flow length, L n ft	730 2620	<del></del>
	, and 10 H	
19. $T_t = \frac{L}{3600 \text{ V}}$ Compute $T_t$		$=$ $\begin{vmatrix} 3.74 \\ \hline 3.10 \end{vmatrix}$
20. Watershed or subarea $T_c$ or $T_t$ (add $T_t$ in steps 6, 11, ar	na 19)	

SHEET NO. 16

JOBNO. 4113302 JOB SAN QUENTIN PUMP STATION BY BRB DATE 2/15/18

SUBJECT TIME OF CONCENTRATION CHK'D JAH DATE 2/21/18 CLIENT

SEGMENT AB:

ELEV. A = 222 ft ELEV. B = 162 ft L = 300 ft

LAND SLOPE: S = ELEU. A - ELEU. B S= 222-162 300

15 = 0,20 FYETI

FOR ALL SECTIONS:

N=MANNINGS COEFFICIENT S(FA)= SLOPE Px(IA)= RAINFALL V (FX)= VELOCITY

A(FT) = CROSS-SECTIONAL AREA PW (FT) = WETTED PERLIMETER

; PZ IS THE TWO-YEAR 24 HR RAINFALL DETERMINED FROM NOAA ATLAS 14, VOLUME 6, VERSION 2. n = 0,40 , (FROM TABLE 3-1, WOODS WITH LIGHT UNDERBRUSH)

TIME OF TRAVELS To (HR);

To = 0.007 (n L)0.8

To = 0.007 (n L)0.8

T<sub>t</sub> = 0.009 (0.40 × 300)0.8

1 Tt = 0,32 HR

SEGMENT BC:

L = 1, 140FT ELEV. B = 162FT ELEV. C= G FT

WATERCOURSE SLOPE, S(FXT):  $S = \frac{ELEV. B - ELEV. L}{L}$   $S = \frac{162 - 6}{1.140}$ 

5 = 0.14 F/FT)

SHEET NO. 2/6

JOBNO. 4113302 JOB SAN QUENTIN PUMP STATIONS BY BRB DATE 2/15/18

CLIENT SUBJECT TIME OF CONCENTRATION CHK'D JAH DATE 2/21/18

SEGMENT BC COPTINGED:

TIME OF TRAVEZ, To (HR);

$$T_{t} = \frac{L}{3600 \text{ V}}$$

$$T_{t} = \frac{1,140}{3600 (7.5)}$$

$$T_{t} = 0.04 \text{ Hz}$$

SEGMENT CO:

\* 48RLP PIPE, ASSUME FULL [0=27]

L = 730 FF

ELEVIC = 6FT

ELEV. 0=4FT D=48"=4FT

n = 0.014, (FOR REP)

CROSS-SECTIONAL AREA, A (FTZ);

WETTED PERIMETER, PULFT)

[Pw=12,57 FT]

HYDRAULIC RADIUS, T;

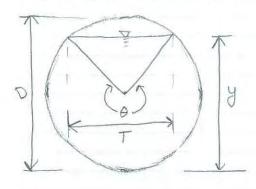
DE DIAMETER OF PIPE (FT)

ME MANNINGS ROUGHNESS LOEFFLUENT

L= LENGITH

A = CRUSS-SECTIONAL AREA

PW = WETTER PERIMETER



CSW/Stuber-Stroeh Engineering Group, Inc. 1310 Redwood Way, Suite 220, Petaluma, CA 94954 Tel 707.795.4764 www.cswst2.com

SHEET NO. 3/6 JOBNO. 4113302 JOB SAN QUENTIN PUMP STATION BY BRB DATE 2/15/18 SUBJECT TIME OF CONCENTRATION CHK'D JAH DATE 2/21/18 CLIENT

### SEGMENT CD:

CHANNEL SLOPE, S;  

$$S = \frac{6-4}{730}$$

$$S = 0.003$$

$$V = \frac{1.49r^{2/3} s^{1/2}}{n};$$

$$V = \frac{1.49r^{2/3} s^{1/2}}{0.014};$$

$$V = 5.83 FV_{5}$$

TIME OF TRAVEC, 
$$T_{\pm}$$
 (HR);
$$T_{\pm} = \frac{L}{3600 \text{ V}}$$

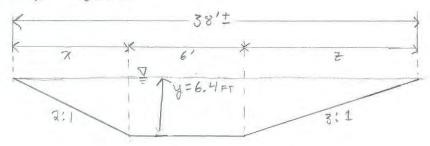
$$= \frac{730}{3600 (5.83)}$$

$$T_{\pm} = 0.035 \text{ Hr}$$

F = HYDRAULIL RADIUS 5 = CHANNEL SLUPE M = MANNING'S ROUGHNESS CUEFFICIENT

SHEET NO. JOBNO. 4/13302 JOB SAN QUENTIN PUMP STATION BY BRB DATE 2/15/18 CLIENT\_ SUBJECT TIME OF CONCENTRATION CHKD JAH DATE 2/21/18

SEGMENT DE:



DRAINAGE CHANNEL SECTION

CALCULATING X \$ 2;

$$38 = x + 6 + 2$$
  $y = \frac{1}{3} = 3y$   $y = \frac{1}{2} = 3y$   $y = \frac{1}{2} = 3y$ 

CROSS-SECTIONAL FLOW AREA, A (FT2);

$$A = \frac{1}{3}(h)$$

$$A = \frac{6 + 38}{3}(6.4)$$

$$A = 140.8 \text{ Ft}^2$$

$$A = \frac{b_1 + b_2}{2}(h)$$
; where  $h = depth$   
 $\Delta = \frac{6 + 38}{2}(14)$ ; b = base (top and bottom)

SHEET NO. \_\_ 5/6

JOBNO. 4113302 JOB SAN QUENTIN PUMP STATION BY BURB DATE 2/15/18

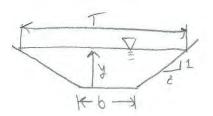
CLIENT SUBJECT TIME OF CONCENTRATION CHKD JAH DATE 2/21/18

WETTER PERIMETER, Pw (FT);

Pu=b+2y J1+22

Pu=6+6,4 J1+22 +6,4 J1+32

Pu=40.55 FT



HYDRAULIC RADIUS;  $\Gamma$  (FT);  $\Gamma = \frac{A}{P_{\omega}}$   $\Gamma = \frac{140.8}{40.55}$   $\Gamma = 3.47 \text{ FT}$ 

CHANNEL SLOPE,  $S(FV_{FT})$ ;  $S = \frac{ELEV. D - ELEV. C}{L}$   $S = \frac{4-2}{2620}$   $[S = 0.001 FV_{FT}]$ 

MANNING'S ROUGHNESS COEFFICIENT, n;

N=0.40, WOODS WITH LIGHT UNDERBRUSH (TABLE 3-1).

SHEET NO. 6/6

JOB NO. 4/1/3302 JOB SAN QUENTIN PUND STATION BY BRB DATE 2/15/18

CLIENT SUBJECT TIME OF CONCENTRATION CHKD JAH DATE 2/21/18

VELOCITY,  $\sqrt{FY_5}$ ;  $\sqrt{\frac{1.49r^{3/3}s^{1/2}}{n}}$   $\sqrt{\frac{1.49(3.47)^{3/3}(0.001)^{1/2}}{0.40}}$   $\sqrt{\frac{1.49(3.47)^{3/3}(0.001)^{1/2}}{0.40}}$ 

TIME OF TRAVEL,  $T_{t}$  (HR);  $T_{t} = \frac{L}{3600 \text{ V}}$   $U = \frac{2620}{3600 (0.27)}$  U = 2.70 Hr

TIME OF CONCENTRATION, To (HR);  $T_{C} = \mathcal{E}T_{E}$   $\int_{C} = 0.32 + 0.04 + 0.035 + 2.70$   $T_{C} = 3.10$ 

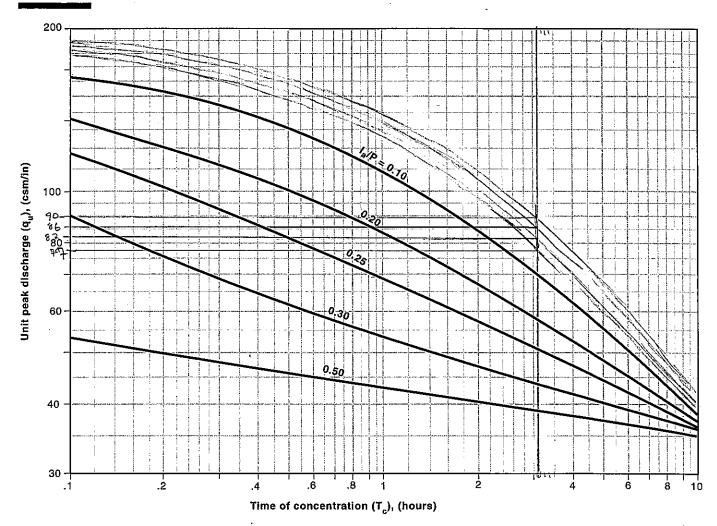
**Worksheet 4: Graphical Peak Discharge method** 

Project	Ву		Date ,
SAN QUENTIN PUMP STATION	BRB		2115/18
Location SAN RAFAEZ	Checked JAH		Date 2/21/18
Check one: Present Developed			
1. Data			
Drainage areaA <sub>m</sub> = <u>0.6</u>	3 mi <sup>2</sup> (acres/	640)	
Runoff curve numberCN = 89	(From work	sheet 2)	
Time of concentration $T_c = \frac{3.7}{1}$	hr (From w	orksheet 3)	
Rainfall distribution= <u>IA</u>	(I, IA, II III)		
Pond and swamp areas sprea throughout watershed=	percent of A <sub>m</sub>	( <u>92acacr</u>	es or mi <sup>2</sup> covered)
	Stor	m #1 Storm #	#2 Storm #3
2. Frequency		5 10	Je Storin 20
			,
3. Rainfall, P (24-hour)	n	72 5,59	
4. Initial abstraction, I <sub>a</sub> (Use CN with table 4-1)	in 0,2	.47 0,24	7
5. Compute I <sub>a</sub> /P	0.6	0.04	14
6. Unit peak discharge, q <sub>u</sub> (Use T <sub>C</sub> and I <sub>a</sub> /P with exhibit 4– <u>TA</u> )	csm/in 7	7 82	
7. Runoff, Q(From worksheet 2) Figure 2-6	in 3.3	51 4,3	4
Pond and swamp adjustment factor, Fp     (Use percent pond and swamp area	0.9	97 0.9	7
with table 4-2. Factor is 1.0 for zero percent pond ans swamp area.)			
9. Peak discharge, q <sub>p</sub>	ft <sup>3</sup> /s	5.2 217.	57
(Where $q_p = q_u A_m QF_p$ )			
, <sub>p</sub>			

Worksheet 4: Graphical Peak Discharge method

Project SAN QUENTIN PUMP STATION	Be B		Date	
Location	Checked	Λ.I.	Date	2/15/18
SAN RAFAEZ	J	AH	2	121/18
Check one: Present Developed				
1. Data				
Drainage areaA <sub>m</sub> = $\frac{\mathcal{O}.6}{1}$	<u> </u>	acres/640)		
Runoff curve numberCN = <u>89</u>	(From	n worksheet 2	2)	
Time of concentrationT <sub>c</sub> = 3.1 c	)hr (Fi	rom workshee	et 3)	
Rainfall distribution= <u>IA</u>	(I, IA, I	II III)		
Pond and swamp areas sprea throughout watershed=	percent o	of A <sub>m</sub> ( <u>92</u>	acres	or mi <sup>2</sup> covered)
		Storm #1	Storm #2	Storm #3
2. Frequency	yr	25	100	
3. Rainfall, P (24-hour)	in	6.80	8.75	
4. Initial abstraction, I <sub>a</sub> (Use CN with table 4-1)	in	0.247	0.247	
5. Compute I <sub>a</sub> /P		0,036	0.028	
6. Unit peak discharge, q <sub>u</sub> (Use T <sub>C</sub> and I <sub>a</sub> /P with exhibit 4—)	csm/in	86	90	
7. Runoff, Q(From worksheet 2) Figure 2-6	in	5.52	7.43	
8. Pond and swamp adjustment factor, F <sub>p</sub>		0.97	0.97	
zero percent pond ans swamp area.)  9. Peak discharge, q <sub>p</sub>	ft <sup>3</sup> /s	290,10	408.6	
(Where $q_p = q_u A_m QF_p$ )				
· · · · · · · · · · · · · · · · · · ·				

 $\textbf{Exhibit 4-IA} \ \ \text{Unit peak discharge } (q_n) \ \text{for NRCS (SCS) type IA rainfall distribution}$ 



CSW/Stuber-Stroeh Engineering Group, Inc. 1310 Redwood Way, Suite 220, Petaluma, CA 94954 Tel 707.795.4764 www.cswst2.com

SHEET NO. 1/3

JOBNO. 4113302 JOB SAN QUENTIN PUMP STATION BY BRB DATE 2/15/18

CLIENT

SUBJECT PEAK DISCHARGE CALL CHK'D JAH DATE 2/21/18

PEAK DISCHARGE, QD (+13/8)

Qu = UNIT PEAR DISCHARGE (LSM/N)

Am = DRAWAGE AREA (MIZ)

Q= RUNOFF (IN)

FROM WORKSHEET 4 (GRAPHICAL PEAK DISCHARGE METHOD)

Fo = POND AND SWAMP ADJUSTMENT FACTOR

Am = 0.63mi2

CN = 89

TL = 3.10

RAINFALL DISTRIBUTION = IA

POND AND SWAMP AREAS SPREAD THROUGHOUT WATERSHED = 92 AC

3 of Am = POND AND SWAND AREA
TOTAL AREA

% of Am = 0.23%

RAINFALL INTENSITY, P(24HR) (IN);

Para = 4,72 1w

SEE RUNOFF CALCS

Page = 5,59 W

Prova = 6.80 ...

Propur = 8,40 m

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SHEET NO. 2/3

JOBNO. 4/13302 JOB SAN QUENTIN PUMP STATION BY BRB DATE 2/15/18

CLIENT SUBJECT PEAK DISCHARGE CALL CHK'D JAH DATE 2/21/18

INITIAL ABSTRACTION, IA (IN); FROM TABLE 4-1 USING CN=89 [IA = 0.247 IN]

In/P;

 $\frac{54R}{1} = \frac{0.347}{4.72} \qquad \frac{104R}{1} = \frac{0.347}{5.59} \qquad \frac{254R}{1} \qquad \frac{1004R}{1} = \frac{0.247}{6.80} \qquad \frac{1}{1} = \frac{0.247}{8.75}$ 

In/ = 0.052 | In/ = 0.044 | In/ = 0.036 | In/ = 0.028

UNIT PEAR DISCHARGE, Qu (CSM/IN);

USE TC = 3.10 HR (FROM WORKSHEET 3), AUG IA/P WITH EXHIBIT 4-IA

54R 104R 254R 1004R 190=80 csm/N 190=86 csm/N 190=90 csm/

POND AND SWAMP ADJUSTMENT FACTOR, FP;

USE PERCENT POLD AND SWAMP AREA = 0,23% WITH TABLE 4-2. Fp = 0,97 FOR ALL STORM FREQUENCIES.

RUNOFF, Q (IN);

FROM WORKSHEET 2, FIGURE 2-6.

JOYR 104R

254R

100 42

(Q=3.51 ID) (Q=7.43 ID) (Q=5.52 ID) (Q=7.43 ID)

						Sł	HEET NO	3/3	
10. <u>411330</u> 🖫	JOB <u>Sa</u>	n Grenin	PUMP	STATION	BY			-	8
		PEAK DISCH							
					•				
I EAK	DISCHAR	36, 20 (FT	(5_)				_ _		
	0 - 0 1	m Q Fp j							!_
	2p - Zu 2	Im lot Te j							
541	31								
	- /55								: i., .
	(P = (++)(	0.63)(3.51)	)(0.9 +						
	7p = 165.2	F-T 3/							
	LP -								
								-	
10	R				<u> </u>		<u>;</u> ,		i
	- /00\/0	(2) (4) 2(1) (6)	07/		·				:
f .		63)(4.34)(0	777)						
	16 = 217.5	FT3	<u> </u>						
35	<u>'a</u>	· · · · · · · · · · · · · · · · · · ·					_		
	1 - (0.)/- (	3)(5.52)(0.9	7 0 0					!	
	-		; ту 						
	p=290.1	73							
100						· · · · ·			
100	<u>«</u>			.					
	= (90)(0.63	X7.43)(0.97)							
									i-
\9	p = 408.6	3							
							_		
			<u> </u>						_
			<u>                                       </u>						
								-	-
			ļ						

# Appendix 7.4 5-Year and 100-Year Storm Event Hydraflow Hydrograph Output

# Hydraflow Table 40 \$ 00 Counterpts preadsheets \Hydrology\Hydrographs\San Quentin Pump Station-15 min Interval.gpw

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Thursday, 02 / 22 / 2018

5 - Year	
Summary Report	
Hydrograph Reports	2
Hydrograph No. 1, SCS Runoff, Existing Condition	2
100 - Year	
Summary Report	3
Hydrograph Reports	
Hydrograph No. 1, SCS Runoff, Existing Condition	

# Hydrograph Summary Report Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Hyd.     Hydrograph type (origin)     Peak (flow interval (min)     Time to interval (min)     Hyd. volume (cuft)     Inflow hyd(s)     Maximum elevation (ft)     Total strge used (cuft)     Hydrograph hyd(s)	nph on
1 SCS Runoff 153.28 15 600 5,048,861 Existing Condition	

P:\04\4113302\Calculations\_and\_SpreadsheetR\deligner\text{thychroRegightHy&in'o'gaaphs\San QueFthium Rollanyp 032tat22n/- 250 ft&in Interval.gpw

### **Hydrograph Report**

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

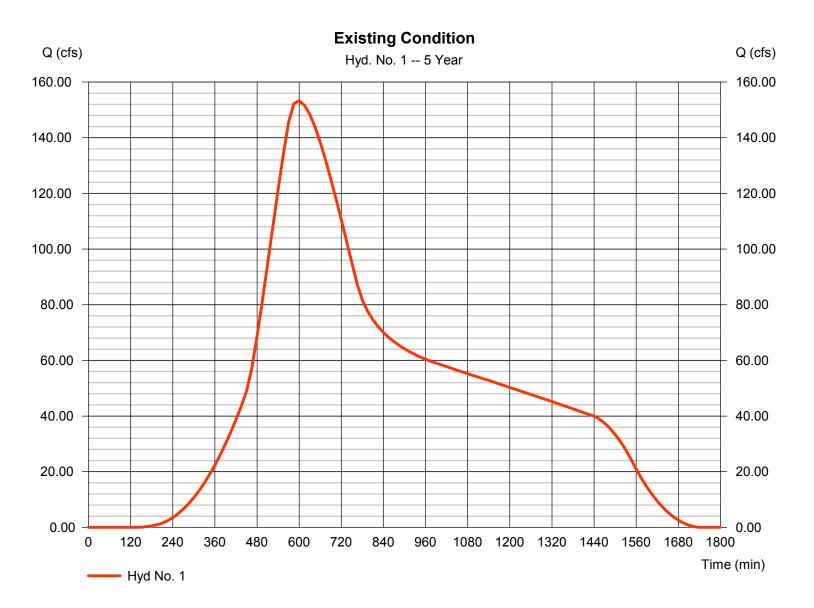
Thursday, 02 / 22 / 2018

### Hyd. No. 1

**Existing Condition** 

Hydrograph type = SCS Runoff Peak discharge = 153.28 cfsStorm frequency = 5 yrsTime to peak = 600 min Time interval = 15 min Hyd. volume = 5,048,861 cuft Drainage area Curve number = 403.200 ac = 89 = 0 ft

Basin Slope = 0.0 % Hydraulic length = 0 ft
Tc method = User Time of conc. (Tc) = 186.00 min
Total precip. = 4.72 in Distribution = Type IA
Storm duration = 24 hrs Shape factor = 484



# Hydrograph Summary Report Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

	<u> </u>	•			•	Hydratiow H	ydrograpns Exter	nsion for AutoCA	AD® Civil 3D® 2016 by Autodesk, Inc. v10.
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	329.10	15	585	10,695,580				Existing Condition

### **Hydrograph Report**

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

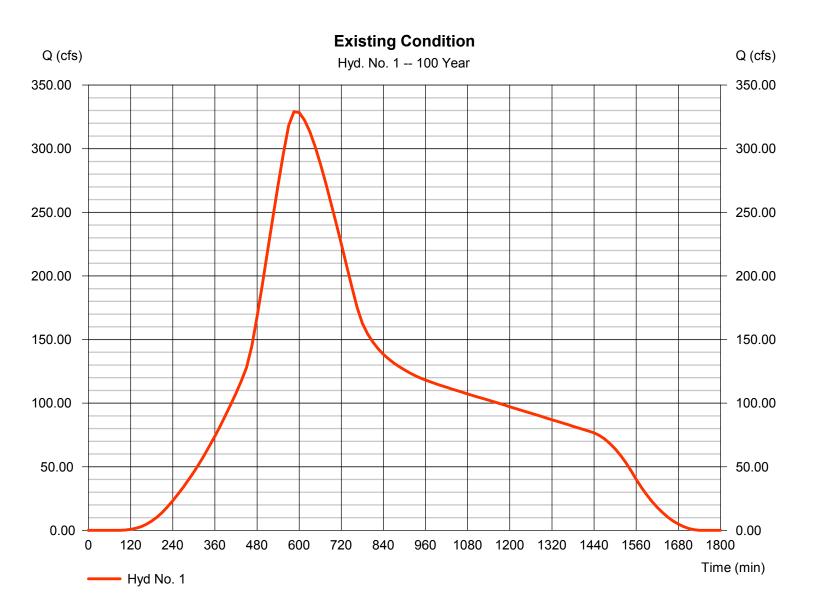
Thursday, 02 / 22 / 2018

#### Hyd. No. 1

**Existing Condition** 

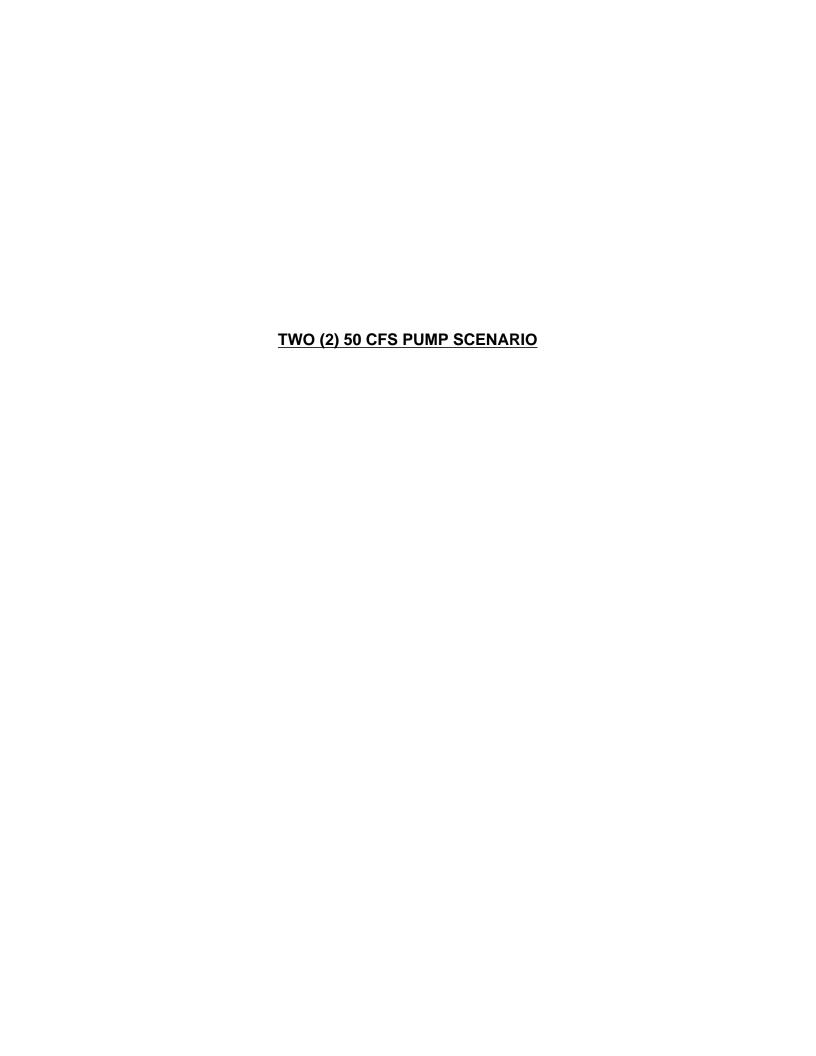
Hydrograph type= SCS RunoffPeak discharge= 329.10 cfsStorm frequency= 100 yrsTime to peak= 585 minTime interval= 15 minHyd. volume= 10,695,580 cuft

Tc method = User Time of conc. (Tc) = 186.00 min
Total precip. = 8.75 in Distribution = Type IA
Storm duration = 24 hrs Shape factor = 484



# Appendix 7.5 Storage Analysis

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-1.0 -0.5 0.5 Pump Assumptions
Assume Pump off at elev. =
Assume Pump 1 on at elev. =
Assume Pump 2 on at elev. =

cfs	ı
100	
x 2 =	
cfs	1
20	
ump Rate =	

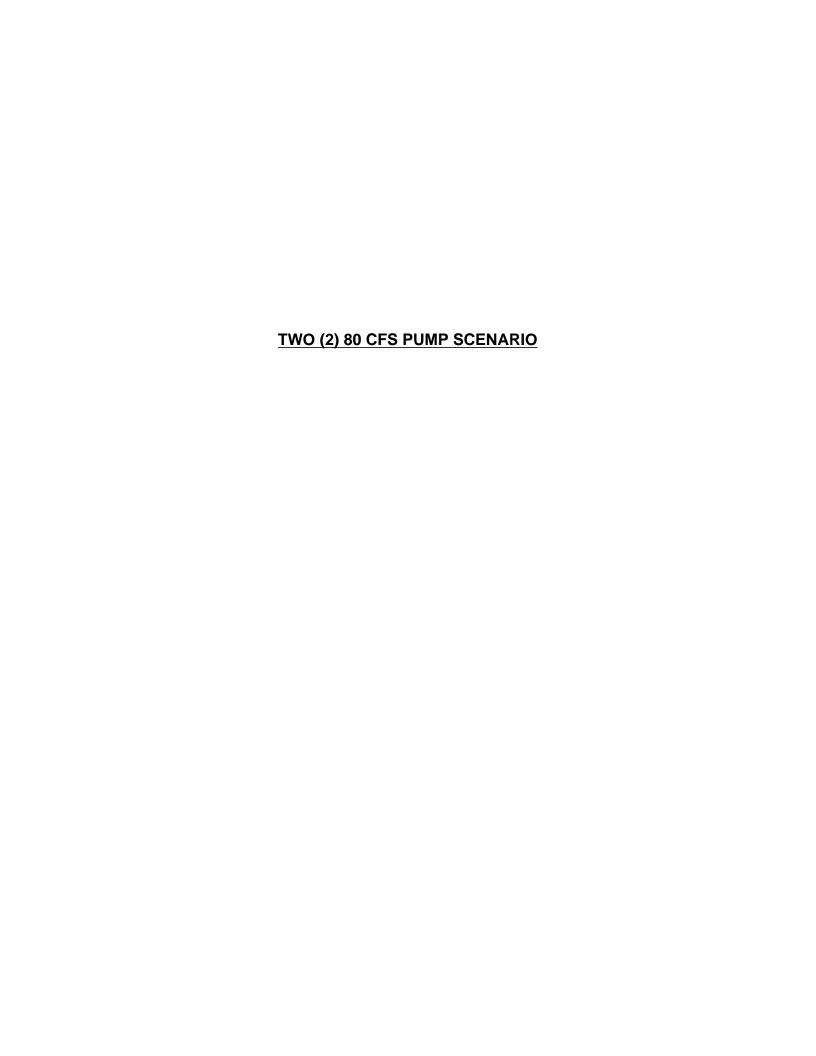
	Modeled	WSEL	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.01	-1.01	-1.02	-1.03	-1.04	-1.05	-1.06	-1.07	-1.08	-1.09	-1.10	
Volume in	Pond (ac-	ft)	00.00	00.00	0.00	00.00	0.00	0.00	00.00	00.00	00.00	0.00	0.00	0.01	0.05	0.03	0.07	0.11	0.19	0.29	0.42	09.0	-0.21	-0.97	-1.68	-2.32	-2.89	-3.38	-3.80	-4.12	-4.36	-4.49	-4.51	-4.36	-3.97	-3.32	
	Volume	Out (ac-ft)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	000
	Volume	Out (cf)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	•
	Pump 2	On?	No																																		
	Volume	Out (ac-ft)	00.00	0.00	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00	0.00	0.00	00.0	0.00	00.0	0.00	0.00	0.00	0.00	00.00	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	
	Volume	Out (cf)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	0001
	Pump 1	On?	No	- 14																																	
		WSEL	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	6.0-	6.0-	-0.9	-0.9	-0.9	-0.9	0
	Start Pump	Sequence	No	ÇĮ4																																	
	Cumulative	WSEL	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	66:0-	66:0-	66:0-	-0.98	-0.98	-0.97	76.0-	96.0-	-0.94	-0.93	-0.92	06:0-	-0.88	-0.85	000
Cumulative	Volume	(acre-ft)	0.00	0.00	0.00	00:00	0.00	0.00	0.00	00:00	0.00	0.00	0.00	0.01	0.02	0.03	0.07	0.11	0.19	0.29	0.42	09.0	0.82	1.09	1.42	1.82	2.28	2.81	3.43	4.14	4.94	5.84	6.85	8.03	9.46	11.14	1000
<u> </u>	olume In	(acre-ft)	00.00	0.00	00.0	00.0	00.0	00.0	00.0	00.0	0.00	0.00	0.00	0.00	0.01	0.02	0.03	0.05	0.07	0.10	0.14	0.18	0.22	0.27	0.33	0.39	0.46	0.54	0.62	0.71	08.0	06:0	1.01	1.18	1.42	1.68	101
	Volume In Volume In	(cf)	0	0	0	0	0	0	0	0	0	8	09	192	434	813	1360	2116	3121	4394	5911	2992	9648	11889	14390	17124	20097	23375	26963	30768	34810	39173	44053	51573	61940	73338	95061
	Flow In	(cfs)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.21	0.48	06.0	1.51	2.35	3.47	4.88	6.57	8.51	10.72	13.21	15.99	19.03	22.33	25.97	29.96	34.19	38.68	43.53	48.95	57.30	68.82	81.49	7 1 1 7
	Time	(min)	0	15	30	45	09	75	06	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360	375	390	405	420	435	450	465	480	495	0,1
		Time (hr)	0				П				2				3				4	0	0	0	5				9				7				8		

-1.10	-1.10	-1.10	-1.09	-1.08	-1.06	-1.03	-1.01	-0.97	-0.94	-0.90	-0.85	-0.81	-0.76	-0.71	-0.65	-0.60	-0.55	-0.50	-0.45	-0.41	-0.36	-0.32	-0.27	-0.23	-0.19	-0.16	-0.12	-0.09	-0.06	-0.03	0.00	0.03	0.02	0.08	0.10	0.12	0.13	0.15	0.16	0.17	0.17	0.18	0.18	0.18	0.18	0.18	0.17
-1.21	0.26	2.00	3.98	60.9	8.22	10.32	12.36	14.30	16.12	17.82	19.37	20.78	22.03	23.12	23.02	22.76	22.38	21.92	21.40	20.82	20.20	19.54	18.86	18.14	17.40	16.64	15.85	15.05	14.23	13.40	12.55	11.69	10.82	9.93	9.03	8.12	7.19	97.9	5.31	4.34	3.37	2.38	1.38	0.36	-0.66	-1.70	92 C-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1 03
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000
No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No														
1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
45000	45000	42000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	42000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	42000	45000	45000	45000	45000	00057
No	No	ON	No	No	ON	oN	No	oN	No	No	No	Yes																																			
-0.8	-0.7	-0.7	9.0-	9.0-	-0.5	-0.4	-0.4	-0.3	-0.2	-0.1	N																																				
No	Yes																																														
-0.79	-0.75	-0.70	-0.65	-0.59	-0.52	-0.45	-0.36	-0.28	-0.18	-0.08	0.03	0.14	0.26	0.38	0.50	0.64	0.77	0.91	1.05	1.19	1.34	1.49	1.65	1.81	1.97	2.13	2.30	2.46	2.64	2.81	2.99	3.17	3.35	3.54	3.73	3.92	4.11	4.31	4.50	4.71	4.91	5.11	5.32	5.53	5.75	5.96	6.18
15.32	17.83	20.60	23.61	26.75	29.92	33.05	36.12	39.09	41.95	44.68	47.26	49.70	51.99	54.11	56.08	57.89	59.57	61.18	62.72	64.21	65.65	67.06	68.44	69.79	71.12	72.42	73.71	74.97	76.22	77.45	78.67	79.87	81.07	82.25	83.41	84.57	85.71	86.84	87.95	89.05	90.14	91.22	92.29	93.34	94.38	95.40	96 42
2.23	2.51	2.77	3.01	3.15	3.17	3.13	3.07	2.97	2.86	2.73	2.59	2.44	2.28	2.12	1.96	1.81	1.69	1.60	1.54	1.49	1.45	1.41	1.38	1.35	1.33	1.30	1.28	1.26	1.25	1.23	1.22	1.21	1.19	1.18	1.17	1.15	1.14	1.13	1.12	1.10	1.09	1.08	1.06	1.05	1.04	1.03	1.01
97109	109123	120635	131114	137048	137954	136489	133629	129499	124447	118792	112722	106297	99533	92554	85583	78749	73429	69883	67124	64829	62984	61451	60075	58855	57774	26778	55880	25068	54351	53698	53092	52515	51943	51370	20800	50249	49696	49141	48598	48055	47506	46949	46389	45826	45261	44693	44123
107.90	121.25	134.04	145.68	152.28	153.28	151.65	148.48	143.89	138.27	131.99	125.25	118.11	110.59	102.84	95.09	87.50	81.59	77.65	74.58	72.03	86.69	68.28	66.75	62.39	64.19	63.09	65.09	61.19	60.39	29.66	58.99	58.35	57.71	57.08	56.44	55.83	55.22	54.60	54.00	53.39	52.78	52.17	51.54	50.92	50.29	49.66	49.03
525	540	255	570	585	009	615	630	645	099	675	069	705	720	735	750	765	780	795	810	825	840	855	870	885	006	915	930	945	096	975	066	1005	1020	1035	1050	1065	1080	1095	1110	1125	1140	1155	1170	1185	1200	1215	1230
	6				10				11				12				13				14				15				16				17	0	0	0	18				19				20		

20.0		98.40	0.99	0.99 98.40
			99.38	0.97 99.38
			0.96 100.34	0.96 100.34
	101.28 7.30		0.95 101.28	0.95 101.28
7.53		102.22	0.93 102.22	40660 0.93 102.22
7.76	103.14 7.76	103.14	0.92 103.14	40077 0.92 103.14
8.00		104.04	0.91 104.04	39492 0.91 104.04
8.23	104.94 8.23		104.94	0.89 104.94
8.47	105.82 8.47		0.88 105.82	0.88 105.82
8.71	106.68 8.71		106.68	0.87 106.68
96.8	107.54 8.96		107.54	0.85 107.54
9.20	108.37 9.20		108.37	0.84 108.37
9.45	109.20 9.45		109.20	0.83 109.20
9.70			110.00	0.80 110.00
			110.78	0.77 110.78
		111.51	0.74 111.51	32036 0.74 111.51
10.45	112.20 10.45		112.20	0.69 112.20
10.71	112.84 10.71		0.64 112.84	0.64 112.84
10.96	113.41 10.96		113.41	0.58 113.41
11.22	113.92 11.22		113.92	0.51 113.92
11.48	114.35 11.48		0.43 114.35	0.43 114.35
			0.36 114.72	0.36 114.72
		115.02	0.30 115.02	13168 0.30 115.02
			0.25 115.27	0.25 115.27
			0.21 115.48	0.21 115.48
		115.66	0.18 115.66	8002 0.18 115.66
	115.84 13.04	115.84	0.17 115.84	7525 0.17 115.84
13.30		116.02	0.18 116.02	7785 0.18 116.02
13.56		116.22	0.20 116.22	8836 0.20 116.22
13.82		116.46	0.25 116.46	10717 0.25 116.46
		//'011	0.31	13415 0.31 116.//
_	_	117.16	0.39 117.16	16860 0.39 117.16
		117.64	0.48 117.64	20978 0.48 117.64
		118.23	0.59 118.23	25661 0.59 118.23
15.15		118.93	0.70 118.93	30628 0.70 118.93
		119.76	0.82 119.76	35864 0.82 119.76
15.70	120.71 15.70		120.71	41377 0.95 120.71
15.97	121.79 15.97		121.79	47235 1.08 121.79
16.25	123.02 16.25		123.02	1.23 123.02
16.53	124.39 16.53		124.39	1.37 124.39
16.81	125.92 16.81		125.92	1.53 125.92
17.10	127.61 17.10		127.61	1.69 127.61
17.39	129.48 17.39		129.48	81280 1.87 129.48
		131.52	2.04 131.52	89030 2.04 131.52
		133.75	2.23 133.75	97083 2.23 133.75
		01 961	01 361	105550 2 12 10
1	_	07:007	OT:0CT C+:7	105669 2.43 136.18

1965 144.89	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	5.5	70.1+1	TO:OT		20001	7007	•		,	00.0	
168	168.14 151326	3.47	145.29	19.26	No 45(	45000	1.03 N	No	0	0.00	-46.86	-3.75
19	193.47 174122	4.00	149.29	19.60	No 45(	45000	1.03 N	No	0	0.00	-43.89	-3.85
215	219.25 197321	21 4.53	153.82	19.94	No 45(	45000	1.03 N	No	0	0.00	-40.40	-3.94
245	245.53 220973	73 5.07	158.89	20.30	No 45(	45000	1.03 N	No	0	0.00	-36.36	-4.02
27.		51 5.61	164.50	20.67	No 450	45000	1.03 N	No	0	0.00	-31.78	-4.09
29(	296.09 266481	81 6.12	170.62	21.06	No 45(	45000	1.03 N	No	0	0.00	-26.69	-4.15
318	318.06 286255	55 6.57	177.19	21.46	No 45(	45000	1.03 N	No	0	0.00	-21.16	-4.20
326	329.10 296187	37 6.80	183.99	21.87	No 45(	45000	1.03 N	No	0	0.00	-15.39	-4.24
328	328.46 295610	62.9 01	190.78	22.30	No 45(	45000	1.03 N	No	0	0.00	-9.64	-4.26
325	322.50 290249	99.9 61	197.44	22.75	No 450	45000	1.03 N	No	0	0.00	-4.01	-4.27
315	313.53 282173	73 6.48	203.92	23.21	No 45(	45000	1.03 N	No	0	0.00	1.44	-4.26
307	301.85 271661	51 6.24	210.15	23.68	No 45(	45000	1.03 N	No	0	0.00	6.64	-4.25
2160 288	288.26 259435	35 5.96	216.11	24.17	No 45(	45000	1.03 N	No	0	0.00	11.56	-4.22
2175 273	273.50 246150	50 5.65	221.76	24.67	No 45(	45000	1.03 N	No	0	0.00	16.18	-4.19
2190 258	258.01 232205	5.33	227.09	25.18	No 45(	45000	1.03 N	No	0	0.00	20.48	-4.14
2205 241	241.91 217722	5.00	232.09	25.71	No 45(	45000	1.03 N	No	0	0.00	24.45	-4.09
2220 225	225.23 202710	10 4.65	236.74	26.24	No 45(	45000	1.03 N	No	0	0.00	28.07	-4.02
2235 208	208.25 187421	4.30	241.05	26.78	No 45(	45000	1.03 N	No	0	0.00	31.34	-3.95
2250 191	191.46 172316	3.96	245.00	27.34	No 45(	45000	1.03 N	No	0	0.00	34.26	-3.87
2265 175	175.19 157670	3.62	248.62	27.90	No 45(	45000	1.03 N	No	0	0.00	36.84	-3.79
			251.98	28.47		45000		No	0	0.00	39.17	-3.70
			255.17	29.04	No 450	45000		No	0	0.00	41.33	-3.61
	147.96 133162		258.23	29.63	No 450	45000	1.03 N	No	0	0.00	43.35	-3.51
2325 142		17 2.95	261.18	30.21	No 450	45000	1.03 N	No	0	0.00	45.27	-3.41
2340 138	138.30 124469		264.03	30.81	No 45(	45000	1.03 N	No	0	0.00	47.09	-3.30
2355 134	134.71 121242	12 2.78	266.82	31.41	No 45(	45000	1.03 N	No	0	0.00	48.84	-3.19
2370 131	131.50 118347	17 2.72	269.53	32.02	No 450	45000	1.03 N	No	0	0.00	50.53	-3.08
2385 128	128.64 115779	79 2.66	272.19	32.63	No 45(	45000	1.03 N	No	0	0.00	52.15	-2.96
2400 126	126.11 113503	13 2.61	274.80	33.25	No 45(	45000	1.03 N	No	0	0.00	53.72	-2.84
2415 123	123.79 111408	38 2.56	277.35	33.88	No 45(	45000	1.03 N	No	0	0.00	55.25	-2.72
2430 121	121.69 109517	17 2.51	279.87	34.51	No 45(	45000	1.03 N	No	0	0.00	56.73	-2.59
2445 119	119.78 107806	2.47	282.34	35.15	No 450	45000	1.03 N	No 4!	45000	1.03	57.14	-2.46
	118.10 106290		284.78	35.79	No 45(	45000	1.03 N	No 4!	45000	1.03	57.51	-2.33
			287.19	36.44	No 450	45000		No 4!	45000	1.03	57.85	-2.20
2490 115	115.14 103626		289.57	37.09	No 450	45000	1.03 N	No 4	45000	1.03	58.17	-2.07
2505 113	113.79 102407	2.35	291.92	37.75	No 45(	45000	1.03 N	No 4!	45000	1.03	58.45	-1.94
2520 112	112.45 101203	3 2.32	294.25	38.41	No 45(	45000	1.03 N	No 4!	45000	1.03	58.71	-1.80
2535 111	111.11 100002	2.30	296.54	39.08	No 45(	45000	1.03 N	No 4!	45000	1.03	58.94	-1.67
2550 109	109.79 98813	3 2.27	298.81	39.76	No 45(	45000	1.03 N	No 4!	45000	1.03	59.14	-1.54
2565 108	108.52 97665	5 2.24	301.05	40.44	No 45(	45000	1.03 N	No 4!	45000	1.03	59.32	-1.40
	107.24 96519	9 2.22	303.27	41.12	No 45(	45000	1.03 N	No 4!	45000	1.03	59.47	-1.27
	105.97 95371	1 2.19	305.46	41.81	No 45(	45000	1.03 N	No 4!	45000	1.03	59.59	-1.13
2610 104	104.73 94253	3 2.16	307.62	42.50	No 45(	45000	1.03 N	No 4!	45000	1.03	69.63	-1.00
2625 103	103.49 93138	2.14	309.76	43.20	No 45(	45000	1.03 N	No 4!	45000	1.03	59.76	-0.86
2640 102		4 2.11	311.87	43.91	No 45(	45000	1.03 N	No 4!	45000	1.03	59.81	-0.73
			313.96	44.62	No 450	45000		No 4!	45000	1.03	59.83	-0.59
17.00												

