



Contra Costa County
Public Works
Department

Brian M. Balbas, Director

Deputy Directors
Stephen Kowalewski, Chief
Allison Knapp
Warren Lai
Carrie Ricci
Joe Yee

July 13, 2020

Christine Schneider
Contra Costa Water District
1331 Concord Ave, Concord CA 94520

RE: Marsh Creek Road Bridge Replacement Project,
Bridges #28C-0143 and #28C-0145 Project
Project No.: 0662-6R4083

Dear Christine Schneider:

Thank you for providing comments on behalf of Contra Costa Water District.

This letter is intended to address your comments submitted on April 22, 2020. Our responses to your comments are presented below and follow the order of your comments (numbered in the margin of your letter and attached for reference).

Response #1: The CCWD parcel APN 007-160-014 is located on the south side of Marsh Creek Road at the Bridge 145 Project Site. A portion of the CCWD parcel is within the Project Site, including: a narrow frontage strip that runs along Marsh Creek Road and the entrance of a CCWD access road (where the entrance of the access road will be reconstructed to align with the new roadway). There are dozens of oak trees within the CCWD parcel that were planted as mitigation, including along the frontage of the road and adjacent to the access road.

CCCPWD Design Engineers confirmed that the mitigation oak trees within the CCWD parcel would not be removed. Project specifications will require the trees on CCWD parcel to be protected in place.

Figure 5 of the MND shows which trees are anticipated to be removed. There are no trees identified for removal within the CCWD parcel. There is one oak tree identified for removal adjacent to the parcel, however it is within the Contra Costa County road right-of-way and was confirmed with CCWD staff that the tree in question was not a mitigation tree.

The reviewer suggested that this statement be added to the MND Environmental Checklist in Section IV. Biological Resources. This comment is incorporated into the MND document via inclusion of Attachment B Comment Letters and Responses.

Please contact me if you have any further questions on our responses to your comments at Laura.Cremin@pw.cccounty.us or (925) 313-2015.

Sincerely,

Laura Cremin

Laura Cremin
Environmental Analyst II
Environmental Services Division

LEC:

G:\engsvc\ENVIRO\TransEng\Marsh Creek Bridge Replacements #143 and #145\CEQA\Noticing\Response to Comments\2. Response to CVRWQCB.docx
Enclosures

c: N. Leary, Design/Construction
A. Brown, Environmental

Comment Letter #1

5/24/2020

RE: MCR Bridge 143/145 CEQA - Review? - Laura Cremin

RE: MCR Bridge 143/145 CEQA - Review?

Christine Schneider <cschneider@ccwater.com>

Wed 4/22/2020 4:39 PM

To: Laura Cremin <Laura.Cremin@pw.cccounty.us>;

Cc: Mark Seedall <mseedall@ccwater.com>; Jonathan L. Largent <jlargent@ccwater.com>; Cary Richardson <crichardson@ccwater.com>; Dino Angelosante <DAngelosante@ccwater.com>; Ave Brown <ave.brown@pw.cccounty.us>; Anna Chun <AChun@ccwater.com>;

1 Hi Laura—thanks for taking my call just now. As discussed on the phone, CCWD is concerned that the oak trees that were planted as mitigation adjacent to Bridge 145 would be affected by this project. The County's Initial Study Checklist/Responses (IS Checklist) in the Biology section is unclear on the effects of the purchase and/or construction at this site. Figure 5 from the IS Checklist shows that these trees would not be affected. However, to clarify, it would be useful to have a sentence in the IS Checklist that clearly states this point. The document at page 22 under the "Oak Woodland" bullet already states the following:

"At the Bridge 145 site BSA, the oak woodland is a restoration site with planted valley oak and coast live oak trees."

So it seems that all you need is a sentence that states "

As shown in Figure 5, none of the oak trees at Bridge 145 that were planted as a restoration site would be affected by the proposed project" (or something like that). This can be added at the first paragraph on page 23 (which starts with "There is a potential for several special-status plant species...").

I hope that this helps, Christine

Christine Schneider, MS, RLA

Senior Planner

P 925-688-8118

W cschneider@ccwater.com

CONTRA COSTA WATER DISTRICT

1331 Concord Avenue, Concord, CA 94520

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Contra Costa County
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Brian M. Balbas, Director

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Carrie Ricci
Joe Yee

July 15, 2020

Jordan Hensley
11020 Sun Center Drive #200
Rancho Cordova, CA 95670

RE: Marsh Creek Road Bridge Replacement Project,
Bridges #28C-0143 and #28C-0145 Project
Project No.: 0662-6R4083

Dear Jordan Hensley:

Thank you for providing comments on behalf of the Central Valley Regional Water Quality Control Board.

This letter is intended to address your comments submitted on May 26, 2020. Our responses to your comments are presented below and follow the order of your comments (numbered in the margin of your letter and attached for reference).

Response #1: Comment noted. Staff from the Contra Costa County Public Works Department (CCCPWD) recognize the importance of protecting the quality of surface and groundwaters of the state.

Response #2: The IS/MND evaluates potential impacts to surface and groundwater quality in Section X. Hydrology and Water Quality (refer to pages 53 – 58). Section X.e (pg. 57) specifically discusses consistency with the Basin Plan and Section X.a (Pg. 53 – 55) states that the project would comply with the provisions of the NPDES Construction General Permit, which will require a SWPPP be developed. The SWPPP will identify BMPs to avoid and minimize potential temporary impacts to surface water quality. Further, **Mitigation Measure BIO-1a through c** include measures to protect aquatic habitat (refer to pages 23 – 25 of the IS/MND) and **Mitigation Measure Haz-1** includes measures to minimize accidental release of hazardous materials.

Response #3: Comment noted. CCCPWD staff will submit the required permit applications.

Please contact me if you have any further questions on our responses to your comments at Laura.Cremin@pw.cccounty.us or (925) 313-2015.

Sincerely,

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Laura Cremin

Laura Cremin
Environmental Analyst II
Environmental Services Division

LEC:

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Enclosures

c: N. Leary, Design/Construction
A. Brown, Environmental



Central Valley Regional Water Quality Control Board

26 May 2020

Laura Cremin
Contra Costa County Public Works Department
50 Glacier Drive
Martinez, CA 94552

COMMENTS TO REQUEST FOR REVIEW FOR THE MITIGATED NEGATIVE DECLARATION, MARSH CREEK ROAD BRIDGE REPLACEMENT, BRIDGES #28C-0143 AND #28C-0145 PROJECT, SCH#2020040312, CONTRA COSTA COUNTY

Pursuant to the State Clearinghouse's 23 April 2020 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Mitigated Negative Declaration* for the Marsh Creek Road Bridge Replacement, Bridges #28C-0143 and #28C-0145 Project, located in Contra Costa County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of

KARL E. LONGLEY SCD, P.E., CHAIR | PATRICK PULUPA, ESQ., EXECUTIVE OFFICER

Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:

http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:

https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_2018_05.pdf

2

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

3

II. Permitting Requirements

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic

3 cont'd

General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at:
https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., “non-federal” waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:[https://www.waterboards.ca.gov/centralvalley/water_issues/waste to surface water/](https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/)

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at:
https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board’s Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

Marsh Creek Road Bridge Replacement, - 4 -
Bridges #28C-0143 and #28C-0145 Project
Contra Costa County

26 May 2020

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at:
https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

If you have questions regarding these comments, please contact me at (916) 464-4812 or Jordan.Hensley@waterboards.ca.gov.