-0.32	-0.19	-0.06	0.08	0.21	0.35	0.48	0.61	0.74	0.88	1.01	1.14	1.27	1.40	1.52	1.65	1.77	1.90	2.02	2.14	2.27	2.38	2.50	2.62	2.73	2.84	2.94	3.05	3.15	3.24	3.33	3.42	3.51	3.58	3.66	3.73	3.79
59.79	59.73	59.64	59.53	59.40	59.23	59.04	58.83	58.58	58.31	58.02	57.69	57.35	56.97	56.57	56.14	55.68	55.20	54.68	54.09	53.44	52.69	51.85	50.88	49.79	48.55	47.18	45.69	44.10	42.40	40.63	38.78	36.86	34.90	32.89	30.85	28.80
1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000
No	Yes																																			
1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000	45000
Yes																																				
46.05	46.77	47.50	48.23	48.96	49.70	50.44	51.19	51.95	52.70	53.46	54.23	54.99	55.77	56.54	57.32	58.10	58.89	89.69	60.47	61.27	62.07	62.87	63.68	64.48	65.29	66.10	66.91	67.73	68.54	69.35	70.17	70.98	71.80	72.61	73.43	74.25
318.05	320.06	322.04	324.00	325.92	327.83	329.70	331.55	333.38	335.17	336.94	338.69	340.40	342.09	343.76	345.39	347.01	348.59	350.13	351.61	353.02	354.35	355.57	356.67	357.64	358.47	359.17	359.74	360.21	360.59	360.87	361.09	361.24	361.34	361.40	361.43	361.44
2.03	2.01	1.98	1.96	1.93	1.90	1.88	1.85	1.82	1.80	1.77	1.74	1.72	1.69	1.66	1.64	1.61	1.58	1.54	1.48	1.41	1.32	1.22	1.10	0.97	0.83	0.70	0.58	0.47	0.37	0.29	0.21	0.15	0.10	90.0	0.03	0.01
88599	87457	86313	85168	84021	82872	81722	80570	79417	78263	77107	75950	74792	73633	72473	71312	70150	28689	67137	64612	61427	57596	53134	48053	42368	36094	30353	25137	20439	16248	12558	9358	6642	4399	2622	1303	431
98.44	97.17	95.90	94.63	93.36	92.08	90.80	89.52	88.24	96.98	85.67	84.39	83.10	81.81	80.53	79.24	77.94	76.65	74.60	71.79	68.25	64.00	59.04	53.39	47.08	40.10	33.73	27.93	22.71	18.05	13.95	10.40	7.38	4.89	2.91	1.45	0.48
2685	2700	2715	2730	2745	2760	2775	2790	2805	2820	2835	2850	2865	2880	2895	2910	2925	2940	2955	2970	2985	3000	3015	3030	3045	3060	3075	3090	3105	3120	3135	3150	3165	3180	3195	3210	3225
	45				46				47				48				49				20				51				52				53			



Pump Assumptions

Assume Pump off at elev. = Assume Pump 1 on at elev. =

Assume Pump 2 on at elev. =

elev. = -1.0 t elev. = -0.5 t elev. = 0.5

Pump Rate = 80

cfs

cfs

x 2 = 160

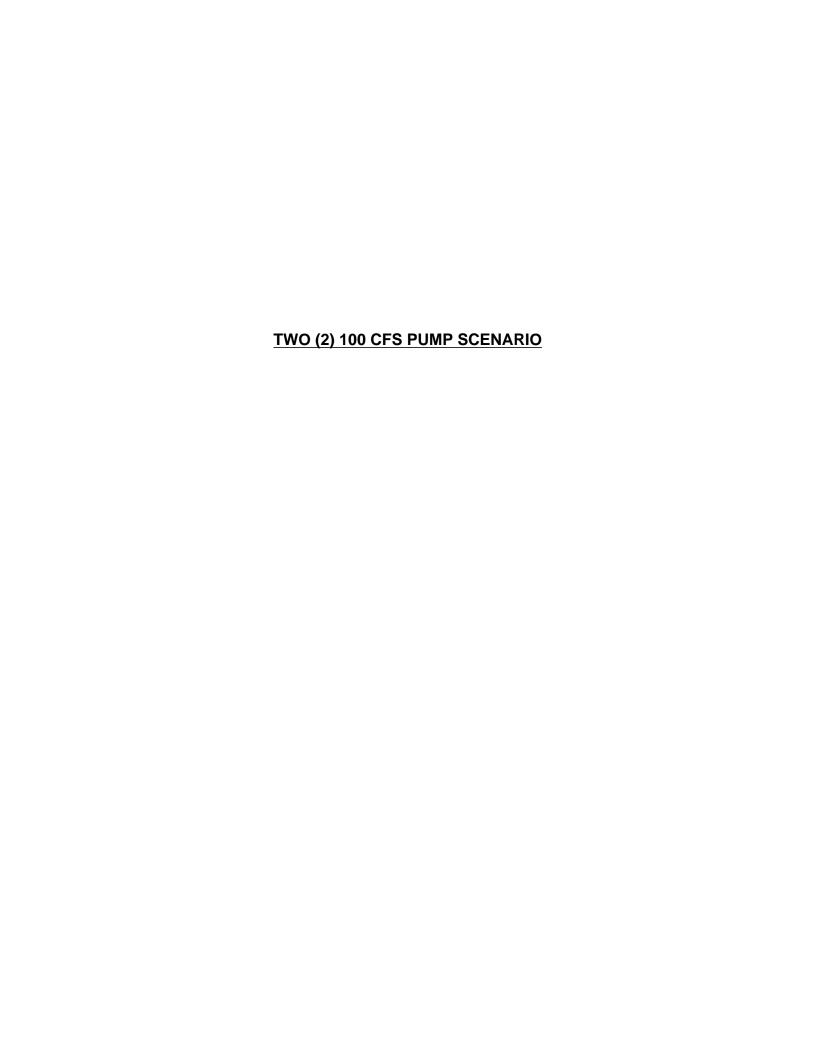
Modeled -1.00 -1.00 -1.00 -1.00 -1.00-1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -0.98 -0.96 -0.88 -0.82 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -0.99 -0.99 -0.99 -0.98 -0.97 -0.94 -0.93 -0.92 -0.90 -0.97 Pond (ac-Volume in 11.14 13.09 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.01 0.03 0.11 0.19 0.29 0.42 0.82 1.09 1.82 4.14 5.84 6.85 8.03 9.46 0.00 0.07 0.60 2.28 3.43 4.94 1.42 2.81 Out (ac-ft) Volume 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 Out (cf) Volume 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Pump 2 On? 9 8 9 8 2 8 ٩ ٥ 2 8 8 8 8 9 S 9 õ No No No No 8 8 9 οN No õ No õ õ õ 9 8 No Out (ac-ft) Volume 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 Out (cf) Volume 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Pump 1 On? Š 8 9 8 No 9 ٥ N oN No No No ٩ Š S 8 No Ν õ ٥ No ٩ No ٩ 9 ٩ 8 ٩ ٩ 9 No õ 8 8 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -0.9 -0.9 -0.9 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -0.9 6.0 6.0 0.8 Start Pump Sequence 9 S å No 8 S No 8 S å No 9 8 9 8 No Š Š Š No No No No No No Š 9 8 8 Š å å å No No Cumulative -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -1.00 -0.99 -0.99 -0.98 -1.00 -1.00 -1.00 -1.00 -0.99 -0.98 -0.97 96.0--0.94 -0.93 -0.92 -0.82 Volume 13.09 0.00 0.00 0.00 0.00 0.00 0.00 0.29 0.82 2.28 0.00 0.00 0.00 0.00 0.02 0.03 0.07 0.19 0.42 0.60 1.42 1.82 4.14 4.94 5.84 6.85 8.03 0.01 2.81 3.43 Volume In Volume In (acre-ft) 0.00 0.00 0.00 0.10 1.95 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.02 0.03 0.05 0.07 0.14 0.18 0.22 0.27 0.33 0.39 0.54 0.62 0.80 0.90 1.01 1.42 1.68 0.71 0.01 34810 85061 11889 14390 17124 23375 26963 30768 39173 44053 51573 61940 2116 4394 9648 20097 1360 3121 5911 7663 192 434 813 (cf) 9 0 0 0 0 0 0 0 0 0 ∞ Flow In 57.30 22.33 34.19 81.49 94.51 10.72 13.21 15.99 19.03 25.97 29.96 38.68 43.53 48.95 68.82 0.00 2.35 4.88 0.00 0.00 0.00 0.00 0.00 0.00 0.01 0.07 0.21 0.48 0.90 1.51 3.47 6.57 8.51 (cfs) 0.00 0.00 (min) 165 180 195 210 225 240 255 270 285 300 315 330 345 375 105 135 405 420 435 450 465 480 510 0 15 30 45 60 90 Time (hr) 0 7 m 4 0 0 0 2 9 ∞

-0.79	-0.75	-0.70	-0.65	-0.59	-0.52	-0.45	-0.37	-0.30	-0.22	-0.14	-0.05	0.03	0.12	0.21	0:30	0.39	0.48	0.56	0.65	0.72	0.80	0.87	0.93	0.99	1.05	1.10	1.15	1.19	1.23	1.26	1.29	1.31	1.33	1.34	1.35	1.36	1.36	1.36	1.36	1.37	1.37	1.38	1.39	1.40	1.41	1.42
15.32	17.83	20.60	23.61	26.75	29.92	31.40	32.81	34.13	35.34	36.41	37.35	38.13	38.77	39.24	39.55	39.71	39.74	38.04	36.27	34.45	32.59	30.70	28.77	26.82	24.84	22.84	20.81	18.77	16.71	14.64	12.55	10.45	8.34	6.21	4.07	1.92	1.41	0.88	0.35	1.45	2.54	3.62	4.68	4.08	3.47	2.84
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	0	0	0	0	0	0	0	0	0	0
No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes														
0.00	0.00	0.00	0.00	0.00	0.00	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	0.00	0.00	0.00	0.00	1.65	1.65	1,65
0	0	0	0	0	0	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	0	0	0	0	72000	72000	72000
No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Vec								
-0.8	-0.7	-0.7	9.0-	9.0-	-0.5	-0.4	-0.4	-0.3	-0.2	-0.1	No																																			
No	Yes																																													
-0.79	-0.75	-0.70	-0.65	-0.59	-0.52	-0.45	-0.36	-0.28	-0.18	-0.08	0.03	0.14	0.26	0.38	0.50	0.64	0.77	0.91	1.05	1.19	1.34	1.49	1.65	1.81	1.97	2.13	2.30	2.46	2.64	2.81	2.99	3.17	3.35	3.54	3.73	3.92	4.11	4.31	4.50	4.71	4.91	5.11	5.32	5.53	5.75	5 96
15.32	17.83	20.60	23.61	26.75	29.92	33.05	36.12	39.09	41.95	44.68	47.26	49.70	51.99	54.11	56.08	57.89	59.57	61.18	62.72	64.21	65.65	90'.29	68.44	62.69	71.12	72.42	73.71	74.97	76.22	77.45	78.67	79.87	81.07	82.25	83.41	84.57	85.71	86.84	87.95	89.05	90.14	91.22	92.29	93.34	94.38	95 40
2.23	2.51	2.77	3.01	3.15	3.17	3.13	3.07	2.97	2.86	2.73	2.59	2.44	2.28	2.12	1.96	1.81	1.69	1.60	1.54	1.49	1.45	1.41	1.38	1.35	1.33	1.30	1.28	1.26	1.25	1.23	1.22	1.21	1.19	1.18	1.17	1.15	1.14	1.13	1.12	1.10	1.09	1.08	1.06	1.05	1.04	1.03
97109	109123	120635	131114	137048	137954	136489	133629	129499	124447	118792	112722	106297	99533	92554	85583	78749	73429	69883	67124	64829	62984	61451	60075	28825	57774	26778	55880	22068	54351	23698	53092	52515	51943	51370	20800	50249	49696	49141	48598	48055	47506	46949	46389	45826	45261	44693
107.90	121.25	134.04	145.68	152.28	153.28	151.65	148.48	143.89	138.27	131.99	125.25	118.11	110.59	102.84	95.09	87.50	81.59	77.65	74.58	72.03	86.69	68.28	66.75	62.39	64.19	63.09	62.09	61.19	60.39	29.66	58.99	58.35	57.71	57.08	56.44	55.83	55.22	54.60	54.00	53.39	52.78	52.17	51.54	50.92	50.29	49.66
525	540	555	570	285	009	615	930	645	099	675	069	705	720	735	750	292	780	795	810	825	840	855	870	885	006	915	930	945	096	975	066	1005	1020	1035	1050	1065	1080	1095	1110	1125	1140	1155	1170	1185	1200	1215
	6				10				11				12				13				14				15				16				17	0	0	0	18				19				20	

1.42	1.43	1.43	1.44	1.45	1.46	1.47	1.48	1.49	1.50	1.50	1.51	1.51	1.51	1.51	1.51	1.52	1.53	1.53	1.54	1.56	1.57	1.58	1.59	1.60	1.60	1.60	1.61	1.61	1.62	1.62	1.63	1.64	1.64	1.65	1.66	1.68	1.68	1.69	1.68	1.68	1.67	1.65	1.64	1.62	1.59	1.57	7 - 7
1.55	0.88	1.86	2.82	3.76	4.70	5.62	4.87	4.11	3.34	2.55	1.75	0.94	0.11	0.91	1.69	2.42	3.11	3.75	4.32	4.83	5.26	5.63	4.28	2.87	1.43	1.61	1.79	1.97	2.17	2.41	2.72	3.11	3.59	4.18	4.88	5.71	3.35	1.13	-0.95	-2.88	-4.66	-6.27	-7.71	-8.97	-10.05	-10.93	7
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2	2	2	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65		1.65	,
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
1.65	1.65	0.00	0.00	0.00	0.00	0.00	1.65	1.65	1.65	1.65	1.65	1.65	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.65	1.65	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	
72000	72000	0	0	0	0	0	72000	72000	72000	72000	72000	72000	72000	0	0	0	0	0	0	0	0	0	72000	72000	72000	0	0	0	0	0	0	0	0	0	0	0	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
6.40	6.62	6.85	7.07	7.30	7.53	7.76	8.00	8.23	8.47	8.71	8.96	9.20	9.45	9.70	9:95	10.20	10.45	10.71	10.96	11.22	11.48	11.74	11.99	12.25	12.52	12.78	13.04	13.30	13.56	13.82	14.09	14.35	14.62	14.88	15.15	15.42	15.70	15.97	16.25	16.53	16.81	17.10	17.39	17.69	17.99	18.30	
97.42	98.40	98.38	100.34	101.28	102.22	103.14	104.04	104.94	105.82	106.68	107.54	108.37	109.20	110.00	110.78	111.51	112.20	112.84	113.41	113.92	114.35	114.72	115.02	115.27	115.48	115.66	115.84	116.02	116.22	116.46	116.77	117.16	117.64	118.23	118.93	119.76	120.71	121.79	123.02	124.39	125.92	127.61	129.48	131.52	133.75	136.18	
1.00	0.99	0.97	96.0	0.95	0.93	0.92	0.91	0.89	0.88	0.87	0.85	0.84	0.83	08.0	0.77	0.74	69.0	0.64	0.58	0.51	0.43	0.36	0.30	0.25	0.21	0.18	0.17	0.18	0.20	0.25	0.31	0.39	0.48	0.59	0.70	0.82	0.95	1.08	1.23	1.37	1.53	1.69	1.87	2.04	2.23	2.43	
43551	42977	42401	41822	41242	40660	40077	39492	38905	38317	37727	37136	36543	35950	34996	33688	32036	30044	27722	25075	22112	18839	15844	13168	10909	9126	8002	7525	7785	8836	10717	13415	16860	20978	25661	30628	35864	41377	47235	53440	59895	66610	73739	81280	89030	97083	105669	
48.39	47.75	47.11	46.47	45.82	45.18	44.53	43.88	43.23	42.57	41.92	41.26	40.60	39.94	38.88	37.43	35.60	33.38	30.80	27.86	24.57	20.93	17.60	14.63	12.12	10.17	8.89	8.36	8.65	9.82	11.91	14.91	18.73	23.31	28.51	34.03	39.85	45.97	52.48	59.38	66.55	74.01	81.93	90.31	98.92	107.87	117.41	
1245	1260	1275	1290	1305	1320	1335	1350	1365	1380	1395	1410	1425	1440	1455	1470	1485	1500	1515	1530	1545	1560	1575	1590	1605	1620	1635	1650	1665	1680	1695	1710	1725	1740	1755	1770	1785	1800	1815	1830	1845	1860	1875	1890	1905	1920	1935	
	21				22				23				24				25				56				27				28				29				30				31				32		

1.52		1.46		1.42	1.41	1.40	1.40	1.41	1.43	1.45	1.49	1.52	1.57	1.62	1.67	1.73	1.79	1.85	1.91	1.98																				3.03		3.09	3.12	3.14	3.17	
-11.90	-11.73	-11.04	-9.82	-8.05	-5.75	-2.93	0.33	3.83	7.31	10.66	13.84	16.77	19.42	21.76	23.79	25.48	26.83	27.82	28.47	28.79	28.84	28.73	28.48	28.12	27.67	27.15	26.56	25.91	25.21	24.46	23.67	22.84	21.97	21.08	20.15	19.19	18.21	17.20	16.17	15.10	14.01	12.89	11.75	10.59	9.39	
1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	
72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	
Yes																																														
1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	
72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	
Yes																																														
18.93	19.26	19.60	19.94	20.30	20.67	21.06	21.46	21.87	22.30	22.75	23.21	23.68	24.17	24.67	25.18	25.71	26.24	26.78	27.34	27.90	28.47	29.04	29.63	30.21	30.81	31.41	32.02	32.63	33.25	33.88	34.51	35.15	35.79	36.44	37.09	37.75	38.41	39.08	39.76	40.44	41.12	41.81	42.50	43.20	43.91	
141.82	145.29	149.29	153.82	158.89	164.50	170.62	177.19	183.99	190.78	197.44	203.92	210.15	216.11	221.76	227.09	232.09	236.74	241.05	245.00	248.62	251.98	255.17	258.23	261.18	264.03	266.82	269.53	272.19	274.80	277.35	279.87	282.34	284.78	287.19	289.57	291.92	294.25	296.54	298.81	301.05	303.27	305.46	307.62	309.76	311.87	
2.99	3.47	4.00	4.53	5.07	5.61	6.12	6.57	08.9	6.79	99.9	6.48	6.24	5.96	5.65	5.33	2.00	4.65	4.30	3.96	3.62	3.36	3.19	3.06	2.95	2.86	2.78	2.72	2.66	2.61	2.56	2.51	2.47	2.44	2.41	2.38	2.35	2.32	2.30	2.27	2.24	2.22	2.19	2.16	2.14	2.11	
130400	151326	174122	197321	220973	244351	266481	286255	296187	295610	290249	282173	271661	259435	246150	232205	217722	202710	187421	172316	157670	146415	138955	133162	128347	124469	121242	118347	115779	113503	111408	109517	107806	106290	104909	103626	102407	101203	100002	98813	97665	96519	95371	94253	93138	92014	
144.89	168.14	193.47	219.25	245.53	271.50	296.09	318.06	329.10	328.46	322.50	313.53	301.85	288.26	273.50	258.01	241.91	225.23	208.25	191.46	175.19	162.68	154.39	147.96	142.61	138.30	134.71	131.50	128.64	126.11	123.79	121.69	119.78	118.10	116.57	115.14	113.79	112.45	111.11	109.79	108.52	107.24	105.97	104.73	103.49	102.24	
1965	1980	1995	2010	2025	2040	2055	2070	2085	2100	2115	2130	2145	2160	2175	2190	2205	2220	2235	2250	2265	2280	2295	2310	2325	2340	2355	2370	2385	2400	2415	2430	2445	2460	2475	2490	2505	2520	2535	2550	2565	2580	2595	2610	2625	2640	
	33				34				35				36				37				38				39				40				41			,	42				43				44	

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3.21	3.22	3.23	3.23	3.23	3.23	3.22	3.22	3.20	3.19	3.17	3.15	3.12	3.09	3.06	3.02	2.98	2.93	2.88	2.83	2.77	2.71	2.64	2.57	2.49	2.41	2.32	2.23	2.13	2.02	1.91	1.79	1.66	1.52	1.38	1.23	1.07
5.65	4.36	3.03	1.68	08.0	-1.10	-2.53	-3.98	-5.47	-6.98	-8.51	-10.07	-11.66	-13.28	-14.92	-16.59	-18.28	-20.01	-21.77	-23.59	-25.49	-27.47	-29.56	-31.76	-34.09	-36.57	-39.18	-41.91	-44.75	-47.68	-50.70	-53.79	-56.94	-60.14	68.89-	29.99-	96'69-
1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65
72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000
Yes																																				
1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65
72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000	72000
Yes																																				
46.05	46.77	47.50	48.23	48.96	49.70	50.44	51.19	51.95	52.70	53.46	54.23	54.99	55.77	56.54	57.32	58.10	58.89	59.68	60.47	61.27	62.07	62.87	63.68	64.48	65.29	66.10	66.91	67.73	68.54	69.35	70.17	70.98	71.80	72.61	73.43	74.25
318.05	320.06	322.04	324.00	325.92	327.83	329.70	331.55	333.38	335.17	336.94	338.69	340.40	342.09	343.76	345.39	347.01	348.59	350.13	351.61	353.02	354.35	355.57	356.67	357.64	358.47	359.17	359.74	360.21	360.59	360.87	361.09	361.24	361.34	361.40	361.43	361.44
2.03	2.01	1.98	1.96	1.93	1.90	1.88	1.85	1.82	1.80	1.77	1.74	1.72	1.69	1.66	1.64	1.61	1.58	1.54	1.48	1.41	1.32	1.22	1.10	0.97	0.83	0.70	0.58	0.47	0.37	0.29	0.21	0.15	0.10	90.0	0.03	0.01
88599	87457	86313	85168	84021	82872	81722	80570	79417	78263	77107	75950	74792	73633	72473	71312	70150	28689	67137	64612	61427	57596	53134	48053	42368	36094	30353	25137	20439	16248	12558	9358	6642	4399	2622	1303	431
98.44	97.17	95.90	94.63	93.36	92.08	90.80	89.52	88.24	96.98	85.67	84.39	83.10	81.81	80.53	79.24	77.94	76.65	74.60	71.79	68.25	64.00	59.04	53.39	47.08	40.10	33.73	27.93	22.71	18.05	13.95	10.40	7.38	4.89	2.91	1.45	0.48
2685	2700	2715	2730	2745	2760	2775	2790	2805	2820	2835	2850	2865	2880	2895	2910	2925	2940	2955	2970	2985	3000	3015	3030	3045	3060	3075	3090	3105	3120	3135	3150	3165	3180	3195	3210	3225
	45				46				47				48				49				20				51				52				53			



Pump Assumptions
Assume Pump off at elev. =
Assume Pump 1 on at elev. =
Assume Pump 2 on at elev. =

-1.0 -0.5 0.5

 $\times 2 = 200$  cfs

Pump Rate = 100 cfs

	Modeled	WSEL	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-0.99	-0.99	-0.99	-0.98	-0.98	-0.97	-0.97	-0.96	-0.94	-0.93	-0.92	-0.90	-0.88	-0.85	-0.82
Volume in	Pond (ac-	ft)	00.0	00.00	0.00	0.00	00.0	00.0	00.00	0.00	00.00	00.00	0.00	0.01	0.02	0.03	0.07	0.11	0.19	0.29	0.42	09:0	0.82	1.09	1.42	1.82	2.28	2.81	3.43	4.14	4.94	5.84	6.85	8.03	9.46	11.14	13.09
	Volume	Out (ac-ft)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Volume	Out (cf)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pump 2	On?	No																																		
	Volume	Out (ac-ft)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Volume	Out (cf)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pump 1	On?	No																																		
		WSEL	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-0.9	-0.9	6.0-	6.0-	-0.9	-0.9	-0.8
	Start Pump	Sequence	No																																		
	Cumulative	WSEL	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-0.99	-0.99	-0.99	-0.98	-0.98	-0.97	-0.97	-0.96	-0.94	-0.93	-0.92	-0.90	-0.88	-0.85	-0.82
Cumulative	Volume	(acre-ft)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.03	0.07	0.11	0.19	0.29	0.42	09:0	0.82	1.09	1.42	1.82	2.28	2.81	3.43	4.14	4.94	5.84	6.85	8.03	9.46	11.14	13.09
	Volume In	(acre-ft)	00.0	00.0	0.00	00.0	00.0	00.0	0.00	00.0	00.0	00.0	00.0	00.0	0.01	0.02	0.03	0.05	0.07	0.10	0.14	0.18	0.22	0.27	0.33	0.39	0.46	0.54	0.62	0.71	08.0	06:0	1.01	1.18	1.42	1.68	1.95
	Volume In Volume In	(cf)	0	0	0	0	0	0	0	0	0	8	09	192	434	813	1360	2116	3121	4394	5911	2992	9648	11889	14390	17124	20097	23375	26963	30768	34810	39173	44053	51573	61940	73338	85061
	Flow In	(cfs)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.21	0.48	06.0	1.51	2.35	3.47	4.88	6.57	8.51	10.72	13.21	15.99	19.03	22.33	25.97	29.96	34.19	38.68	43.53	48.95	57.30	68.82	81.49	94.51
	Time	(min)	0	15	30	45	09	75	06	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360	375	390	405	420	435	450	465	480	495	510
		Time (hr)	0				1				2				3				4	0	0	0	2				9				7				8		

-0.79	-0.75	-0.70	-0.65	-0.59	-0.52	-0.45	-0.39	-0.33	-0.27	-0.22	-0.17	-0.12	-0.08	-0.04	-0.01	0.02	0.04	90.0	0.08	0.09	0.10	0.11	0.12	0.14	0.15	0.17	0.19	0.21	0.23	0.25	0.26	0.27	0.28	0.29	0.30	0.30	0.31	0.31	0.31	0.31	0.32	0.33	0.34	0.36	0.37	0.38	0.39
15.32	17.83	20.60	23.61	26.75	29.92	28.92	27.86	26.70	25.42	24.02	22.47	20.78	18.93	16.92	14.76	12.43	66.6	7.46	6.93	6.35	5.73	5.08	4.39	5.74	7.07	8.37	99.6	8.85	8.04	7.20	98.9	5.49	4.62	3.73	2.83	1.92	1.00	90.0	1.17	2.28	3.37	4.45	5.51	92'9	5.54	4.50	3.44
0.00	0.00	0.00	0.00	0.00	0.00	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No														
0.00	0.00	0.00	0.00	0.00	0.00	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	0.00	0.00	0.00	0.00	0.00	0.00	2.07	2.07	2.07
0	0	0	0	0	0	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	0	0	0	0	0	0	0	0	0	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	0	0	0	0	0	0	00006	00006	00006
No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes								
-0.8	-0.7	-0.7	9.0-	9.0-	-0.5	-0.4	-0.4	-0.3	-0.2	-0.1	No																																				
No	Yes																																														
-0.79	-0.75	-0.70	-0.65	-0.59	-0.52	-0.45	-0.36	-0.28	-0.18	-0.08	0.03	0.14	0.26	0.38	0.50	0.64	0.77	0.91	1.05	1.19	1.34	1.49	1.65	1.81	1.97	2.13	2.30	2.46	2.64	2.81	2.99	3.17	3.35	3.54	3.73	3.92	4.11	4.31	4.50	4.71	4.91	5.11	5.32	5.53	5.75	5.96	6.18
15.32	17.83	20.60	23.61	26.75	29.92	33.05	36.12	39.09	41.95	44.68	47.26	49.70	51.99	54.11	56.08	57.89	59.57	61.18	62.72	64.21	65.65	90.79	68.44	62.69	71.12	72.42	73.71	74.97	76.22	77.45	78.67	79.87	81.07	82.25	83.41	84.57	85.71	86.84	87.95	89.05	90.14	91.22	92.29	93.34	94.38	95.40	96.42
2.23	2.51	2.77	3.01	3.15	3.17	3.13	3.07	2.97	2.86	2.73	2.59	2.44	2.28	2.12	1.96	1.81	1.69	1.60	1.54	1.49	1.45	1.41	1.38	1.35	1.33	1.30	1.28	1.26	1.25	1.23	1.22	1.21	1.19	1.18	1.17	1.15	1.14	1.13	1.12	1.10	1.09	1.08	1.06	1.05	1.04	1.03	1.01
97109	109123	120635	131114	137048	137954	136489	133629	129499	124447	118792	112722	106297	99533	92554	85583	78749	73429	69883	67124	64829	62984	61451	60075	58855	57774	26778	55880	25068	54351	23698	53092	52515	51943	51370	20800	50249	49696	49141	48598	48055	47506	46949	46389	45826	45261	44693	44123
107.90	121.25	134.04	145.68	152.28	153.28	151.65	148.48	143.89	138.27	131.99	125.25	118.11	110.59	102.84	95.09	87.50	81.59	77.65	74.58	72.03	86.69	68.28	66.75	62.39	64.19	63.09	65.09	61.19	60.39	99.69	58.99	58.35	57.71	57.08	56.44	55.83	55.22	54.60	54.00	53.39	52.78	52.17	51.54	50.92	50.29	49.66	49.03
525	540	555	570	585	009	615	630	645	099	675	069	705	720	735	750	292	780	795	810	825	840	855	870	885	006	915	930	945	096	975	066	1005	1020	1035	1050	1065	1080	1095	1110	1125	1140	1155	1170	1185	1200	1215	1230
	6				10				11				12				13				14				15				16				17				18				19				20		

0.39	0.40	0.40	0.41	0.42	0.43	0.44	0.46	0.48	0.49	0.51	0.51	0.52	0.53	0.53	0.53	0.53	0.54	0.55	0.56	0.57	0.58	0.59	09:0	0.61	0.63	0.64	99.0	0.67	0.67	0.68	0.69	69.0	0.70	0.71	0.72	0.73	0.74	0.75	0.75	0.76	0.78	0.79	0.81	0.82	0.83	0.84
2.38	1.30	2.27	3.23	4.18	5.11	6.03	6.94	7.83	6.64	5.44	4.23	3.00	1.76	0.50	1.27	2.01	2.70	3.33	3.91	4.42	4.85	5.21	5.52	5.77	5.98	6.16	6.33	4.45	2.58	2.83	3.14	3.52	4.00	4.59	5.30	4.05	2.94	1.96	3.18	4.56	60.9	7.78	7.58	5.49	3.59	1.88
0.00	0.00	0.00	0.00	0.00	0.00	00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.00	0.00	00.00	00.00	0.00	0.00	0.00	0.00	2.07	2.07	2 0 7
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	00006	00006	00006
No	No	No	No	No	No	No	No	No	No	Yes	Vac																																			
2.07	2.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07	2.07	2.07	2.07	2.07	2.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07	2.07	0.00	0.00	0.00	0.00	0.00	0.00	2.07	2.07	2.07	0.00	0.00	0.00	0.00	2.07	2.07	2.07	207
00006	00006	0	0	0	0	0	0	0	00006	00006	00006	00006	00006	00006	0	0	0	0	0	0	0	0	0	0	0	0	0	00006	00006	0	0	0	0	0	0	00006	00006	00006	0	0	0	0	00006	00006	00006	00000
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Vac
6.40	6.62	6.85	7.07	7.30	7.53	7.76	8.00	8.23	8.47	8.71	8.96	9.20	9.45	9.70	9.95	10.20	10.45	10.71	10.96	11.22	11.48	11.74	11.99	12.25	12.52	12.78	13.04	13.30	13.56	13.82	14.09	14.35	14.62	14.88	15.15	15.42	15.70	15.97	16.25	16.53	16.81	17.10	17.39	17.69	17.99	19 20
97.42	98.40	99.38	100.34	101.28	102.22	103.14	104.04	104.94	105.82	106.68	107.54	108.37	109.20	110.00	110.78	111.51	112.20	112.84	113.41	113.92	114.35	114.72	115.02	115.27	115.48	115.66	115.84	116.02	116.22	116.46	116.77	117.16	117.64	118.23	118.93	119.76	120.71	121.79	123.02	124.39	125.92	127.61	129.48	131.52	133.75	136 18
1.00	0.99	0.97	96.0	0.95	0.93	0.92	0.91	68.0	0.88	0.87	0.85	0.84	0.83	0.80	0.77	0.74	69.0	0.64	0.58	0.51	0.43	0.36	0.30	0.25	0.21	0.18	0.17	0.18	0.20	0.25	0.31	0.39	0.48	0.59	0.70	0.82	0.95	1.08	1.23	1.37	1.53	1.69	1.87	2.04	2.23	2.43
43551	42977	42401	41822	41242	40660	40077	39492	38905	38317	37727	37136	36543	35950	34996	33688	32036	30044	27722	25075	22112	18839	15844	13168	10909	9126	8002	7525	7785	8836	10717	13415	16860	20978	25661	30628	35864	41377	47235	53440	29895	66610	73739	81280	89030	97083	105669
48.39	47.75	47.11	46.47	45.82	45.18	44.53	43.88	43.23	42.57	41.92	41.26	40.60	39.94	38.88	37.43	35.60	33.38	30.80	27.86	24.57	20.93	17.60	14.63	12.12	10.17	8.89	8.36	8.65	9.82	11.91	14.91	18.73	23.31	28.51	34.03	39.85	45.97	52.48	59.38	66.55	74.01	81.93	90.31	98.92	107.87	117.41
1245	1260	1275	1290	1305	1320	1335	1350	1365	1380	1395	1410	1425	1440	1455	1470	1485	1500	1515	1530	1545	1560	1575	1590	1605	1620	1635	1650	1665	1680	1695	1710	1725	1740	1755	1770	1785	1800	1815	1830	1845	1860	1875	1890	1905	1920	1025
	21				22				23				24				25				56				27				28				29				30				31				32	

0.84	0.85	98.0	0.87	0.89	0.91	0.94	0.97	1.01	1.05	1.10	1.15	1.21	1.28	1.34	1.41	1.48	1.56	1.63	1.70	1.77	1.84	1.91	1.98	2.04	2.10	2.24	2.31	2.37	2.43	2.49	2.55	2.60	2.64	2.69	2.72	2.76	2.79	2.81	2.84	2.85	2.87	2.88	2.88	2.88	2.88
1.32	2.73	4.66	7.13	8.07	9.54	11.53	13.97	16.64	19.29	21.82	24.17	26.27	28.09	29.61	30.81	31.68	32.20	32.37	32.19	31.68	30.91	29.97	28.8	27.70	28.50	29.86	30.46	28.93	27.35	25.74	24.08	22.39	20.66	18.91	17.13	15.32	13.48	11.62	9.73	7.81	5.87	3.90	1.91	-0.11	-0.09
0.00	0.00	0.00	0.00	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	000
0	0	0	0	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	_
Yes	Λργ																																												
2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	0.00	0.00	0.00	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2 07
90000	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	00006	90000	0	0	0	00006	00006	00006	00006	00006	90000	00006	00006	00006	00006	00006	90000	00006	90000	00006	00006	90000	00000
Yes	γργ																																												
																																													_
18.93	19.26	19.60	19.94	20.30	20.67	21.06	21.46	21.87	22.30	22.75	23.21	23.68	24.17	24.67	25.18	25.71	26.24	26.78	27.34	27.90	28.47	29.04	29.63	30.21	30.81	32.02	32.63	33.25	33.88	34.51	35.15	35.79	36.44	37.09	37.75	38.41	39.08	39.76	40.44	41.12	41.81	42.50	43.20	43.91	74 62
141.82	145.29	149.29	153.82	158.89	164.50	170.62	177.19	183.99	190.78	197.44	203.92	210.15	216.11	221.76	227.09	232.09	236.74	241.05	245.00	248.62	251.98	255.17	258.23	261.18	264.03	269.53	272.19	274.80	277.35	279.87	282.34	284.78	287.19	289.57	291.92	294.25	296.54	298.81	301.05	303.27	305.46	307.62	309.76	311.87	313 96
2.99	3.47	4.00	4.53	5.07	5.61	6.12	6.57	08.9	6.79	99.9	6.48	6.24	5.96	5.65	5.33	2.00	4.65	4.30	3.96	3.62	3.36	3.19	3.06	2.95	2.86	2.72	2.66	2.61	2.56	2.51	2.47	2.44	2.41	2.38	2.35	2.32	2.30	2.27	2.24	2.22	2.19	2.16	2.14	2.11	2 09
130400	151326	174122	197321	220973	244351	266481	286255	296187	295610	290249	282173	271661	259435	246150	232205	217722	202710	187421	172316	157670	146415	138955	133162	128347	124469	118347	115779	113503	111408	109517	107806	106290	104909	103626	102407	101203	100002	98813	97665	96519	95371	94253	93138	92014	90878
144.89	168.14	193.47	219.25	245.53	271.50	296.09	318.06	329.10	328.46	322.50	313.53	301.85	288.26	273.50	258.01	241.91	225.23	208.25	191.46	175.19	162.68	154.39	147.96	142.61	138.30	131.50	128.64	126.11	123.79	121.69	119.78	118.10	116.57	115.14	113.79	112.45	111.11	109.79	108.52	107.24	105.97	104.73	103.49	102.24	100 98
1965	1980	1995	2010	2025	2040	2055	2070	2085	2100	2115	2130	2145	2160	2175	2190	2205	2220	2235	2250	2265	2280	2295	2310	2325	2340	2370	2385	2400	2415	2430	2445	2460	2475	2490	2505	2520	2535	2550	2565	2580	2595	2610	2625	2640	2655
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2.88	2.88	2.88	2.88	2.88	2.88	2.87	2.87	2.87	2.86	2.86	2.86	2.86	2.87	2.88	2.89	2.90	2.91	2.92	2.92	2.93	2.93	2.93	2.93	2.94	2.94	2.95	2.96	2.97	2.98	3.00	3.01	3.02	3.04	3.05	3.06	3.06
-0.13	-0.19	-0.27	-0.38	-0.52	69:0-	-0.88	-1.09	-1.33	-1.60	-1.90	-0.16	1.56	3.25	4.91	4.49	4.03	3.55	3.02	2.44	1.78	1.04	0.19	1.30	2.27	3.10	3.79	4.37	4.84	5.21	5.50	5.72	2.87	5.97	6.03	3.99	1.94
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yes																																				
2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	0.00	0.00	0.00	0.00	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07	2.07
00006	00006	90000	00006	00006	00006	00006	00006	00006	00006	00006	0	0	0	0	00006	00006	00006	00006	00006	00006	00006	00006	0	0	0	0	0	0	0	0	0	0	0	0	00006	00006
Yes																																				
46.05	46.77	47.50	48.23	48.96	49.70	50.44	51.19	51.95	52.70	53.46	54.23	54.99	55.77	56.54	57.32	58.10	58.89	59.68	60.47	61.27	62.07	62.87	63.68	64.48	65.29	66.10	66.91	67.73	68.54	69.35	70.17	70.98	71.80	72.61	73.43	74.25
318.05	320.06	322.04	324.00	325.92	327.83	329.70	331.55	333.38	335.17	336.94	338.69	340.40	342.09	343.76	345.39	347.01	348.59	350.13	351.61	353.02	354.35	355.57	356.67	357.64	358.47	359.17	359.74	360.21	360.59	360.87	361.09	361.24	361.34	361.40	361.43	361.44
2.03	2.01	1.98	1.96	1.93	1.90	1.88	1.85	1.82	1.80	1.77	1.74	1.72	1.69	1.66	1.64	1.61	1.58	1.54	1.48	1.41	1.32	1.22	1.10	0.97	0.83	0.70	0.58	0.47	0.37	0.29	0.21	0.15	0.10	90.0	0.03	0.01
88599	87457	86313	85168	84021	82872	81722	80570	79417	78263	77107	75950	74792	73633	72473	71312	70150	28689	67137	64612	61427	57596	53134	48053	42368	36094	30353	25137	20439	16248	12558	9358	6642	4399	2622	1303	431
98.44	97.17	95.90	94.63	93.36	92.08	90.80	89.52	88.24	96.98	85.67	84.39	83.10	81.81	80.53	79.24	77.94	76.65	74.60	71.79	68.25	64.00	59.04	53.39	47.08	40.10	33.73	27.93	22.71	18.05	13.95	10.40	7.38	4.89	2.91	1.45	0.48
2685	2700	2715	2730	2745	2760	2775	2790	2805	2820	2835	2850	2865	2880	2895	2910	2925	2940	2955	2970	2985	3000	3015	3030	3045	3060	3075	3090	3105	3120	3135	3150	3165	3180	3195	3210	3225
	45				46				47				48				49				20				51				52				53			

# **APPENDIX A, SUB-APPENDIX D:**

Vertical Pump Specification

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#### **CASCADE PUMP COMPANY**