Jordan Hensley
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research,
Sacramento



Contra Costa County
Public Works
Department

Brian M. Balbas, Director

Deputy Directors
Stephen Kowalewski, Chief
Allison Knapp
Warren Lai
Carrie Ricci
Joe Yee

July 15, 2020

Eduardo Guaracha
Diablo Range Superintendent
California State Parks, Diablo Range District
15751 Tesla Road
Livermore, CA 94550

RE: Marsh Creek Road Bridge Replacement Project,
Bridges #28C-0143 and #28C-0145 Project
Project No.: 0662-6R4083

Dear Eduardo Guaracha:

Thank you for providing comments on behalf of the California State Parks, Diablo Range District.

This letter is intended to address your comments submitted on May 26, 2020. Our responses to your comments are presented below and follow the order of your comments (numbered in the margin of your letter and attached for reference).

Response #1: Comment noted. Temporary construction easement and permanent right-of-way acquisition will be negotiated with State Parks through the Contra Costa County Real Estate Division. The County Real Estate Division has had initial engagement with State Parks, including:

- 1/3/19 meeting with State Parks, Bay Area District, that included general discussion of acquisition of land for Bridge 145.
- 10/3/19 site visit to Bridge 145 with State Parks, Diablo Range District representatives.
- 10/23/19 phone call wherein an overview was given of the County Real Properties land rights acquisition process.

Response #2: Comment noted. The Real Properties agreement would obtain authorization from appropriate entities.

Response #3: The IS/MND addresses impacts to natural and cultural resources through the following Mitigation Measures:

IV. Biological Resources.

- Mitigation Measure BIO-1a, b, and c include best management practices

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to avoid and minimize for general impacts. Refer to pages 23 – 25 of the IS/MND.

- Mitigation Measures BIO-2 through BIO-10 include specific species measures. Refer to pages 27 – 36 of the IS/MND.

V. Cultural Resources.

- Mitigation Measure CULT-1 includes Best Management Practices to protect unanticipated historic or pre-historic, archaeological, or paleontological resources. Refer to page 41.
- Mitigation Measure CULT-2 includes procedures to follow if human remains are encountered. Refer to Pg. 42.

Note that at Bridge 145, a geoarchaeological subsurface investigation was conducted in September 2018. An archaeological monitoring plan will be prepared prior to any ground disturbance. Archaeological monitoring by a qualified archaeologist will be conducted during all ground disturbing activities that yield visible spoils occurring between 5 feet below current ground surface and 20 feet below current ground surface.

The Project lies within the East Contra Costa County Habitat Conservation Plan/Habitat Conservation Plan (HCP/NCCP) Inventory Area of which CCPWD is a signatory agency. The HCP/NCCP assesses fees for Project impacts to vegetation communities, including trees, based on the underlying landcover type. CCPWD will pay fees for both permanent and temporary impacts at the site to the East Contra Costa County Habitat Conservancy which serves as compensatory mitigation for the Project.

With implementation of Mitigation Measures and payment of HCP/NCCP fees, project impacts have been mitigated to less than significant levels under CEQA.

Compensation for other construction impacts to State Parks would be identified and addressed through the Real Property agreement process (see Comment 1 above).

Response #4: A temporary construction easement (TCE) is proposed on State Parks property. The TCE would be along the outer edge of the State Parks property. HCP/NCCP fees will be paid to compensate for temporary construction impacts. Increased invasive species are not expected. Refer to Mitigation Measure BIO-1. Cut-and-fill slopes will be revegetated with native, non-invasive nonnative, or nonreproductive (i.e., sterile hybrids) plants, suitable for the altered soil conditions. Seed mixtures applied for erosion control will not contain invasive nonnative species, and will be composed of native species or sterile nonnative species. CCPWD has native seed mixes specially developed for the east county area, however, if State Parks has a preferred seed mix for use on State Parks land, please contact me at the email or

number provided below.

Please contact me if you have any further questions on our responses to your comments at Laura.Cremin@pw.cccounty.us or (925) 313-2015.