10107 South Norwalk Boulevard • PO Box 2767 Santa Fe Springs, California 90670-0767

SUPERCEDES
NEW ISSUE

**AP4212** 

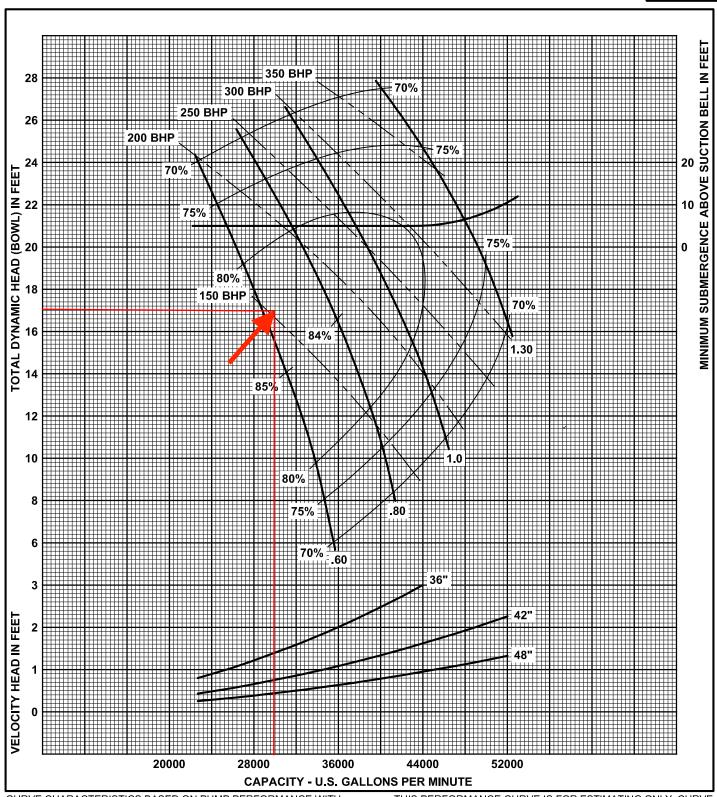
03-88

**CURVE NUMBER** 

DATE

590 RPM

### 30,000 GPM @ 17' TDH







CURVE NUMBER
AP4814

DATE

07-92

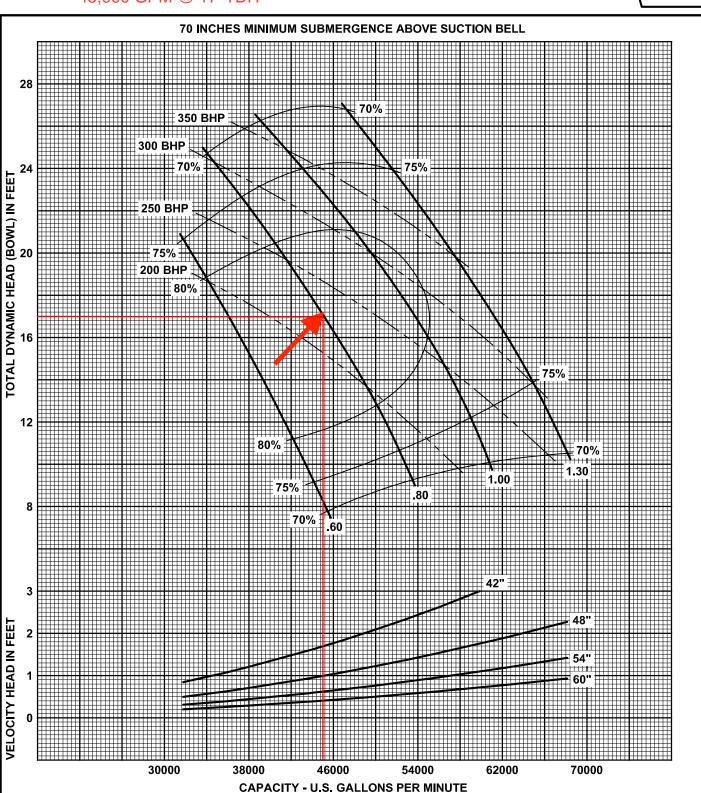
SUPERCEDES
NEW ISSUE

45,000 GPM @ 17' TDH

**CASCADE PUMP COMPANY** 

Santa Fe Springs, California 90670-0767

10107 South Norwalk Boulevard • PO Box 2767



# **APPENDIX A, SUB-APPENDIX E:**

Submersible Pump Specification

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#### Performance curve

Motor

ColDia Suction Flange Diameter Impeller diameter Number of blades

**Pump** 

47 1/4 inch 33<sup>3</sup>/<sub>8</sub>" 4 Motor #

Stator variant
Frequency
Rated voltage
Number of poles
Phases
Rated power
Rated current
Starting current
Rated speed

P0865.000 54-66-14AA-W 230hp 1 60 Hz 460 V

14 3~ 230 hp 355 A 1290 A 505 rpm FLYGT

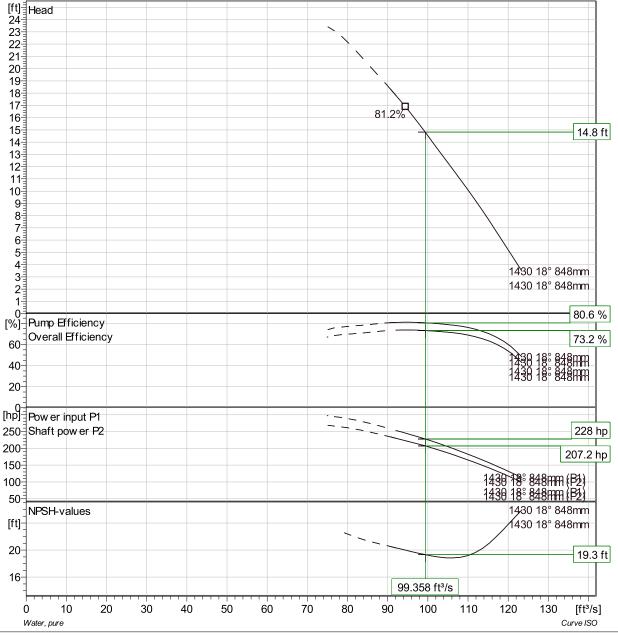
0.67

3/4 Load 0.61 1/2 Load 0.50 Motor efficiency 1/1 Load 90.5 % 3/4 Load 90.5 %

Power factor

1/1 Load

3/4 Load 90.5 % 1/2 Load 89.0 %



Duty point Guarantee
Flow Head

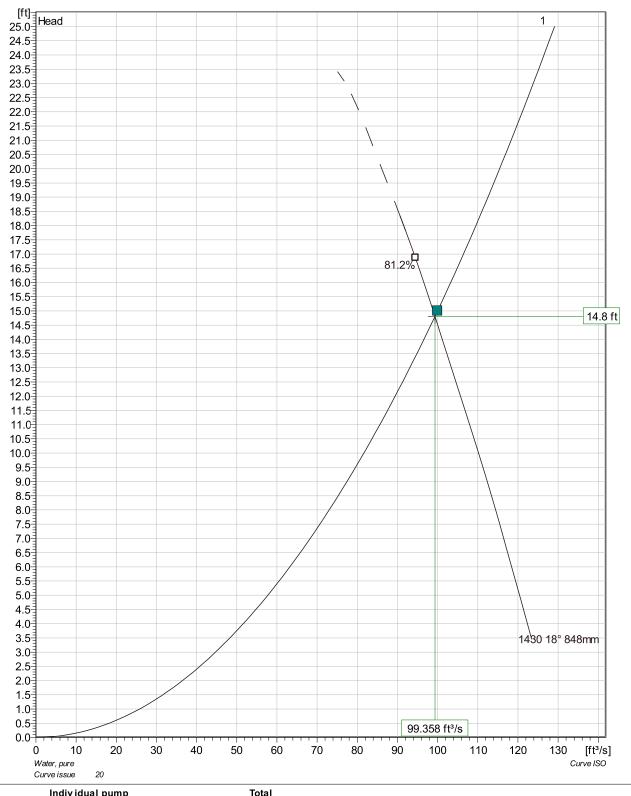
100 ft³/s 15 ft No

Project	Project ID	Created by	Created on	Last update
			2/6/2018	



### **Duty Analysis**





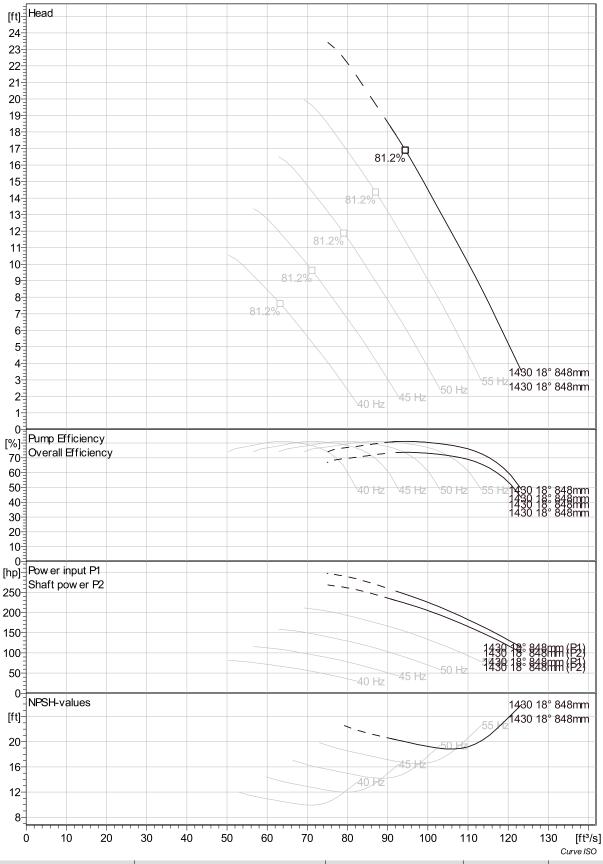
D	individuai	pump		iotai						
Pumps running /System	Flow	Head	Shaft power	Flow	Head	Shaft power	Pump eff.	Specific energy	NPSHre	
1	99.4 ft³/s	14.8 ft	207 hp	99.4 ft³/s	14.8 ft	207 hp	80.6 %	63.5 kWh/US MG	19.3 ft	

Project	Project ID	Created by	Created on	Last update
			2/6/2018	





### VFD Curve

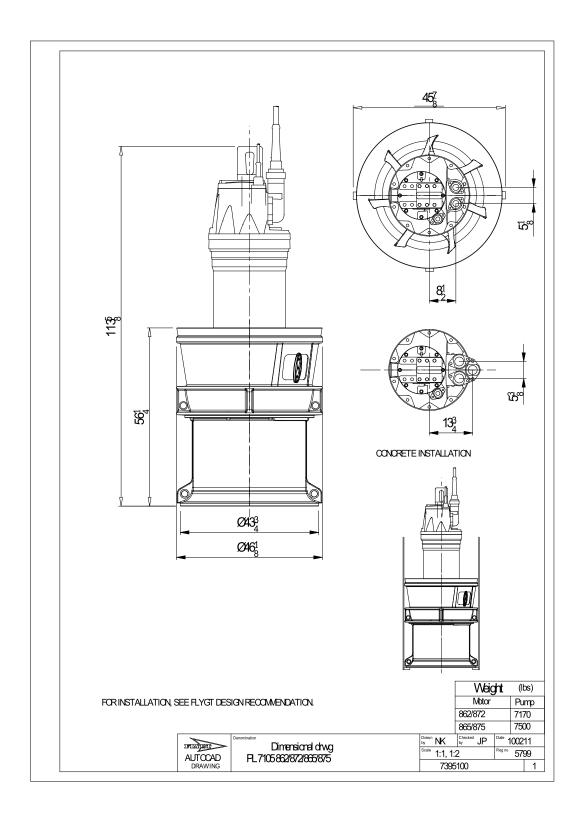


	Project	Project ID	Created by	Created on	Last update
2/6/2018				2/6/2018	



### **Dimensional drawing**





Project	Project ID	Created by	Created on	Last update
			2/6/2018	



### PL 7101/836 3~ 505B4

### Performance curve

Motor

ColDia Suction Flange Diameter Impeller diameter Number of blades

**Pump** 

47 1/4 inch 29<sup>3</sup>/<sub>4</sub>" 4

Motor#
Stator variant
Frequency
Rated voltage
Number of poles
Phases
Rated power
Rated current
Starting current

P0836.000 54-52-14ID-W 185hp 1 60 Hz

460 V 14 3~ 185 hp 279 A 870 A 505 rpm FLYGT

0.67

0.63

0.52

93.3 %

93.0 %

Power factor

Motor efficiency 1/1 Load 92.5 %

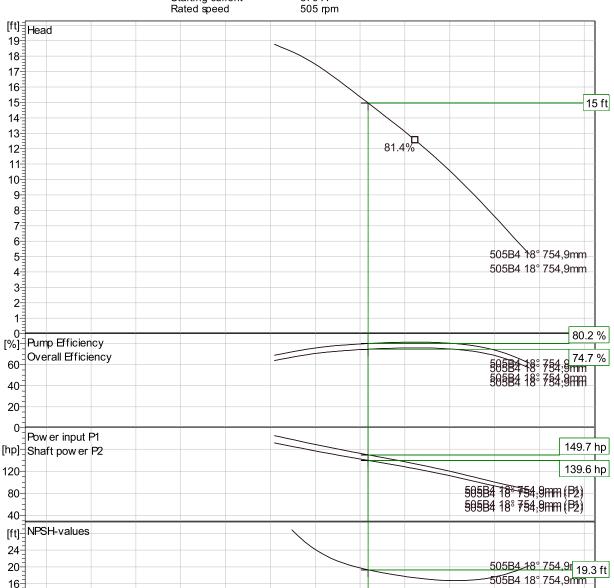
1/1 Load

3/4 Load

1/2 Load

3/4 Load

1/2 Load



Duty pointGuaranteeFlowHead66 ft³/s15 ftNo

40

45

50

55

12-

30

Water, pure

35

Project	Project ID	Created by	Created on	Last update
			2/6/2018	

60

65.907 ft<sup>3</sup>/s

70

75

80

85

[ft³/s]

Curve ISO

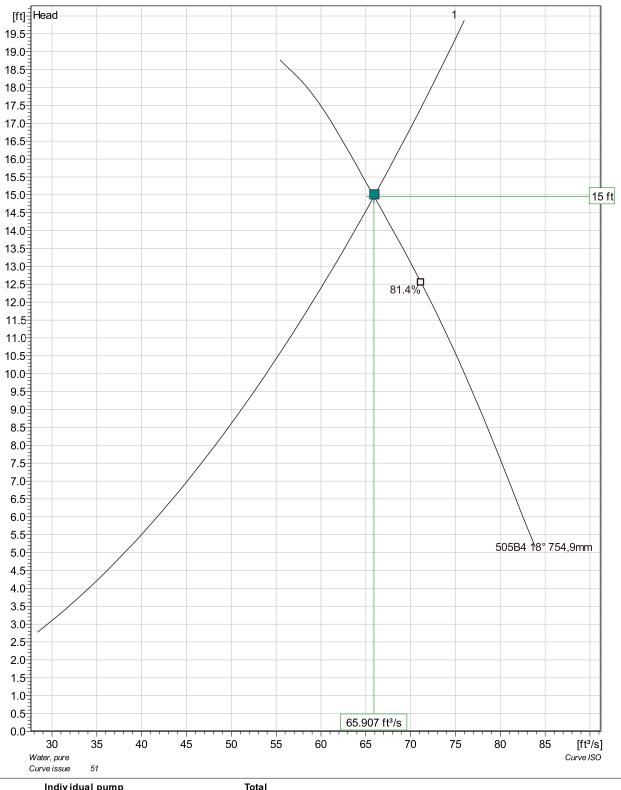
65



### PL 7101/836 3~ 505B4

### **Duty Analysis**





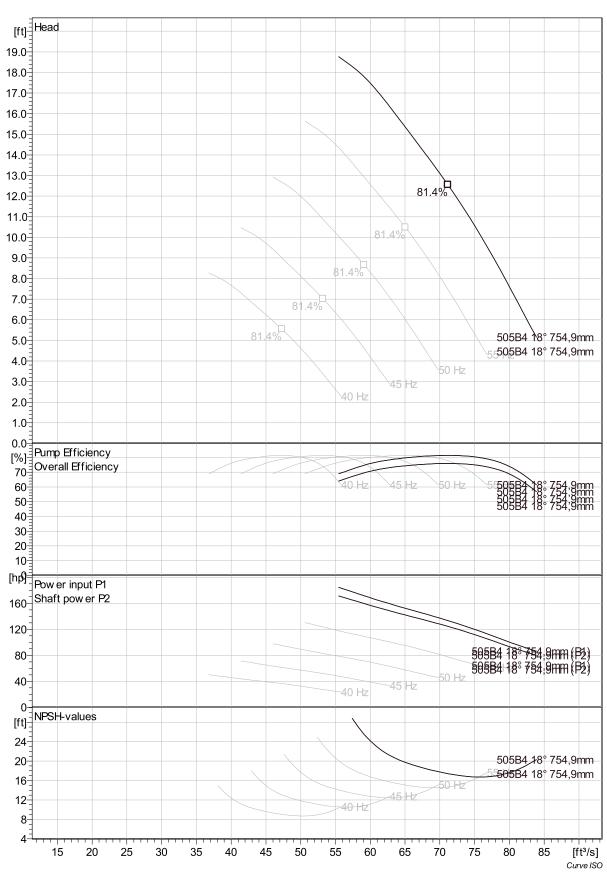
Pumps	maiv iduai pi	ump		iotai					
running /System	Flow	Head	Shaft power	Flow	Head	Shaft power	Pump eff.	Specific energy	NPSHre
1	65.9 ft³/s	15 ft	140 hp	65.9 ft <sup>3</sup> /s	15 ft	140 hp	80.2 %	62.9 kWh/US MG	19.3 ft

Project	Project ID	Created by	Created on	Last update
			2/6/2018	



### PL 7101/836 3~ 505B4 VFD Curve





	Project	Project ID	Created by	Created on	Last update
2/6/2018				2/6/2018	



# PL 7101/836 3~ 505B4 Dimensional drawing



Project	Project ID	Created by	Created on	Last update
			2/6/2018	

# **APPENDIX A, SUB-APPENDIX F:**

Opinion of Probable Construction Cost

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# SAN QUENTIN STORMWATER PUMP STATOIN Layout Option 1 (3-Pumping Units) Opinion of Probable Construction Cost



\$ 3,235,250

CONS	TRUCTION COSTS		
ITEM	DESCRIPTION	UNIT	PRICE
1.	Site Preparation: Includes mobilization, traffic control, construction fencing, storage, potholing and material handling.	L.S.	\$100,000
2.	<b>Demolition:</b> Includes removal of all equipment, wet well, fencing, excavation, piping, motor control center, and other electrical features.	L.S.	\$195,000
3.	Wet Well Installation: Includes forming, new concrete to the wet well, access hatches, backfill, bar screens, elastomeric coating, and all other appurtenances pertaining to the structure and its operation complete in place.	L.S.	\$325,000
4.	Furnish and Install Pumping Units: Includes three (3) 60 cfs vertical pumps, barrels, mounting materials, testing and all other appurtenances and operations pertaining to the successful installation and operation of all pump units complete in place.	L.S.	\$615,000
5.	Furnish and Install Electrical Equipment: Includes motor control center complete, portable generator connector, automatic transfer switch, transformer, conduit, pull boxes, wiring, connections, lighting, outlets, level controls, alarms, telemetry, power supply connections and all other appurtenances and operations pertaining to the successful installation and operation of the pump station.	L.S.	\$750,000
6.	Furnish and Install Outfall Piping Improvements: Includes new 48" HDPE, SDMH, connections, inspection, testing and clean-up and all other appurtenances pertaining to the successful installation and operation of the pump station complete in place.	L.S.	\$315,000
7.	Furnish and Install Site Improvements: Includes forming, new concrete pad adjacent to the pump station, aggregate base, bollards, fencing, signing, and all other appurtenances pertaining to the site improvements and its operation complete in place.	L.S.	\$85,000
	Contingency (25%) CONSTRUCTION COSTS (SUBTOTAL) =		\$596,250 \$2,981,250
INCIDE	INTAL EXPENSES		, , , , , , , , , , , ,
1.	Environmental Mitigation Allowance (5%)		\$127,000.00
2.	Land Acquistion (@ \$90/sq.ft. incl appraisals, negotiations)		\$ - \$137,000,00
3.	Post Construction Monitoring & Maintenance (5%)		\$127,000.00
	INCIDENTAL EXPENSES (SUBTOTAL)		\$254,000.00
SUMM			Φ 0 004 050
	CONSTRUCTION COSTS INCIDENTAL EXPENSES		\$ 2,981,250 \$ 254,000
	TOOLETTILE LATEROLO		ψ 204,000

### 1. This estimate does not include bonding, Agency fees, permits and other costs not listed above.

TOTAL (CONSTRUCTION COSTS + INCIDENTAL EXPENSES) =

<sup>2.</sup> This estimate should be used as a guide only. Actual cost can only be determined by a contract based on final approved plans or actual construction of facilities.

# SAN QUENTIN STORMWATER PUMP STATOIN Layout Option 1 (3-Pumping Units) Opinion of Probable Construction Cost



\$ 3,235,250

CONS	TRUCTION COSTS		
ITEM	DESCRIPTION	UNIT	PRICE
1.	Site Preparation: Includes mobilization, traffic control, construction fencing, storage, potholing and material handling.	L.S.	\$100,000
2.	<b>Demolition:</b> Includes removal of all equipment, wet well, fencing, excavation, piping, motor control center, and other electrical features.	L.S.	\$195,000
3.	Wet Well Installation: Includes forming, new concrete to the wet well, access hatches, backfill, bar screens, elastomeric coating, and all other appurtenances pertaining to the structure and its operation complete in place.	L.S.	\$325,000
4.	Furnish and Install Pumping Units: Includes three (3) 60 cfs vertical pumps, barrels, mounting materials, testing and all other appurtenances and operations pertaining to the successful installation and operation of all pump units complete in place.	L.S.	\$615,000
5.	Furnish and Install Electrical Equipment: Includes motor control center complete, portable generator connector, automatic transfer switch, transformer, conduit, pull boxes, wiring, connections, lighting, outlets, level controls, alarms, telemetry, power supply connections and all other appurtenances and operations pertaining to the successful installation and operation of the pump station.	L.S.	\$750,000
6.	Furnish and Install Outfall Piping Improvements: Includes new 48" HDPE, SDMH, connections, inspection, testing and clean-up and all other appurtenances pertaining to the successful installation and operation of the pump station complete in place.	L.S.	\$315,000
7.	Furnish and Install Site Improvements: Includes forming, new concrete pad adjacent to the pump station, aggregate base, bollards, fencing, signing, and all other appurtenances pertaining to the site improvements and its operation complete in place.	L.S.	\$85,000
	Contingency (25%) CONSTRUCTION COSTS (SUBTOTAL) =		\$596,250 \$2,981,250
INCIDE	INTAL EXPENSES		, , , , , , , , , , , ,
1.	Environmental Mitigation Allowance (5%)		\$127,000.00
2.	Land Acquistion (@ \$90/sq.ft. incl appraisals, negotiations)		\$ - \$137,000,00
3.	Post Construction Monitoring & Maintenance (5%)		\$127,000.00
	INCIDENTAL EXPENSES (SUBTOTAL)		\$254,000.00
SUMM			Φ 0 004 050
	CONSTRUCTION COSTS INCIDENTAL EXPENSES		\$ 2,981,250 \$ 254,000
	TOOLETTILE LATEROLO		ψ 204,000

### 1. This estimate does not include bonding, Agency fees, permits and other costs not listed above.

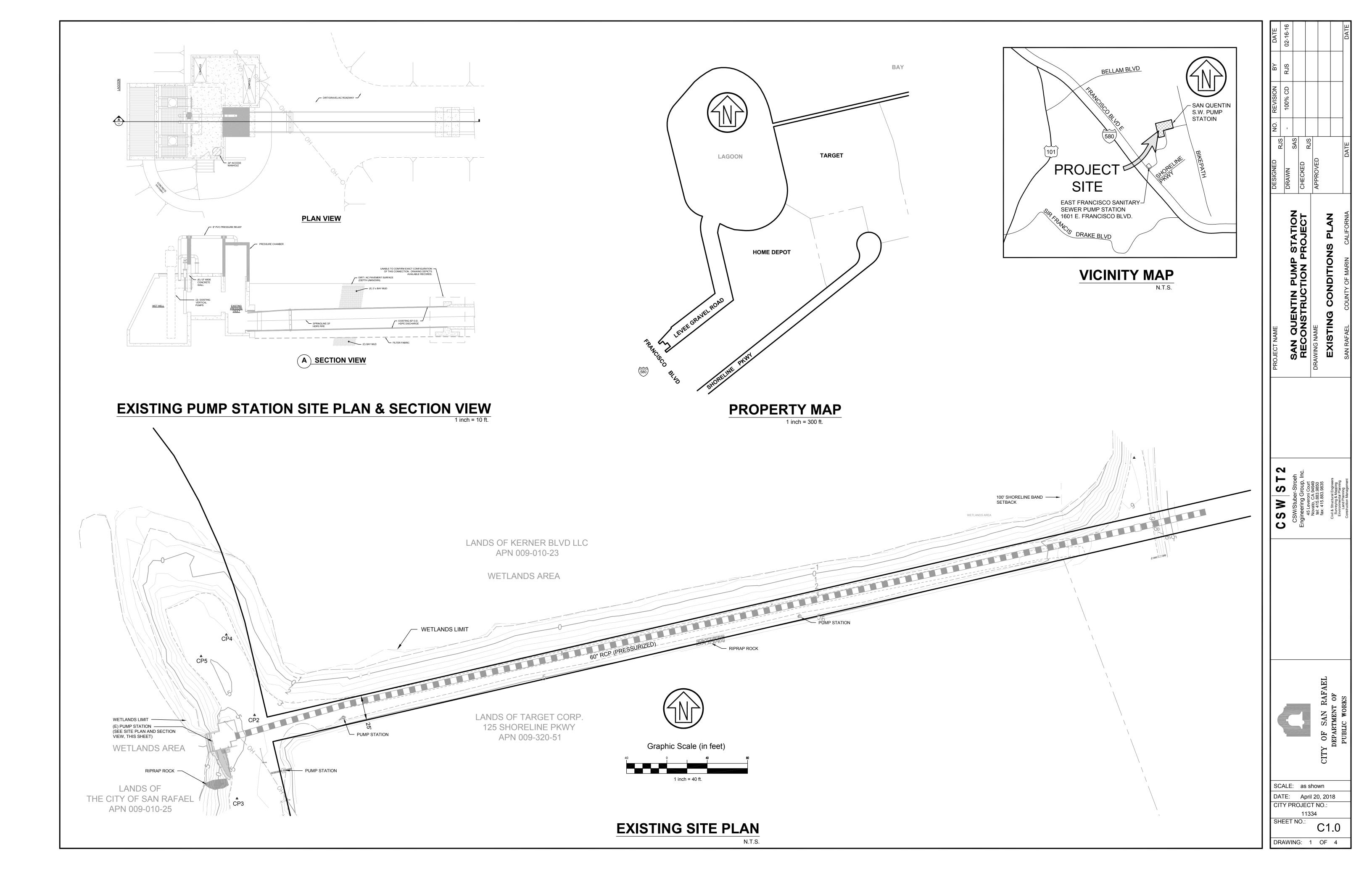
TOTAL (CONSTRUCTION COSTS + INCIDENTAL EXPENSES) =

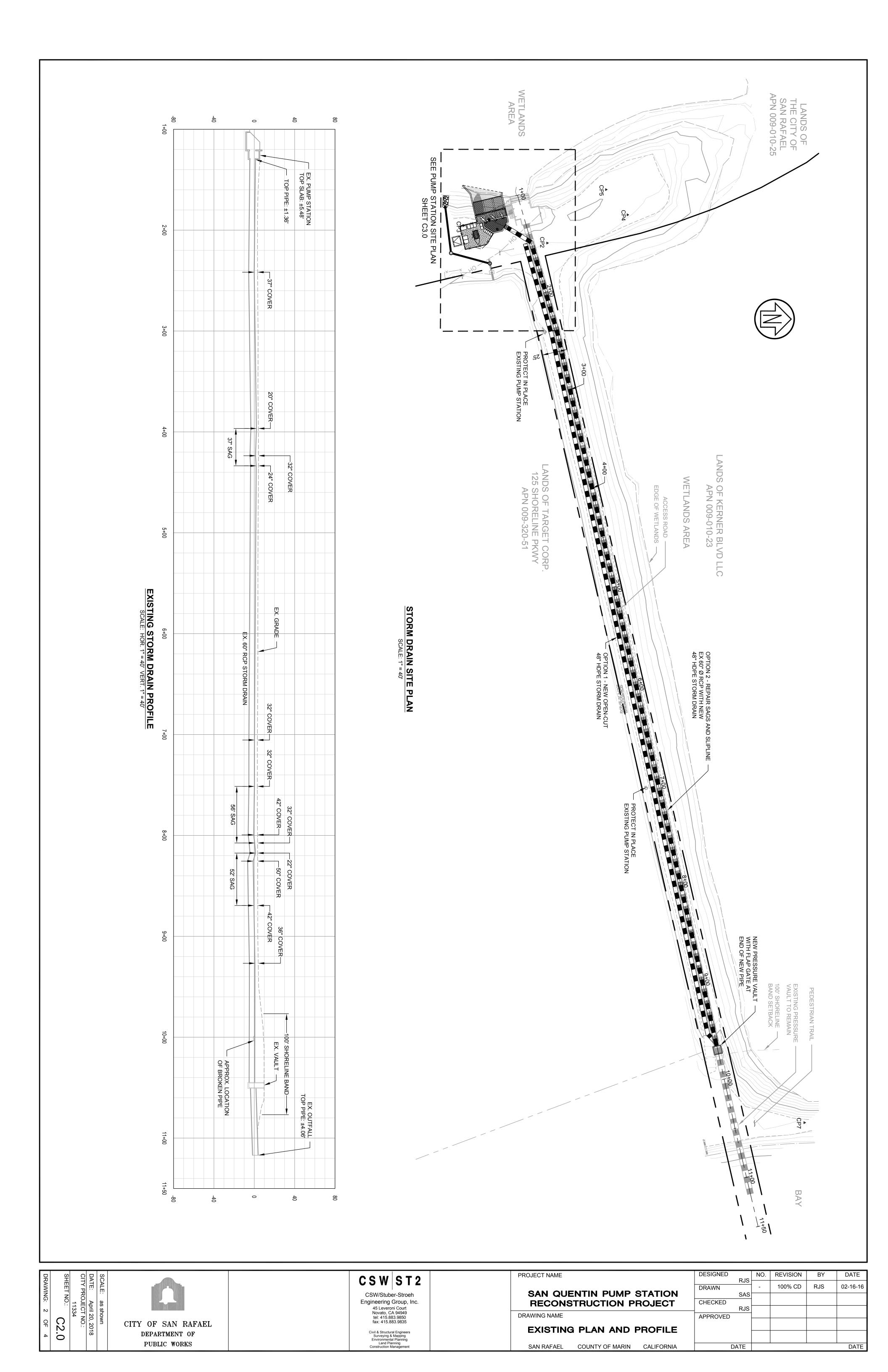
<sup>2.</sup> This estimate should be used as a guide only. Actual cost can only be determined by a contract based on final approved plans or actual construction of facilities.

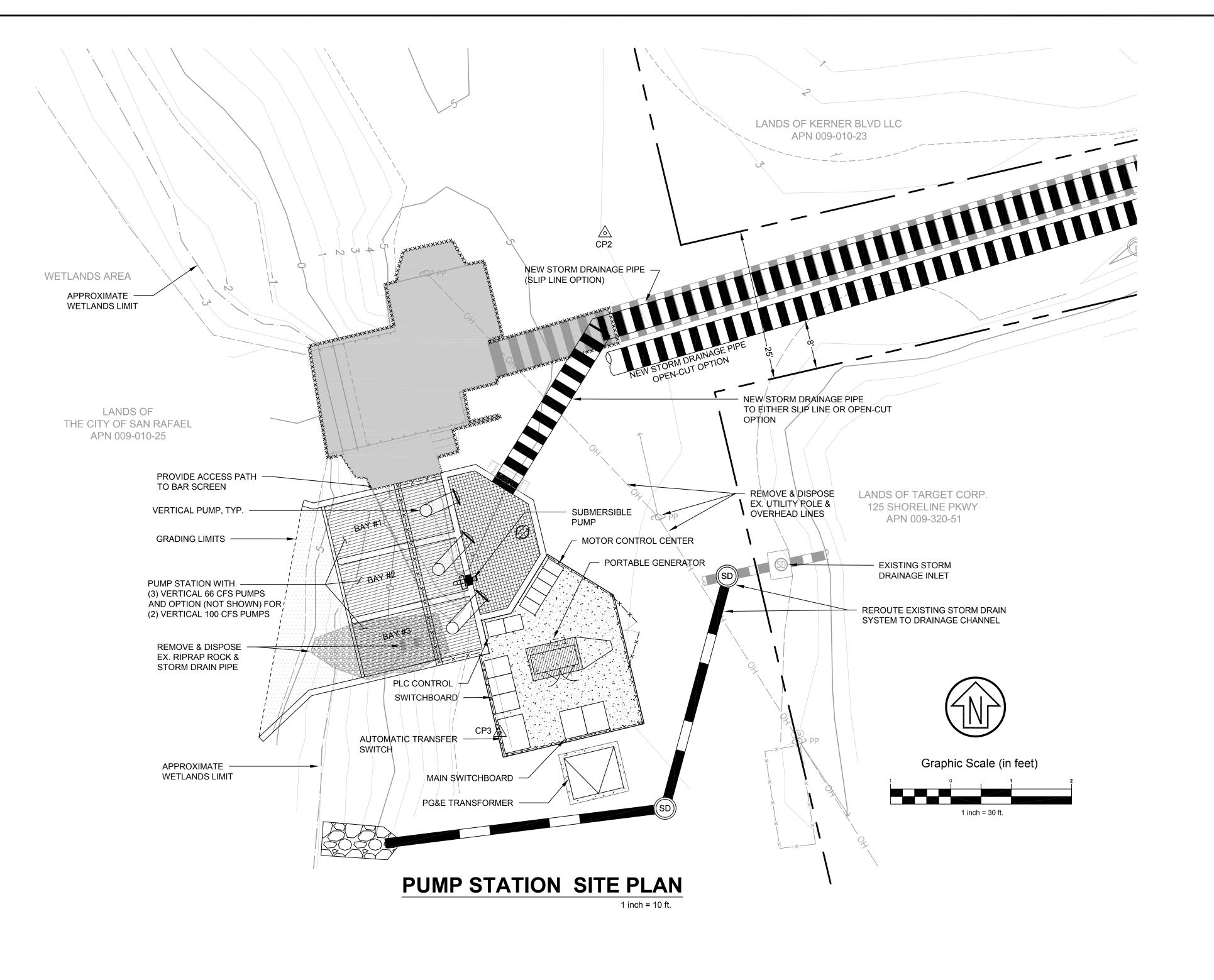
# **APPENDIX A, SUB-APPENDIX G:**

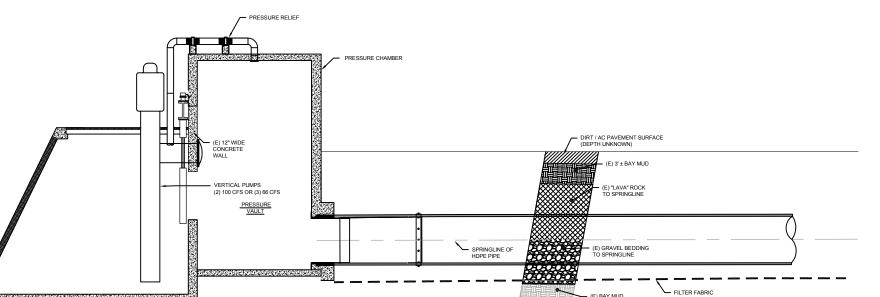
**Schematic Layout Options** 

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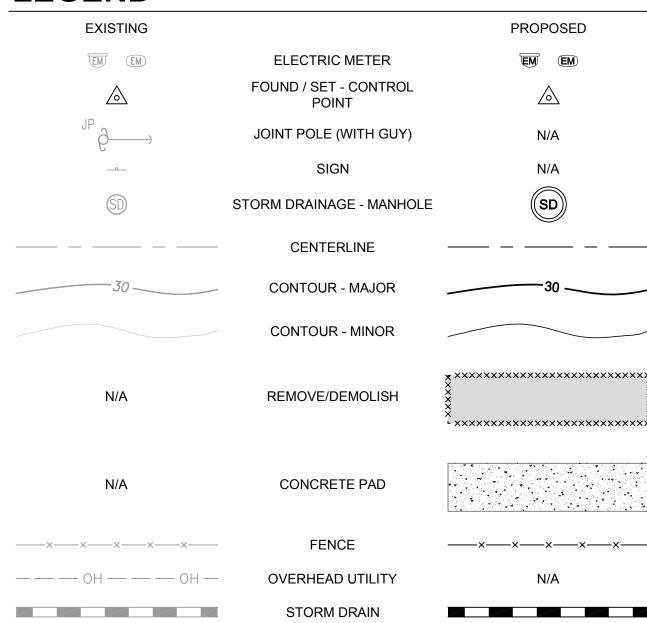




PUMP STATION SECTION VIEW

T.S.

### **LEGEND**



# **BASIS OF TOPOGRAPHY**

TOPOGRAPHY SHOWN AT THE PUMP STATION IS BASED ON A FIELD SURVEY PERFORMED IN JANUARY 2018

# **BENCHMARK**

VERTICAL CONTROL IS BASED ON CONTROL POINT 2, A MAG NAIL AS SHOWN ON SHEET C2.0 WITH AN ELEVATION OF 3.96 (NAVD 88)

## **BASIS OF BEARINGS**

THE BASIS OF BEARING IS THE MONUMENT LINE OF STATE HIGHWAY 17 (580) FRONTING THE PROPERTY TAKEN AS N38°32'42"W PER BOOK 8 OF SURVEYS PAGE 28, RECORDED APRIL 9, 1969.

# **GEOTECHNICAL REPORT**

<u>DRAFT</u> "GEOTECHNIAL INVESTIGATION, SAN QUENTIN PUMP STATION RECONSTRUCTION, SAN RAFAEL, CALIFORNIA" PREPARED BY MILLER PACIFIC ENGINEERING GROUP DATED MARCH 30, 2018

# PROJECT REFERENCES

"AS-BUILT" IMPROVEMENT PLAN OF EAST SAN RAFAEL DRAINAGE ASSESSMENT DISTRICT NO. 1" DATED 1-08-75



	DESIGNED	NO.	NO. REVISION	ВУ	DATE
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O.IECT	CHECKED				
	<u>~</u>	RJS			
	APPROVED				
CALIFORNIA	DATE	111			DATE

PUMI

CSW/Stuber-Stroeh
Engineering Group, Inc.
45 Leveroni Court
Novato. CA 94949
tel: 415.883.9850
fax: 415.883.9835
Civil & Structural Engineers
Surveying & Marping
Environmental Planning
Land Planning
Construction Management

TY OF SAN RAFAEL

SCALE: as shown

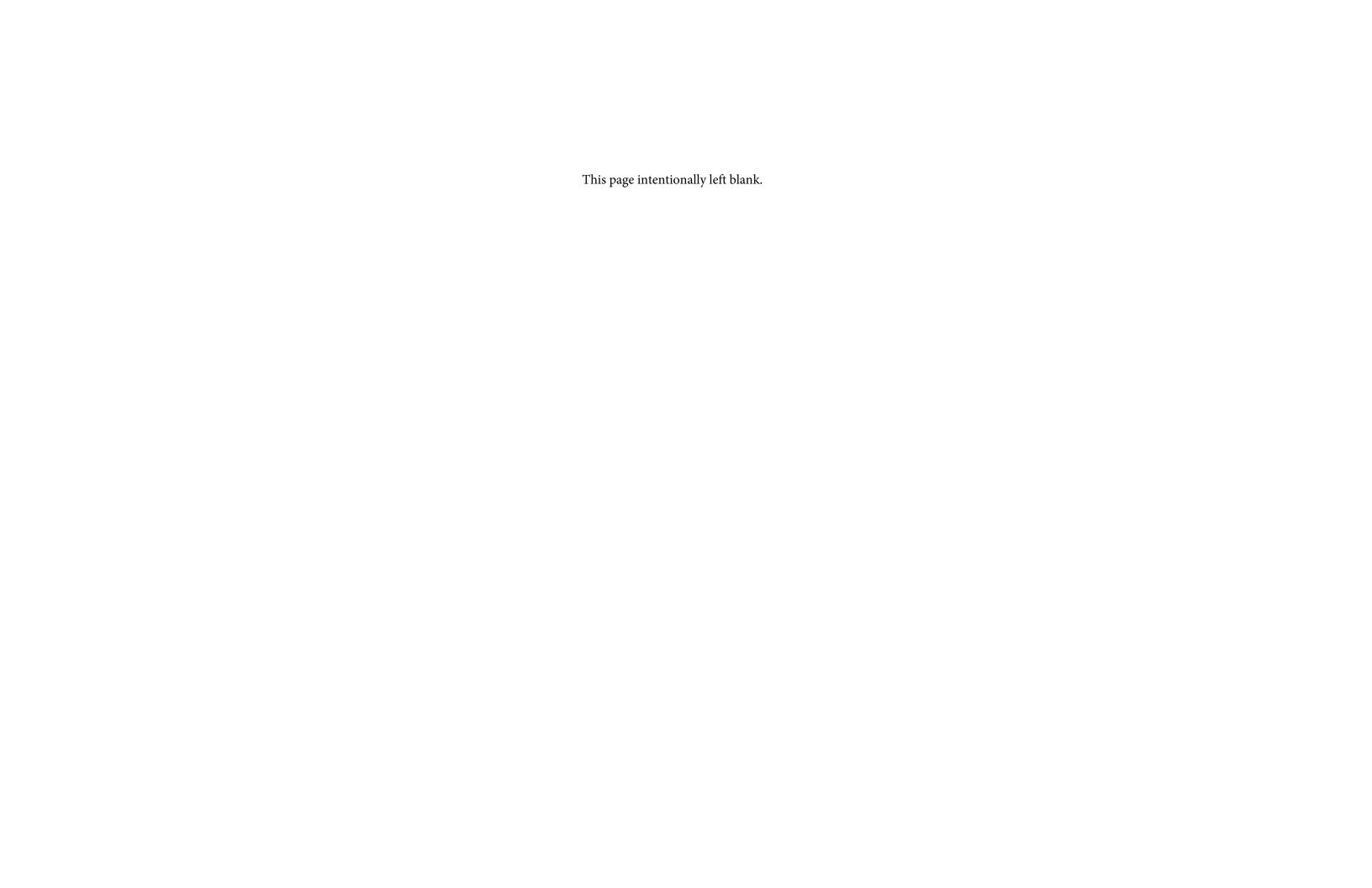
DATE: April 20, 2018

CITY PROJECT NO.:

11334

SHEET NO.:

DRAWING: 3 OF 4



## **APPENDIX B:**

Biological Resources Memorandum

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**Rhiannon Korhummel** 

From: 5341 Old Redwood Highway

**WRA Environmental Consultants** 

Ste. 310, Petaluma, CA 94954

#### **MEMORANDUM**

Richard Souza
CSW/Stuber-Stroeh
To: Engineering Group, Inc.
45 Leveroni Court

Novato, CA 94949

cc:

**Date: May 2019** 

Subject: Biological Resources at the San Quentin Pump Station Project

The purpose of this letter is to provide the results of the biological resources assessment site visit at the San Quentin Pump Station Reconstruction Project Site (Study Area) in the City of San Rafael, California (Attachment 1, Figure 1). It is WRA's understanding the Project will demolish the existing pump station, construct a new pump station and replace a portion of the existing pipe running between the existing pump and the pump outfall in the bay (Project Area).

The Study Area is within a diked infill area of San Rafael and is bounded to the east by the Bay Trail, to the west and south by commercial facilities, and to the north by muted, diked salt marsh. The Project Area is predominantly located within the developed portion of the Study Area which includes a gravel pathway and the existing pump station, with small portions of ruderal vegetation, salt marsh and open water also present. The open water is a drainage channel connecting the pump to stormwater runoff from nearby developed areas. This channel also receives tidal water through the pipe connecting the bay to the pump station.

Based on the site visit and review of background literature and databases, the Project Area contains three sensitive biological communities, salt marsh, seasonal wetland, and water. The Project Area is not expected to support special-status plant species, however it has moderate potential to support one special-status wildlife species, the salt marsh harvest mouse (*Reithrodontomys raviventris;* SMHM), as well as nesting birds and roosting bats.

#### **Methods**

Prior to the site visit, background literature was reviewed to determine the potential presence of sensitive vegetation types, aquatic communities, and special-status plant and wildlife species. Resources reviewed for sensitive vegetation communities and aquatic features include aerial photography, mapped soil types, the California Native Plant Society (CNPS) Online Database

(2018a¹), the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB, CDFW 2018²), and the US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPac) database (USFWS 2018³). For database queries, the San Rafael and eight surrounding U.S. Geological Survey (USGS) 7.5-minute quadrangles were included as the focal search area (USGS 1980⁴).

On January 8, 2018, WRA biologists conducted a field assessment of the Study Area to evaluate the potential presence of sensitive vegetation communities and aquatic features and evaluate onsite habitats to determine the potential for occurrence of special-status plant and wildlife species. Observed plant communities, aquatic features, and plant and wildlife species were noted. Site conditions were noted as they relate to habitat requirements of special-status plant and wildlife species known to occur in the vicinity as determined by the background literature research.

The Study Area was assessed in terms of potential biological resources impacts on the redevelopment project. This analysis was performed to a level of detail necessary to understand what types of major biological impacts are likely to be associated with the proposed project with a focus on the Project Area within the Study Area.

The conclusions of this report are based on conditions observed at the time of the field assessments and regulatory policies and practices in place at the time the report was prepared; changes that may occur in the future with regard to conditions, policies, or practices could affect the conclusions presented in this assessment.

#### **Environmental Setting**

The Study Area is situated at the base of a slope created from infill which was placed between 1968 and 1987 (Historical Aerials 2018<sup>5</sup>) within an area which was diked in the mid 1950's. The Project Area encompasses the existing pump station and associated underground pipe which runs to the east under the gravel walkway. The Project Area also includes the planned footprint of a new pump station and associated underground culverts.

The majority of the Study Area is composed of biological communities typically located on degraded or impacted natural areas, a result of past and present disturbance including maintenance of utility easements (mowing and other vegetation disturbance), infill, and the effects of urbanization. The northern and western outer edges of the Study Area are dominated by less impacted salt marsh biological community types. The Project Area is located between the ruderal vegetation on the infill soil and the naturally occurring muted salt marsh vegetation within the diked baylands.

Table 1 summarizes the area of each biological community type observed in the Study Area and Project Area. Non-sensitive biological communities are the ruderal/non-native and developed areas. Sensitive biological communities include salt marsh, seasonal wetland, vegetation and

2

California Native Plant Society. 2018a. Online Rare Plant Inventory. Available at: http://rareplants.cnps.org/

<sup>&</sup>lt;sup>2</sup> California Dept. of Fish and Wildlife California Natural Diversity Database. CDFW 2018. Available at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data

<sup>&</sup>lt;sup>3</sup> US. Fish and Wildlife Service. 2018. Information for Planning and Consultation. Available at: https://ecos.fws.gov/ipac/

<sup>&</sup>lt;sup>4</sup> U.S. Geologic Society.1980. San Rafael 7.5-Minute Topographic Quadrangle.

<sup>&</sup>lt;sup>5</sup> Historical Aerials. 2018. Available at: https://www.historicaerials.com/

Waters of the U.S./State consisting of a drainage channel (Attachment 1 Figure 2). Descriptions for each biological community are provided below.

Table 1. Biological Communities within the Study Area and Project Area

Biological Community	Acreage within	Acreage within
	Study Area	Project Area
Non-Sensitive		
Developed	0.65	0.20
Ruderal/Non-native	2.51	0.08
Sensitive		
Salt Marsh	0.44	0.01 (363 sq.
		ft.)
Seasonal Wetland	0.01	0.00
Waters of the U.S./State	0.17	<0.01 (228 sq.
		ft.)

#### Non-Sensitive Biological Communities

#### Developed

Approximately 0.65 acres of developed area is located within the Study Area which includes the existing pump station, the gravel pathway and gravel landing to the north of the existing pump station.

#### Ruderal/Non-native

Approximately 2.51 acres of ruderal/non-native vegetation is located in the Study Area on uplands along the gravel pathway and gravel landing. The ruderal/non-native vegetation community is composed of areas that are characterized as fennel (*Foeniculum vulgare*) patches and iceplant (*Carpobrotus* spp.) mats. This vegetation type typically occur in ruderal locations which have been partially developed or been used in the past for agriculture. Fennel is dominant or codominant in the herbaceous canopy layer with more than 50 percent relative cover. In areas of ice plant, a nearly monotypic mat with emergent non-native grasses and pickleweed (*Salicornia pacifica*) is present.

Additional species within this community includes wild oats (*Avena* sp.), wild radish (*Raphanus* sativus), ripgut brome (*Bromus diandrus*), Bermuda buttercup (*Oxalis pes-caprae*), stinkwort (*Dittrichia graveolens*), crane's bill geranium (*Geranium molle*), Italian thistle (*Carduus pycnocephalus*), bristly ox-tongue (*Helminthotheca echioides*), and perennial pepperweed (*Lepidium latifolium*).

#### Sensitive Biological Communities

#### Salt Marsh

The areas of salt marsh habitat best fits Alkali Heath Marsh (Frankenia salina Herbaceous Alliance, Pickleweed Mat (Salicornia pacifica Herbaceous Alliance), and Salt Grass Flats

(Distichlis spicata Herbaceous Alliance) CDFW vegetation alliances (CNPS 2018b). A combined 0.44 acre of salt marsh is located within the Study Area (Figure 2). Alkali heath marsh is located along the edge of the drainage channel north of the existing pump station. The areas of alkali heath marsh are dominated by alkali heath with associated species of curly leaf dock (*Rumex crispus*), Harding grass (*Phalaris aquatica*) and annual grasses. The small area of pickleweed mat which occurs along the northern boundary of the Study Area is the southern edge of a larger expanse of an isolated patch of pickleweed mat; areas of pickleweed mat are nearly 100 percent relative cover of pickleweed. Within the Study Area, salt grass flat is located along the drainage channel south of the existing pump station and on the opposite side of the channel, across from the existing pump station. Areas of salt grass flats are nearly 100 percent relative cover of salt grass with ripgut brome, perennial pepperweed occurring at low cover.

Both alkali heath marsh and pickleweed mat are considered sensitive by CDFW as indicated by an S3 rank; additionally, these communities are wetlands and within jurisdiction of the U.S. Army Corps of Engineers (Corps) and RWQCB under Section 404/401 of the CWA. Salt grass flats are not considered sensitive by CDFW, it is a wetland and within the jurisdiction of the Corps and RWQCB under Section 404/401 of the CWA.

#### Seasonal Wetland

A 0.01 acre seasonal wetland, dominated by non-native grasses and forbs is located along the eastern edge of the access road near the proposed pump station. Vegetation is dominated by seaside barley (*Hordeum marinum*) and Italian ryegrass (*Festuca perennis*), both of which are facultative wetland species. Redox was observed in the soil, below the rocky road base. Soils were saturated to the surface at the time of the site visit. This community is considered sensitive as it is a potential seasonal wetland which are within the jurisdiction of the Corps and RWQCB under Section 404/401 of the CWA.

#### Waters of the U.S./State

Approximately 0.17 acre of a drainage channel is located along the western portion of the Study Area. Stormwater runoff enters this channel at Highway 580, additionally tidal water enters this channel through the underground pipe connecting the existing pump and the bay. Water is present throughout the year within this feature, however there is a fluctuation of depth and width throughout the year, with lower depth and smaller width occurring in the summer and fall months (Google Earth 1987-2018). The ordinary high water mark (OHWM) and top-of-bank (TOB) of this feature are similar and were determined based on shift of vegetation, change in topography, and wrack line. Vegetation along the edges of the channel within the Study Area include alkali heath marsh and salt grass flats as described above. Some patches of pickleweed and alkali bulrush were observed within the OHWM of the feature. This channel extends westward to Highway 580 and receives freshwater from stormwater runoff from adjacent developed areas. This channel is considered sensitive because it is within jurisdiction of the Corps and RWQCB under Section 404/401 of the CWA.

#### Special-Status Species

#### **Plants**

Based upon a review of the resources and databases listed above, it was determined that 106 special-status plant species have been documented in the vicinity of the Study Area. The majority of the Study Area (3.2 acres) is dominated by ruderal/non-native vegetation and developed areas. These communities are unlikely to support special status plant species due to presence of aggressive non-native annual and perennial plant species which likely preclude special-status plants. The remaining salt marsh vegetation types comprise 0.44 acre of the 3.78 acre Study Area, and are therefore limited in extent within the Study Area.

Based on assessment of biological communities present within the Study Area, no special status plants are determined to have potential to occur within the Study Area. The Study Area is located within an area which was diked off from the bay within the mid 1950's (Historical Aerials 2018), and has received no direct tidal influence since that time. Known occurrences of nearby special-status plants which are known to occur in the biological communities present within the Study Area have direct tidal influence. Therefore, while the biological communities within the Study Area are potentially suitable for these salt marsh species to occur, the extent is limited, and the isolation of the Study Area from direct tidal influence makes their occurrences unlikely as well.

#### Wildlife

Eighteen special-status species of wildlife have been recorded in the vicinity of the Project Area in the California Natural Diversity Database<sup>6</sup>. Two of the species are considered extirpated from the region, one species, the California black rail (*Laterallus jamaicensis coturniculus*), is unlikely to occur, and 14 species have no potential to occur on the Study Area due to lack of suitable habitat (see Appendix A). The remaining species, the salt marsh harvest mouse (*Reithrodontomys raviventris*), has a moderate potential to occur within the Study Area. Nesting birds and roosting bats also have the potential to occur within the Study Area.

Salt marsh harvest mouse; Federal Endangered Species, State Endangered, CDFW Fully Protected Species. The salt-marsh harvest mouse (SMHM) is a relatively small rodent found only in suitable salt and brackish marsh habitat in the greater San Francisco Bay, San Pablo Bay, and Suisun Bay areas. This species has been divided into two subspecies: the northern SMHM (Reithrodontomys raviventris halicoetes) which lives in the brackish marshes of the San Pablo and Suisun bays, and the southern SMHM (R. r. raviventris) which is found in the marshes of San Francisco Bay. The Study Area occurs near the presumed boundary between the northern and subspecies, likely within the range of the southern subspecies, though the exact location of the boundary and whether the two subspecies hybridize are both unknown?. The southern subspecies generally persists in smaller and more isolated populations relative to the northern subspecies, as most of the marshes of the South San Francisco Bay are narrow, strip-like marshes and thus support fewer SMHM compared to marshes in the northern portions of the

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<sup>&</sup>lt;sup>6</sup> California Department of Fish and Wildlife. 2018. California Natural Diversity Data Base (CNDDB). RareFind 5. Natural Heritage Division, California Department of Fish and Game. Sacramento, California. Accessed: November 2018.

<sup>&</sup>lt;sup>7</sup> Smith, Katherine R, Melissa K Riley, Laureen Barthman–Thompson, Mark J Statham, Sarah Estrella, and Douglas Kelt. 2018. Towards Salt Marsh Harvest Mouse Recovery: Research Priorities. San Francisco Estuary and Watershed Science 16, no. 2.

species' range<sup>8</sup>. Northern marshes also tend to be more brackish, and have a more diverse assemblage of vegetation, thus the northern subspecies is more likely to occur in habitats that are not dominated by pickleweed, which dominates habitat in the southern range<sup>9</sup>.

The SMHM was last recorded in the Study Area in 1987. The lack of more recent records is not unusual, especially for a privately owned property where state and Federal resource managers may have difficulty obtaining access, and may not accurately reflect an absence of the species on the Study Area. Pickleweed, alkali heath, and saltgrass-dominated marsh occurs within the Study Area, and these habitat patches are directly connected to over a quarter square kilometer of adjacent, high-quality, pickleweed marsh. However, the wetland complex is completely isolated from any other marshes that could support SMHM, and has a long history of disturbance. If any population-level extinction events occurred in the Study Area and surrounding marsh, there would be virtually no chance of recolonization. However, the marsh is large with abundant upland refuge, so it is possible that a SMHM population has persisted here since the late 1980's. The species is presumed present within the pickleweed and salt grass marsh within the study area, and within suitable habitat in the surrounding marsh.

California black rail, State Threatened, CDFW Fully Protected Species. The California black rail is the resident black rail subspecies that occurs in California coastal salt and brackish marshes from Bodega Bay to Morro Bay, with additional populations known from freshwater marshes near or in the northern Sierra Nevada foothills<sup>10,11</sup>. Important habitat elements for this species within the San Francisco Bay estuary are: 1) emergent marsh dominated by pickleweed, marsh gumplant (*Grindelia stricta*), bulrush (*Scirpus maritimus*), rushes (*Juncus* spp.), and/or cattails (*Typha* spp.); 2) high density of vegetation below four inches in height; 3) high marsh elevation with transitional upland vegetation; 4) large total area of contiguous marsh; 5) proximity to a major water source; and, 6) isolation from disturbance<sup>12</sup>. This species feeds primarily on invertebrates. Black rails are extremely secretive and very difficult to glimpse or flush; identification typically relies on voice. Nests are placed on the ground in dense wetland vegetation.

There are no records of black rails within or adjacent to the Study Area, but there are observations about half a mile north of the Study Area and about a mile south of the Study Area recorded within the last decade<sup>1</sup>. However, the Study Area does not contain the important habitat elements identified by Spautz et al. (2005), and is subject to regular but relatively minor disturbance (e.g., pedestrians and off-leash dogs). Black rail are unlikely to occur within the Study Area.

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<sup>&</sup>lt;sup>8</sup> U.S. Fish and Wildlife Service. 2010. Five Year Review for the Salt Marsh Harvest Mouse (*Reithrodontomys raviventris*). U.S. Fish and Wildlife Service. Sacramento, CA.

<sup>9</sup> Smith, Katherine R, Melissa K Riley, Laureen Barthman-Thompson, Isa Woo, Mark J Statham, Sarah Estrella, and Douglas A Kelt. 2018. Towards Salt Marsh Harvest Mouse Recovery: A Review. San Francisco Estuary and Watershed Science 16, no. 2

Eddleman, W.R., R.E. Flores and M. Legare. 1994. Black Rail (*Laterallus jamaicensis*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/123.

Richmond, O.M., J. Tecklin, and S.R. Beissinger. 2008. Distribution of California Black Rails in the Sierra Nevada Foothills. J. of Field Ornithology 79(4): 381-390.

<sup>&</sup>lt;sup>12</sup> Spautz, H., N. Nur, and D. Stralberg. 2005. California Black Rail (*Laterallus jamaicensis coturniculus*) Distribution and Abundance in Relation to Habitat and Landscape Features in the San Francisco Bay Estuary. USDA Forest Service Gen. Tech. Rep. PSW-GTR-191: 465-468.

<u>Nesting Birds</u>. Within the Study Area, native birds may nest on the ground, in shrubbery, and on infrastructure. Most native birds have baseline protections under the federal Migratory Bird Treaty Act of 1918 (MBTA) as well as the California Fish and Game Code (CFGC). Under these laws/codes, the intentional killing, collecting or trapping of covered species, including their active nests (those with eggs or young), is prohibited<sup>13</sup>. Work in the Study Area could lead to damage or mortality to nests, or disturbance of adults leading to abandonment of nests.

Roosting Bats. The pump station that is to be demolished in the Study Area may support roosting bats. Bats could potentially use the structure for hibernation, or for maternity roosting. Hibernation roosting usually occurs between the fall and early spring in California. Disturbing bats during hibernation has high metabolic costs to the animals and can lead to reduced survival. Maternity colonies are composed of adult females and young, and disturbance of these can lead to abandonment of the colony, and/or mortality of young. The pump station contains abundant crevices that could accommodate roosting bats, and while the structure is small and subject to regular disturbance by a transient that sleeps under the structure, the potential for bat roosting cannot be ruled out.

#### **Discussion of Impacts**

The proposed project would impact two sensitive biological communities, and potentially wildlife including salt marsh harvest mouse, nesting birds, and roosting bats. Figure 3 in Attachment 1 depicts impact types and biological communities impacted. Potential impacts and proposed mitigation measures for each impact are discussed below.

<u>Potential Impact BIO-1</u>: The proposed project will temporarily impact 151 square feet of Waters of the U.S./State through the removal of the existing pump station. Soil and material from the existing structure may enter the Waters during deconstruction of the existing pump station. Additionally, removal of material will cause turbidity within the Waters. Once the existing pump station is removed, the existing bank will be re-contoured and approximately 736 square feet (0.02 acre) of Waters of the U.S. and associated salt marsh habitat would be gained (Figure 3).

<u>Mitigation Measure BIO-1</u>: The applicant shall obtain a Section 404 permit from the Corps, and a Section 401 Certification from the Regional Water Quality Control Board (RWQCB). Mitigation measures will be incorporated into the permits, which the project proponent shall follow. The following avoidance and minimization measures are proposed as a part of the permit applications:

 Best management practices shall be employed to reduce impacts to vegetation and to limit erosion. Vegetation removal should be minimized to the greatest extent feasible. Areas in which vegetation is removed should be replanted or seeded with native plants appropriate for the site. Erosion control measures, such as the use of silt fencing or straw wattles, should be implemented in areas of ground disturbance or vegetation removal.

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<sup>&</sup>lt;sup>13</sup> The U.S. Department of the Interior recently issued guidance clarifying that the MBTA only applies to intentional/deliberate killing, harm or collection of covered species (including active nests) (USDOI 2017). According to the guidance, unintentional impacts to birds/nests that occur within the context of otherwise lawful activities are not MBTA violations. However, ambiguity remains regarding application of the CFGC, as well as the extent to which minimization and avoidance measures are still required under the MBTA. Additionally, challenges to the Opinion are anticipated.

- 2. All impacts to this drainage channel from deconstruction will be temporary as vegetation is expected to recolonize the excavated areas. To reduce potential temporary impacts to waters in the Project Area, best management practices shall be employed to reduce impacts associated with excavation and grading including erosion and sedimentation. Best management practices recommended by the Marin Countywide Water Pollution Prevention Program shall be implemented to minimize pollutants carried from the Project Area in runoff. The project shall comply with terms of the San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System Permit.
- 3. All staging, maintenance, and storage of construction equipment shall be performed in a manner to preclude any direct or indirect discharge of fuel, oil, or other petroleum products into the drainage channel or salt marsh vegetation. No other debris, rubbish, creosote-treated wood, soil, silt, sand, cement, concrete or washings thereof, or other construction related materials or wastes shall be allowed to enter into or be placed where they may be washed by rainfall or runoff into the drainage channel or salt marsh vegetation. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.
- 4. No equipment shall be operated in areas of flowing or standing water. No fueling, cleaning, or maintenance of vehicles or equipment will take place within any areas where an accidental discharge to the drainage channel or salt marsh vegetation may occur.
- 5. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete construction.
- 6. Where areas of bare soil other than in the excavated drainage channel are exposed during the rainy season, sediment and erosion control measures shall be used to prevent sediment from entering waters in the drainage channel or salt marsh vegetation. Sediment and erosion control structures shall be monitored and repaired or replaced as needed. Build-up of soil behind silt fences shall be removed promptly and any breaches or undermined areas repaired promptly. Revegetation of disturbed surfaces other than the excavated drainage channel shall occur prior to the start of the first rainy season after construction.
- 7. The work area shall be delineated where necessary with orange construction fencing in order to minimize impacts to habitat beyond the work limit.

After implementation of mitigation measures required for the permits, impacts would be less than significant.

<u>Potential Impact BIO-2</u>: Approximately 77 square feet of Waters of the U.S./State will be permanently impacted through the development of the new pump station. The proposed project includes placing fill within the Waters to stabilize and support the concrete slab upon which the new pump station will be placed.

<u>Mitigation Measure BIO-2</u>: Prior to filling of jurisdictional waters, or construction activities within Corps or RWQCB jurisdiction, necessary regulatory permits will be obtained from the appropriate agencies. Regulatory permits to be obtained include a Corps Permit, Regional Water Quality

Control Board Section 401 Water Quality Certification and/or Waste Discharge Requirement. Prior to proposed filling of jurisdictional waters, compliance with all regulatory agency permit conditions shall be demonstrated. Permanent impacts to jurisdictional wetlands or waters will be mitigated at a minimum 1:1 ratio on a functions and values basis by: (1) replacing permanent impacted features through bank recontouring at the old pump station location to create new area of waters and wetlands in the Study Area; (2) purchasing an appropriate amount of mitigation credits by an approved mitigation bank, or (3) another type of mitigation as approved by the Corps and/or RWQCB through the permitting process. Additionally, Mitigation Measure (MM) BIO-1 above will be implemented. With the implementation of these measures, the Project impact on waters of the U.S. and State will be less than significant.

<u>Potential Impact BIO-3</u>: Approximately 246 square feet of salt marsh habitat (salt grass mats) will be permanently impacted through the development of the new pump station and an additional 116 square feet will be temporarily impacted through the removal of the existing station.

<u>Mitigation Measure BIO-3</u>: Same as MM BIO-1 and MM BIO-2. After implementation of mitigation measures required for the permits, impacts would be less than significant.

<u>Potential Impact BIO-4</u>: Temporary disturbance to SMHM within, and adjacent to the Study Area, and injury or mortality to SMHM within the Study Area.

<u>Mitigation Measure BIO-4</u>: Mitigation measures for avoidance and minimization of effects to SMHM shall be incorporated into the permits or required authorizations and specifications, which the project proponent will follow. The following avoidance and minimization measures are proposed as a part of the permit application:

- 1. A qualified biological monitor (i.e., biologist whose credentials for SMHM monitoring have been previously approved by the USFWS) shall be present on-site during all construction work taking place adjacent to emergent marsh, including all vegetation removal and initial ground-disturbing work in these areas. The biological monitor shall document compliance with the Action permit conditions and all take avoidance and minimization measures. The monitor(s) shall have the authority to halt construction, if necessary, if there is the potential for a listed species to be harmed or when non-compliance events occur. The biological monitor(s) will be the contact person for any employee or contractor who might inadvertently kill or injure a listed species, or anyone who finds a dead, injured, or entrapped listed species.
- 2. If any mouse is observed at any time during construction, work shall not be initiated or shall be stopped immediately by the biological monitor until the mouse leaves the vicinity of the work area of its own accord. The biological monitor or any other persons at the site shall not pursue, capture, or handle any mouse observed.
- 3. Night work is not anticipated and will be avoided to the fullest extent feasible. If night work is necessary, all lighting shall be directed away from marsh and wetland areas to avoid impacting the natural behavior of SMHM.

- 4. All vehicles and heavy equipment stored outside of exclusion fencing, and in the vicinity of suitable SMHM habitat shall be checked for mice before work commences each morning.
- 5. When construction activities are to take place in potential SMHM habitat (emergent marsh and upland areas within 50 feet of emergent marsh), vegetation removal in work areas shall be performed to remove cover and render these areas unattractive to SMHM.
  - a. Only non-motorized equipment or hand-held motorized equipment (i.e., string trimmers) shall be used to remove the vegetation.
  - b. Vegetation shall be cut in at least two passes: with the first pass cutting vegetation at approximately half of its height above the ground (mid-canopy) and the next pass, or subsequent passes, cutting vegetation to ground-level or no higher than 1 inch.
  - c. The biological monitor shall inspect areas of vegetation removal immediately prior to the initiation of removal to search for SMHM and "flush" small mammals out of the area and toward adjacent tidal marsh areas that will not be subject to removal. If any mouse is observed, work shall be stopped immediately by the biological monitor until the mouse leaves the vicinity of the vegetation removal of its own accord.
  - d. Vegetation removal will start in the position furthest from the highest quality and most accessible SMHM habitat outside of the work area, and progress toward that habitat, such that SMHM are protected to the greatest degree possible as they move out of the focal area.
  - e. Cut vegetation will be removed from the exclusion area (work area) so that no cut vegetation remains there once the exclusionary fence is installed, to discourage SMHM from being attracted to the area.
  - f. All non-native, invasive vegetation removed will be discarded at a location outside of any tidal marsh areas to prevent reseeding.
- Following completion of vegetation removal, temporary exclusionary fencing shall be installed to isolate work areas and prevent SMHM from entering work areas during construction.
  - a. The fencing shall be installed between suitable habitat areas (e.g., salt marsh) and the defined work area (or areas) adjacent to suitable habitat immediately following vegetation removal and prior to the start of construction/excavation activities. Areas to be fenced should include the vicinity of the old and new pump structures and the area to be graded to the north of the pumps. As there is no suitable habitat for SMHM adjacent to the linear work area where the underground pipe is to be replaced, fencing would have limited value there.
  - b. The fence shall consist of a non-textured, slick material that does not allow SMHM to pass through or climb, or silt fence with slick tape (or an effectively similar material) a minimum of 6 inches wide fixed to the fence to render it non-climbable. The bottom

should be buried to a depth of at least 4 inches so that animals cannot crawl under the fence. Fence height should be at least 12 inches higher than the highest adjacent vegetation with a maximum height of 4 feet.

- c. Fence posts should be placed facing the work area side (i.e., vegetation-cleared side) and not the side of the fencing facing intact habitat areas. The fencing shall be installed under the supervision of a biological monitor.
- d. The biological monitor shall routinely inspect exclusionary fencing to ensure that it remains intact and effective. Fencing deficiencies noted will immediately reported to the contractor and repaired promptly.

After implementation of mitigation measures required for the permits, impacts would be less than significant.

<u>Potential Impact BIO-5</u>: Damage to bird nests and injury or mortality to eggs or chicks, or disturbance of nesting adults resulting in reduced clutch survival or nest abandonment.

<u>Mitigation Measure BIO-5</u>: Mitigation measures for avoidance and minimization of effects to nesting birds will be incorporated into the permits or required authorizations and specifications, which the project proponent shall follow. For the avoidance of impacts to native nesting birds protected by the MBTA and CFGC, the following avoidance and minimization measures are proposed as a part of the permit applications:

- 1. Project activities should be initiated to the extent feasible, outside of the nesting season. The nesting season is defined here a as being from February 1 to August 31 and therefore work should commence between September 1 and January 31.
- If this is not possible, and project activities are initiated during the nesting season, then WRA recommends that a nesting bird survey be conducted by a qualified wildlife biologist no more than 14 days prior to the start of project activities.
- If nests are identified, a no-disturbance buffer should be implemented to avoid impacts to nesting birds and should remain in place until all young are fledged or the nest otherwise becomes inactive. Buffers typically range from 25 feet to 500 feet depending on the species.

After implementation of mitigation measures required for the permits, impacts would be less than significant.

<u>Potential Impact BIO-6</u>: Disturbance of roosting bats, or injury or mortality of bat pups (young).

<u>Mitigation Measure BIO-6</u>: Mitigation measures for avoidance and minimization of effects to roosting bats will be incorporated into the permits or required authorizations and specifications, which the project proponent shall follow. The following avoidance and minimization measures are proposed as a part of the permit applications:

1. Preconstruction surveys for bats should be conducted by a qualified biologist no less than 14 days prior to removal of the pump house if the work should begin during the

maternity roosting season (April 1 through August 31) or during the hibernation season (November 1 through February 28).

2. If special-status bat species are detected during surveys, appropriate, species and roost specific mitigation measures will be developed. Such measures may include postponing

demolition of the pump house until the end of the maternity roosting season.

3. Demolition of the pump house can be conducted outside of the maternity roosting and hibernation seasons (during the months of September, October and March) without

performing preconstruction bat surveys.

After implementation of mitigation measures required for the permits, impacts would be less than significant.

Conclusion

The proposed project will temporarily impact 343.25 square feet and permanently impact 76.56 square feet of Waters of the U.S./State through the removal and installation of the pumps. Approximately 253.8 square feet of salt grass flats will be permanently impacted while 6.19 square feet will be temporarily impacted. Temporary disturbance, injury and/or mortality to SMHM through project activities, and disturbance and/or mortality to roosting bats and nesting birds are also potential significant impacts. However, after implementation of mitigation measures required

for the permits, impacts would be less than significant.

If you have any questions, feel free to contact me at korhummel@wra-ca.com or 707-238-5680.

Regards,

Rhiannon Korhummel

Attachment 1: Figures

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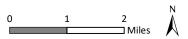
Attachment 1

Figures

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Figure 1. Project Site Regional Location Map





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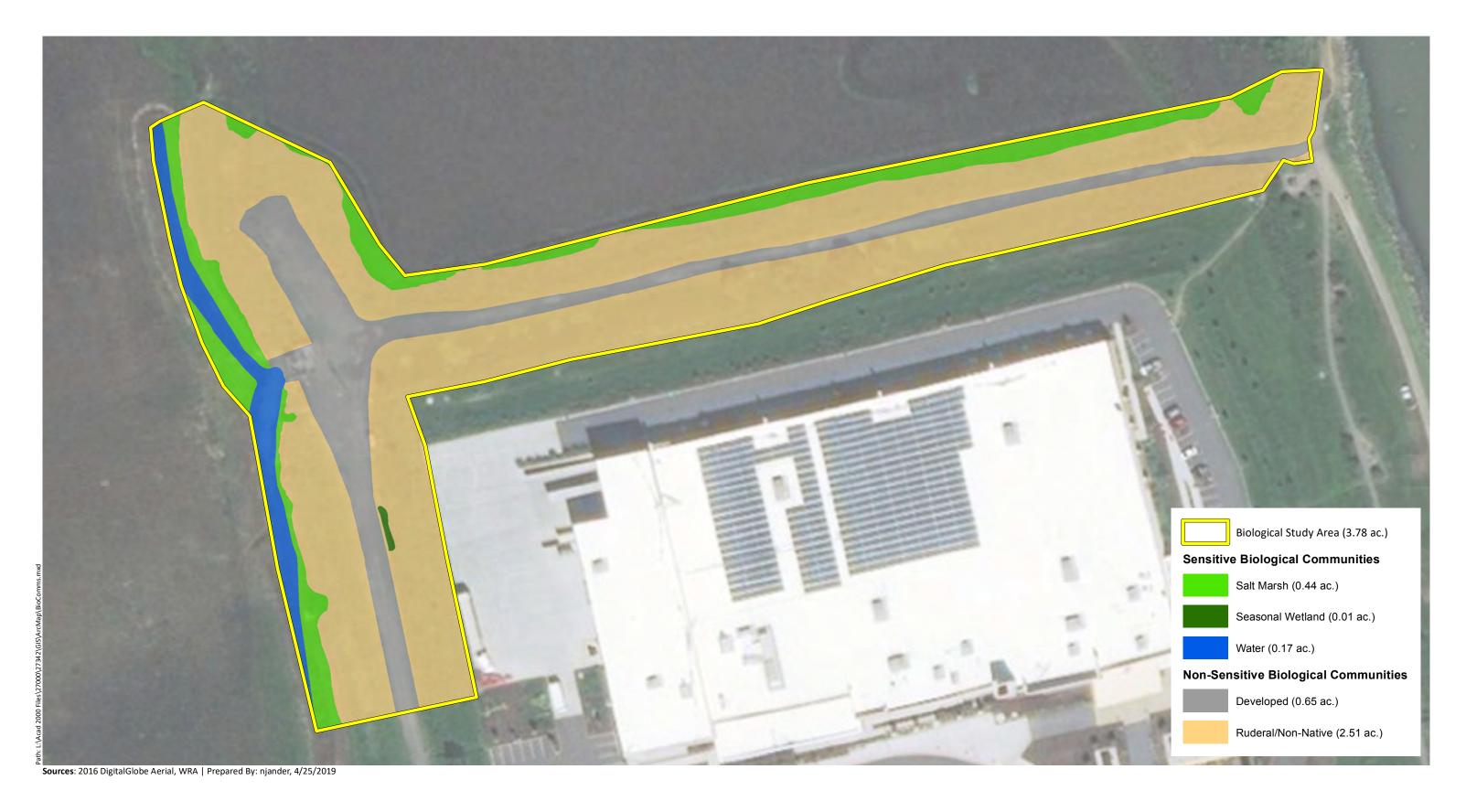


Figure 2. Biological Communities in the Study Area

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Figure 3. Impacts in the Study Area

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# **APPENDIX C:**

Archaeological Survey Report and Historic Resource Evaluation Report This page intentionally left blank.



# ARCHAEOLOGICAL SURVEY REPORT AND HISTORIC RESOURCE EVALUATION REPORT

# SAN QUENTIN PUMP STATION RECONSTRUCTION PROJECT SHORELINE PARKWAY SAN RAFAEL, MARIN COUNTY, CA

APN 009-010-25

#### Prepared for:

The City of San Rafael Department of Public Works 111 Morphew Street San Rafael, CA 94901

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Project No: ALTA2018-93

**Key Words:** USGS 7.5' San Quentin; 5.2-acre Survey Coverage; Township 1 North, Range 6 West, Unsectioned Portion of Wetlands Area, Mount Diablo Base and Meridian; Positive Results Sacred Lands Search; Historic-era Resource Determined Non-eligible.

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#### **ATTACHMENTS**

Attachment A - Records Search Results

Attachment B - Native American Consultation

Attachment C - Photo Sheet

Attachment D - Site Record

#### I. SUMMARY OF FINDINGS

The following Archaeological Survey Report (ASR) documents the adequacy of identification efforts and presents the results of investigations within the Study Area boundaries. The study was designed to identify any archaeological, historical, or cultural resources located within the project area. Fieldwork was conducted on January 17, 2019 by Sarah King Narasimha and Nicholas Radtkey, archaeologists with Alta Archaeological Consulting (ALTA). The survey entailed a cultural resources inventory of the entire Area of Potential Effects (APE) using transect intervals no greater than 10 meters apart along with the evaluation of the current pump station for historical significance. Ground surface visibility was moderate (25-30%) due to dense seasonal grasses and imported road fill. One cultural resource, a historic-era pump station, was identified within the project area and evaluated in this report. The project, as presently designed, is not anticipated to have an adverse effect on cultural resources and should be allowed to proceed.

#### II. INTRODUCTION

A cultural resources inventory was conducted to satisfy requirements of the California Environmental Quality Act (CEQA) of 1970, and the responsibilities codified in Public Resource Code sections 5097, and its implementing guidelines 21082 and 21083 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, and Title 36, Part 63 of the Code of Federal Regulations. An archaeological field survey was completed by ALTA on January 17, 2019 for the purpose of identifying cultural resources within the project area. One cultural resource, a historicera pump station, was identified within the project area and evaluated in this report. The resulting document addresses these regulatory responsibilities.

# **Qualifications of Preparer**

Mr. DeGeorgey holds a Masters of Arts degree in Anthropology from the California State University, Chico. He has 24 years professional archaeological experience working for both the public sector and private agencies engaged in the management of cultural resources in Northern California. Mr. DeGeorgey meets the Secretary of the Interior's standard for cultural resource specialists involved in preservation activities at all levels of government involving historic-era and prehistoric-era archaeological resources. Mr. DeGeorgey currently serves as an elected official on the Standards Board of the Registry of Professional Archaeologist where he is responsible for enforcement of the organizations code of conduct and standards of research performance. He maintains an active role in the Society for California Archaeology, Society for American Archaeology, the Register of Professional Archaeologists, and local historical organizations.

#### III. PROJECT LOCATION AND DESCRIPTION

The project is situated within the City of San Rafael in eastern Marin County within the southeast area of San Rafael adjacent San Rafael Bay (Figure 1). The project area is situated on the USGS 7.5' San Quentin Quadrangle map in Township 1 North, Range 6 West, in an unsectioned portion of a coastal wetland in the Mount Diablo Base and Meridian (Figure 2). The project area is situated on one 3.5 acre parcel (APN 009-010-25). The physical address of the property is Shoreline Drive, San Rafael, California. The project area is situated on a wetland flat along the San Rafael Bay shoreline.

The City of San Rafael, is proposing to reconstruct the present pump station and facilities located on the project parcel. The project will involve the removal of obsolete utility poles, replacement of a 63 inch storm drain pipe, and reconstruction of the pump station facility. New pumping units, electrical utilities, and drainage pipes will be installed in the facility. The facility will not have any permanent piles beneath it, but will sit on a concrete slab which sits on the bay mud. This is intended to minimize the differential settlement between the pump station and the outfall pipe. The new facility is proposed to hold 292 cubic yards of water, as opposed to the current structure's 213 cubic yard capacity. The net change in ground coverage proposed by the project will be a gain of 15 square feet. A total of 617 cubic yards of soil are to be cut, while 305 cubic yards are to be filled, leaving 312 cubic yards of soil to be exported from the project area. The exported soils will remain on the parcel, on a spit peninsula. Sheet piles will be driven around the facility to prevent water from entering the new well during construction.

The project area will be accessible from a levee road connecting it to Francisco Boulevard East. The APE constitutes the entire parcel, which includes the pump station and the storm drain alignment. The eastern edge of the project area runs parallel to the Bay Trail. The vertical APE is expected to extend up to approximately ten feet below surface.

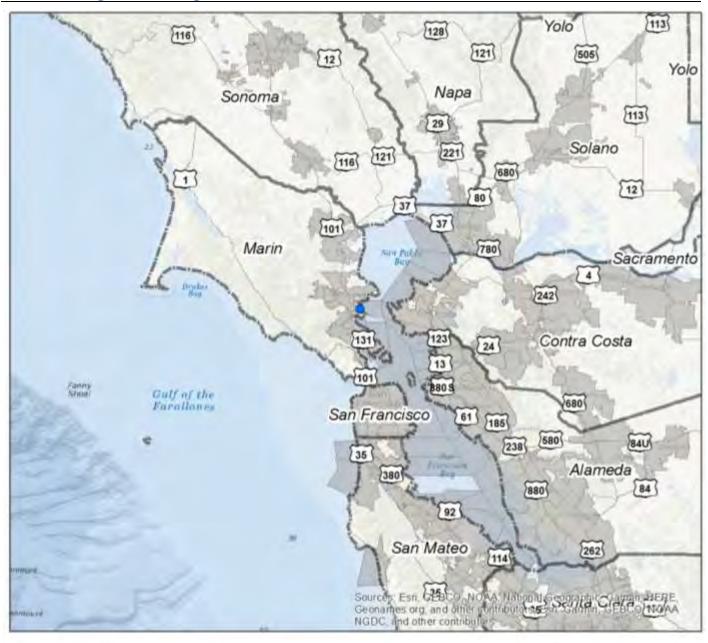
#### IV. BACKGROUND

As the significance of cultural resources is best assessed with regard to environmental and cultural contexts, descriptions of the natural and cultural setting of the project region are presented below.

#### **Environment**

The project area is situated within the Coast Range geologic province (Jenkins 1969). The northern Coast Ranges are a geologic province comprised of numerous rugged north-south trending ridges and valleys that run parallel to a series of faults and folds. Formation of these ranges is generally attributed to events associated with subduction of the Pacific Plate beneath the western border of North America. The bedrock that underlies the region is a complex assemblage of highly deformed, fractured, and weathered sedimentary, igneous, and metamorphic rocks. The bedrock geology of the project area consists of Jurassic-Cretaceous age Franciscan Formation rock (Schoenherr 1995:7). Rocks of this formation, the oldest in the area, are often weakly metamorphosed, and consist of greywacke shale interspersed with discontinuous bodies of ultramafic rock such as greenstone, schist, and serpentine. The repeated folding and faulting is reflected in the complex structure of Franciscan rocks and area topography (Schoenherr 1995:265).

The project area is situated on a wetland flat bordering the San Rafael Bay on the north side of the San Quentin Peninsula. The vegetation community surrounding the project area consists mainly of high grasses with sparse deciduous forest. Common hardwood trees in the region include California bay laurel (*Umbellularia californica*), Valley oak (*Quercus lobata*), Interior live oak (*Quercus wislizeni*), and Coast live oak (*Quercus agrifolia*). Softwoods include Coast redwood (*Sequoia sempervirens*) and Monterey pine (*Pinus radiata*). Throughout the North Coast Ranges, many trees imported into the region have thrived, particularly blue-gum eucalyptus (*Eucalyptus globulus*) (Little 1980). The project area is situated in the southern portion of highly-developed San Rafael. The parcel is surrounded on three sides by industrial parks and housing developments.