Sincerely,

Laura Cremin

Laura Cremin
Environmental Analyst II
Environmental Services Division

LEC:

G:\engsvc\ENVIRO\TransEng\Marsh Creek Bridge Replacements #143 and #145\CEQA\Noticing\Response to Comments\2. Response to State Parks.docx
Enclosures

c: N. Leary, Design/Construction
A. Brown, Environmental



DEPARTMENT OF PARKS AND RECREATION

Lisa Ann L. Mangat, Director

Diablo Range District
15751 Tesla Road
Livermore, CA 94550

May 26, 2020

Laura Cremin
Contra Costa County Public Works Department
255 Glacier Drive
Martinez, CA 94553
Laura.Cremin@pw.cccounty.us

RE: Marsh Creek Road Bridge Replacement Project
SCH Number 2020040312

Dear Ms. Cremin,

This letter provides comments by the Diablo Range District of the California Department of Parks and Recreation (State Parks) on the Contra Costa County Public Works Department Initial Study/Mitigated Negative Declaration (IS/MND) for the Marsh Creek Road Bridge Replacement 143 and 145 Project. Under the California Environmental Quality Act (CEQA), State Parks has a dual role as both a Trustee and a Responsible Agency. As a Trustee Agency, State Parks is responsible with protecting lands that are held in trust for the people of the State of California.

1 A portion of the proposed project will occur within Marsh Creek State Park. The IS/MND states that the project would require a temporary construction easement and permanent right-of-way acquisition of 0.65 acres of State Parks land. This comment letter does not authorize permanent right-of-way take of State Park property, or indicate that any type of permit or easement will be granted. Additional review by State Parks will be needed. You are encouraged to initiate acquisition and easement negotiations with State Parks as early in the project planning process as possible.

2 This property was purchased as mitigation for the adverse impacts of State Route 4 Bypass alignment with grant funding from the California Coastal Conservancy, Wildlife Conservation Board, U.S. Bureau of Reclamation, and California Department of Transportation. Contra Costa County will need to obtain authorization with these entities for consistency with the terms of those agreements.

3 Impacts to natural and cultural resources due to project construction activities should be mitigated within the park unit where impacts occur in order to return park property and/or resources to a pre-project condition or better, with the mitigation activities paid for by the project proponent. As you obtain required agreements/certification/permits, we encourage you to work with regulatory agencies to develop a mitigation framework for this project that will compensate State Parks for impacts to park property and the costs the department would incur to mitigate impacts, including those associated with

- 4 | increased invasive species management, permanent loss of native vegetation, and restoration of impacted native habitats and communities.

If you have any questions about this comment letter or would like to discuss project activities on State Parks property, please contact Diablo Range District Environmental Coordinator, Gina Benigno, at 916-409-8392 or gina.benigno@parks.ca.gov.

Sincerely,



Eduardo Guaracha
Diablo Range District Superintendent



Contra Costa County
Public Works
Department

Brian M. Balbas, Director

Deputy Directors
Stephen Kowalewski, Chief
Allison Knapp
Warren Lai
Carrie Ricci
Joe Yee

July 15, 2020

Melissa Farinha
2825 Cordelia Road, Suite 100
Fairfield, CA 94534

RE: Marsh Creek Road Bridge Replacement Project,
Bridges #28C-0143 and #28C-0145 Project
Project No.: 0662-6R4083

Dear Melissa Farinha and Gregg Erickson:

Thank you for providing comments on behalf of the California Department of Fish and Wildlife.

This letter is intended to address your comments submitted on May 26, 2020 and on June 18, 2020. Our responses to your comments are presented below and follow the order of your comments (numbered in the margin of your letter and attached for reference).

Response #1: We acknowledge Section IV.b of the IS/MND (refer to first paragraph of pg. 37) paragraph is unclear about the role of permit requirements to minimize impacts to water quality and riparian habitats. To clarify, the CEQA document includes a number of Mitigation Measures that the lead agency has identified to reduce and mitigate impacts to riparian habitat and sensitive natural communities to a less than significant level, including **BIO-1a through BIO-1c**, and payment of HCP/NCCP fees that provide species mitigation as well as contribution to recovery of species (habitat conservation) (pg. 23 – 24). The reference to permit requirements acknowledges that in addition to the identified Mitigation Measures, regulatory permits are also needed and will be followed.