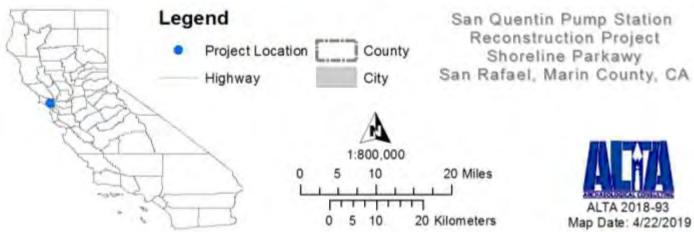


Figure 1. Vicinity Map



Figure 2. Project Location



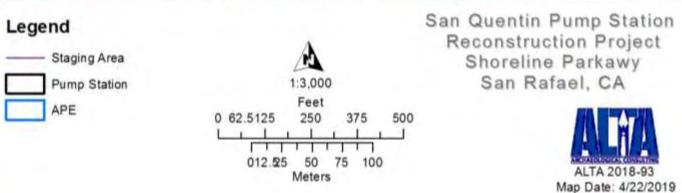


Figure 3. Area of Potential Effects

The vegetation community immediately surrounding the project area consists partly of salt marsh. Tidal marshes are defined by vascular plants, algal mats, and phytoplankton (Adam 1990; Mitsch and Gosselink 2000). These plants perform much of the primary production in these ecotones, which support animal and plant populations alike. Salt marsh ecotones are considered to have among the highest biodiversity of worldwide ecotones for their capacity to host both neighboring biotic communities and their own habitats. Salt marshes support numerous avian communities, providing essential cover for nesting (Wasson and Woolfolk 2011:1). These sensitive ecotones are often under threat of destruction. This threat is not manifested in coastal development alone, but also in grazing, pollution, and the effects of rising sea levels (Greenberg 2006:5-7).

#### **Prehistory**

The cultural chronology of the project area is within the overlapping areas of the North Coast Ranges chronologies and a multitude of Bay Area chronologies. Over half a century of archaeological investigations in the North Coast Ranges and the San Francisco Bay has revealed a record of hunter-gatherer occupation spanning over 10,000 years. A number of cultural chronologies have been developed for the North Coast Ranges (cf. Basgall 1982; Fredrickson and White 1988; Hildebrandt and Hayes 1984; Jones and Hayes 1993; Layton 1990; Meighan 1955; White and King 1993; White et al. 2002). Fredrickson's (1973, 1974) work in the North Coast Ranges provides a chronological basis upon which most studies in the region have worked, and is summarized below:

The *Paleo-Indian Period* (12000-8000 BP) is represented as a hunting adaptation characterized by large fluted projectile points. The *Lower Archaic Period* (8000-5000 BP) is distinguished by an emphasis on plant exploitation as evidenced by high frequencies of milling tools. The *Middle Archaic Period* (5000-3000 BP) is characterized by the introduction of mortar and pestle technology and the assumed exploitation of acorns. The *Upper Archaic Period* (3000-1500 BP) is represented growing social complexity marked by status differentiation, complex trade networks, and the development of "group oriented religious activities" (Fredrickson 1974:48). The *Emergent Period* (1500 BP-colonization) is marked by the use/introduction of bow and arrow technology, expansion of exchange relations, and the establishment of clearly defined territorial systems (Fredrickson 1973, 1974).

Meanwhile, three major taxonomic systems have been developed for the San Francisco Bay Area. These include (1) the Central California Taxonomic System, (2) the Archaic-Emergent Culture History Scheme, and (3) a Hybrid System that combines aspects of several schemes. The Central California Taxonomic System (CCTS) attempted to create *horizons* based on temporally diagnostic artifacts and mortuary customs (Beardsley 1948, 1954; Lillard et al. 1939; Gerow 1954). Three horizons were defined- Early, Middle, and Late. After the advent of radiocarbon dating technology in the 1950s, archaeologists attempted to test the relative sequence of the CCTS with chronometric dates (Fredrickson 1973, 1974; Heizer 1958; Ragir 1972). These studies found that the horizon system in the CCTS did not allow for regional and cultural inconsistencies, and overstated the relationship between region and temporal change in artifacts (White et al. 2002).

The Archaic-Emergent Culture History Scheme attempted to refine the variation of relative chronologies into defined cultural units. *Patterns* are basic economic/cultural adaptations that are bound geographically, as were the three horizons of CCTS. *Aspects* are smaller-scale variants of patterns, which represent regional adaptations and styles and are bound more temporally. *Phases* are smaller scale variants of aspects, based on similarities and differences within related artifact types and trends (Bennyhoff and Fredrickson 1969). This taxonomic system has largely defined Bay Area archaeology, and can be broken into four distinct patterns: the Borax Lake Pattern (8000-6000)

BP), the Windmiller Pattern (6000-2000 BP), the Berkeley Pattern (6000-1500 BP), and the Augustine Pattern (1450-150 BP). These patterns define distinct temporal regional trends in diet, tool manufacture, trade, and ceremonial artifacts.

Later studies have advocated for a hybrid system that utilizes the Early-Middle-Late structure proposed in CCTS, while including cultural units of patterns, aspects and phases. These specific cultural units have been demonstrated through current shell bead chronology studies within the Bay Area, referred to as Dating Scheme D (Groza 2002; Groza et al 2011). Temporally distinct shell beads made of the purple olive snail (*Olivella spp.*) were widely traded beginning in the middle Holocene, extending as far as the central Great Basin. Because these are widely-distributed, relatively resilient organic artifacts, they have served as subjects for radiometric dating studies in order to solidify dates within relative chronologies throughout California and the Great Basin (e.g. Bennyhoff and Hughes 1987; Vellanoweth 2001). These radiometric studies have resulted in the development of relative and exact chronologies, known widely as *dating schemes*.

Dating Scheme D refines Bennyhoff and Hughes's (1987) Scheme B1, which itself refined Heizer's (1958) Scheme A. While Scheme A was based on radiocarbon dates from 17 samples, and Scheme B was based on 180 uncalibrated dates from varied artifacts, Scheme D is based on 140 radiocarbon dates from beads made of *Olivella* shells and radiometric dates from five mass beadlots. Groza's work advanced the chronology of many bead types by as much as 200 years forward (Milliken et al. 2007). Scheme D has refined the chronology of certain beads into 200 to 300-year discrete time periods. These beads only represent units of time. Accordingly, they have no implications for cultures specifically, but are used to identify relative chronology. These units of time are referred to as *bead style horizons* (Groza et al. 2011:18). In the present investigation, we intend to use this hybrid system that adopts conventional terminology consistent with the Scheme D dating sequence, with bead style horizons labeled within the Early, Middle, and Late Periods and based on the bead type nomenclature established by Milliken et al. (2007) and Groza et al. (2011).

# Ethnography

The Coast Miwok, who inhabited this region prior to European-American intrusion, were distributed across Sonoma and Marin Counties. The following ethnographic summary is not intended as a thorough description of Coast Miwok culture but instead is meant to provide a background to the present cultural resource investigation with specific references to the project area. In this section, the past tense is sometimes used when referring to native peoples because this is a historical study. This convention is not intended to suggest that Coast Miwok people only existed in the past. To the contrary, the Coast Miwok have strong cultural and social identities today.

The Coast Miwok were one of the California Penutian Language speaking groups and closely related to the Lake Miwok (Kelly 1978:414). The Coast Miwok occupied the northwest coast of California from the mouth of the Golden Gate in the south, to approximately 5 miles north of Bodega Bay in the north, to approximately 4 miles east of Sonoma Creek (Barrett 1908; Kelly 1978). Barrett (1908) divides Coast Miwok speakers into two distinct dialects: Western/Bodega and Southern/Marin.

The Coast Miwok followed a cyclical pattern of subsistence, exploiting resources that were available on a seasonal basis. The Coast Miwok had a diversified subsistence economy based on fishing, hunting and gathering with a particular dependence on acorns. Important marine resources included fish, eels, clams, mussels, and seaweed, while terrestrial resources included acorns, bear, deer, elk, and small game (Kelly 1978:416). The Coast Miwok had a rich culture of religion, ritual and

dance, with music and games being a large part of their cultural expression. Birds were of particular importance (Kelly 1978).

The Coast Miwok were among the first California Native peoples to encounter Euro-Americans, meeting Sir Francis Drake in 1579. During the late eighteenth and early nineteenth century, many Coast Miwoks were subjected to missionization at San Francisco, San Rafael, and Sonoma, as well as labor at Fort Ross under the Russians (Milliken 1995). Many diseases swept through Marin Peninsula tribes, notable one in 1802, which decimated the Coast Miwok populations of that area (Milliken 1995:179). In 1850, a year after the end of the American conquest of California, the Coast Miwok population was estimated at 250 (Kelly 1978:414).

There were historically 44 recorded villages within the Coast Miwok territory, many of which provide present place names including Cotati, Petaluma and Olompali (Kelly 1978:415). Ethnographic accounts indicate that the Coast Miwok resided in large villages, each of which had a headman, but cannot be said to have a universal tribal organization. Milliken (1995) indicates that the project area lies in a border region between the *Habasto* tribal group. The *Habasto* occupied Point San Pedro, as well as valley lands to the north and south (Milliken 1995:242). The village of *awa'niwī* was located on the north side of the city of San Rafael (Barrett 1908:308). No ethnographically described villages are located within the project area.

#### **History**

#### Early Exploration

The earliest exploration of the Marin coast was possibly during Sir Francis Drake's 1579 voyage up and down the western coast of North America. He named northern California New Albion after his homeland, with the intent of securing the area for the British crown (Munro-Fraser 1880:18). The Spanish made a foray into the area in 1602 with three ships under the command of Don Sebastian Vizcaino. However, the definitive discovery of the San Francisco Bay did not occur until 1769, when the Portola-Crespi party arrived by land. The party became the first non-Native peoples to see the San Francisco Bay. By 1776, a military presidio and Catholic mission, San Francisco de Asís, were established. Mission San Rafael Arcángel was founded in 1817. Marin County is purported to be named after a Native American chieftain, who died at the San Rafael mission in 1834 (Munro-Fraser 1880:88).

#### Euro-American Settlement

The first permanent non-indigenous settlements in the area were made within the missions in San Francisco, which attracted those who would later claim the multiple land grants in Marin to the north. Mission San Rafael Arcángel was established in a valley where the City of San Rafael would develop in 1817. The mission was originally founded as a sanitarium for ailing Natives. The mission originally consisted of a church, hospital, monastery, and storehouses. The sanitarium became a full mission by 1928, but only flourished for another decade and was abandoned by 1846 (Krell 2012:296). The Gold Rush began in 1848 and brought a massive influx of prospectors to Marin County. San Rafael became a hub for supplies for the miners. Marin County was one of California's original 27 counties, created in 1850 by the State Legislature. The San Rafael post office was established in 1851 (Gudde 2004:343).

The project area is situated in wetlands between two historic-era ranchos- Rancho San Pedro, Santa Margarita y Las Gallinas to the north, and Rancho Punta de Quintin to the south. Under the Spanish and later Mexican government, large tracts of land (*ranchos*) were granted to claimants with a military service record and Mexican citizenship (Gates 1971:1). In 1844, Governor Manuel

Micheltorena granted Rancho San Pedro, Santa Margarita y Las Gallinas to Timothy Murphy. Murphy was an Irish employee of Hartnell and Company with Mexican citizenship. This rancho consisted of 21,679 acres. This land included Mission San Rafael Arcángel and points north, including land adjacent to the project area. In 1840, Governor Juan Bautista Alvarado granted John B.R. Cooper, a well-established Mexican citizen married to the Carrillo family, rights to Rancho Punta San Quentin. This 8,877 acre grant consisted of lands encompassing San Quentin, San Anselmo, Greenbrae, Kentfield, and southern portions of modern San Rafael (Beck and Haase 1974:29; Gudde 2004:343). After the conclusion of the Mexican American War, land grants were tried for validity under the Land Act of 1851 (Gates 1971:1). In 1856, Murphy's rancho was confirmed in full (Munro-Fraser 1880). Murphy died in 1853, and the rancho was split between family members. Cooper sold Rancho Punta de Quintin to Benjamin Buckelew, who filed with the Commission in 1853. The grant was confirmed in 1857 (Hoffman 1862)

#### The Northwest Pacific Railroad in San Rafael

The area of San Rafael grew rapidly starting with the gold rush. Afterward it became an important hub for the North Pacific Railroad transporting redwood lumber and other cargo throughout the latter half of the 1800s (Stindt 1964). The first railroad built in San Rafael was the San Rafael and San Quentin Railroad in the 1860s. This railroad was purchased by the North Pacific Railroad in 1869 and was quickly connected to Tomales. This railroad loaded up redwood lumber along the Mendocino Coast and transferred it to San Quentin Point where it was then loaded onto ferries bound for San Francisco (Stindt 1964:20). A line from Petaluma to San Rafael connected with this railroad by 1878. The San Francisco and San Rafael Railroad Company was established in 1882 for the purpose of building a railroad from San Rafael to Tiburon, which was completed in 1884. Tiburon officially became the southern terminus of the North Pacific Coast Railroad (Stindt 1964:22). Aside from cargo, passenger trains frequently traveled through San Rafael on their way to the San Francisco ferries. In 1875 the main line passenger terminal was shifted from Sausalito to San Quentin. The passenger trains took this route until 1884. The San Rafael Railroad became the North Pacific Coast Railroad by 1895 and remained so until 1906 when entire railroad system from Cazadero to San Quentin and Sausalito was incorporated into the Northwestern Pacific Railroad (Stindt 1964:49).

#### San Quentin State Prison

The San Quentin State Prison, located approximately one mile south of the project area, is one of the oldest prisons in the United States. The prison was established during the gold rush era in 1852 to handle the influx of crime that came along with the boom in population. Convicts built the prison over the next two years, with the prison containing 48 windowless cells meant to hold 250 inmates (Tikkanen 2017). The prison was under private management for the first eight years with inhumane living conditions and corrupt management. The state took the prison over in 1860. The inmates began publishing the *Wall City News* in the 1920s, a newspaper that was published within the walls of the prison into the 1950s (Tikkanen 2017).

#### Wetlands Reclamation

The shores of the San Francisco Bay have been subject to the continuous changes wrought by industrialization. Prior to industrialization, many current diked baylands were parts of tidal marshes surrounding the Bay. These wetlands covered over 10,000 acres (SFBCDC 1982:1-2). Mining up the Sacramento River beginning in the 1840s inundated the San Francisco Bay with sediments. Natural watersheds were dammed and diverted, reducing the amounts of freshwater available to salt marshes, and reducing the biodiversity of wetlands (SFBCDC 1892:2-3). In the twentieth century, wetlands along the shores of the Bay were diked and filled to create space for urban development. By 2006, 95 percent of Bay Area wetlands had been destroyed by diking and filling

(Sloan 2006:147). By 1982, about 3542 acres of former wetlands were owned by flood control districts, restructured to drain excess runoff in the event of heavy storms (SFBCDC 1982:2).

### **Archaeological Site Sensitivity Assessment**

The project area has a low sensitivity for cultural resources. Historically, the project area was part of the waters of San Rafael bay. The area was diked and reclaimed during the mid-20<sup>th</sup> century as part of reclamation efforts (USGS 1956, 1960) (Figure 4). As such, there is a low sensitivity for encountering either prehistoric or historic-era archaeological resources.

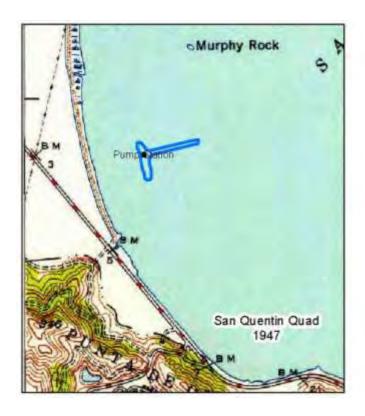




Figure 4. USGS 7.5' San Quentin Quadrangle, 1947 and 1959. 1:24,000 scale.

#### V. SOURCES CONSULTED

The records search and literature review for this study were done to: (1) determine whether known cultural resources had been recorded within or adjacent to the study area; and (2) to assess the likelihood of unrecorded cultural resources based on archaeological, ethnographic, historical documents and literature, and the environmental setting of nearby sites.

#### **Records Search**

On December 13, 2018, Marlene McVey, archaeologist with ALTA, conducted a records search (File Number 18-1121) at the Northwest Information Center (NWIC) located on the campus of Sonoma State University. The NWIC, an affiliate of the State of California Office of Historic Preservation, is the official state repository of archaeological and historical records and reports for an 18-county area that includes Marin County. The records search included a review of all study reports on file within a one-half mile radius of the project area. Sources consulted include

archaeological site and survey base maps, survey reports, site records, historic General Land Office (GLO) maps.

Included in the review were:

- California Inventory of Historical Resources (California Department of Parks and Recreation 1976)
- California Historical Landmarks for Marin County (CA-OHP 1990)
- California Points of Historical Interest (CA-OHP 1992)
- Historic Properties Directory Listing (CA-OHP April 2012)
- Historic Properties Directory includes the National Register of Historic Places (April 2012) of the California Historical Landmarks and California Points of Historical Interest

Review of historic registers and inventories indicate that no historical resources are present in the project area. No National Register listed or eligible properties are located within the 0.5-mile visual area of the APE.

A review of archaeological site and survey maps reveal that 36 cultural resources studies have been previously performed within a one-half mile radius of the current project area (Table 1). Approximately 20 percent of the one-half mile radius has been previously surveyed. There have been no previous cultural resource studies conducted within the project area.

Table 1. Summary of Previous Cultural Resource Studies within Search Radius

Report	Authors	Year	Report Title
S-001165	Cindy Desgrandchamp and Matthew Clark	1978	Pipeline and Water Treatment Plant Facilities, Marin County.
S-001668	Mark Rudo	1979	A Cultural Resources Reconnaissance Within the East San Rafael Baylands.
S-001896	David Chavez	1980	Archaeological Inspection of 1060 Andersen Drive - AP 18-181-35 and AP 18-143-07 (letter report).
S-002301		1980	Archaeological Resources on Point San Quentin
S-002301a		1980	Archaeological Resources on Point San Quentin: Report on Monitoring of Geological Test Borings and Preliminary Archaeological Testing
S-002860	David Chavez	1982	Proposed Roadway Extension Project on Andersen Drive (letter report).
S-006424	Cindy Desgrandchamp and David Chavez	1984	Archaeological Resources Evaluation for the Central Marin Sanitation Wastewater Transportation Facilities Improvement Project - Phase II, Marin County, California (EPA Project No. C-06-2467-21)
S-009125	Allan G. Bramlette	1987	Preliminary Cultural Resources Assessment for Planned Modification and Maintenance of San Rafael Creek in the Town of San Rafael, Marin County, California
S-010760	Terry Jones, Robert Gross, and Denise O'Connor	1989	Historic Properties Survey Report for Construction of High Occupancy Vehicle Lanes on Route 101 from Lucky Drive to San Pedro Road and Modifications of Routes 101/580 Interchange, in Cities of San Rafael and Larkspur, Marin County, 4-MRN-101, P.M. 8.4/12.7 04232-115750
S-010760a	Terry Jones	1989	Archaeological Survey Report for the Marin HOV Gap Closure, City of San Rafael, Marin County, California 4-MRN-101, P.M. 8.4/12.7 04232-115750
S-010760b	Denise O'Connor	1988	Historic Architectural Survey Report for Construction of High Occupancy Vehicle Lanes on Route 101 from Lucky Drive to San

Report	Authors	Year	Report Title
•			Pedro Road and the Upgrading of the Route 101/580 Interchange 4-MRN-101, P.M. 8.4/12.7 04232-115750
S-010760c	Stephen D. Mikesell	1989	Historical Resources Evaluation Report, Northwestern Pacific Railroad Tracks Within Project APE, 4-MRN-101, P.M. 8.4/12.7 04232-115750
S-010760d		1999	Historic Property Survey Report for the Marin HOV Gap Closure, City of San Rafael, Marin County, California, 04-MRN-101, PM 8.4/12.7, 04-115750
S-010760e	Katherine M. Dowdall and Nelson B. Thompson	1999	First Addendum Positive Archaeological Survey Report for the Marin HOV Gap Closure, City of San Rafael, Marin County, California 04-MRN-101, PM 8.4/12.7 EA 4232-115750
S-010760f	Jeffrey A. Lindley and Daniel Abeyta	1999	FHWA990311B: Historic Property Survey Report; 04-MRN-101, PM 8.4/12.7. HOV Gap Closure, State Route 101, City of San Rafael, Marin County, California
S-010760g	Andrew Hope	1999	Addeundum Historic Property Survey Report, For the Marin-101 HOV Gap Closure Project, in the City of San Rafael, Marin County, 04-Mrn-101, P.M. 8.2/12.7, EA 4232-115750
S-012801		1991	Cultural Resources Technical Report, Municipal Water District Water Supply Project
S-012801a	Anmarie Medin	1991	An Archaeological Investigation of CA-MRN-80, San Rafael, Marin County, California (letter report)
S-012801b	Anmarie Medin	1991	An Archaeological Investigation of CA-MRN-151, Novato, Marin County, California (letter report)
S-013102		1982	Evaluation of a Buried Archaeological Site on the Central Marin Wastewater Management Treatment Plant Site, Clean Water Grant C-06-2467-110
S-016949	William Roop	1991	A Cultural Resources Evaluation of a Proposed Reclaimed Water Pipeline in the San Quentin Point, Corte Madera, Larkspur, Kentfield and San Rafael Areas
S-022013	Cassandra Chattan	1996	Results of Archaeological Monitoring at the Marin Recycling Center, Jacoby Street, San Rafael, California
S-026045	Richard Carrico, Theodore Cooley, and William Eckhardt	2000	Cultural Resources Reconnaissance Survey and Inventory Report for the Metromedia Fiberoptic Cable Project, San Francisco Bay Area and Los Angeles Basin Networks
S-027679	Elizabeth Bedolla	2003	Results of Archaeological Monitoring Program for Improvements to Jacoby Street, Located at the Marin Sanitary Service Property, San Rafael, Marin County, CA (ARS 03-037) (letter report)
S-037429	William Roop	2010	A Cultural Resources Evaluation of the Marin Sanitary Service Parcel, Jacoby Street, San Rafael, Marin County, California
S-037740	Theadora Fuerstenberg	2010	San Quentin Area Bike and Pedestrian Access Cultural and Paleontological Resources Constraints Study, near San Quentin State Prison, Marin County, California (LSA #ALT0903) (letter report)
S-043588	Lorna Billat	2013	Collocation Submission Packet, Kerner Blvd & Larkspur Street, CCU0654, 104 Windward Way, San Rafael, 94901
S-043588a	Dana Supernowicz	2013	Architectural Evaluation Study of the Kerner Boulevard & Larkspur Street Project, AT&T Mobility site # CCU0654, 104 Windward Way,San Rafael, Marin county, CA 94901
S-044351	Emily Darko	2014	Archaeological Survey Report for the Proposed Freeway Performance Initiative Project, Marin County, California, 04-MRN-101, PM 0.0/27.6, 04-MRN-580, PM 2.4/4.5, EA 151600
S-044351a	Emily Darko	2013	Extended Phase I Archaeological Testing at CA-MRN-157 (P-21-000182) and CA-MRN-4 (P-21-000035) for the Proposed Freeway Performance Initiative Project, Hwy 101 and 580, Marin County, 04-MRN-101, PM 0.0/27.6, 04-MRN-580, PM 2.4/4.5, EA 151600
S-048525	Madeline Bowen	2014	Historic Architectural Survey Report for the Sonoma-Marin Area Rail Transit (SMART) Rail Corridor, San Rafael to Larkspur Project, Marin County, California

Report	Authors	Year	Report Title
S-048942	Adrian R. Whitaker	2016	Historic Property Survey Report for the Richmond-San Rafael Bridge Access Improvement Project, Contra Costa and Marin Counties, California
S-048942a	Chandra Miller	2015	Historical Resources Evaluation Report for the Richmond-San Rafael Bridge Access Improvement Project, Contra Costa and Marin Counties, California 04-MRN-580-PM 0.03/3.16, 04-CC-580-PM-4.98/7.79, ID 0414000552; EA 04-2J6800
S-048942b	Adrian R. Whitaker, Michelle Rich, and Chandra Miller	2016	Archaeological Survey Report for the Richmond-San Rafael Bridge Access Improvement Project, Contra Costa and Marin Counties, California 04-MRN-580-PM 0.03/3.16, 04-CC-580-PM-4.98/7.79, ID 0414000552; EA 04-2J6800
S-048942c	Laura R. Murphy	2016	Extended Phase I Archaeological Report for the Richmond-San Rafael Bridge Access Improvement Project, Contra Costa and Marin Counties, California 04-MRN-580-PM 0.03/3.16, 04-CC-580-PM-4.98/7.79, ID 0414000552; EA 04-2J6800
S-048942d	Brett Rushing and Julianne Polanco	2016	FHWA_2016_0210_001 Determinations of Eligibility for the Proposed Richmond-San Rafael Bridge (28 0100) Access Improvement Project, Contra Costa and Marin Counties, CA

Four cultural resources are present within the one-half mile records search radius (Table 2). There are three prehistoric and one historic-era resources. No cultural resources are documented within the project area.

Table 2. Summary of Previous Cultural Resource Studies within Search Radius

Primary Number	Trinomial	Age	Resource Name
P-21-000458	CA-MRN-525	Prehistoric	
P-21-000529	CA-MRN-603	Prehistoric	
P-21-000536	CA-MRN-79	Prehistoric	Nelson No. 79
P-21-004111		Historic	PG&E Ignacio-San Rafael Electrical Tower # 09/49

Site P-21-000458 (CA-MRN-526) is a prehistoric chert quarry situated on a ridge. The site consists of the quarry and a lithic scatter of high quality chert flakes (Davoren 1982). The site is approximately 0.4 miles southwest of the project area.

Site P-21-000529 (CA-MRN-603) is a prehistoric midden site situated next to a spring. The site consists of a shallow shell midden with two projectile points, a few chert flakes and two faunal bones (Crew 1982). The site is approximately 0.25 miles southwest of the project area.

Site P-21-000536 (CA-MRN-79) is a prehistoric shell midden site situated beneath some oaks along a hillside. The site consists of a shell mound with a portion of a pestle on the surface (Nelson 1907). The site is approximately 0.4 miles south of the project area.

Site P-21-004111 is a historic-era PG&E electrical transmission tower situated on the bay flat adjacent to San Pablo Bay. The tower is Tower No. 09/49 of the PG&E Ignacio-San Rafael transmission line (Supernowicz 2013). The site is approximately 0.4 miles north of the project area.

#### **Historic Map Review**

Review of historic maps of the area was completed to better understand the timing of development within the project area and recognize historic features. The following historic maps and references were reviewed as part of this investigation.

Austin, H. and F. Whitney

1873 Map of Marin County California. 1:63,360 scale.

**Board of Tide Land Commissioners** 

1870 Map No. 2 of Salt Marsh and Tide Lands Situated in the County of Marin. 1:7920 scale.

Dodge, George M.

1892 Marin County 1892 Wall Map, 1:48,000 scale.

United States Coast and Geodetic Survey

1948 San Pablo Bay Nautical Chart, 1:40,000 scale.

1957 Entrance to San Francisco Bay Nautical Chart, 1:40,000 scale.

1958 San Pablo Bay Nautical Chart, 1:40,000 scale.

### United States Geological Survey

1895 San Francisco Topographic Map, 1:62,500 scale.

1899 San Francisco Topographic Map, 1:62,500 scale.

1915 San Francisco Topographic Map, 1:62,500 scale.

1947 San Quentin Topographic Map, 1:24,000 scale.

1959 San Quentin Topographic Map, 1:24,000 scale.

1960 San Quentin Topographic Map, 1:24,000 scale.

1973 San Quentin Topographic Map, 1:24,000 scale.

1980 San Quentin Topographic Map, 1:24,000 scale.

1993 San Quentin Topographic Map, 1:24,000 scale.

1995 San Quentin Topographic Map, 1:24,000 scale.

The earliest map of the area (BTLC 1870) shows the project area as part of the waters of San Rafael Bay. The San Quentin and San Rafael Railroad runs to San Quentin Point to the west along the historic coastline. By 1892, the project area is under the ownership of Mackay and Flood (Dodge 1892). Consistently, the project area is depicted underwater until land reclamation efforts began in 1958 (Austin and Whitney 1873; Dodge 1892; USGS 1948; USCGS 1948; 1957). By 1959, the USGS depicts the sea beyond the salt marshes as reclaimed land, adding a few miles of land to the east side of San Rafael (USGS 1959) (Figure 4). In addition, a sewage disposal plant is depicted to the northeast of the project area and the San Rafael Bridge was built (USGS 1959). In succeeding decades no substantive alterations are depicted within the project area (USGS 1973, 1980). By 1993, a road is present leading to the pump station (USGS 1993; 1995). The only structure depicted on the project parcel is the San Quentin Pump Station, which was built in 1971. This structure is not specifically depicted on any map sources.

#### **Ethnographic Literature Review**

Available ethnographic literature was reviewed to identify cultural resources in the project vicinity. The following sources were consulted.

#### Barrett, Samuel A.

1908 The Ethnogeography of the Pomo and Neighboring Indians. *University of California Publications in American Archaeology and Ethnology* 6(1):1-332.

#### Kroeber, A. L.

1925 Handbook of the Indians of California. *Bureau of American Ethnology* Bulletin 78. Government Printing Office, Washington D.C.

### Kelly, Isabel

1978 Coast Miwok. In *Handbook of North American Indians Volume 8, California*. Smithsonian Institute, Washington.

#### Merriam, Clinton Hart

1907 Distribution and Classification of the Mewan Stock of California. *American Anthropologist* 9(2):338-357.

#### Milliken, Randall

1995 A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769-1810. Ballena Press Anthropological Papers No. 43, Menlo Park, CA.

#### Nelson, Nels C.

1909 Shellmounds of the San Francisco Bay Region. *University of California Publications in American Archaeology and Ethnology* 7(4):310-348.

#### Slaymaker, Charles M.

1982 A Model for the Study of Coast Miwok Ethnogeography. PhD dissertation, Department of Anthropology, University of California, Davis.

The Coast Miwok occupied the lands surrounding San Rafael (Barrett 1908:Map 1). The closest ethnographically described village to the project area is the village of *awa'niwī*, located on the north side of San Rafael approximately two miles northwest of the project area (Barrett 1908:309; Kelly 1978:415). The nearest resource identified in this review was plotted by Nelson (1909), who depicted a shell mound 0.5 miles to the southeast of the project area, on the northern shore of the San Quentin Peninsula near the modern intersection of Sir Francis Drake Boulevard and Interstate 580.

#### **Native American Consultation**

The Native American Heritage Commission (NAHC) was contacted via email to request a review of the Sacred Lands file and to request a list of Native American contacts in this area. The response letter dated March 4, 2019 by Steven Quinn (NAHC Staff Services Analyst) indicated that the search of the Sacred Lands File had a **positive** result. The NAHC response letter identified two Native

American individuals (Gene Buvelot and Greg Sarris) associated with the Federated Indians of the Graton Rancheria that may have knowledge of cultural resources within the project area.

Federated Indians of the Graton Rancheria 6400 Redwood Drive, Suite 300 Rohnert Park, CA 94928

On January 31, 2019 consultation letters were sent to both Native American individuals listed by the NAHC. In a letter dated February 28, 2019, Buffy McQuillen, Tribal Historic Preservation Officer with the Federated Indians of the Graton Rancheria, responded to state that the Tribe requests formal consultation for the project.

On April 23, 2019, Theo Sanchez, City of San Rafael, provided the draft Archaeological Survey Report to Buffy McQuillen for review and comment. Later that day, Buffy McQuillen replied by email to provided comments on the draft report.

On May 7, 2019, Alex DeGeorgey spoke with Buffy McQuillen over the phone to discuss her comments on the draft report. Buffy stated that the positive result for the Sacred Lands File are the prehistoric shell mound sites that are documented in the vicinity of the project area. No Sacred Sites are present within the project area proper. Buffy requested that the tribe be contacted if previously unidentified cultural resources are discovered during project implementation.

To date, no additional communications have been completed. Appendix B provides documentation of Native American correspondences.

#### VI. FIELD METHODS

ALTA staff archaeologists Sarah King Narasimha and Nicholas Radtkey conducted a field survey of the project on January 17, 2019. Project design drawing, project maps and aerial imagery were used to correctly identify the project area. Ground surface visibility was moderate (25-30%) due to dense seasonal grasses and imported gravel road fill. The entire APE and the access road was surveyed using intensive survey coverage with transects no greater than 10 meter intervals. A total of about 5.2 acres of land was surveyed (Figure 5). Digital photos were taken of the project area and surroundings (Attachment C). Survey efforts included an evaluation of the current pump station to determine historical and/or architectural significance.

# VII. STUDY FINDINGS, REGULATORY CONTEXT, HISTORIC RESOURCE EVALUATION AND MANAGEMENT RECOMMENDATIONS

### Study Findings

A cultural resources evaluation was conducted to satisfy requirements of Section 106 of the NHPA (36 CFR 800) to identify any archaeological, historical, or cultural resources located within the San Quentin Pump Station Project area. No cultural resources were identified within the project area as a result of the records search or literature review. Review of the Sacred Lands file by the NAHC identified the presence of a cultural resource within the project vicinity and recommended consultation with local tribes. During the archaeological field survey a historic-era pump station was identified. The structure was evaluated for eligibility for listing on the NRHP and/or the CRHR.



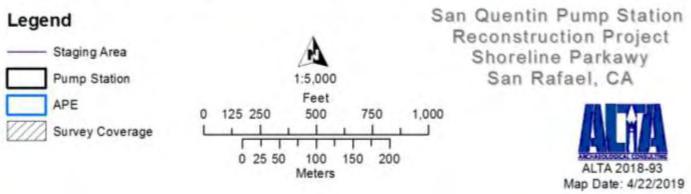


Figure 5. Survey Coverage

San Quentin Pump Station (Site 2018-93-01)

The San Quentin Pump Station was constructed in 1971. It is a single-level structure designed to pump excess storm water into the San Francisco Bay. This structure consists of a semi-subterranean water pumping apparatus, topped by a concrete ground-level platform with electrical apparatuses. The structure is primarily constructed of unpainted concrete, with steel chain link fencing built into the structure's upper level and painted steel apparatuses.

The greatest dimensions of this pump station are approximately 26 feet north to south by 33 feet east to west. The foundation of the structure sinks approximately 15 feet below ground level, to level with the marshlands to its west. From ground level, the structure stands approximately 12 feet above ground level, for a total height of approximately 27 feet. The wet well on the western side of the pump station drains water from the adjacent lagoon. This part of the structure measures 20 feet wide by 16 feet deep by 19 feet tall. The screen on this wet well is slanted at a 66 degree angle, and is made of galvanized steel bars. The wet well is emptied by two vertical pumps, which project six feet above the ground level platform. These pumps feed a concrete pressure vault. The pressure vault, located on the southwestern corner of the station, is a rectangular concrete tower. It measures six feet by six feet at its base, and stands ten feet above ground level. Most of the water pumping apparatus is buried. The pump station is connected to a buried 63 inch outfall pipe that leads approximately 1000 feet east before emptying into the Bay.

The platform surrounding the pump station consists of two sections. The primary section is composed of the ceiling of the wet well and the chamber leading to the pressure vault. An adjacent section of concrete platform wraps around the northeastern corner of the top of the wet well ceiling. This adjacent section houses two electrical utility boxes. One box contains controls for the pump station, while the other receives electricity from an adjacent power pole.

## **Regulatory Context**

Federal and state criteria have been established for the determination of historical resource significance as defined in National Register (NR) criteria contained in National Register Bulletin 16 (U.S. Department of the Interior 1986:1) and for the purposes of CEQA under Section 5024.1(g) of the Public Resource Code and Section 15064.5 of the State CEQA Guidelines.

The NHPA applies to certain projects undertaken requiring approval by federal agencies. Property owners, planners, developers, as well as State and local agencies are responsible for complying with NHPA's requirements regarding the identification and treatment of historic and prehistoric cultural resources. Under NHPA, cultural resources must be evaluated to determine their eligibility for listing in the NR. If an archaeological resource is determined ineligible for listing on the NR, then the resource is released from management responsibilities and a project can proceed without further cultural resource considerations. Similarly, the CEQA applies to certain projects undertaken requiring approval by State and/or local agencies. Under CEQA, cultural resources must be evaluated to determine their eligibility for listing in the California Register of Historic Resources (CRHR). If a cultural resource is determined ineligible for listing on the CRHR the resource is released from management responsibilities and a project can proceed without further cultural resource considerations.

The San Quentin Pump Station was evaluated for eligibility for listing on the NRHP per the four criteria established in 36 CFR 60.4: Criteria for evaluation and for listing on the CRHR per Sections 15064.5 (b), 21083.2, and 21084.1 of the Public Resource Code (PRC) and the CEQA Guidelines (California Code of Regulations Title 14, Section 15064.5).

As set forth in Title 36, Part 63 of the Code of Federal Regulations, for a cultural resource to be deemed significant under the NHPA and thus eligible for listing on the NR, it must meet at least one of the following criteria:

- (A) associated with events that have made a significant contribution to the broad patterns of our history; or
- (B) associated with the lives of persons significant in our past; or
- (C) embodies distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (D) yielded, or may be likely to yield, information important in prehistory or history.

Furthermore, in order to be considered eligible for listing on the NR, a property must retain aspects of integrity, or its ability to convey its historical significance. These aspects are as follows: Location, Design, Setting, Materials, Workmanship, Feeling, and Association.

As set forth in Section 5024.1(c) of the Public Resources Code for a cultural resource to be deemed "important" under CEQA and thus eligible for listing on the California Register of Historic Resources (CRHR), it must meet at least one of the following criteria:

- (1) is associated with events that have made a significant contribution to the broad patterns of California History and cultural heritage; or
- (2) is associated with the lives of persons important to our past; or
- (3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possess high artistic value; or
- (4) has yielded or is likely to yield, information important to prehistory or history.

Archaeological resources are commonly evaluated with regard to Criteria D/4 (research potential). Historic-era structures older than 50 years are most commonly evaluated in reference to Criteria 1/A (important events), Criteria B/2 (important persons) or Criteria C/3 (architectural value). To be considered eligible under these criteria the property must retain sufficient integrity to convey its important qualities. Integrity is judged in relation to seven aspects including: location, design, setting, materials, workmanship, feeling, and association.

#### **Historic Resource Evaluation**

Historic Resource Evaluation of San Quentin Pump Station

The San Quentin Pump Station does not fulfill Criterion A/1 of the National Register Criteria for Evaluation or the California Register of Historical Resources Criteria for Designation. The pump station is associated with the reclamation of San Francisco Bay marshes and wetlands. This location is one of many wetlands reclaimed for urban development in the 20th century. However, these events are not significant enough to national, state, or regional history to associate the pump station with a pattern of history significant to the cultural heritage of the United States or California.

No documentation indicates the association of the pump station with significant local, state, or national persons. No architect or builder is known at present. Therefore, the pump station fails to fulfill Criterion B/2.

The pump station does not demonstrate aesthetic qualities that speak to an investment of artistic consideration in its design. Rather, the design qualities and construction qualities indicate a primary emphasis on functionality. The pump station does not represent a type, period, region, or method of construction. With these considerations, the pump station fails to fulfill Criterion C/3.

Considering its relatively recent construction and its location on relatively recently reclaimed land, the pump station and its vicinity are unlikely to yield any information important to the history of the region or the nation.

The integrity of the pump station has been damaged due to decades of use in a marine environment. Crumbling concrete and leaking pipes have impacted the station's structural integrity. The foundation of the pump station demonstrates vandalism through spray painting and chipping of concrete. Apparatuses on the pump station have been changed over the decades since its construction in 1971, including electrical utilities and enclosures, altering any potential historical appearance. Therefore, while the pump station retains the aspects of location and setting, continued alteration diminishes the aspects of design, materials, workmanship, feeling, and association.

In sum, the San Quentin Pump Station does not fulfill Criterion A/1 through D/4 of the National Register Criteria for Evaluation or the California Register of Historical Resources Criteria for Designation, nor does it retain enough integrity to convey its significance. This survey deems the pump station ineligible for inclusion on the National Register of Historical Places or the California Register of Historical Resources. Considering this evaluation, the project should be allowed to proceed without regulatory concerns relating to the pump station as a cultural resource.

## **Management Recommendations**

We make the following recommendations to ensure that cultural resources are not adversely affected by the proposed project. The project should be allowed to proceed given the following recommendations.

#### Unanticipated Discovery of Cultural Resources

If previously unidentified cultural resources are encountered during project implementation, avoid altering the materials and their stratigraphic context. A qualified professional archaeologist should be contacted to evaluate the situation. The Federated Indians of the Graton Rancheria should be contacted to solicit their input with regard to proposed treatment and disposition of materials. Project personnel should not collect cultural resources. Prehistoric resources include, but are not limited to, chert or obsidian flakes, projectile points, mortars, pestles, and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources include stone or abode foundations or walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.

#### Encountering Native American Remains

Although unlikely, if human remains are encountered, all work must stop in the immediate vicinity of the discovered remains and the County Coroner and a qualified archaeologist must be notified immediately so that an evaluation can be performed. If the remains are deemed to be Native American and prehistoric, the Native American Heritage Commission must be contacted by the Coroner so that a "Most Likely Descendant" can be designated and further recommendations regarding treatment of the remains is provided.

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- 1957 Entrance to San Francisco Bay Nautical Chart, 1:40,000 scale.
- 1958 San Pablo Bay Nautical Chart, 1:40,000 scale.

#### United States Geological Survey

- 1895 San Francisco Topographic Map, 1:62,500 scale.
- 1899 San Francisco Topographic Map, 1:62,500 scale.
- 1915 San Francisco Topographic Map, 1:62,500 scale.
- 1948 San Quentin Topographic Map, 1:24,000 scale.
- 1959 San Quentin Topographic Map, 1:24,000 scale.
- 1973 San Quentin Topographic Map, 1:24,000 scale.
- 1980 San Quentin Topographic Map, 1:24,000 scale.
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# Attachment A – Records Search Results

# ARCHAEOLOGICAL SURVEY REPORT HISTORIC RESOURCE EVALUATION

SAN QUENTIN PUMP STATION RECONSTRUCTION PROJECT SHORELINE PARKWAY SAN RAFAEL, MARIN COUNTY, CA

APN 009-010-25

# **Notice of Confidentiality:**

Information in Attachment A discloses the location of sensitive cultural resources and is therefore confidential. Per California Government Code 6245 and 6245.10, as well as the National Historic Preservation Act of 1996 Section 304, the information in Attachment A has been removed to maintain confidentiality.



# Attachment B – Native American Consultation

# ARCHAEOLOGICAL SURVEY REPORT HISTORIC RESOURCE EVALUATION

SAN QUENTIN PUMP STATION RECONSTRUCTION PROJECT SHORELINE PARKWAY SAN RAFAEL, MARIN COUNTY, CA

APN 009-010-25

#### **Confidential Information**

This report contains confidential information. The distribution of material contained in this report is restricted to a need to know basis. To deter vandalism, artifact hunting, and other activities that can damage cultural resources, the location of cultural resources should be kept confidential. The provision protecting the confidentially of archaeological resources is in California Government Code 6245 and 6245.10, and the National Historic Preservation Act of 1996, Section 304.

# **Local Government Tribal Consultation List Request**

# **Native American Heritage Commission**

1550 Harbor Blvd, Suite 100 West Sacramento, CA 95691 916-373-3710 916-373-5471 – Fax nahc@nahc.ca.gov

Type of List Requested
CEQA Tribal Consultation List (AB 52) - Per Public Resources Code § 21080.3.1, subs. (b), (d), (e) and 21080.3.2
General Plan (SB 18) - Per Government Code § 65352.3.  Local Action Type:  General Plan General Plan Element General Plan Amendment  Specific Plan Specific Plan Amendment Pre-planning Outreach Activity
Required Information
Project Title:
Local Government/Lead Agency:
Contact Person:
Street Address:
City: Zip:
Phone: Fax:
Email:
Specific Area Subject to Proposed Action
County: City/Community:
Project Description:
Additional Request
Sacred Lands File Search - Required Information:
USGS Quadrangle Name(s):

Range:\_\_\_\_\_\_ Section(s):\_\_\_\_\_

Township:\_\_\_\_\_

STATE OF CALIFORNIA Gavin Newsom, Governor

#### NATIVE AMERICAN HERITAGE COMMISSION

Cultural and Environmental Department 1550 Harbor Blvd., Suite 100

West Sacramento, CA 95691 Phone: (916) 373-3710

Email: nahc@nahc.ca.gov Website: http://www.nahc.ca.gov

March 4, 2019

Theo Sanchez
City of San Rafael – Department of Public Works

VIA Email to: theo.sanchez@cityofsanrafael.org

RE: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, San Quentin Pump Station Replacement Project, Marin County

Dear Mr. Sanchez:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

- California Historical Resources Information System (CHRIS), including, but not limited to: The results of any record search that may have been conducted at an Information Center of the
- A listing of any and all known cultural resources that have already been recorded on or adjacent the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- unrecorded cultural resources are present. a survey is recommended by the Information Center to determine whether previously
- Ņ The results of any archaeological inventory survey that was conducted, including
- Any report that may contain site forms, site significance, and suggested mitigation measures

All information regarding site locations, Native American human remains, and associated public disclosure in accordance with Government Code section 6254.10 funerary objects should be in a separate confidential addendum, and not be made available for

- ယ The result of any Sacred Lands File (SLF) check conducted through the NAHC was <u>positive</u> Please contact the Federated Indians of Graton Rancheria on the attached list for more information
- 4 Any ethnographic studies conducted for any area including all or part of the APE; and
- Any geotechnical reports regarding all or part of the APE.

may be the only source of information regarding the existence of a tribal cultural resource a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and

This information will aid tribes in determining whether to request formal consultation. In the event that they having the information beforehand will help to facilitate the consultation process

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: steven.quinn@nahc.ca.gov

Sincerely,

\*\*\*

Steven Quinn Associate Governmental Program Analyst

Attachment

## Native American Heritage Commission Native American Contacts List 3/4/2019

Federated Indians of Graton Rancheria

Gene Buvelot

6400 Redwood Drive, Ste 300 Rohnert Park , CA 94928

Coast Miwok
Southern Pomo

gbuvelot@gratonrancheria.com

(415) 279-4844 Cell (707) 566-2288 ext 103

Federated Indians of Graton Rancheria

Greg Sarris, Chairperson

6400 Redwood Drive, Ste 300

Rohnert Park ,CA 94928

Coast Miwok Southern Pomo

gbuvelot@gratonrancheria.com

(707) 566-2288 Office

(707) 566-2291 Fax

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American Tribes for the proposed: San Quentin Pump Station Replacement Project.



Submitted via electronic email: Theo Sanchez (theo.sanchez@cityofsanrafael.org)

February 28, 2019

RE: Formal Request for Tribal Consultation Pursuant to the California Environmental Quality Act (CEQA), Public Resources Code section 21080.3.1, subds. (b), (d) and (e) for the San Quentin Pump Station Replacement Project in San Rafael, APN 009-010-25, adjacent to Target property at 123 Shoreline Pkwy, San Rafael.

#### Dear Agency Representative:

This letter constitutes a formal request for tribal consultation under the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code section 21080,3.1 subdivisions (b), (d) and (e) for the mitigation of potential project impacts to tribal cultural resource for a project within the Federated Indians of Graton Rancheria's ancestral lands.

Receiving this letter sets forth the Tribe's formal request for consultation on the following topics checked below, which shall be included in consultation if requested (Public Resources Code section 21080.3.2, subd. (a):

X	Alternatives to the project
X	Recommended mitigation measures
X	Significant effects of the project
	Tribe also requests consultation on the following discretionary topics checked below (Public
Resor	urces Code section 21080.3.2, subd. (a):
x	Type of environmental review necessary
x	
	used by your agency to determine significance of tribal cultural resources
X	
x	Project alternatives and/or appropriate measures for preservation or mitigation that we may recommend, including, but not limited to:

- (1) Avoidance and preservation of the resources in place, pursuant to Public Resources Code section 21084.3, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks or other open space, to incorporate the resources with culturally appropriate protection and management criteria;
- (2) Treating the resources with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resources, including but not limited to the following:



- a. Protecting the cultural character and integrity of the resource;
- b. Protection the traditional use of the resource; and
- c. Protecting the confidentiality of the resource.
- (3) Permanent conservation easements or other interests in real property, with culturally Appropriate management criteria for the purposes of preserving or utilizing the resources or places.
- (4) Protecting the resource.

Additionally, the Tribe would like to receive any cultural resources assessments or other assessments that have been completed on all or part of the project's potential "area of project effect" (APE), including, but not limited to:

- 1). The results of any record search(es) conducted at an archaeological information center of the California Historical Resources Information System (CHRIS), including, but not limited to:
  - (a) Any known cultural resources that have already been recorded on or adjacent to the potential APE;
  - (b) Whether the probability is low, moderate or high that cultural resources are located in the potential APE; and
  - (c) If a survey is required to determine whether previously unrecorded cultural resources are present in the potential APE.
- 2). The results of any archaeological inventory survey that was conducted of all or part of the potential APE, including, but not limited to:
  - (a) Any report that may contain site forms, site significance, and suggested mitigation measures.
- 3). The results of any Sacred Lands File searches conducted through the Native American Heritage Commission for all or part of the potential APE;
- Any ethnographic studies conducted for any area including all or part of the potential APE; and
- 5) Any geotechnical reports regarding all or part of the potential APE.

We would like to remind your agency that CEQA Guidelines section 15126.4, subdivision (b)(3) states that preservation in place is the preferred manner of mitigating impacts to archaeological sites. Section 15126.4, subd. (b)(3) of the CEQA Guidelines has been interpreted by the California Court of Appeal to mean that "feasible preservation in place must be adopted to mitigate impacts to historical resources of an archaeological nature unless the lead agency determines that another form of mitigation is available and provides superior mitigation of impacts." Madera Oversight Coalition v. County of Madera (2011) 199 Cal.App.4th 48,



disapproved on other grounds, Neighbors for Smart Rail v. Exposition Metro Line Construction Authority (2013) 57 Cal.4th 439.

The Tribe would like to begin consultation within 30 days of your receipt of this letter. Please contact my office at (707) 566-2288 or by email at <a href="mailto:bmcquillen@gratonrancheria.com">bmcquillen@gratonrancheria.com</a> as the person who will serve as the lead contact on behalf of the Tribe.

Sincerely,

Buffy McQuillen, THPO/NAGPRA Federated Indians of Graton Rancheria



# Attachment C – Photo Sheet

# ARCHAEOLOGICAL SURVEY REPORT HISTORIC RESOURCE EVALUATION

SAN QUENTIN PUMP STATION RECONSTRUCTION PROJECT SHORELINE PARKWAY SAN RAFAEL, MARIN COUNTY, CA

APN 009-010-25

## **Confidential Information**

This report contains confidential information. The distribution of material contained in this report is restricted to a need to know basis. To deter vandalism, artifact hunting, and other activities that can damage cultural resources, the location of cultural resources should be kept confidential. The provision protecting the confidentially of archaeological resources is in California Government Code 6245 and 6245.10, and the National Historic Preservation Act of 1996, Section 304.



TH000067, view northwest, 1/17/2019: View of the southeast corner of pump station.



TH000069, view southwest, 1/17/2019: View of the northeast corner of pump station.



TH000071, view southeast, 1/17/2019: View of northwest corner of pump station.



TH000073, view northeast, 1/17/2019: view of the southwest corner of the pump station.



TH000075, view northwest, 1/17/2019: Overview of pump station, utility pole and lagoon.



TH000079, view west, 1/17/2019: Overview of access road which covers storm drain pipe.



TH000081, view east, 1/17/2019: Overview of outfall pipe access and bay water disturbance.



TH000083, northeast, 1/17/2019: Overview of southern access road to pump station from Francisco Blvd.



# Attachment D - Site Record

# ARCHAEOLOGICAL SURVEY REPORT HISTORIC RESOURCE EVALUATION

SAN QUENTIN PUMP STATION RECONSTRUCTION PROJECT SHORELINE PARKWAY SAN RAFAEL, MARIN COUNTY, CA

22-010-600 NAA

#### Confidential Information

This report contains confidential information. The distribution of material contained in this report is restricted to a need to know basis. To deter vandalism, artifact hunting, and other activities that can damage cultural resources, the location of cultural resources should be kept confidential. The provision protecting the confidentially of archaeological resources is in California Government Code 6245 and 6245.10, and the National Historic Preservation Act of 1996, Section 304.

State of California ☐ The Resources Agency DEPARTMENT OF PARKS AND RECREATION PRIMARY RECORD

Primary # HRI # Trinomial

NRHP Status Code: 6Z

Other Listings Review Code Reviewer

Date

Page 1 of 6 \*Resource Name or #: 2018-93-01

P1. Other Identifier: San Quentin Pump Station

\*P2. Location: 

Not for Publication 

Unrestricted

\*a. County: Marin

\*b. USGS 7.5' Quad: San Quentin Date: 2015 T1N; R6W; Unsectioned portion of wetlands; Mount Diablo B.M.

c. Address: 1597 Francisco Boulevard East City: San Rafael Zip

d. UTM: 10N 544527 mE/ 4201093 mN

e. Other Locational Data: From the intersection of Bellam Boulevard and Francisco Boulevard East, drive south for approximately 0.8 miles. Turn left onto an unmarked road immediately north of 1599 Francisco Boulevard East. Follow this road along the marsh lands for 0.4 miles.

\*P3a. Description: The San Quentin Pump Station is a single-level structure designed to pump excess storm water into the San Francisco Bay. This structure consists of a semi-subterranean water pumping apparatus, topped by a concrete ground-level platform with electrical apparatuses. The structure is primarily constructed of unpainted concrete, with steel chain link fencing built into the structure's upper level and painted steel apparatuses. (See Continuation Sheet, page 4)

\*P3b. Resource Attributes: HP9. Public Utility Building

\*P4. Resources Present: □ Building ⊠ Structure □ Object □ Site □ District □ Element of District □ Other (Isolates, etc.)

P5a. Photograph



P5b. Description of Photo: View southeast, 01/17/2018, TH000071. Overview of pump station.

# \*P6. Date Constructed/Age and Source:

#### \*P7. Owner and Address:

City of San Rafael 1400 Fifth Avenue San Rafael, CA 94901

#### \*P8. Recorded by:

Nicholas Radtkey, B.A. Sarah King Narasimha, M. Phil. Alta Archaeological Consulting 15 Third Street Santa Rosa, CA 95401

# **\*P9. Date Recorded:** 01/17/2018

**\*P10. Survey Type:** Intensive, 10m intervals

#### \*P11. Report Citation:

DeGeorgey, Alex, Sarah King Narasimha, and Nicholas Radtkey

Archaeological Survey Report and Historic Resource Evaluation for San Quentin Pump Station Reconstruction Project, Shoreline Parkway, San Rafael, Marin County, CA. Manuscript on file at the Northwest Information Center of the California Historic Resources Inventory System.

*Attachments: □NONE		⊠Contii	nuation Sheet	⊠Building, Structure, and	Object Record
☐ Archaeological Record	☐ District Record	□Linea	r Feature Record	☐Milling Station Record	☐Rock Art Record
☐Artifact Record	□Photograph Re	cord	☐ Other (List):		

DPR 523A (9/2013) \*Required information

State of California & The Resources Agency DEPARTMENT OF PARKS AND RECREATION

Primary # HRI#

## **BUILDING, STRUCTURE, AND OBJECT RECORD**

Page 2 of 6 \*NRHP Status Code: 6Z \*Resource Name or #:2018-93-01

B1. Historic Name: Unknown.

B2. Common Name: San Quentin Pump Station.

B3. Original Use: Removal of overflow water from marshlands. B4. Present Use: Same.

\*B5. Architectural Style: Unknown.

**\*B6. Construction History:** The pump station was built in 1971 to drain the artificially constructed wetlands east of Shoreline Parkway (Guerin 2018). Electrical apparatuses on this structure appear to have been replaced within the last 10 years.

\*B7. Moved? ⊠No □Yes □Unknown Date: NA Original Location: NA

\*B8. Related Features: None.

B9a. Architect: Unknown. b. Builder: Unknown.

\*B10. Significance: Urban development. Theme: Wetland reclamation Area: Marin County

Period of Significance: 1970s Property Type: Structure Applicable Criteria: NA.

#### **Historical Context**

The shores of the San Francisco Bay have been subject to the continuous changes wrought by industrialization. Prior to industrialization, many current diked baylands were parts of tidal marshes surrounding the Bay. These wetlands covered over 10,000 acres (SFBCDC 1982:1-2). Mining up the Sacramento River beginning in the 1840s inundated the San Francisco Bay with sediments. Natural watersheds were dammed and diverted, reducing the amounts of freshwater available to salt marshes, and reducing the biodiversity of wetlands (SFBCDC 1982:2-3). In the twentieth century, wetlands along the shores of the Bay were diked and filled to create space for urban development. By 2006, 95 percent of Bay Area wetlands had been destroyed by diking and filling (Sloan 2006:147). By 1982, about 3542 acres of former wetlands were owned by flood control districts, restructured to drain excess runoff in the event of heavy storms (SFBCDC 1982:2). (See Continuation Sheet, page 4)

B11. Additional Resource Attributes: HP9. Public Utility Building

#### \*B12. References:

Guerin, Bill

2018 San Rafael City Council Agenda Report. Electronic document: http://cityofsanrafael.granicus.com/MetaViewer.php?view\_id=38&event\_id=1101&meta\_id=131083, accessed 16 January 2019.

San Francisco Bay Conservation and Development Commission (SFBCDC)

1982 Diked Historic Baylands of San Francisco Bay. Staff Report.

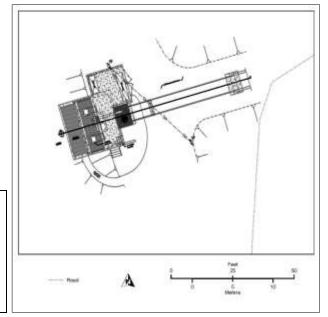
Sloan, Doris

2006 Geology of the San Francisco Bay Region. California Natural History Guides 79. University of California Press, Berkeley.

B13. Remarks: None.

**\*B14. Evaluator:** Nicholas Radtkey, B.A. **\*Date of Evaluation:** 01/14/2018.

(This space reserved for official comments.)

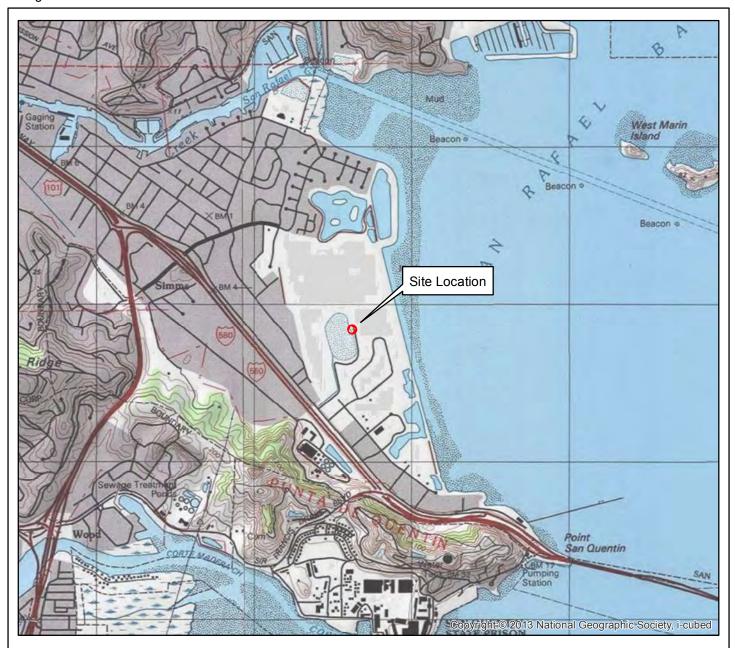


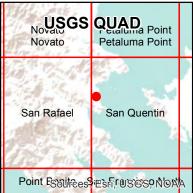
DPR 523B (1/95) \*Required information

Primary # HRI # Trinomial

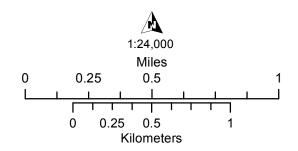
Page 3 of 6

\*Resource Name or #: 2018-93-01





QUAD: San Quentin 2013 (National Geographic Society) T1N, R6W, Unsectioned portion Mount Diablo Base Meridan



ARCHAEOLOGICAL CONSULTING

Map Date: 3/4/2019

State of California	Natural Resources Ag	gency
<b>DEPARTMENT OF</b>	PARKS AND RECREAT	ION

Primary# HRI # Trinomial

### **CONTINUATION SHEET**

**Page 4 of** 6 \***Resource Name or #**: 2018-93-01

\*Recorded by: N. Radtkey; S. King Narasimha \*Date: 01/17/2018 ⊠ Continuation □Update P3a. Description (continued from page 1)

The greatest dimensions of this pump station are approximately 26 feet north to south by 33 feet east to west. The foundation of the structure sinks approximately 15 feet below ground level, to level with the marshlands to its west. From ground level, the structure stands approximately 12 feet above ground level, for a total height of approximately 27 feet. The wet well on the western side of the pump station drains water from the adjacent lagoon. This part of the structure measures 20 feet wide by 16 feet deep by 19 feet tall. The screen on this wet well is slanted at a 66 degree angle, and is made of galvanized steel bars. The wet well is emptied by two vertical pumps, which project six feet above the ground level platform. These pumps feed a concrete pressure vault. The pressure vault, located on the southwestern corner of the station, is a rectangular concrete tower. It measures six feet by six feet at its base, and stands ten feet above ground level. Most of the water pumping apparatus is buried.

The platform surrounding the pump station consists of two sections. The primary section is composed of the ceiling of the wet well and the chamber leading to the pressure vault. An adjacent section of concrete platform wraps around the northeastern corner of the top of the wet well ceiling. This adjacent section houses two electrical utility boxes. One box contains controls for the pump station, while the other receives electricity from an adjacent power pole.

The pump station is connected to a buried 63 inch HDPE outfall pipe that leads approximately 1000 feet east before emptying into the ocean.

#### **B10. Significance** (continued from page 2)

#### Statement of Significance

The San Quentin Pump Station does not fulfill Criterion A/1 of the National Register Criteria for Evaluation or the California Register of Historical Resources Criteria for Designation. The pump station is associated with the reclamation of San Francisco Bay marshes and wetlands. This location is one of many wetlands reclaimed for urban development in the 20<sup>th</sup> century. However, these events are not significant enough to national, state, or regional history to associate the pump station with a pattern of history significant to the cultural heritage of the United States or California.

No documentation indicates the association of the pump station with significant local, state, or national persons. No architect or builder is known at present. Therefore, the pump station fails to fulfill Criterion B/2.

The pump station does not demonstrate aesthetic qualities that speak to an investment of artistic consideration in its design. Rather, the design qualities and construction qualities indicate a primary emphasis on functionality. The pump station does not represent a type, period, region, or method of construction. With these considerations, the pump station fails to fulfill Criterion C/3.

Considering its relatively recent construction and its location on relatively recently reclaimed land, the pump station and its vicinity are unlikely to yield any information important to the prehistory or history of the region or the nation.

The integrity of the pump station has been damaged through neglect and alteration. Crumbling concrete and leaking pipes have impacted the station's structural integrity. The foundation of the pump station demonstrates vandalism through spray painting and chipping of concrete. Apparatuses on the pump station have been changed over the decades since its construction in 1971, including electrical utilities and enclosures, altering any potential historical appearance. Therefore, while the pump station retains the aspects of location and setting, continued alteration diminishes the aspects of design, materials, workmanship, feeling, and association.

In sum, the San Quentin Pump Station does not fulfill Criterion A/1 through D/4 of the National Register Criteria for Evaluation or the California Register of Historical Resources Criteria for Designation, nor does it retain enough integrity to convey its significance. This survey deems the pump station *ineligible* for inclusion on the National Register of Historic Places or the California Register of Historical Resources.

Primary# HRI # Trinomial

### **CONTINUATION SHEET**

Page 5 of 6

\*Resource Name or #: 2018-93-01

\*Recorded by: N. Radtkey; S. King Narasimha

**\*Date:** 01/17/2018 ⊠ Continuation □Update



TH000067, view northwest, 1/17/2019: View of the southeast corner of pump station.



TH000069, view southwest, 1/17/2019: View of the northeast corner of pump station.

Primary# HRI # Trinomial

### **CONTINUATION SHEET**

Page 6 of 6

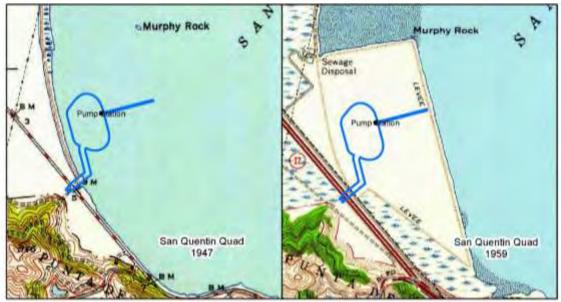
\*Resource Name or #: 2018-93-01

\*Recorded by: N. Radtkey; S. King Narasimha

**\*Date:** 01/17/2018 ⊠ Continuation □Update



TH000073, view northeast, 1/17/2019: view of the southwest corner of the pump station.



USGS 7.5' San Quentin Quadrangle, 1956 and 1960. Blue polygon depicts present parcel boundary. 1:24,000 scale.

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# SAN QUENTIN PUMP STATION REPACEMENT PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP) has been prepared pursuant to CEQA Guidelines (California Code of Regulations, Title 14), which state the following:

In order to ensure that the mitigation measures and project revisions identified in the EIR or negative declaration are implemented, the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.

The public agency may choose whether its program will monitor mitigation, report on mitigation, or both. "Reporting" generally consists of a written compliance review that is presented to the decision making body or authorized staff person. A report may be required at various stages during project implementation or upon completion of the mitigation measure. "Monitoring" is generally an ongoing or periodic process of project oversight. There is often no clear distinction between monitoring and reporting and the program best suited to ensuring compliance in any given instance will usually involve elements of both.

The attached MMRP lists the potentially significant impacts and proposed mitigation measures identified in the San Quentin Pump Station Replacement Project Initial Study/Mitigated Negative Declaration. The MMRP describes the timing of implementation of the mitigation measures (i.e., when the measure will implemented) and the City of San Rafael staff or individual responsible for ensuring implementation of the measures. Finally, the MMRP describes the City of San Rafael staff member or individual responsible for monitoring the mitigation measures.

#### **Mitigation Monitoring and Reporting Program**

Environmental Impact	Mitigation Measures	Implementation Responsibility & Timing	Monitoring Responsibility	Performance Objective
BIOLOGICAL RESOURCES		-		
Impact IV.a: Sensitive or special- status species	Mitigation Measure BIO-1: Mitigation measures for avoidance and minimization of effects to SMHM shall be incorporated into the permits or required authorizations and specifications, which the project proponent shall follow. The following avoidance and minimization measures are required:  1. A qualified biological monitor (i.e., biologist whose credentials for SMHM monitoring have been previously approved by the USFWS) shall be present on-site during all construction work taking place adjacent to emergent marsh, including all vegetation removal and initial ground-disturbing work in these areas. The biological monitor shall document compliance with the Action permit conditions and all take avoidance and minimization measures. The monitor(s) shall have the authority to halt construction, if necessary, if there is the potential for a listed species to be harmed or when noncompliance events occur. The biological monitor(s) shall be the contact person for any employee or contractor who might inadvertently kill or injure a listed species, or anyone who finds a dead, injured, or entrapped listed species.  2. If any mouse is observed at any time during construction, work shall not be initiated or shall be stopped immediately by the biological monitor until the mouse leaves the vicinity of the work area of its own	Implementation Responsibility: City-approved Consulting Biologist  Monitoring Frequency: During construction	Monitoring Responsibility: City of San Rafael Department of Public Works	Initials

Environmental Impact	Mitigation Measures	Implementation Responsibility & Timing	Monitoring Responsibility	Performance Objective
	accord. The biological monitor or any other persons at the site shall not pursue, capture, or handle any mouse observed.			
	<ol> <li>Night work is not anticipated and shall be avoided to the fullest extent feasible. If night work is necessary, all lighting shall be directed away from marsh and wetland areas to avoid impacting the natural behavior of SMHM.</li> </ol>			
	4. All vehicles and heavy equipment stored outside of exclusion fencing and in the vicinity of suitable SMHM habitat shall be checked for mice before work commences each morning.			
	5. When construction activities are to take place in potential SMHM habitat (emergent marsh and upland areas within 50 feet of emergent marsh), vegetation removal in work areas shall be performed to remove cover and render these areas unattractive to SMHM.			
	<ul> <li>a. Only non-motorized equipment or hand-held motorized equipment (i.e., string trimmers) shall be used to remove the vegetation.</li> </ul>			
	b. Vegetation shall be cut in at least two passes: with the first pass cutting vegetation at approximately half of its height above the ground (mid-canopy) and the next pass, or subsequent passes, cutting vegetation to ground-level or no higher than 1 inch.			

Environmental Impact	Mitigation Measures	Implementation Responsibility & Timing	Monitoring Responsibility	Performance Objective
	c. The biological monitor shall inspect areas of vegetation removal immediately prior to the initiation of removal to search for SMHM and "flush" small mammals out of the area and toward adjacent marsh areas that will not be subject to removal. If any mouse is observed, work shall be stopped immediately by the biological monitor until the mouse leaves the vicinity of the vegetation removal of its own accord.			
	d. Vegetation removal shall start in the position furthest from the highest quality and most accessible SMHM habitat outside of the work area, and progress toward that habitat, such that SMHM are protected to the greatest degree possible as they move out of the focal area.			
	e. Cut vegetation shall be removed from the exclusion area (work area) so that no cut vegetation remains there once the exclusionary fence is installed, to discourage SMHM from being attracted to the area.			
	<ul> <li>f. All non-native, invasive vegetation removed shall be discarded at a location outside of any marsh areas to prevent reseeding.</li> <li>6. Following completion of vegetation removal,</li> </ul>			
	temporary exclusionary fencing shall be installed to isolate work areas and prevent SMHM from entering work areas during construction.			

Environmental Impact	Mitigation Measures	Implementation Responsibility & Timing	Monitoring Responsibility	Performance Objective
	<ul> <li>a. The fencing shall be installed between suitable</li> </ul>			
	habitat areas (e.g., salt marsh) and the defined			
	work area (or areas) adjacent to suitable habitat			
	immediately following vegetation removal and			
	prior to the start of construction/excavation			
	activities. Areas to be fenced should include the			
	vicinity of the old and new pump structures and			
	the area to be graded to the north of the pumps.			
	As there is no suitable habitat for SMHM adjacent			
	to the linear work area where the underground			
	pipe is to be replaced, fencing would have limited			
	value there.			
	b. The fence shall consist of a non-textured, slick material that does not allow SMHM to pass through or climb, or silt fence with slick tape (or an effectively similar material) a minimum of 6 inches wide fixed to the fence to render it non-climbable. The bottom should be buried to a depth of at least 4 inches so that animals cannot crawl under the fence. Fence height should be at least 12 inches higher than the highest adjacent vegetation with a maximum height of 4 feet.			
	c. Fence posts should be placed facing the work area side (i.e., vegetation-cleared side) and not the side of the fencing facing intact habitat areas. The fencing shall be installed under the supervision of a biological monitor.			

Environmental Impact	Mitigation Measures	Implementation Responsibility & Timing	Monitoring Responsibility	Performance Objective
	d. The biological monitor shall routinely inspect exclusionary fencing to ensure that it remains intact and effective. Fencing deficiencies noted shall be immediately reported to the contractor and repaired promptly.			

Environmental Impact	Mitigation Measures	Implementation Responsibility & Timing	Monitoring Responsibility	Performance Objective
BIOLOGICAL RESOURCES				

Impact IV.b, c: Riparian or other sensitive natural community, State or federally protected wetlands	Mitigation Measure BIO-2: The applicant shall obtain a Section 404 permit from the Corps, and a Section 401 Certification from the Regional Water Quality Control Board (RWQCB). Mitigation measures shall be incorporated into the permits, which the project proponent shall follow. The following avoidance and minimization measures are proposed as a part of the permit applications:  1. Best management practices shall be employed to reduce impacts to vegetation and to limit erosion. Vegetation removal shall be minimized to the greatest extent feasible. Areas in which vegetation is removed should be replanted or seeded with native plants appropriate for the site. Erosion control measures, such as the use of silt fencing or straw wattles, should be implemented in areas of ground disturbance or vegetation removal.	Implementation Responsibility: City of San Rafael Department of Public Works  Monitoring Frequency: Prior to ground disturbance	Monitoring Responsibility: City of San Rafael Department of Public Works	Initials
	<ol> <li>All impacts to the drainage channel from deconstruction would be temporary as vegetation is expected to recolonize the excavated areas. To reduce potential temporary impacts to waters in the Project Area, best management practices shall be employed to reduce impacts associated with excavation and grading including erosion and sedimentation. Best management practices recommended by the Marin Countywide Water Pollution Prevention Program shall be implemented to minimize pollutants carried from the Project Area in runoff. The project shall comply with terms of the San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System Permit.</li> <li>All staging, maintenance, and storage of construction equipment shall be performed in a manner</li> </ol>			

to preclude any direct or indirect discharge of fuel, oil, or other petroleum products into the drainage channel or salt marsh vegetation. No other debris, rubbish, creosote-treated wood, soil, silt, sand, cement, concrete or washings thereof, or other construction related materials or wastes shall be allowed to enter into or be placed where they may be washed by rainfall or runoff into the drainage channel or salt marsh vegetation. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.

- 4. No equipment shall be operated in areas of flowing or standing water. No fueling, cleaning, or maintenance of vehicles or equipment shall take place within any areas where an accidental discharge to the drainage channel or salt marsh vegetation may occur.
- 5. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete construction.
- 6. Where areas of bare soil other than in the excavated drainage channel are exposed during the rainy season, sediment and erosion control measures shall be used to prevent sediment from entering waters in the drainage channel or salt marsh vegetation. Sediment and erosion control structures shall be monitored and repaired or replaced as needed. Build-up of soil behind silt fences shall be removed promptly and any breaches or undermined areas repaired promptly. Revegetation of disturbed surfaces other than the excavated drainage channel shall occur prior to the start of the first rainy season after construction.
- 7. The work area shall be delineated where necessary

Environmental Impact	Mitigation Measures	Implementation Responsibility & Timing	Monitoring Responsibility	Performance Objective
	with orange construction fencing in order to minimize impacts to habitat beyond the work limit.			
	Mitigation Measure BIO-3: Prior to filling of jurisdictional waters, or construction activities within Corps or RWQCB jurisdiction, necessary regulatory permits shall be obtained from the appropriate agencies. Regulatory permits to be obtained include a Corps Permit, Regional Water Quality Control Board Section 401 Water Quality Certification and/or Waste Discharge Requirement. Prior to proposed filling of jurisdictional waters, compliance with all regulatory agency permit conditions shall be demonstrated. Permanent impacts to jurisdictional wetlands or waters shall be mitigated at a minimum 1:1 ratio on a functions and values basis by: (1) replacing permanent impacted features through bank re-contouring at the old pump station location to create new area of waters and wetlands in the Biological Study Area; (2) purchasing an appropriate amount of mitigation credits by an approved mitigation bank, or (3) another type of mitigation as approved by the Corps and/or RWQCB through the permitting process.	Implementation Responsibility: City of San Rafael Department of Public Works  Monitoring Frequency: Prior to ground disturbance	Monitoring Responsibility: City of San Rafael Department of Public Works	Initials

Impact IV.d: Wildlife Movement	<ul> <li>Mitigation Measure BIO-4: Mitigation measures for avoidance and minimization of effects to nesting birds shall be incorporated into the permits or required authorizations and specifications, which the project proponent shall follow. For the avoidance of impacts to native nesting birds protected by the MBTA and CFGC, the following avoidance and minimization measures are proposed as a part of the permit applications:</li> <li>1. Project activities shall be initiated to the extent feasible, outside of the nesting season. The nesting season is defined here as being from February 1 to August 31 and therefore work shall commence between September 1 and January 31.</li> <li>2. If this is not possible, and project activities are initiated during the nesting season, then a nesting bird survey shall be conducted by a qualified wildlife biologist no more than 14 days prior to the start of project activities.</li> <li>3. If nests are identified, a no-disturbance buffer shall be implemented to avoid impacts to nesting birds and should remain in place until all young are fledged or the nest otherwise becomes inactive. Buffers typically range from 25 feet to 500 feet depending on the species.</li> </ul>	Implementation Responsibility: City of San Rafael Department of Public Works  Monitoring Frequency: Prior to ground disturbance	Monitoring Responsibility: City of San Rafael Department of Public Works	Initials
	Mitigation Measure BIO-5: Mitigation measures for avoidance and minimization of effects to roosting bats shall be incorporated into the permits or required authorizations and specifications, which the project proponent shall follow. The following avoidance and minimization measures are required:	Implementation Responsibility: City of San Rafael Department of Public Works  Monitoring Frequency:	Monitoring Responsibility: City of San Rafael Department of Public Works	Initials

Environmental Impact	Mitigation Measures	Implementation Responsibility & Timing	Monitoring Responsibility	Performance Objective
	<ol> <li>Preconstruction surveys for bats shall be conducted by a qualified biologist no less than 14 days prior to removal of the pump house if the work should begin during the maternity roosting season (April 1 through August 31) or during the hibernation season (November 1 through February 28).</li> <li>If special-status bat species are detected during surveys, appropriate, species and roost specific mitigation measures shall be developed. Such measures may include postponing demolition of the pump house until the end of the maternity roosting season.</li> <li>Demolition of the pump house can be conducted outside of the maternity roosting and hibernation seasons (during the months of September, October and March) without performing preconstruction bat surveys.</li> </ol>	Prior to ground disturbance		

Environmental Impact	Mitigation Measures	Implementation Responsibility & Timing	Monitoring Responsibility	Performance Objective
CULTURAL RESOURCES				
Impact V.a: Historical Resources	Mitigation Measure CULT-1: If previously unidentified cultural resources are encountered during project implementation, avoid altering the materials and their stratigraphic context. A qualified professional archaeologist shall be contacted to evaluate the situation. The Federated	Implementation Responsibility: City-approved Archaeologist	Monitoring Responsibility: City of San Rafael Department of Public Works	Initials
	Indians of the Graton Rancheria shall be contacted to solicit their input with regard to proposed treatment and disposition of materials. Project personnel should not collect cultural resources. Prehistoric resources include, but are not limited to, chert or obsidian flakes, projectile points, mortars, pestles, and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources include stone or abode foundations or walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.	Monitoring Frequency: During construction		Date

Environmental Impact	Mitigation Measures	Implementation Responsibility & Timing	Monitoring Responsibility	Performance Objective
Impact V.b: Archaeological Resources	Mitigation Measure CULT-2: The City or its contractor shall comply with California Health and Safety Code Section 7050.5 and California Public Resources Code Sections 5097.5, 5097.9 et seq., regarding the discovery and disturbance of cultural materials, should any be discovered during project construction.  In keeping with the CEQA guidelines, if archaeological remains are uncovered, work at the place of discovery shall be halted immediately until a qualified archaeologist can evaluate the finds (§15064.5 [f]). Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).	Implementation Responsibility: City-approved Archaeologist  Monitoring Frequency: During construction	Monitoring Responsibility: City of San Rafael Department of Public Works	Initials
HAZARDS/HAZARDOUS MATERIAL	.S			

#### Impact VIII.b: Hazard to the public Implementation **Monitoring** Mitigation Measure HAZ-1: Phase II environmental site or environment Responsibility: Responsibility: Initials assessment (ESA) sampling of soil, groundwater, and soil City of San City of San Rafael gas shall be performed at the project site by a qualified Department of Rafael environmental professional to evaluate potential impacts Public Works Department of from hazardous materials in soil, groundwater, and soil Public Works Date gas, and potential elevated methane levels in soil gas. This information shall also be used to characterize and properly Monitoring manage any dewatering effluent that would be generated Frequency: during project construction. Prior to ground A work plan for the proposed sampling activities shall be disturbance prepared by the qualified environmental professional and submitted to the City for review and approval. The work plan shall outline the proposed sampling locations and the proposed sample collection procedures and laboratory analytical methods. At a minimum, laboratory analysis of soil and groundwater samples shall include Title 22 metals, petroleum hydrocarbons (gasoline, diesel, and motor oil), VOCs, SVOCs, and PCBs. Soil gas samples shall be analyzed for VOCs and methane. Soil and groundwater sampling and analysis shall be performed in accordance with the U.S. Environmental Protection Agency's SW-846 guidelines. Sampling of soil gas shall be performed in accordance with State Department of Toxic Substances Control's (DTSC) Active Soil Gas Investigations Advisory and analysis of methane in soil gas shall be performed in accordance with DTSC's Guidance for Evaluation of Biogenic Methane. A Phase II ESA report documenting the results of the sampling and analysis activities shall be prepared by the qualified environmental professional and submitted to the City for review and approval. The report shall document the sampling activities performed and subsurface characteristics observed, and shall evaluate sample results based on applicable regulatory agency screening levels and guidance documents (e.g., the San Francisco Bay Regional Water Quality Control Board's Environmental Screening Levels for soil, groundwater, and

soil gas, and the DTSC's methane guidance). The report

Environmental Impact	Mitigation Measures	Implementation Responsibility & Timing	Monitoring Responsibility	Performance Objective
	shall include recommendations for the following: further investigation if warranted; soil handling, disposal, and potential re-use options; and groundwater handling and discharge/disposal options.			
	If soil, groundwater, or soil gas sample analytical results exceed ESLs for unrestricted land use and naturally-occurring background concentrations for metals in soil, and/or if elevated methane is detected in soil gas, the applicant shall prepare and implement health and safety procedures and worker training requirements; a soil management plan; and/or methane management measures (e.g., installation of vapor barriers and/or other soil gas mitigation systems for the proposed new pump house and any other utility vaults where vapors could collect).			
NOISE				
Impact XIII.a: Substantial temporary increase in ambient noise levels	<b>Mitigation Measure NOISE-1:</b> The City shall incorporate the following practices into the construction documents to be implemented by the project contractor:	Implementation Responsibility: Contractor	Monitoring Responsibility: City of San Rafael Department of Public Works	Initials
	<ul> <li>Construction hours shall be limited to 7:00 A.M. to 5:00 P.M. Monday through Friday, unless otherwise approved in writing by the Director of Public Works.</li> <li>Notify businesses, residences, and noise-sensitive land uses adjacent to construction sites of the construction schedule in writing. Designate the City's construction manager as responsible for responding to any local complaints about construction noise. The construction manager shall determine the cause of the noise complaints (for example starting too early, or a bad muffler) and institute reasonable measures to correct the problem. Conspicuously post a</li> </ul>	Monitoring Frequency: During excavation and grading		Date

Environmental Impact	Mitigation Measures	Implementation Responsibility & Timing	Monitoring Responsibility	Performance Objective
Environmental Impact	telephone number for the construction manager at the construction site.  Maximize the physical separation between noise generators and noise receptors. Such separation includes, but is not limited to, the following measures:  Use heavy-duty mufflers for stationary equipment and barriers around particularly noisy areas of the site or around the entire site;  Where feasible, use shields, impervious fences, or other physical sound barriers to inhibit transmission of noise to sensitive receptors;  Locate stationary equipment to minimize noise impacts on the community; and  Minimize backing movements of equipment.  Use quiet construction equipment whenever possible.  Impact equipment (e.g., jack hammers and pavement breakers) shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically-powered tools. Compressed air exhaust silencers	Responsibility		
	shall be used on other equipment. Other quieter procedures, such as drilling rather than using impact equipment, shall be used whenever feasible.  Prohibit unnecessary idling of internal combustion engines.			