Response #2: The Project is a covered project under the East Contra Costa County Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP) (California Department of Fish and Wildlife [CDFW] NCCP Permit number 2835-2007-001-03 and United State Fish and Wildlife Service [USFWS] 10(a) (1) (B) incidental take permit TE 160958-0). This HCP/NCCP, signed by both the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW), among others, defines measures to avoid, minimize, and mitigate impacts on covered species and their habitats and wetlands while allowing for expansion of urban infrastructure.

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The comment states that the HCP/NCCP does not cover native fishes. CCCPWD acknowledges that the special-status species covered in the HCP/NCCP does not include fishes. According to the NES (Natural Environment Study, September 2019), no special-status native fish were identified due to downstream barriers and there is no presence of essential fish habitat in the project vicinity. **Mitigation Measure BIO-1a through c** will be implemented to protect aquatic habitat (pages 23 – 25 of the IS/MND). Implementation of the measures detailed in the HCP/NCCP conservation strategy and adherence to the new C.3 Provisions of the County's Regional NPDES Permit would reduce the effects of HCP/NCCP-covered activities on Marsh Creek water quality and hydrology such that take of any special-status fish would be avoided. Further, the project will replace an existing bridge. The old abutments will be removed, and the creek bank stabilized and seeded with a native seed mix. The longitudinal alignment of the creek bed will remain largely unchanged and no permanent barriers to fish passage will be constructed. Rock slope protection will be limited to only the amount necessary to protect the abutments and will not span the creek thus the natural earthen bed will remain.

The comment states that the HCP/NCCP does not provide compensatory mitigation for impacts to their [fish] aquatic habitat. One of the biological goals and objectives of the HCP/NCCP is to maintain and enhance instream aquatic habitat for the HCP/NCCP's covered species and native fish. CCCPWD will pay mitigation fees to the East Contra Costa County Habitat Conservancy (Conservancy) to serve as compensatory mitigation for the project. The fees do include compensation for impacts to stream habitat based on the length of permanent and temporary impacts. Approximately \$202,000 in fees will be assessed for impacts to 304.2 linear feet of stream. The fees also go towards purchasing habitat as part of an overall conservation plan that provides comprehensive species, wetlands, and ecosystem benefits. Through payment of HCP/NCCP mitigation fees, this project does compensate for impacts to aquatic habitat that could support native fishes in a way that satisfies the mitigation standard described by CDFW in the comment letter for conservation of aquatic habitat.

Response #3. Comment noted. As stated above, incidental take coverage has been obtained under the HCP/NCCP Permit number 2835-2007-001-03. The incidental take coverage applies to 28 listed and non-listed species. A Natural Environment Study (NES) did not identify any additional CESA listed-species that have potential to occur in the project vicinity.

Response #4: This comment recommends a Mitigation Measure for bat surveys and mitigation for bats not covered under the HCP/NCCP. The NES identified two special status bat species that could have low likelihood of presence in the project area: Townsend's big-eared bat and pallid bat. The project vicinity does not include suitable

breeding habitat or maternity roosts for Pallid Bat, and the NES determined the project would have no impact on Pallid bat. The potential for Townsend's bat to occur at the project site is low (refer to page 33 of the IS/MND). Species-specific planning survey were conducted in fall 2016 and spring 2017 for Townsend's bat. No bats were observed and the biologist did not observe any evidence of possible roosting sites. Large trees could serve as potential roosting habitat. There was no evidence that any species of bat is using the bridge as roosting habitat.

Mitigation Measure BIO-7 for Townsend's Bat (page 33 of the IS/MND) provides appropriate avoidance, minimization, and mitigation to avoid disturbance to bats during construction. A pre-construction survey will be conducted for bats, which is used to determine what avoidance and minimization measures are triggered before construction. CCCPWD will mitigate for temporary and permanent impacts to habitat through the HCP/NCCP.