Environmental Impact	Mitigation Measures	Implementation Responsibility & Timing	Monitoring Responsibility	Performance Objective
TRIBAL CULTURAL RESOURCES				
Impact XVIII.a, b: Tribal Cultural Resources	Mitigation Measure CULT-1: If previously unidentified cultural resources are encountered during project implementation, avoid altering the materials and their stratigraphic context. A qualified professional archaeologist shall be contacted to evaluate the situation. The Federated Indians of the Graton Rancheria shall be contacted to solicit their input with regard to proposed treatment and disposition of materials. Project personnel should not collect cultural resources. Prehistoric resources include, but are not limited to, chert or obsidian flakes, projectile points, mortars, pestles, and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources include stone or abode foundations or walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.	Implementation Responsibility: City-approved Archaeologist  Monitoring Frequency: During construction	Monitoring Responsibility: City of San Rafael Department of Public Works	Initials



# STATE OF CALIFORNIA Governor's Office of Planning and Research State Clearinghouse and Planning Unit



CITY OF SAN RAFAEL

DEC 19 2019

PUBLIC WORKS

December 16, 2019

Theo Sanchez San Rafael, City of 111 Morphew Street San Rafael, CA 94901

Subject: San Quentin Pump Station Replacement Project

SCH#: 2019119034

Dear Theo Sanchez:

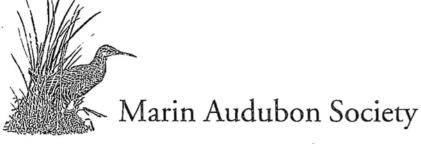
The State Clearinghouse submitted the above named MND to selected state agencies for review. The review period closed on 12/13/2019, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act, please visit: https://ceqanet.opr.ca.gov/2019119034/2 for full details about your project.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely.

Scott Morgan

Director, State Clearinghouse



P.O. Box 599 | Mill Valley, CA 94942-0599 | Marinaudubon.org November 27, 2019

Theo Sanchez City of San Rafael Department of Public Works 111 Mophew Street San Rafael, CA 94901

RE: SAN QUENTIN PUMP STATION INITIAL STUDY/MITIGATED NEGATVE DECLARATION

Dear Mr. Sanchez:

Thank you for the opportunity to comment on the San Quentin Pump Station project which is adjacent to Canalways, a privately owned diked seasonal wetland site. This pump will remove water from the city property in addition to the low lying Canalways property, which was historically diked from the bay and has never been filled.

While we recognize that some degree of pumping is necessary to avoid breaching of the inadequate levee, it is our recollection that pumping and the amount of pumping has been mandated by legal action or threat thereof, by the adjacent property owner. It is our interest as well as in the interest of the public as well, to rectin sufficient water on the site to ensure the wetlands persist in order to provide habitat for migratory and endangered species along with the other benefits of wetlands.

We agree that using an insert for the pipe is the preferred approach because it is the least environmentally damaging. Our additional comments on the Initial Study:

- 1. It should include a discussion of history of the pump, when and why it was constructed.
- 2. Include a discussion of operation of the pump. What water level triggers pumping to remove water from the site? How was that trigger arrived at? How will efficiency of the new pump differ from he existing pump. Will it be able to move water faster and/or at greater volumes.
- 3. Include a management plan for operation of the pump or components that should be included in a management plan. Require implementation of the management plan

as a condition of approval of the pump station. The management plan should ensure sufficient water remains on-site to provide for the wetlands.

- 4. Mitigation for the permanent loss of wetlands should be provided close to where the loss is occurring at a proportion of 2:1 acres for permanent loss and 1:1 for temporary loss.
- 5. The mitigation area and any areas denuded should be re-vegetated with appropriate native species. This is particularly important to revegetate the mitigation and wetlands to be restored with native wetland/upland plants. As the area is not tidal, there is no flow of water to bring in seeds of wetland plants. The chance of native vegetation recolonizing the site, therefore, is minimal. The site should be planted with native wetland species that are found in the vicinity of the pump site. Disturbed upland areas should also be re-vegetated with native species that are suitable for the soils and climate.
- 6. The plants should be maintained (watered and weeded) for a period of at least 3 years to ensure survival.
- 7. We note that when the southern subspecies of Salt Marsh Harvest Mouse was trapped at Canalways in the mid 80's, it was recognized by the USFWS that the mice could move across the levee to find suitable habitat in the Spinnaker wetlands to the north. The Canalways site should be considered occupied habitat.

Thank you for considering our comments.

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Since

Barbara Salzman, Co-chair

Conservation Committee

cc: Nicole Fairley, RWQCB

Roberta Morgenstern, ACOE

Phil Peterson, Co-chair

Conservation Committee

## RESPONSE TO COMMENTS ON THE DRAFT INITIAL STUDY/PROPOSED MITIGATED NEGATIVE DECLARATION

#### Introduction

On November 8, 2019 the City of San Rafael (Lead Agency) released for public review a Draft Initial Study/Proposed Mitigated Negative Declaration for the Proposed San Quentin Pump Station Replacement Project (SCH# 2019119034). The public review and comment period on the Draft Initial Study began on November 8, 2019 and closed on December 13, 2019.

The Draft Initial Study/Proposed Mitigated Negative Declaration and the response to comments on the Draft Initial Study/Proposed Mitigated Negative Declaration are informational documents prepared by the Lead Agency that must be considered by decision-makers before approving the proposed project and that must reflect the Lead Agency's independent judgment and analysis (CEQA Guidelines, Section 15090).

This section responds to the comments and questions on the Draft Initial Study/Proposed Mitigated Negative Declaration circulated by the City to public agencies and the public as required by CEQA. No edits to the Draft Initial Study/Proposed Mitigated Negative Declaration were required based on the responses to comments. This Final Initial Study/Mitigated Negative Declaration does not describe a project having any new or substantially more severe impacts than those identified and analyzed in the Draft Initial Study/Proposed Mitigated Negative Declaration. Therefore, in accordance with CEQA Guidelines Section 15073.5, recirculation of a Draft Initial Study/Proposed Mitigated Negative Declaration is not required.

This section contains a copy of the one comment letter submitted during the public review period on the Draft Initial Study/Proposed Mitigated Negative Declaration, and the individual responses to those comments. The written comment letter is designated with an alphabet letter in the upper right-hand corner of the letter. Within the written comment letter individual comments are labeled with the designated alphabet letter and a number in the margin. Immediately following the comment letter is an individual response to each numbered comment.

During the 30-day public review period, the following organizations/persons provided written comments on the Draft Initial Study/Proposed Mitigated Negative Declaration to the City:

#### **Commenters**

1. Marin Audubon Society

### **Comment Letter A**



## Marin Audubon Society

P.O. Box 599 | MILL VALLEY, CA 94942-0599 MARINAUDUBON.ORG November 27, 2019

Theo Sanchez City of San Rafael Department of Public Works 111 Mophew Street San Rafael, CA 94901

RE: SAN QUENTIN PUMP STATION INITIAL STUDY/MITIGATED NEGATVE DECLARATION

Dear Mr. Sanchez:

Thank you for the opportunity to comment on the San Quentin Pump Station project which is adjacent to Canalways, a privately owned diked seasonal wetland site. This pump will remove water from the city property in addition to the low lying Canalways property, which was historically diked from the bay and has never been filled.

While we recognize that some degree of pumping is necessary to avoid breaching of the inadequate levee, it is our recollection that pumping and the amount of pumping has been mandated by legal action or threat thereof, by the adjacent property owner. It is our interest as well as in the interest of the public as well, to recting sufficient water on the site to ensure the wetlands persist in order to provide habitat for migratory and endangered species along with the other benefits of wetlands.

We agree that using an insert for the pipe is the preferred approach because it is the least environmentally damaging. Our additional comments on the Initial Study.

- 1. It should include a discussion of history of the pump, when and why it was constructed.
- 2. Include a discussion of operation of the pump. What water level triggers pumping to remove water from the site? How was that trigger arrived at? How will efficiency of the new pump differ from he existing pump. Will it be able to move water faster and/or at greater volumes.
- 3. Include a management plan for operation of the pump or components that should be included in a management plan. Require implementation of the management plan

A-1

as a condition of approval of the pump station. The management plan should ensure sufficient water remains on-site to provide for the wetlands.

- 4. Mitigation for the permanent loss of wetlands should be provided close to where the loss is occurring at a proportion of 2:1 acres for permanent loss and 1:1 for temporary loss.
- 5. The mitigation area and any areas denuded should be re-vegetated with appropriate native species. This is particularly important to revegetate the mitigation and wetlands to be restored with native wetland/upland plants. As the area is not tidal, there is no flow of water to bring in seeds of wetland plants. The chance of native vegetation recolonizing the site, therefore, is minimal. The site should be planted with native wetland species that are found in the vicinity of the pump site. Disturbed upland areas should also be re-vegetated with native species that are suitable for the soils and climate.
- 6. The plants should be maintained (watered and weeded) for a period of at least 3 years to ensure survival.
- 7. We note that when the southern subspecies of Salt Marsh Harvest Mouse was trapped at Canalways in the mid 80's, it was recognized by the USFWS that the mice could move across the levee to find suitable habitat in the Spinnaker wetlands to the north. The Canalways site should be considered occupied habitat.

Thank you for considering our comments.

Barbara Salzman, Lo-chai

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Conservation Committee

cc: Nicole Fairley, RWOCB

Roberta Morgenstern, ACOE

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nil Peterson, Co-chair

Conservation Committee

The San Quentin pump station was built in 1972. The pump station is a critical piece of drainage infrastructure which conveys storm runoff from a 400-acre drainage area into the San Rafael Bay. The pump station was designed and installed in conjunction with a drainage channel and detention basin to prevent flooding of the commercial and light industrial areas in the southerly portion of San Rafael. Additionally, the pump station prevents flooding of Highway 580 and local connector roadways to the Richmond/San Rafael Bridge.

#### **Response to Comment A-2**

The commenter states that the Marin Audubon Society Agrees that using an insert for the pipe is the preferred approach because it is least environmentally damaging. Comment acknowledged; this design approach avoids encroaching into the wetland habitat immediately north of the pipeline lineament.

As stated on page 9 of the Draft Initial Study/Proposed Mitigated Negative Declaration, based on discussions with City maintenance crews, the existing 60-inch reinforced concrete pipe (RCP) leaks and has settled unevenly in the bay mud causing sags. Three potential options were studied to improve the 900 feet of discharge outfall pipe. These options include: 1) slip lining the existing 60-inch RCP with the new 48-inch diameter high-density polyethylene (HDPE) pipe; 2) installing a Cured in Place Pipe (CIPP) within the 60-inch RCP; and 3) open trench removal of the existing pipe and installing a new 48-inch diameter HDPE pipe. The outfall repairs would extend from the existing pump station eastward to just before the Bay Trail; project work is not proposed at the outfall into the Bay nor within 100 feet of the shoreline.

As indicated in the Site Plans (Figures 6-8 of the Draft Initial Study/Proposed Mitigated Negative Declaration), the pressure vault would connect to a pressurized outfall pipe. Based on the environmental sensitivity of the area and limited work area (25 feet wide), it was decided that slip lining (option 1 discussed previously) would be used to improve the discharge outfall pipe. This would involve 35 feet of 48-inch storm drain to be installed via open trench construction in order to connect the new pump station to the existing outfall pipe, where slip lining would begin. Approximately 25 feet of 60-inch storm drain would be removed to disconnect the existing station from the existing outfall pipe as well.

The benefits of the slip lining option include a smoother lining and less headloss, as well as avoidance of extensive open trenching and the resulting ground disturbance and air and water quality impacts. Slip line rehabilitation technology has been historically successful and works well with long straight pipe segments (Appendix A, CSW San Quentin Pump Station Basis of Design Report).

Page 4 of the Draft Initial Study/Proposed Mitigated Negative Declaration describes that the San Quentin Pump Station was constructed in 1972 to serve a portion of east San Rafael that was envisioned as a major light industrial area extending toward the Richmond-San Rafael Bridge from the canal area. The pump station lifts storm water from the large low-lying detention ponds for discharge to San Rafael Bay.

The existing pump station building is approximately 722 square feet in size, located 0.2 miles inland from the San Rafael Bay. It consists of a wet well, a pressure vault and associated controls, and two vertical pumps. To connect to the Bay, the pump station building is also associated with a 962-foot-long storm drainage pipe that discharges into the San Rafael Bay.

In its 46 years of operation, the outfall pipe has become deteriorated to the point where leaks are noticeable at the ground surface when the pumps are in use. The pump station itself also shows signs of age and continues to settle in the fill differentially relative to the outfall pipe and site. Under the existing pump system, if the pump station loses power or one of the two pumps fail, then flooding occurs in the neighboring industrial areas and along Highway 580 leading to the Richmond-San Rafael Bridge.

#### **Response to Comment A-4**

We anticipate that the proposed pump station will cause no significant changes to the water levels within the detention pond. Currently, the two-pump system operates one pump at water elevation 5' and the second at 8.5' (vertical datum NAVD88). It is intended that the proposed pump station will operate using the same water levels to initiate the pumps. Although three axial pumps are proposed, it is unlikely that all three will need to run simultaneously. Three pumps will provide for necessary redundancy in case of a pump failure, to improve efficiency, and help ensure protection from flooding commercial buildings and the public roadways. Please refer to pages 1-17 of the Draft Initial Study/Proposed Mitigated Negative Declaration for a detailed description of the existing pump station and proposed project.

#### **Response to Comment A-5**

An operation manual will be prepared for use of the new pump station. There are no significant changes in the operation of the new pump station. The purpose of the pump station is to replace aging infrastructure.

Pages 46 and 47 of the Draft Initial Study/Proposed Mitigated Negative Declaration describes that the proposed project would temporarily impact 151 square feet of Waters of the U.S./State and 116 square feet of salt marsh habitat, which is considered wetland within jurisdiction of the U.S. Army Corps of Engineers and Regional Water Quality Control Board under Section 404/401 of the CWA, through the removal of the existing pump station. If not adequately controlled, soil and material from the existing structure may enter the Waters during deconstruction of the existing pump station. Additionally, removal of material would cause turbidity within the Waters. Once the existing pump station is removed, installation of the new pump station would permanently impact approximately 77 square feet of Waters and 247 square feet of salt marsh, a total of 324 square feet of permanent impact. The proposed project includes placing fill within the Waters to stabilize and support the concrete slab upon which the new pump station would be placed.

However, upon completion of pump station replacement, the bank would be regraded and new Waters would be gained; the bank adjacent to the newly gained Waters would have the potential to support salt marsh habitat. Approximately 736 square feet of wetlands and Waters of the U.S. would be gained, which is 547 square feet more Waters and wetland area than is being permanently impacted.

Given a net increase in wetlands and Waters, and with implementation of Mitigation Measures BIO-2 and BIO-3 above, the project's impacts to wetlands and Waters of the U.S. and State would be less than significant.

#### **Response to Comment A-7**

Approximately 247 square feet of salt marsh habitat (salt grass mats), a sensitive riparian biological community per California Department of Fish & Wildlife as indicated by an S3 rank, would be permanently impacted through the development of the new pump station, and an additional 116 square feet would be temporarily impacted through the removal of the existing station (Figure 11 of the Draft Initial Study/Proposed Mitigated Negative Declaration). Project activities would require permits from pertinent regulatory agencies, such as the US Army Corps of Engineers and the Regional Water Quality Control Board, which would require mitigation for the small footprint of the project's wetland impacts. Furthermore, the proposed project, via the recontouring of the pond slope after pump station replacement, would create approximately 736 square feet of area that would be naturally reclaimed by water and salt marsh habitat. These calculated areas can be seen in detail on Figure 11. With this and implementation of Mitigation Measures BIO-2 and BIO-3 below, calling for the applicant to be bound to specific mitigation as written into the appropriate regulatory permits, the project's substantial adverse effects on sensitive biological communities would be less than significant.

Please refer to Response to Comment A-7 which will ensure an adequate period of revegetation maintenance will be provided. Regulatory permits from the US Army Corps of Engineers and Regional Water Quality Control Board will be applied for once the CEQA process has been complete. These permits will require sufficient mitigation to offset the project's wetland impacts.

#### **Response to Comment A-9**

Pages 37 and 38 of the Draft Initial Study/Proposed Mitigated Negative Declaration states that the salt-marsh harvest mouse (SMHM) is a relatively small rodent found only in suitable salt and brackish marsh habitat in the greater San Francisco Bay, San Pablo Bay, and Suisun Bay areas. This species has been divided into two subspecies: the northern SMHM (*Reithrodontomys raviventris halicoetes*) which lives in the brackish marshes of the San Pablo and Suisun bays, and the southern SMHM (*R. r. raviventris*) which is found in the marshes of San Francisco Bay. The Biological Study Area occurs near the presumed boundary between the northern and subspecies, likely within the range of the southern subspecies, though the exact location of the boundary and whether the two subspecies hybridize are both unknown. The southern subspecies generally persists in smaller and more isolated populations relative to the northern subspecies, as most of the marshes of the South San Francisco Bay are narrow, strip-like marshes and thus support fewer SMHM compared to marshes in the northern portions of the species' range. Northern marshes also tend to be more brackish, and have a more diverse assemblage of vegetation, thus the northern subspecies is more likely to occur in habitats that are not dominated by pickleweed, which dominates habitat in the southern range.

The SMHM was last recorded in the Biological Study Area in 1987. The lack of more recent records is not unusual, especially for a privately-owned property where state and Federal resource managers may have difficulty obtaining access and may not accurately reflect an absence of the species on the Biological Study Area. Pickleweed, alkali heath, and saltgrass-dominated marsh occurs within the Biological Study Area, and these habitat patches are directly connected to over a quarter square kilometer of adjacent, high-quality, pickleweed marsh. However, the wetland complex is completely isolated from any other marshes that could support SMHM and has a long history of disturbance. If any population-level extinction events occurred in the Biological Study Area and surrounding marsh, there would be virtually no chance of recolonization. However, the marsh is large with abundant upland refuge, so it is possible that a SMHM population has persisted here since the late 1980's. The species is presumed present within the pickleweed and salt grass marsh within the Biological Study Area, and within suitable habitat in the surrounding marsh.



Agenda Item No: 6.a

Meeting Date: January 21, 2020

#### SAN RAFAEL CITY COUNCIL AGENDA REPORT

**Department: Community Development** 

Prepared by: Paul Jensen (AH, DO, EG, IK)

**Community Development Director** 

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**City Manager Approval:** 

TOPIC: HOUSING POLICIES PRIORITIES REPORT

SUBJECT: INFORMATIONAL REPORT ON THE CHALLENGES TO APPROVING AND

**DEVELOPING HOUSING** 

#### **EXECUTIVE SUMMARY:**

At the September 3, 2019 City Council meeting, staff was directed to host several public housing workshops on proposed policies to address challenges to approving and developing housing. The purpose of these workshops was to gain a better understanding of the public's view on the housing crisis, as well as to get feedback on the prioritization of the proposed policy actions. This report presents findings from two housing workshops held on November 3 and November 14, 2019. Additionally, this report presents staff recommendations for prioritization, timing, and future City Council actions on these policies. A summary of these staff recommendations can be found in Attachment 1.

The action before City Council is to consider accepting this informational report and the corresponding staff recommendations for prioritization, timing, and future City Council actions on these policies.

#### **RECOMMENDATION:**

Accept the report and provide direction as recommended by staff.

#### **BACKGROUND:**

On August 20, 2018, the City Council was presented a comprehensive, <u>informational report</u> on housing. In response to the housing report information, the City Council directed staff to follow-up on four specific housing topics and issues: renter regulations, Short-Term Rentals, housing for an aging population, and challenges to the approval and development of housing. Over the last sixteen (16) months, the City Council has created a Short-Term Rental Program and approved sweeping renter regulations including mandatory mediation, source of income discrimination protection, and just cause eviction ordinances.

	FOR CITY CLERK ONLY
File No.:	
Council Meeting:	
Disposition:	

On September 3, 2019, City staff presented an <u>informational report</u> on challenges to housing development. The report presented 11 key challenges pertaining to the approval and development of housing in San Rafael. Moreover, this report identified 13 recommended measures to address these challenges, which are described in more detail below. As previously reported, some of the measures are currently being implemented, some are underway, and some measures require further study and action by the City Council.

Also, at the September 3 City Council meeting, staff was directed to host public housing workshops on proposed policies to address challenges to approving and developing housing. The purpose of these workshops was to gain a better understanding of the public's view on the housing crisis, as well as to get feedback on the prioritization of the proposed policy actions. The City hosted two housing workshops, which were attended by the City Council and the public. These workshops exposed the public to issues surrounding the housing crisis and generated feedback from both the public and City Council.

On November 3, 2019, the City hosted Housing Workshop #1 to discuss housing policy. The workshop, held at the BioMarin Corporate Center, provided context on the housing crisis and discussed potential regulatory and zoning-related actions the City could take to streamline the process for housing approval and construction. Approximately 40 people attended the workshop. The polling results from the workshop (Table 1) revealed that a majority of attendees were in favor of streamlining the housing development process.

Table 1. Housing Workshop #1 Survey Results

	Strongly Disagree/ Disagree	Neutral	Strongly Agree/ Agree
The City should consider changes to the Design Review Board to streamline the project			<u> </u>
review process	13%	6%	81%
The City should make it easier for "infill" projects to receive a CEQA exemption.	22%	6%	72%
The City should reduce the requirements for site-specific technical studies for housing			
projects.	28%	13%	59%
The City should allow for modest increases in building height and eliminate residential			
density limits as part of the form-based code being developed in the Downtown Precise			
Plan.	19%	10%	71%
The City should provide affordable housing projects a faster process to receive			
approvals.	16%	16%	68%
The City should make it harder to file a non-substantive appeal.	29%	13%	58%

On November 14, 2019, City staff hosted Housing Workshop #2 to discuss housing financing. This workshop, held in the City Council Chambers, provided an overview of project-level development financing and an opportunity to discuss potential funding and financial tools the City could utilize to incentivize housing development. It also included a review of inclusionary housing policies and use of the City's Affordable Housing Trust Fund. Approximately 35 people were in attendance. Data from the polls (Table 2) revealed that a majority of attendees were in favor of streamlining and reducing costs associated with current development processes.

Table 2. Housing Workshop #2 Survey Results

	Strongly Disagree/		Strongly Agree/
	Disagree	Neutral	Agree
The City should adjust its Inclusionary Housing requirement	20%	0%	80%
The City should allow in-lieu fee payments for a portion of a project's Inclusionary			
Housing requirement	20%	3%	77%
The City should provide a menu of alternative options for developers to meet their			
affordable housing requirements	3%	0%	97%
The City should reduce, temporarily waive, or defer payment of development/impact fees	7%	3%	90%
The City should offer Air Rights on City-owned Property for Housing Development			
Projects	10%	0%	90%

The polling results have been considered as one aspect of data in the recommended prioritization of the policy actions discussed below.

#### **ANALYSIS:**

This section provides a detailed discussion of the staff recommendations for prioritization, timing, and future City Council actions for the policy actions presented at the September 3 City Council meeting. A summary of these staff recommendations can be found in Attachment 1.

#### A. Housing Policies: Currently Underway

Several of the recommended policies presented in the September 3, 2019 City Council report are currently being implemented or are underway.

**Policy 1:** Continue the "Planning Commission First" review to streamline the Planning process. The Design Review Board (DRB) typically provides the first public forum for public comment on a project. Therefore, it is common for the public to want to comment on higher-level policy topics that are outside the DRB's purview and purpose (e.g., concerns over land use, density, bulk/mass, environmental issues).

As noted in the September 3 report, in two recent housing projects (i.e. Northgate Walk and 703 3<sup>rd</sup> Street), the order of the public forum review was reversed. In shifting the order, the Planning Commission conducted the first public forum on these projects as a "study session." The study session forum provided an opportunity for the Planning Commission to address the major policy and project issues raised by the public. Although the Planning Commission comments in this forum are non-binding, this review approach provided the applicants of the two projects with high level support and feedback on density, project bulk and size, and environmental review. The Planning Commission's support and direction thus allowed the DRB to focus on the details of the project design.

<u>Staff Recommendation:</u> No formal action is necessary. Unless modified by City Council, staff will maintain the current policy of a Planning Commission study session as first public forum on development projects, rather than the Design Review Board.

**Policy 2: Support Form-Based Code for Downtown Precise Plan.** A Downtown Precise Plan (DPP) is currently under way with the goal to adopt this plan concurrent with the adoption of San Rafael General Plan 2040 (late Spring 2020). Downtown provides the greatest opportunity in San Rafael (and the County) for development, particularly housing development, for numerous reasons. To aide in this development, the DPP and supportive Environmental Impact Report are being prepared which will include a Form Based Code for the DPP Area.

Unlike conventional zoning which provides a list of development standards and requirements, a form-based code sets general site parameters for allowable building height and building floor area (FAR). A form-based code does not include a prescribed residential density cap/limit. The general parameters are accompanied by supportive graphics and a menu of architectural styles that are appropriate for the Downtown setting and character. This approach allows a property owner/developer the flexibility to "work within an allowable box" without being constrained by density. This code approach can also streamline the design review process if it is structured to provide a menu of acceptable architectural styles that can be selected by the developer.

<u>Staff Recommendation:</u> No formal action is necessary, however staff requests that the City Council confirm their support for the direction of a form-based code as part of the acceptance of this report.

**Policy 3: Streamline CEQA/Environmental Review Process & Practices.** San Rafael contains very few remaining undeveloped sites that have potential for development. Nearly all new development opportunities in San Rafael are urban in-fill (e.g., Downtown, Northgate, some areas of Southeast San Rafael). Environmental review for most new infill development projects can be streamlined and minimized by relying on the use of exemptions (e.g., "categorical exemptions") that are permitted under the CEQA Guidelines.

While a CEQA categorical exemption is common on small infill projects, the Planning Division staff has more recently recommended a categorical exemption for larger housing projects. Two, large housing projects that have benefited from this approach are: Northgate Walk (136 units at 1005-1010 Northgate Drive); and 703 3rd Street (120 residential units). Both projects qualified for CEQA Guidelines Categorical Exemption 15332 in that they are: a) on sites that are developed and located near transit; b) consistent with the General Plan 2020 and zoning; and c) supported by technical studies. The use of the CEQA categorical exemption for both projects significantly reduced the processing cost for the developer/applicant and eliminated several CEQA-prescribed steps that involve many months of processing time. Please note that the CEQA infill exemption may not be appropriate or applicable to all infill projects. CEQA review and compliance should be reviewed on a case-by-case basis in consultation with the City Attorney's Office.

<u>Staff Recommendation</u>: No formal action is necessary. Unless modified by City Council, staff will continue the practice of using the CEQA exemptions, where appropriate and practical, to streamline the CEQA/environmental review process for housing projects.

**Policy 4:** Reduce Requirements for Certain Technical Studies. It is common practice and policy for the City to require the submittal of supportive technical studies with a new development application. The extent and type of technical studies vary by project type, size, location, and design. Issues such as geology/soil conditions, biological resources, traffic, historic resources, and drainage are critical and integral to the design and review of the development project. However, there are certain topic areas that trigger technical studies that are costly and often result in delays in the process; traffic and historic resources fall in this category. Where possible, staff has attempted to reduce (or eliminate) the need for site-specific technical reports, which would reduce applicant cost and processing time.

<u>Staff Recommendation</u>: No formal action is necessary. Unless modified by City Council, staff will continue to minimize requirements for the preparation of technical studies when appropriate and warranted.

**Policy 5: Establish a Streamlined Pre-Application "Concept" Review Process.** The City's current Pre-Application review process is recommended for most in-fill and large housing projects. This process provides the applicant with early feedback from City departments and services. The Pre-Application

process requires a filing fee of \$1,191.00 and the submittal of schematic drawings and concept plans. The Pre-Application is discussed by City staff at the bi-weekly Development Coordinating Committee (DCC) meeting. Applicants do not attend the DCC meeting unless it is requested. A summary of Pre-Application comments from all City staff are formally provided in writing by the Planning Division. The turnaround time for this process averages 30-60 days.

Staff recommends that the fee be waived for all housing projects and that a more informal review be offered to all applicants. This informal review would give *verbal* comments/feedback by City staff rather than formal written comments. The Community Development Department has tested this less formal approach on several, recent housing projects. This approach has been successful at providing quicker City staff feedback to the applicant. The turnaround time for this process is estimated at 7-14 days (as the meetings are held weekly).

<u>Staff Recommendation</u>: Direct staff to continue with streamlined, Pre-Application "concept review" process for housing projects with no fee. This process would <u>not</u> replace the existing Pre-application/Conceptual Review process, which is more comprehensive.

#### B. Housing Policies: Ready for City Council Action

#### Policy 6: Changes to Administration of the Affordable Housing Trust Fund.

The Affordable Housing In-Lieu Fee Fund was created to increase the stock of permanently affordable housing units in the City of San Rafael. The Affordable Housing In-Lieu Fee Fund provides a local funding source for financial and technical assistance to help affordable housing developers produce and preserve affordable housing. Currently, the City does not have existing policies and procedures for awarding Affordable Housing Trust Fund monies across competing requests. As such, staff recommends that the City Council formalize a policy for the use of the Affordable Housing In-Lieu Fee Fund as San Rafael's primary Affordable Housing Trust Fund. Separate from the report, staff has prepared a resolution for immediate City Council consideration which establishes guidelines for the allocation of funding through the Affordable Housing Trust Fund.

<u>Staff Recommendation</u>: Adopt proposed Affordable Housing Trust Fund policy resolution establishing policies and procedures for awarding trust fund monies. Staff has prepared this policy as a separate City Council Agenda item for consideration, also on tonight's agenda.

#### C. Housing Policies: Phase 1

Policies 7 and 8 below relate to the City's affordable housing requirements (San Rafael Municipal Code (SRMC) Section 14.16.030). Staff anticipates actions for these polices would be prepared collectively with amendments to the inclusionary housing requirements.

**Policy 7:** Adopt Changes to Inclusionary Housing Requirements (Establish "Menu"). The structure of the City's inclusionary housing requirements is now over 30 years old but remains an important tool in creating affordable housing while also ensuring sustainable mixed-income communities. However, rigid inclusionary requirements limit the flexibility needed by developers to finance housing developments.

In responding to the current housing crisis, numerous cities in California have revisited their inclusionary housing requirements to determine if these requirements are constricting the housing market. Key to this determination is understanding the depth (level of affordability) and breadth (percentage of affordable units) of affordability that optimizes the development of both affordable and market rate units.

Staff recommends analyzing potential changes to the City's inclusionary housing requirements including lowering or reducing the requirements, allowing payment of an in-lieu fee for a portion of the units, or conveyance of land or off-site units. In addition, this analysis would also include developing a potential menu of options for developers to meet the inclusionary housing requirement. The menu could offer, among others: off-site construction of inclusionary/BMR units; varying percentage requirements; varying depths/levels of affordability (e.g., moderate-income instead of low-income); varying time periods for which the units must be affordable (e.g., 30 years, 55 years); and providing other, defined public benefits.

<u>Staff Recommendation</u>: Direct staff to return with an informational report on potential amendments to the City's Inclusionary Housing Requirement and Affordable Housing In-Lieu Fee and next steps.

**Policy 8:** Adopt Changes to Affordable Housing In-lieu Fee. As discussed in Policy 7, as part of analyzing potential changes to the City's inclusionary housing requirement, staff would also consider changes to the City's existing Affordable Housing In-Lieu Fee policies. In-lieu fees are the most common alternative to an inclusionary housing requirement. In-lieu fees are paid into a trust fund which is then used to finance other affordable housing developments off-site.

Currently, developers in San Rafael are only allowed to pay in-lieu fees for fractional units.<sup>1</sup> However, many jurisdictions allow developers to satisfy a portion of their inclusionary housing requirement, not just the fractional units, by payment of an in-lieu fee.

The City is also partnering with the County of Marin to prepare an update to the 2002 Residential Nexus Study and Commercial Linkage Fee Study used to set the in-lieu base fee amount. This base fee is adjusted annually to account for year-over-year increases in median sale prices and building costs. However, the base fee needs to be updated as housing issues, data, and costs have dramatically changed since 2002. This update will be funded by Senate Bill (SB) 2 Planning Grants and it is expected that this updated fee study will be completed within the next year.

<u>Staff Recommendation</u>: Direct staff to return with an informational report on potential amendments and to the City's Inclusionary Housing Requirement and Affordable Housing In-Lieu Fee and next steps.

**Policy 9:** Adopt "By-Right" Zoning for Affordable Housing Projects. As previously reported, the City has been awarded an SB 2 Planning Grant of \$310,000 to pursue several planning efforts. One of the projects funded with this grant is for the City to develop a "by-right" zoning process for 100% affordable housing projects. "By-right" zoning limits the City's discretion to reviewing a housing development project for compliance with a list of "objective planning and design standards." This process is envisioned to amend and be applicable to the City's High-Density Residential (HR1) zoning district in selected areas of the City. While the process would be applicable citywide in the HR1 District, the requested SB 2 funding includes a "pilot" project to implement this process. The pilot project is Homeward Bound's new emergency shelter and 32-unit housing development proposed for 190 Mill Street.

<u>Staff Recommendation:</u> Direct staff to return with a draft resolution establishing a "by right" planning process for affordable housing projects. The Homeward Bound pilot project and the "by right" planning process are anticipated to first be presented to the Planning Commission, followed by City Council for review and action.

<sup>&</sup>lt;sup>1</sup> For example, if the inclusionary/BMR requirement for the housing project is 4.25 units, the developer is required to build four BMR units on-site and pay the in-lieu fee to meet the balanced requirement of 0.25 units. Based on the current fee per unit, the fee charged for 0.25 units would be \$86,000.

**Policy 10: Proceed with completion and adoption of a new Accessory Dwelling Unit (ADU) Ordinance**. Accessory Dwelling Unit<sup>2</sup> (ADU) activity has played a strong role in housing start-ups in the last three years. The City has been operating under the State regulations (model ordinance), which has been successful. In October 2019, Governor Newsom signed four significant housing bills specific to ADUs. The new legislation (effective January 2020), establishes dramatic changes to ADU regulations. These changes include, among others:

- a) a prohibition on requiring or imposing "owner occupancy" (through 2025);
- b) more streamlined permit processing deadlines;
- c) a prohibition on requiring the replacement of off-street parking spaces if an existing garage/carport is converted into an ADU; and
- d) allowing a single-family residential lot to establish one ADU and one JADU (Junior Accessory Dwelling Unit).

A new ADU ordinance is required to be in compliance with this new State Legislation. Additionally, a new ADU ordinance would seek to address Community Development Department and Fire Department concerns about ADU allowances and regulations in hillside and fire-prone areas with challenged access.

<u>Staff Recommendation</u>: Direct staff to return with a draft ADU ordinance addressing the recent changes in the State legislation and regulations/prohibitions in hillside and fire-prone areas with challenged access. A draft ordinance would require Planning Commission review followed by final City Council adoption.

#### D. Housing Policies: Phase 2

**Policy 11: Proceed with updating the City's "Density Bonus" Ordinance.** SRMC Section 14.16.030 sets forth the City's affordable housing requirements. This section also includes very lengthy and complicated provisions for administering and approving a "density bonus." Due to changes in State law, some of our local code provisions are onerous and obsolete. Additionally, while the City's density bonus is above the State bonus cap of 35%, this additional bonus is fully discretionary and there is no specific guidance for City negotiation nor clear guidance as to what is expected of the developer.

A comprehensive update of the density bonus provisions in SRMC Section 14.16.030 is recommended. The provisions and requirements need to be simplified and brought into compliance with the State law. The update should:

- a) establish clear parameters and requirements for density bonus requests that exceed 35%; and
- b) incorporate a floor area ratio (FAR) bonus provision for Downtown, should the Downtown Precise Plan eliminate the current density limits.<sup>3</sup>

Staff Recommendation: Direct staff to return with an updated draft Density Bonus ordinance.

**Policy 12: Consider Changes to the Design Review Board**. As discussed in the September 3 report, at times DRB review of development projects can result in differing and conflicting opinions, which are frustrating to the applicant and the project architect. To address these concerns the City could consider potential changes to the structure and role of the DRB. These changes include:

<sup>&</sup>lt;sup>2</sup> ADUs have historically been referred to as second units/second dwelling units, "in-law" units, "granny flats"

<sup>&</sup>lt;sup>3</sup> Signed by Governor Brown in 2018, SB 2372 establishes new legislation establishing a "floor area ratio" bonus for housing projects in areas/zones that are not regulated by a density limit.

- a) <u>Eliminating the DRB</u> and structuring the Planning Commission membership to include one or two design professionals to guide and advise the Commission at-large on design matters;
- b) Shifting the role of the DRB to a decision-making authority rather than an advisory body. The DRB would have review and approval authority over Environmental and Design Review Permits, while the Planning Commission would continue to serve as the decision-making authority on all land use, subdivision and legislative matters; and/or
- c) <u>Appoint a DRB liaison to review smaller housing projects</u> in-lieu of a review by the full DRB. In the event there are challenging design issues, the DRB liaison would have the discretion to refer the application to the full DRB for review at a noticed public meeting.

<u>Staff Recommendation</u>: Direct staff to return with an informational report on potential changes to the structure and role of the DRB. Based upon the changes supported by the City Council, an ordinance amendment could then be prepared quickly for review by the Planning Commission and action by the City Council.

#### E. Housing Policies: Phase 3

**Policy 13:** Reduce, Waive or Defer Payment of Development Impact Fees. The development and impact fees charged for new development have been identified as a significant factor in the financial feasibility of housing development. A fee study released by the State of California Department of Housing and Community Development (HCD) reports that local jurisdictions levy fees and exactions to help fund the expansion of infrastructure needed to support housing. State-imposed policies that restrict local taxes (e.g., Proposition 13) leave local jurisdictions with limited means of raising revenue for infrastructure, so there has been a local reliance on imposing development fees. The fee study findings focus on recommended measures to incentivize different housing development types, which include:

- a) changing the fee methodology to be based on housing unit size rather than a "per unit" charge:
- b) deferring the timing for payment; and
- c) waiving fees for Accessory Dwelling Units (ADUs).

Staff recommends analyzing the potential impact of implementing the recommended changes from the State fee study. Major fees that could be impacted by any changes would include the Citywide Traffic Mitigation Fee, Construction Vehicle Impact Fee, Parkland Dedication Fee (for-sale residential development only) and Development Impact Fee.

<u>Staff Recommendation</u>: Direct staff to prepare an informational report on potential changes to the payment of development impact fees.

**Policy 14: Support City/Developer Partnerships (e.g., Air Rights).** As reported in the September 3, 2019 City Council report, City staff completed a <u>Surface Parking Lot Air Rights Study - City of San Rafael</u> assessing seven (7) Downtown San Rafael, City-owned sites. Staff finds that the air rights opportunity for the public parking lot sites is worthy of further study. The next steps for implementing this policy would involve a more in-depth assessment of the sites and a formal pro forma analysis.

<u>Required Action</u>: Direct staff to prepare an information report providing an in-depth assessment and proforma analysis of air rights use of the seven City parking lots.

#### F. Housing Policies: On-Hold

**Policy 15:** Raise Appeal Fee and/or Change Appeal Process. The current appeal fee has not been adjusted in more than a decade. However, there was broad consensus among the public that changes

to the appeal fee are not a high priority. As such, this task will be included in the Citywide Master Fee Schedule Update, which is budgeted for completion during this fiscal year (FY 19/20). There is some caution about raising the appeal fee too high so that is does not undermine the public review process. Therefore, the nexus study will be critical in demonstrating that a fee increase aligns with the service that is being provided by the City. It is recommended that the appeal process (and any recommended changes) be reviewed concurrently with the fee update.

<u>Staff Recommendation</u>: No action is recommended at this time. The appeal fee will be studied as part of the Citywide Master Fee Schedule Update, which is anticipated to be completed in late 2020.

#### **COMMUNITY OUTREACH:**

As described in the Background section, in addition to the City Council meetings of August 20, 2018 and September 3, 2019, Staff recently held two evening public workshops dedicated to the housing topics and policies outlined in this report:

- Housing Workshop #1 was held on November 3, 2019. This workshop: a) provided in-depth information on the current housing crisis; and b) focused on the recommended policy actions specific to the regulation/zoning and permit streamlining. Workshop attendance: 40.
- Housing Workshop #2 was held on November 14, 2019. This workshop: a) included a
  presentation on housing development financing and funding sources; and b) focused on the
  recommended policy actions specific to City's inclusionary housing requirements and use of the
  City's Affordable Housing Trust Fund. Workshop Attendance: 35

In addition to these workshops, a public notice of this meeting was mailed to stakeholders, agencies and special interest groups 15-days prior to this meeting. Those noticed included, among others, all neighborhood associations, the Federation of San Rafael Neighborhoods, housing advocacy groups, and the San Rafael Chamber of Commerce.

#### **FISCAL IMPACT:**

This item is an informational report, which has no direct fiscal impact on the City. The fiscal impact to the City for each policy listed above will be assessed and determined as each is brought forward to the City Council for consideration and action.

#### **OPTIONS:**

The action before City Council relates to the acceptance of this report. By accepting this report, City Council will be directing staff on the timing and prioritizing of the proposed housing policies. For this action, City Council has the following options to consider:

- 1. Accept and provide direction as recommended by staff;
- 2. Accept and provide direction with revisions to recommendations by staff;
- 3. Do not accept the report; or
- 4. Direct staff to return with more information.

#### **RECOMMENDED ACTION:**

Accept the report and provide direction as recommended by staff.

## **ATTACHMENTS:**

- Summary of Staff Recommendations for Proposed Housing Policies
   Public Meeting Notice

## **Attachment 1- Summary of Staff Recommendations for Proposed Housing Policies**

		Staff Recommendation	Next Steps*
<b>Currently</b> U			
Policy 1	"Planning Commission First" review	Maintain current policy of offering a Planning Commission study session as first public forum on development projects, rather than the DRB	No Action Necessary
Policy 2	Form-Based Code for Downtown Precise Plan	Confirm Support of a Form-Based Code for the Downtown Precise Plan	No Action Necessary
Policy 3	Streamline CEQA/ Environmental Review	Encourage and direct staff to continue using the CEQA exemptions, where appropriate and practical to streamline the CEQA/environmental review process for housing projects.	No Action Necessary
Policy 4	Reduce Requirements Technical Studies	Continue to minimize requirements for the preparation of technical studies when appropriate and warranted.	No Action Necessary
Policy 5	Streamlined Pre-Application "Concept" Review Process	Adopt a resolution establishing a streamlined, Pre-Application "concept review" process for housing projects with no fee	Continue with streamlined Pre- Application "concept review" process.
Ready for	City Council Action		Immediately*
Policy 6	Affordable Housing Trust Fund Administration	Adopt proposed Affordable Housing Trust Fund Policy Resolution establish policies and procedures for awarding Trust Fund monies.	Vote on Proposed Policy Resolution
Phase 1			Anticipated Spring/Summer 2020*
Policy 7 & 8	Adopt Changes to Inclusionary Housing Requirements & Adopt Changes to Affordable Housing In-lieu Fee	Adopt an ordinance amending the City's Inclusionary Housing requirement to provide a menu of options for developers to reach compliance and providing development incentives.	Return with an informational report on potential amendments and to the City's Inclusionary Housing Requirement and Affordable Housing In-Lieu Fee and next steps.
Policy 9	"By-Right" Zoning for Affordable Housing Projects	Adopt a resolution establishing a "By Right" Planning Process for Affordable Housing Projects	Return with "By-Right" Planning Process for City Council consideration
	New Accessory Dwelling Unit (ADU) Ordinance	Adopt a new ADU ordinance compliant with recently passed State Legislation	Present a Draft ADU Ordinance the Planning Commission for review
Phase 2	Hardete "Descrito Descri	Adams an Ordinary simulifying and marking	Anticipated Fall/Winter 2020*
Policy 11	Update "Density Bonus" Ordinance	Adopt an Ordinance simplifying and making compliant with State Law the City's Density Bonus requirements.	Return with Draft Density Bonus Ordinance for City Council consideration
Policy 12	Consider Changes to Design Review Board	Adopt an ordinance changing the structure and role of the DRB	Return with an Informational Report on potential changes to the DRB. Ordinance to follow.
Phase 3			Anticipated 2021*
	Changes to Payment of Development Impact Fees	Adopt a resolution changing the timing of fee payments for development impact fees	Return with an Informational Report on potential changes to the payment of development impact fees.
Policy 14	Support City/Developer Partnerships	Conduct an in-depth assessment of air rights use of the seven City-owned parking lots for development potential.	Return with an Informational Report assessing air rights use of the seven City parking lots and recommended next steps.
On-Hold	Daine Anna d 5	Na Astisa Dasamana da I	NI- A-ti NI
Policy 15	Raise Appeal Fee and/or Change Appeal Process	No Action Recommended	No Action Necessary

<sup>\*</sup>Timeline for proposed next steps represents the anticipated timing for follow-up staff actions, **not** the final implementation of the proposed policy.



#### NOTICE OF PUBLIC MEETING - CITY COUNCIL

You are invited to attend the City Council meeting on the following topic:

**TOPIC:** PRIORITIZING CITY HOUSING POLICIES & PRACTICES – As follow-up to an informational report to the City Council (September 3, 2019) and two public workshops on the challenges to the approval and development of housing, a summary report will be presented to the City Council. The report will present and recommend prioritization of and subsequent action on specific measures and City policies to facilitate and reduce the challenges to approving and developing housing. The report will also provide a summary of the two public workshops including the polling results on the recommended actions on the specific measures and City policies. For background on this topic, the September 3, 2019 informational report to the City Council on the housing challenges and recommended actions is available and can be reviewed at: <a href="t.ly/pelW9">t.ly/pelW9</a>. File No(s).: P18-010.

State law (California Environmental Quality Act - CEQA) requires that this 'project" be reviewed to determine if a study of potential environmental effects is required. It has been determined that this 'project,' which is an informational report, will have no physical impact on the environment. The prioritization of City housing policies and practices is classified as a planning study, which qualifies for a Statutory Exemption from the provisions of the CEQA Guidelines under 14 CRR Section 15262. Follow-up actions to the informational report may require environmental review.

DATE/TIME/LOCATION: Tuesday, January 21, 2020, 7:00p.m., City Council Chambers, 1400 5th Avenue at D Street, San Rafael, CA

**FOR MORE INFORMATION:** Contact Paul Jensen, Community Development Department at (415) 485-5064 or <a href="mailto:paul.jensen@cityofsanrafael.org">paul.jensen@cityofsanrafael.org</a>. The Community Development Department office is open from 8:30 a.m. to 4:30 p.m. on Monday, Tuesday and Thursday and 8:30 a.m. to 1:30 p.m. on Wednesday and Friday. The report to the City Council will be posted at <a href="https://www.cityofsanrafael.org/public-meetings/">https://www.cityofsanrafael.org/public-meetings/</a> on Thursday, January 16, 2020.

**WHAT WILL HAPPEN:** You can comment on the report to the City Council. The City Council will consider all public testimony. However, as this is an informational report, no formal action will be taken by the City Council. The City Council will be requested to provide direction and feedback on the recommended measures and City policy actions presented in the report.

**IF YOU WANT TO SUBMIT WRITTEN COMMENTS:** You can send written correspondence by email to the address above, or by mail/hand delivery to the Community Development Department, Planning Division, City of San Rafael, 1400 5<sup>th</sup> Avenue, San Rafael, CA 94901.

Sign Language and interpretation and assistive listening devices may be requested by calling (415) 485-3085 (voice) or (415) 485-3198 (TDD) at least 72 hours in advance. Copies of documents are available in accessible formats upon request.

Public transportation to City Hall is available through Golden Gate Transit, Line 22 or 23. Paratransit is available by calling Whistlestop Wheels at (415) 454-0964.

To allow individuals with environmental illness or multiple chemical sensitivity to attend the meeting/hearing, individuals are requested to refrain from wearing scented products.



Agenda Item No: 6.b

Meeting Date: January 21, 2020

## SAN RAFAEL CITY COUNCIL AGENDA REPORT

**Department: Community Development** 

Prepared by: Paul Jensen (AH, DO, EG, IK)

**Community Development Director** 

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**City Manager Approval:** 

TOPIC: GUIDELINES FOR THE AFFORDABLE HOUSING TRUST FUND

SUBJECT: RESOLUTION ADOPTING "GUIDELINES FOR THE ADMINISTRATION OF THE

AFFORDABLE HOUSING TRUST FUND"

#### **EXECUTIVE SUMMARY:**

Currently, the City does not have existing policies and procedures for awarding Housing Trust Fund monies across competing requests. As such, staff recommends that the City Council formalize a policy for the use of the Affordable Housing In-Lieu Fee Fund as San Rafael's primary Housing Trust Fund. Staff has prepared a resolution for City Council consideration which establishes guidelines for the allocation of funding through the Affordable Housing Trust Fund.

#### **RECOMMENDATION:**

Adopt the resolution

#### **BACKGROUND:**

Housing trust funds are established sources of funding for the production or preservation of affordable housing. Housing trust funds began as a way of funding affordable housing in the late 1970s, and since then, elected government officials from all levels of government (national, state, county and local) in the United States have established housing trust funds to support the construction, acquisition, reconstruction, and/or rehabilitation of affordable housing and related services to meet the housing needs of low-income households. Ideally, housing trust funds are funded through dedicated revenues like real estate transfer taxes or document recording fees to ensure a steady stream of funding rather than being dependent on annual budget allocation processes. As of 2016, 400 state, local and county housing trust funds existed across the U.S.

	FOR CITY CLERK ONLY	
File No.:		
Council Meeting:		
Disposition:		

### 1) Current State of City of San Rafael Affordable Housing Trust Funds

The City of San Rafael has two affordable housing trust funds. The first is Fund 495, the "Successor Agency Fund", containing the funds of the City of San Rafael as Successor Agency to the former San Rafael Redevelopment Agency. At present, the Successor Agency Fund has a balance of approximately \$600,000, with one ongoing source of revenue and one ongoing expense. The City receives approximately \$50,800 annually in payments from a \$750,000 loan provided by the former Redevelopment Agency to BRIDGE Housing for the acquisition, rehabilitation, and management of 26 affordable units at 162-172 Belvedere Street. The Successor Agency Fund is being used to pay the Marin Housing Authority to manage the City's below-market-rate (BMR) "Home Ownership Program", which currently costs approximately \$90,000. This fund is projected to be depleted within 15 years. At this time, given the annual net losses to the Successor Agency Fund, staff does not recommend that the City use the Successor Agency Fund to fund any upcoming affordable housing projects.

The City's second source of affordable housing funding is Fund 243 – the "Affordable Housing In-Lieu Fee Fund". Revenue for this fund comes from fees charged to new residential and commercial developments as stipulated in the City's inclusionary housing policy. These fees are dedicated for the creation, rehabilitation and/or acquisition (development or purchase) of rental or ownership housing specifically for households that qualify as very low-, low-, and moderate-income.

At present, revenue for the Affordable Housing In-Lieu Fee Fund is dependent on the pace of new development in San Rafael. Currently, this fund has a balance of approximately \$1,300,000 with at least an additional \$900,000 in fees projected over the next five years, not including a potential one-time payment of approximately \$1.5 million anticipated from BioMarin.

Over the last six months, staff has been approached with funding requests for a variety of projects ranging from new construction of permanent supportive housing units to the acquisition of an existing market rate property for affordability deed restrictions. Currently, the City does not have existing policies and procedures for awarding Housing Trust Fund monies across competing requests. As such, staff recommends that the City Council formalize a policy for the use of the Affordable Housing In-Lieu Fee Fund as San Rafael's primary Affordable Housing Trust Fund ("Housing Trust Fund").

#### 2) Leveraging Other Funding Opportunities

In addition to these inbound requests, new State funding opportunities have also added urgency to formalizing our Housing Trust Fund policy. Nearly \$6 billion in state funding has been allocated specifically for housing development. Programs like the <u>Local Housing Trust Fund Program</u> (LHTF) have been designed specifically to match local housing trust funding to increase the feasibility of affordable housing projects. In Spring 2020, the LHTF is anticipated to award \$56.7 million statewide in matching funds. Other state funding programs provide preference for eligible affordable housing projects that receive local funding.

Furthermore, without matching local funding it is very difficult, if not impossible, for developers to leverage these additional financial sources. Traditional affordable housing financing mechanisms like Low Income Tax Credits (LIHTC) and the Affordable Housing and Sustainable Communities (AHSC) program require local funding in order to be eligible. In the next four years, California has allocated over \$1.5 billion for LIHTC and AHSC funding.

Due to this historic level of state and federal funding, it is paramount that any Housing Trust Fund policy provide flexibility to the City and the developer to best qualify for these outside financing sources.

### **ANALYSIS:**

Staff's proposed Affordable Housing Trust Fund Administrative Guidelines Resolution (Attachment 1) is based on the County of Marin's Housing Trust Fund <u>Implementation Guidelines</u> and <u>Application Process</u>. This resolution would establish the guidelines for staff review of Housing Trust Fund applications and recommendations for funding. All projects receiving a staff recommendation for funding would be required to come to City Council for final approval.

#### i. Application Process

Maintaining flexibility for both the City and developer is the key factor staff used to develop the proposed application process to award and disperse funding. The proposed policy includes two types of application processes for dispersing Housing Trust Fund monies: a Notice of Funding Availability (NOFA) process and a rolling application process.

The proposed NOFA process provides a competitive application procedure for periods when requests for funding exceed the trust fund balance. The proposed policy allows the City to conduct a NOFA process at any time and would allow staff to determine the specific NOFA amount. If the NOFA amount is less than the fund balance, the remaining fund balance would remain in the trust fund for use in the rolling application process.

The rolling application process is intended to provide City funding for eligible projects that need a funding decision quickly or before a NOFA process can be conducted. Applications submitted under this process would be reviewed by staff, then a funding recommendation scheduled for City Council consideration at a regularly-scheduled meeting. Often, projects requiring this expedited decision are acquisitions of market rate properties that require immediate action but can be deed restricted as affordable housing once acquired.

Applicants in both processes are required to meet the same eligibility criteria and submit the same application (Attachment 3). Once an application is submitted staff will review the application and make recommendations to the City Council to approve or reject a funding request. Staff reserves the right to determine the reasonableness of all costs and fees associated with a project, including developer fees.

Staff anticipates developing and issuing a NOFA upon adoption of the proposed resolution. Meanwhile, staff will move on developing recommendations on projects with merit.

### ii. Oversight

As proposed, the Housing Trust Fund would be governed by the City Council. The City Council would provide oversight to the Housing Trust Fund and will review all loans/grants for approval or denial. This review process will take place through the regular agenda of the City Council. Minutes will be recorded at all meetings and maintained by City staff. The City's Community Development Department will process all applications and make funding recommendations to the City Council.

#### iii. Eligible Projects

Like the County, staff recommends that the Housing Trust Fund be available for, but not limited to, the following type of projects:

- Rental housing that meets the affordability requirements, including Permanent Supportive Housing
- SRO (single-room occupancy) projects
- Supportive and transitional housing

- The residential portions of mixed-use and live/work projects that meet the affordability requirements of these guidelines
- Conversion of market rate housing to affordable, or of non-residential buildings to affordable housing;
- Single-family or multi-family homeownership projects that meet affordability guidelines
- Any other project that meets the goals and priorities of the Guidelines.

#### iv. Eligible Applicants

The following organizations are eligible to apply for Housing Trust Fund monies:

- Non-profit organizations, qualified as a 501(c)(3) of the Internal Revenue Code
- Public agencies
- For-profit developers working in partnership with a 501(c)(3) nonprofit organization will be eligible to apply
- Any other application that helps to address program goals and priorities of increasing affordable housing as reflected by ordinances and resolutions established by the City Council.

#### v. Activities Eligible for Funding

Funding will be available for any cost associated with the new construction, acquisition or rehabilitation. The Trust Fund may provide funding for the following types of activities:

- Seed/Catalyst funds for very early costs to initiate or expedite project development (such as feasibility analysis or community planning
- Land or property acquisition for new development
- Predevelopment (architecture, engineering/soils, environmental reports, financial consultants, etc.)
- Construction (site preparation, construction, materials)
- Rehabilitation activities to renovate existing rental units
- Conversion of market rate housing, or non-residential buildings, to deed-restricted affordable housing
- Any other activity that helps to address program goals and priorities of increasing affordable housing as reflected by ordinances and resolutions established by the City Council.

#### vi. Funding Terms & Amounts

Housing Trust Fund monies will generally be available in the form of a loan or a grant. Loan length and terms will vary by project to meet the needs of the project, availability of financing, financing method, development configuration and organizational capacity of the applicant, as determined by staff and the City Council. Loans can be due at maturity or paid in installments with payback ranging from as little as 3 months to 55 years.

#### vii. Evaluation Criteria

While these policies will provide a high-level framework for the City's Housing Trust Fund, with so many inbound requests for funding, prioritization will be critical. Many jurisdictions provide a nominal amount of funding to every application they receive, but this approach often leaves projects with funding gaps. Housing Trust Fund monies are then unavailable as the project tries to fill the funding gap.

For the San Rafael Housing Trust Fund, staff recommends a bias towards filling a final funding gap to create a fully funding project. By fully funding projects the Housing Trust Fund will prioritize projects that include:

- a tangible and cost-effective benefit to the community
- an experienced and highly capable Development Team (i.e. Developer, Architect, Financing Partners, General Contractor, and Construction Management)
- an experienced and highly capable Management Team (i.e. Property Owner, Property Management, Financial Partners, Service Providers)
- documentation showing a readiness to proceed
- financing and in-kind contributions to match city investment
- reasonable per unit subsidy including evaluation of the target population, project type and cost effectiveness (cost per person, externalities, reserves, leveraging).

#### viii. Reporting Requirements

Applicants receiving Housing Trust Funds must notify Staff in writing of all major changes, financial or otherwise, relating to an application for financial assistance or an approved project. Depending on the size and type of loan or grant requested, the following may be required: a written breakdown of expenditures funded with Housing Trust proceeds; receipts, invoices and cancelled checks; annual reports certifying ongoing affordability; annual reports on project demographics and affirmative marketing plans; annual written reports describing any changes in the project development, operations, or management; and/or audited annual financial statements.

#### **COMMUNITY OUTREACH:**

Community outreach for this report was conducted in tandem with the outreach for the informational report on the challenges to approving and developing housing. As part of this outreach, Staff recently held two evening public workshops dedicated to the housing topics and policies outlined in that report:

- Housing Workshop #1 was held on November 3, 2019. This workshop: a) provided my in-depth information on the current housing crisis; and b) focused on the recommended policy actions specific to the regulation/zoning and permit streamlining.
- Housing Workshop #2 was held on November 14, 2019. This workshop: a) included a
  presentation on housing development financing and funding sources; and b) focused on the
  recommended policy actions specific to City's inclusionary housing requirements and use of the
  City's Housing Trust Fund.

#### **FISCAL IMPACT:**

There is no direct fiscal impact from adopting the proposed resolution. Any staff recommendations for Housing Trust funding are required to return to City Council for consideration. The fiscal impact for these staff recommendations will be assessed and determined as each is brought forward to the City Council for consideration and action.

#### **OPTIONS:**

The action before City Council relates to the consideration of the resolution establishing policies and procedures for awarding funding from the Affordable Housing Trust Fund. For this action, City Council has the following options to consider:

- 1. Adopt the resolution as presented;
- 2. Adopt the resolution with modifications;
- 3. Direct staff to return with more information; or

4. Take no action.

## **RECOMMENDED ACTION:**

Adopt the resolution.

## **ATTACHMENTS:**

- 1. Policy Resolution
- 2. Affordable Housing Trust Fund Application

RESOI	LUTION	NO.	
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## RESOLUTION OF THE SAN RAFAEL CITY COUNCIL ADOPTING "GUIDELINES FOR THE ADMINISTRATION OF THE AFFORDABLE HOUSING TRUST FUND"

**WHEREAS**, Section 14.16.030.J of the San Rafael Municipal Code establishes the creation of a segregated housing in-lieu fee account to be funded by housing in-lieu fees to be used solely to increase and expand the supply of housing affordable to very low-, low- and moderate-income households; and

**WHEREAS**, the City of San Rafael maintains Fund 243 - the Affordable Housing In-Lieu Fee Fund with on-going dedicated funding from housing in-lieu fees; and

**WHEREAS**, this Affordable Housing In-Lieu Fee Fund is the City's Housing Trust Fund, exclusively dedicated to the production and protection of affordable housing units in the City of San Rafael; and

**WHEREAS**, the San Rafael City Council finds it necessary to establish guidelines which establish priorities, criteria, and administrative processes for distribution of Housing Trust Fund monies and project selection;

**NOW, THEREFORE BE IT RESOLVED,** that the City Council of the City of San Rafael hereby adopts the following "Guidelines for the Administration of the Affordable Housing Trust Fund":

#### SECTION 1 PURPOSE AND INTENT

The City's Affordable Housing Trust Fund, or Housing Trust Fund, was created to increase the stock of permanently affordable housing units in the City of San Rafael. The Housing Trust Fund provides a local funding source for financial and technical assistance to help affordable housing developers produce and preserve affordable housing. These guidelines are intended to provide direction as well as flexibility for staff in making recommendations for Program funding.

#### SECTION 2 APPLICABILITY

The provisions of this Program shall apply to all real property in the San Rafael city limits including a single-family dwelling or unit in a multifamily or multipurpose dwelling, a unit in a condominium or cooperative housing project, or a unit in a structure that is being used for residential uses whether or not the residential use is a conforming use permitted under the San Rafael Municipal Code, which is hired, rented, or leased to a household within the meaning of California Civil Code Section 1940.

#### **SECTION 2 DEFINITIONS**

- A. "Affordable Rent" means a housing unit that satisfies at least one of the following criteria:
  - 1) If the unit is being rented to Low-Income, Very Low-Income or Extremely Low-Income Households

- 2) If the unit is being sold, it is offered at an "affordable housing cost", as defined in Health & Safety Code Section 50052.5
- 3) If the unit is being rented to Moderate-Income households, it is available at a gross rent, including a utility allowance, that does not exceed 30 percent of the applicable income eligibility level, and complies with the definition of Moderate-Income in these guidelines
- B. "Applicant" means one of the following:
  - 1) Non-profit organizations, qualified under Section 501(c)(3) of Title 26 of the Internal Revenue Code ("501(c)(3) nonprofit organization")
  - 2) Public agencies
  - 3) For-profit developers working in partnership with a 501(c)(3) nonprofit organization
  - 4) Any other application that helps to address program goals and priorities of increasing affordable housing as reflected by ordinances and resolutions established by the City Council
- C. "Area Median Income" means the most recent applicable Marin County median family income published by the California Department of Housing and Community Development, available at the following link: <a href="http://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-incomelimits.shtml">http://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-incomelimits.shtml</a>
- D. "Department" means the Community Development Department.
- E. "Development Team" means the Developer, Architect, Financing Partners, General Contractor, and Construction Management personnel associated with an eligible project.
- F. "Director" means the Community Development Department Director.
- G. "Eligible Activity" means any of the following:
  - 1) Seed/Catalyst funds for very early costs to initiate or expedite eligible project development (such as feasibility analysis or community planning)
  - 2) Land or property acquisition for new development
  - 3) Predevelopment (architecture, engineering/soils, environmental reports, financial consultants, etc.)
  - 4) Construction (site preparation, construction, materials)
  - 5) Rehabilitation activities to renovate existing rental units
  - 6) Conversion of market rate housing, or non-residential buildings, to deed restricted affordable housing
  - 7) Any other activity that helps to address program goals and priorities of increasing affordable housing as reflected by ordinances and resolutions established by the City Council
- H. "Eligible Project" means a project which includes, but is not limited to:
  - 1) Rental housing projects that meet the affordability requirements of these guidelines including Permanent Supportive Housing. The affordability of all

- units assisted by Program Funds shall be income and rent restricted for not less than 55 years;
- 2) Single-room occupancy ("SRO") projects;
- 3) Emergency Shelters;
- 4) Supportive and transitional housing;
- 5) The residential portions of mixed-use and live/work projects that meet the affordability requirements of these guidelines;
- 6) Conversion of market-rate housing to affordable, or of non-residential buildings to affordable housing;
- 7) Single-family or multi-family homeownership projects that meet affordability guidelines; and
- 8) Any other activity that helps to address Program goals and priorities of increasing affordable housing as reflected by ordinances and resolutions established by the City Council.
- I. "Emergency Shelter" means the same as in Code of Federal Regulations Title 24, Section 576.2, as amended from time to time.
- J. "Extremely Low-Income" has the meaning set forth in Health & Safety Code Section 50106. Grantees shall utilize income limits issued by the California Department of Housing and Community Development at the following link: <a href="http://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-incomelimits.shtml">http://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-incomelimits.shtml</a>
- K. "Grantee" means an entity that has received an award of Program Funds.
- L. "Homeownership Project" or "Units Within a Homeownership Project" means an Eligible Project that uses Program Funds to assist in the acquisition, construction or rehabilitation of owner-occupied housing units in which the homeowner has an ownership interest sufficient to comply with Health & Safety Code Section 50843.5(d)(3), including the construction, repair, reconstruction or rehabilitation of Accessory Dwelling Units or Junior Accessory Dwelling Units.
- M. "Low-Income Households" has the meaning set forth in Health & Safety Code Section 50079.5 for "Lower income households". Grantees shall utilize income limits issued by the California Department of Housing and Community Development at the following link: <a href="http://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits.shtml">http://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits.shtml</a>
- N. "Management Team" means the Property Owner, Property Management, Financial Partners, and/or Service Providers associated with an eligible project.
- O. "Moderate-Income Persons and Families Households" has the meaning set forth in Health & Safety Code Section 50093. Grantees shall utilize income limits issued by the California Department of Housing and Community Development at the following link: <a href="http://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-incomelimits.shtml">http://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-incomelimits.shtml</a>
- P. "NOFA" means a Notice of Funding Availability issued by the Department to announce the availability of Program Funds, the terms and conditions of awards, and requirements for the submittal of applications.

- Q. "Permanent Supportive Housing" has the same meaning as "supportive housing" in Health & Safety Code Section 50675.14: housing, with no limit on the length of stay, that is occupied by the target population, and that is linked to onsite or offsite services that assist the supportive housing residents in retaining the housing, improving his or her health status, and maximizing his or her ability to live and, when possible, work in the community. Permanent Supportive Housing may include associated facilities if used to provide services to housing residents. Permanent supportive housing does not include "health facility" as defined by Health & Safety Code Section 1250, or any "alcoholism or drug abuse recovery or treatment facility" as defined by Health & Safety Code Section 11834.02, or "community care facility" as defined in Health & Safety Code Section 1502, or "Mental health rehabilitation centers" as defined in Section 5675 of the Welfare and Institutions Code, or other residential treatment programs.
- R. "Program" means the administration of the Affordable Housing Trust Fund, as implemented in these Guidelines.
- S. "Program Application" means an application in a form prescribed by the Program.
- T. "Program Funds" means the funds provided by the Affordable Housing Trust Fund pursuant to these Guidelines
- U. "Public Agency" means
- V. "Single Room Occupancy or SRO project" means
- W. "Transitional Housing" means the same as in Code of Federal Regulations Title 24, Section 578.3.
- X. "Very Low-Income" has the meaning set forth in Health & Safety Code Section 50105. Grantees shall utilize income limits issued by the California Department of Housing and Community Development for Very Low-Income households for each county at the following link: <a href="http://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-incomelimits.shtml">http://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-incomelimits.shtml</a>

#### **SECTION 3 ORGANIZATION & OVERSIGHT**

The Housing Trust Fund will be governed by the San Rafael City Council. The City Council will provide oversight to the Housing Trust Fund and will review all loans and grants for approval or denial. This review process will take place through the regular agenda of the City Council. Minutes will be recorded at all meetings and maintained by City staff. The Department will process all applications and make funding recommendations to the City Council.

#### SECTION 4 APPLICATION PROCESS

Applicants with eligible projects seeking Program funding for an eligible activity may apply via one of two application processes:

A. NOFA Application Process. When necessary, the Program may issue a NOFA announcing availability of Program Funds, the terms and conditions of awards, and requirements for the submittal of applications. Program Funds made available through the NOFA may not be greater than the balance of the Affordable Housing Trust Fund.

Rolling Application Process. During periods without an issued NOFA by the Program, Applicants with eligible projects seeking Program funding for an eligible activity may submit a Program Application. Applicants must contact Program staff by phone or email prior to Program Application submittal. Completed Program Applications must be submitted to the Director. Once a Program Application is received by the Director. Program staff will make a recommendation to the San Rafael City Council to approve or reject the funding request.

Under both processes, Program staff reserve the right to determine the reasonableness of all costs and fees associated with a project, including developer fees.

#### SECTION 5 EVALUATION CRITERIA

All funding applications will be evaluated using the following criteria:

- A. Community Benefit. Eligible projects must provide a tangible and cost-effective benefit to the community as well as the intended beneficiaries.
- B. Development Team's Capacity. Eligible projects must show Development Team experience and capacity (skills, experience, resources) to achieve the proposed activity.
- C. Management Team's Capacity. Eligible projects must show organizational experience and capacity (skills, experience, resources) to achieve the proposed activity, including the organization's financial health. The organization may not have any unresolved financial audit findings. Applications should include applicant monitoring and reporting record, previous project experience and property management experience.
- D. Readiness to Proceed. Where applicable, the City will prefer eligible projects which can show a combination of the following:
  - i. site control;
  - ii. third party capital needs assessment completed within past 12 months;
  - iii. scope of work identifying critical repairs;
  - iv. expected planning and zoning approval within 90 days of funding approval;
  - v. construction/acquisition start (within 12 months of application);
  - vi. construction cost estimate:
  - vii. substantial amount of other financial resources committed; and
  - viii. relocation and/or replacement housing plan and budget identified
- E. Leverage and Collaboration. The City encourages applicants to seek other financing and in-kind contributions to match City investment. Other things being equal, applications with greater matching sources will receive more favorable consideration. The City prefers not to be the sole source of funding for a project or program.
- F. Per Unit Subsidy (PUS). Recognizing the cost per residential unit will vary per project due to a variety of factors, there is no specific PUS. Reasonable PUS includes evaluation of the target population, project type and cost effectiveness (cost per person, externalities, reserves, leveraging).

#### **SECTION 6 FUNDING TERMS**

Program Funds will generally be available in the form of a loan or a grant. Loan length and terms will vary by project to meet the needs of the project, availability of financing, financing method, development configuration and organizational capacity of the applicant, as determined by staff and the City Council.

#### SECTION 7 REPORTING REQUIREMENTS

Grantees must notify Program staff in writing of all major changes, financial or otherwise, relating to an application for financial assistance or an approved project.

Depending on the size and type of loan or grant requested, the following may be required: a written breakdown of expenditures funded with Housing Trust Fund proceeds; receipts, invoices and cancelled checks; annual reports certifying ongoing affordability; annual reports on project demographics and affirmative marketing plans; annual written reports describing any changes in the project development, operations, or management; and/or audited annual financial statements.

**BE IT FURTHER RESOLVED** that any and all amendments to the "Guidelines for the Administration of the Affordable Housing Trust Fund" herein, as deemed necessary from time-to-time, shall be adopted by resolution of the City Council.

I, LINDSAY LARA, City Clerk if the City of San Rafael, hereby certify that the foregoing

resolution was duly and regularly introduced and adopted at a regular meeting of the City Council held on the 21<sup>st</sup> day of January 2020 by the following vote to wit:

AYES:

NOES:

ABSENT:

LINDSAY LARA, City Clerk



Application

The City of San Rafael Affordable Housing Trust Fund ("Trust Fund") was created to increase the stock of permanently affordable homes in the City. The Trust Fund provides a local funding source for financial and technical assistance to help non-profit affordable housing developers and local public agencies produce and preserve affordable housing for low and very-low income households in the City of San Rafael.

### **Application Process**

- Unless during an active Notice of Funding Availability (NOFA) process, the Trust Fund application period is ongoing, and applicants may submit requests at any
- Applicants must contact staff by phone or e-mail prior to submitting an application.
- Staff will make a recommendation to the San Rafael City Council to approve or reject a funding request.
- Staff reserve the right to determine the reasonableness of all costs and fees associated with a project, including developer fees.

### **Reporting Requirements**

Staff must be notified in writing of all major changes, financial or otherwise, relating to an application for financial assistance or an approved project.

Depending on the size and type of the loan or grant requested, the following may be required:

- A written breakdown of expenditures funded with Housing Trust proceeds;
- Receipts, invoices and cancelled checks;
- Annual reports certifying ongoing affordability;
- Annual reports on project demographics and affirmative marketing plans;
- Annual written reports describing any changes in the project development, operations, or management; and/or
- Audited annual financial statements

For more information, please contact:
Paul Jensen
Community Development Director
(415) 485-5064
paul.jensen@cityofsanrafael.org



Application

## **Application Checklist**

A. Application Forms
☐ 1. A Completed Application Checklist
☐ 2. Completed Application, signed by authorized personnel of the applicant
☐ 3. Completed Application Excel Spreadsheet including each of the following tabs:
☐ a. Rent Roll (if applicable)
☐ b. Performance Schedule
☐ c. Acquisition Sources and Uses
☐ d. Permanent Sources and Uses
e. Completed 1-Year Operating Budget and 20-Year Cash Flow.
B. Organizational Attachments (as applicable)
Applicant Co-Applicant
☐ 1. Current year's operating budget
<ul><li>2. Financial statements for last three fiscal years (audited preferred)</li></ul>
<ul><li>3. Names and Addresses of Board of Directors</li></ul>
☐ 4. IRS Tax Exemption letter
C. Required Attachments
The following attachments must be submitted with your application.
☐ 1. Documentation of site control (e.g. Purchase Contract, Option to Purchase,
Grant Deed)
<ul> <li>2. Board Resolution that authorizes site acquisition and application for Local Housing Trust funds (if entity's governing body is a board)</li> </ul>
<ul><li>3. Affirmative Marketing Plan (City template available)</li></ul>
<ul> <li>4. Memorandum of Understanding between co-applicants or borrower and development consultant (if applicable)</li> </ul>
D. Supplemental Attachments (as applicable)
The following additional attachments may be requested after the Application has been
submitted.
☐ 1. Appraisal (including Fair Market Value and Value with Regard to Restrictions)
☐ 2. Preliminary Title Report
☐ 3. Capital Needs Assessment
☐ 4. Architectural Drawings
☐ 5. Property Inspection Reports
☐ 6. Survey and Analysis of Building Systems
☐ 7. Phase I Environmental Site Assessment
☐ 8. Phase II Environmental Site Assessment
$\square$ 9. Copies of applications for other funding and commitment letters
☐ 10. Tenant Income Certification Forms for no less than 50% of the existing residents
☐ 11. Proposed Temporary Relocation Plan



Application

Application Informa	<u>ation</u>		
Organization:			
Contact Name:		Title:	
Address:			
City:	State:	Zip:	
Phone:		Email:	
Co-Application Info	rmation		
Organization:			
Contact Name:		Title:	
Address:			
City:	State:	Zip:	
Phone:		Email:	
Co-Application Info	rmation		
Development Name:			
Development Address	·		·
City:	State:	Zip:	

## **Property Unit Mix**

APN (provide site name if applicable):

Number of anticipated units by income level and bedroom count

	Very-Low	Low	Moderate	Market	Total
Studio					
1-Bedroom					
2-Bedroom					
3-Bedroom					
4-Bedroom					
Total					

## **Additional Information:**

Please attach to this application the documentation addressing the following additional information:

## 1. Summary

Briefly summarize the request, including property description, proposed use of funds (and number of units involved).



**Application** 

## **Additional Information:** (con't)

### 2. Background/ Applicant History

- 2.1 <u>Property History.</u> Please provide the property's history leading up to this request. Include when the sponsor acquired/will acquire the property, any previous requests for County funding, attempts to secure other financing, etc.
- 2.2 <u>Applicant Profile.</u> Please provide a profile of the applicant (and of the co-applicant, if applicable). Include a description of the organization, including its mission, how long it has been in existence, experience of staff, and characteristics of its Board of Directors. Describe any recent expansion or cutbacks in activities and/or budget, as well as the organization's standing with licensing or other "accreditation" authorities, if applicable
- 2.3 <u>Project Manager.</u> Describe staff assigned to the proposed property, their experience with acquiring/owning/rehabilitating similar sites, their current availability, and what percentage of time they expect to work on the subject project. Indicate similar projects each staff member has successfully completed.
- 2.4 <u>Property Manager.</u> Please provide the name of the property management company that will be hired to manage the property (if applicable). Include the number of buildings and number of units the company currently manages that are affordable

#### 3. Site

- 3.1 Site Control. Please describe the type of site control that the applicant has for the proposed property and submit documentation in accordance with the Application Checklist. If this request includes funds for acquisition, summarize the acquisition terms, price, contingencies, conditions and deadlines. When available, please submit a copy of an appraisal of the property and of a Board Resolution that authorizes your organization to acquire the site.
- 3.2 <u>Unusual Characteristics</u>. Please describe any unusual characteristics of the site (e.g. slope, rock formations, etc.) and any easements or encroachments granted to or caused by adjacent parcels and improvements.
- 3.3 Existing developments. Building Inspection Report. Please describe any significant findings of building inspection reports and submit copies of any building inspection reports and surveys/analyses of any building systems, in accordance with the Application Checklist.
- 3.4 <u>Adjacent Uses.</u> Indicate land uses of other parcels within the immediate vicinity of the project.



**Application** 

## **Additional Information:** (con't)

## 3. Site (con't)

3.5 Neighborhood Amenities. Describe any nearby amenities, such as parks, public

transportation, grocery stores, health care facilities, schools, childcare, libraries, parks/open space, etc., that residents of the project are/would be able to use.
3.6 Environmental Issues/Site Suitability. Please explain the relevant environmental
issues of the proposed project. Include any of the following items that are known.
☐ Flood Zone
☐ Phase I/II Site Assessment Results
☐ Potential Hazards
☐ Environmentally sensitive area or species
☐ Cultural resources
If applicable and when available, submit a copy of the Phase I and Phase II
Environmental Site Assessments.
3.7 <u>State/Federal Environmental.</u> Please describe how you plan to comply with state
and federal requirements for environmental reviews, if any, including Section 106
review for historic preservation.

### 4. Development/ Rehabilitation Plan

- 4.1 Proposed New Construction. Entitlements. For new construction, please describe in detail the permits that will be required, for example Design Review, Master Plan, Zone Change, General Plan Change, Coastal Permits, etc.
- 4.2 Proposed New Construction- Local Planning contact. Please describe any contact with the local planning staff and any specific feedback provided.
- 4.3 Proposed New Construction Population to be served. Describe the type of housing, family, senior, individuals with disabilities, etc.



**Application** 

## **Additional Information:** (con't)

#### 4. Development/ Rehabilitation Plan (con't)

4.4 <u>Proposed Rehabilitation or Acquisition Scope.</u> Describe the scope of the rehabilitation that is proposed for the property and how it will address specific conditions, i.e. replacement needs, deferred maintenance, existing building violations, required seismic upgrades, building or health codes problems. Please describe any other existing rehabilitation needs that are not included in the proposed scope of work and explain their exclusion.

Explain how the rehabilitation will be staged to minimize risk and inconvenience to the residents. If certain systems or parts of residents' units will be temporarily inoperable or unusable (e.g. kitchen or bathroom) during construction, state the estimated duration of such interruptions and what mitigations will be provided.

If applicable, submit a capital needs assessment and any corresponding architectural drawings, in accordance with the Application Checklist.

- 4.5 <u>Proposed Rehabilitation or Acquisition Population to Be Served.</u> Describe the demographics of the current tenants in the building.
- 4.6 <u>Relocation.</u> If applicable, describe in detail any temporary relocation of existing tenants at the site that will be necessitated by the proposed rehab scope. Include an explanation of the need for relocation, estimated duration, number of tenants that will be impacted, and which laws (local, state, federal) must be followed in carrying out the relocation.
- 4.7 <u>Accessibility</u>. Please identify all applicable laws and the specific accessibility requirements that must be met in the design of the proposed project. If existing, please describe the accessibility of the building and the extent to which that accessibility will be upgraded.
- 4.8 <u>Community Support.</u> Describe community engagement activities that have taken place and future plans that will take place

### 5. Financing Plan (Sources and Uses)

- 5.1 <u>Existing Financing.</u> In the chart below, list any financing (loans and grants) previously received from all public and private sources for this building.
- 5.2 <u>Proposed Financing.</u> Sources & Uses Table. Please provide proposed sources and uses of funds for the project. Include both committed and anticipated sources. Provide a complete Sources and Uses Table for acquisition and for permanent sources. Provide an anticipated per unit subsidy.



**Application** 

## **Additional Information:** (con't)

## 5. Financing Plan (Sources and Uses) (con't)

- 5.3 <u>Proposed Sources Narrative.</u> For the sources shown in item 5.2, Sources & Uses Table, please indicate the following:
  - the status of all proposed funding sources as of the date of this application
  - the timing and likelihood for obtaining commitments of anticipated funding sources
  - the alternatives that will be pursued in the event that any funding sources are not obtained or are committed at lower levels than requested
- 5.4 <u>Proposed Uses Narrative.</u> For the uses shown in item 5.2, Sources & Uses Table, please explain how the budgeted amount was derived for each of the uses that are applicable to the proposed project. State whether costs are estimated or bid, and provide any other relevant information which justifies the budgeted expense, such as cost per square foot, percentage of other costs (e.g. contingency), estimated number of work hours.

#### 6. Project Operations

- 6.1 <u>Annual Operating Budget.</u> Using the Excel file provided, produce an operating budget. Include notes that explain how the budgeted costs were determined and other relevant information that justifies the budgeted expenses.
- 6.2 <u>20-Year Cash Flow.</u> Using the Excel file provided, produce a 20-year cash flow budget. In the space below, provide a narrative of any notable occurrences during the 20-year period.
- 6.4 <u>Section 8 Voucher Compliance.</u> Please confirm that the property will be registered with the Marin Housing Authority as a site that will accept Section 8 vouchers.



Agenda Item No: SA 1.a

Meeting Date: January 21, 2020

# SUCCESSOR AGENCY TO THE REDEVELOPMENT AGENCY AGENDA REPORT

**Department: Finance Department** 

**Prepared by: Nadine Atieh Hade** 

**Finance Director** 

**City Manager Approval:** 

TOPIC: QUARTERLY INVESTMENT REPORT

SUBJECT: ACCEPTANCE OF SUCCESSOR AGENCY QUARTERLY INVESTMENT REPORT

**RECOMMENDATION:** Accept investment report for the quarter ending December 31, 2019, as presented.

**BACKGROUND:** Pursuant to the State of California Government Code Section 53601 and the City's investment policy, last approved by the City Council on June 17, 2019, staff provides the governing body a quarterly report on the Successor Agency's investment activities and liquidity.

**ANALYSIS:** The Successor Agency checking account had a balance of \$37,724 at quarter-end. These funds were available for the administration of the activities of the Agency, as well as for approved agency commitments.

FISCAL IMPACT: No financial impact occurs by adopting the report.

**RECOMENDATION:** Accept investment report for the quarter ending December 31, 2019, as presented.

#### **ATTACHMENT:**

Successor Agency Cash & Investment Report October through December 2019.

	FOR CITY CLERK ONLY	
File No.:		
Council Meeting:		
Disposition:		

#### TREASURER'S CERTIFICATION

I CERTIFY THAT ALL INVESTMENTS MADE ARE IN CONFORMANCE WITH SUCCESSOR AGENCY'S APPROVED INVESTMENT POLICY AND STATE INVESTMENT REGULATIONS. THE SUCCESSOR AGENCY HAS SUFFICIENT LIQUIDITY TO MEET ALL OF THE OBLIGATIONS REQUIRED DURING THE NEXT SIX-MONTH PERIOD, SUBJECT TO OVERSIGHT BOARD APPROVAL OF OBLIGATIONS AND THE SUBSQUENT TIMELY COUNTY DISBURSEMENT OF FUNDS.

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Nadine Atieh Hade Finance Director

## SUCCESSOR AGENCY TO SAN RAFAEL REDEVELOPMENT AGENCY

CASH and INVESTMENTS QUARTER ENDED 12/31/2019

ISSUER	TYPE	PURCHASE DATE	MATURITY DATE	YIELD	P	URCHASE PRICE	PAR VALUE	MARKET VALUE	Days to Maturity		% OF TOTAL	AS OF	
CASH ACCOUNTS:									•				
WESTAMERICA	DD	N/A	N/A		\$	386,390.35	\$ 386,390.35	\$ 37,723.58		1	100.00%	10/31/2019	Transfer of \$348,666.77 to GF
WESTAMERICA	DD	N/A	N/A		\$	37,723.58	\$ 37,723.58	\$ 37,723.58		1	100.00%	11/30/2019	
WESTAMERICA	DD	N/A	N/A		\$	37,723.58	\$ 37,723.58	\$ 37,723.58		1	100.00%	12/31/2019	
TOTAL INVESTMENTS					\$	-	\$ -	\$ -					

TOTAL CASH & INVESTMENTS - QUARTER-END BALANCE	\$ 37,723.58 \$	37,723.58 \$	37,723.58	300.00%
% Portfolio held 1 year or less				

100%

TYPE: DD - Demand Deposit