Response #5: This comment recommends a Mitigation Measure for swallow exclusion. Swallows are a type of migratory bird. **Mitigation Measure BIO-10 for Migratory birds and raptors** (page 36 of the IS/MND) provides appropriate avoidance, minimization, and mitigation to avoid disturbance to nesting birds during construction. Pre-construction surveys will be conducted. If nesting birds (including swallows) are discovered at a location where it is not feasible to implement an avoidance buffer, a site-specific plan will be developed by a qualified biologist in coordination with the appropriate agencies (including CDFW). We understand that spraying and destruction of partially built mud nests is prohibited under Section 3503 of the California Fish and Game Code.

Response #6: This comment recommends a Mitigation Measure for swallow nest avoidance. Please see **Mitigation Measure BIO-10 for Migratory birds and raptors** (page 36 of the IS/MND) will be implemented. Pre-construction surveys will be conducted for nesting birds, which are consistent with the CDFW recommendation to survey the bridges.

Response #7: This comment recommends that CCCPWD incorporate quantifiable and enforceable measures into the MND to minimize impacts to Marsh Creek and associated riparian habitats. As stated above in Comment #1, **Mitigation Measure BIO-1a through c** include measures to protect aquatic habitat (refer to pages 23 – 25 of the IS/MND). **Mitigation Measure Haz-1** includes measures to minimize accidental release of hazardous materials (pg. 51). Further, Section X.a of the IS/MND (Pg. 53 – 55) states that the project would comply with the provisions of the NPDES Construction General Permit, which will require a SWPPP be developed. The SWPPP will identify BMPs to avoid and minimize potential temporary impacts to surface water quality.

Response #8: This comment states that the Conservancy does not provide coverage for in-channel impacts to perennial streams. See Comment #1 above.

Please contact me if you have any further questions on our responses to your comments at Laura.Cremin@pw.cccounty.us or (925) 313-2015.

Sincerely,

Laura Cremin

Laura Cremin
Environmental Analyst II
Environmental Services Division

LEC:

G:\engsvc\ENVIRO\TransEng\Marsh Creek Bridge Replacements #143 and #145\CEQA\Noticing\Response to Comments\2. Response to CVRWQCB.docx

Enclosures

c: N. Leary, Design/Construction
A. Brown, Environmental

Comment Letter #4

Laura Cremin

From: Farinha, Melissa@Wildlife <Melissa.Farinha@wildlife.ca.gov>
Sent: Tuesday, May 26, 2020 5:34 PM
To: Laura Cremin
Cc: Rippert, Jennifer@Wildlife
Subject: CDFW Comments on Initial Study/Mitigated Negative Declaration, SCH No. 2020040312, for Marsh Creek Road Bridge Replacement Project, Bridges #28C-0143 and #28C-0145

Dear Ms. Cremin,

CDFW has reviewed the Initial Study/Mitigated Negative Declaration (IS/MND) for the Marsh Creek Road Bridge Replacement Project, Bridges #28C-0143 and #28C-0145, State Clearinghouse Number 2020040312 and would like to provide the following preliminary comments:

1 The IS/MND identifies approximately 304.24 linear feet of permanent impacts and 432.19 linear feet of temporary impacts to Marsh Creek (Section 4b, page 36), and indicates that impacts to water quality and riparian habitats will be minimized through conditions of approval in future permits obtained from CDFW (Streambed Alteration Agreement) and Regional Water Quality Control Board (Water Quality Certification). Please note that an environmental document under CEQA should not defer identifying avoidance, minimization, and compensatory mitigation measures and should clearly identify and include measures for the Lead Agency to enforce independent of any responsible agency permits (CEQA Guidelines § 15126.4).

2 The IS/MND indicates that compensatory mitigation for permanent impacts will be achieved through payment of development fees and wetland mitigation fees to the East Contra Costa County Habitat Conservancy. CDFW would like to take this opportunity to point out that, Marsh Creek provides in-channel/aquatic habitat for native fishes in the stream reach that the project will impact and that the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan does not cover native fish nor does it provide compensatory mitigation for impacts to their aquatic habitats. CDFW is available to assist the County on identifying alternative compensatory mitigation for these impacts prior to submission of permit applications to CDFW.

If you have questions regarding these comments please contact Environmental Scientist, Ms. Jennifer Rippert (copied) or myself.

A formal letter with more detailed comments is forthcoming.

Thank You,

Melissa Farinha
Senior Environmental Scientist (Supervisory)
Bay Delta Region, Habitat Conservation Unit
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
(707) 944-5579



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
(707) 428-2002
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



June 18, 2020

Ms. Laura Cremin
Contra Costa County Public Works Department
50 Glacier Drive
Martinez, CA 94552
Laura.Cremin@pw.cccounty.us

Subject: Marsh Creek Road Bridge Replacement-Bridges #28C-0143 and #28C-0145,
Mitigated Negative Declaration, SCH #2020040312, Contra Costa County

Dear Ms. Cremin:

The California Department of Fish and Wildlife (CDFW) received a Notice of Intent to Adopt a Mitigated Negative Declaration (MND) from Contra Costa County Public Works Department (CCCPWD) for the Marsh Creek Road Bridge Replacement-Bridges #28C-0143 and #28C-0145 Project (Project) pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is a Trustee Agency with responsibility under CEQA §15386 for commenting on projects that could impact fish, plant or wildlife resources. CDFW is also considered a Responsible Agency if a project requires discretionary approval, such permits issued under the California Endangered Species Act (CESA), the Native Plant Protection Act, the Lake and Streambed Alteration (LSA) Program, and other provisions of the Fish and Game Code that afford protection to the State's fish and wildlife trust resources.

REGULATORY REQUIREMENTS

California Endangered Species Act

3

Please be advised that a CESA Incidental Take Permit (ITP) must be obtained if the Project has the potential to result in "take" of plants or animals listed under CESA, either

¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

Ms. Laura Cremin
Contra Costa County Public Works Department
June 18, 2020
Page 2

3 cont'd

during construction or over the life of the Project. Issuance of a CESA Permit is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA Permit.

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially restrict the range or reduce the population of a threatened or endangered species. (Pub. Resources Code, §§ 21001, subd. (c), 21083; CEQA Guidelines, §§ 15380, 15064, and 15065). Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency's FOC does not eliminate the Project proponent's obligation to comply with Fish and Game Code section 2080.

Lake and Streambed Alteration

CDFW requires an LSA Notification, pursuant to Fish and Game Code section 1600 et. seq., for Project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank including associated riparian or wetland resources; or deposit or dispose of material where it may pass into a river, lake or stream. Work within ephemeral streams, washes, watercourses with a subsurface flow, and floodplains are subject to notification requirements. CDFW will consider the CEQA document for the Project and may issue an LSA Agreement. CDFW may not execute the final LSA Agreement (or ITP) until it has complied with CEQA as a Responsible Agency.

PROJECT DESCRIPTION SUMMARY

Proponent: Contra Costa County Public Works Department

Objective: The Project involves the removal of two existing bridges (#28C-0143 and #28C-0145) on Marsh Creek Road that carry traffic over Marsh Creek, and the construction of two new bridges to meet current design standards.

COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations below to assist CCCPWD in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the document.

Ms. Laura Cremin
Contra Costa County Public Works Department
June 18, 2020
Page 3

Impacts to Native Bat Species

4

Bridges often provide roosting habitat for native bat species. To fully mitigate impacts to bats not covered by the East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan (ECCC HCP/NCCP), CDFW recommends incorporating the following measure into the MND:

Recommended Mitigation Measure 1: Bat Surveys and Mitigation

A qualified bat biologist shall conduct daytime and evening acoustic surveys for bats within 14 days prior to the beginning of project construction work planned either on or within 50 feet of the bridges. If bats are identified on-site, the biologist shall identify the species, estimated quantity present, roost type, and roost status, but shall avoid disturbing bats during surveys. If foraging bats, active roosts, or other signs of bat activity (i.e. guano, urine staining) are identified on-site, the qualified bat biologist shall flag or mark all roosts and actively used features for avoidance. If complete avoidance is not possible (i.e. roosts within the bridge structures), then the qualified bat biologist shall develop a Bat Mitigation and Monitoring Plan in consultation with CDFW. The Bat Mitigation and Monitoring Plan shall include: i) an assessment of all Project impacts to bats, including noise disturbance during construction; ii) effective avoidance and minimization measures to protect bats; iii) and compensatory mitigation for permanent impacts to bats or their nesting/roosting habitat. Once the Bat Mitigation and Monitoring Plan is implemented, Project activities may commence.

Impacts to Swallows

5

Bridges often provide nesting habitat for native swallow species. To minimize impacts to swallows, CDFW recommends incorporating the following measure into the MND:

Recommended Measure 2: Swallow Exclusion

Prior to the initiation of nesting season (February 1 to September 30), CCCPWD, in consultation with CDFW, the Project shall install exclusionary devices on existing bridge structures to prevent the establishment of nests within the footprint of the Project area. Exclusionary devices shall be limited to solid materials and shall not contain monofilament netting or similar material due to documented evidence of birds becoming entangled or trapped in such material. Exclusionary devices shall be inspected weekly while in place to ensure they are in good repair and functioning properly. Spraying and destruction of partially built mud nests shall not be allowed during the nesting season.

Ms. Laura Cremin
Contra Costa County Public Works Department
June 18, 2020
Page 4

Recommended Measure 3: Swallow Nest Avoidance

Project activities shall not be initiated or conducted if an active swallow nest is detected on-site. The qualified biologist shall conduct a survey of the bridges no more than 5 days prior to construction activity to ensure that no active nests are present. If any active nests are found, work within 300 feet of the active nest(s) shall not take place until the young have fledged, as determined by the qualified biologist. The 300-foot buffer may be reduced at the discretion of the qualified biologist in consultation with CDFW. CDFW encourages the implementation of swallow-friendly designs in the construction of the new bridges.

Substantial Adverse Impacts to Marsh Creek

The MND identifies approximately 304.24 linear feet of permanent impacts and 432.19 linear feet of temporary impacts to Marsh Creek (Section 4b, page 36), and indicates that impacts to water quality and riparian habitats will be minimized through measures prescribed in future permits obtained from CDFW (LSA Agreement) and Regional Water Quality Control Board (Water Quality Certification). The MND should include fully enforceable measures to mitigate potentially significant impacts and should not defer these measures to a future time (CEQA Guidelines § 15126.4). CDFW recommends CCCPWD incorporate quantifiable and enforceable measures into the MND to minimize impacts to Marsh Creek and associated riparian habitats.

Additionally, the MND indicates that compensatory mitigation for permanent and temporary impacts to water quality and riparian habitat will be achieved through payment of development fees and wetland mitigation fees to the East Contra Costa County Habitat Conservancy (Conservancy). However, the Conservancy does not provide coverage for in-channel impacts to perennial streams. CDFW recommends that CCCPWD require compensatory mitigation at a minimum ratio of 3:1 (conserved habitat to impacted habitat) for the 304.24 linear feet of permanent impacts and 1:1 (conserved habitat to impacted habitat) for the 432.19 linear feet of temporary impacts to Marsh Creek. Mitigation lands should be protected in perpetuity under a conservation easement and be managed in perpetuity through an endowment with an appointed land manager. The easement should be held by a governmental entity, special district, non-profit organization, for-profit entity, person, or another entity to hold title to and manage the property provided that the district, organization, entity, or person meets the requirements of Government Code sections 65965-65968, as amended. As the state's trustee for fish and wildlife resources, CDFW should be named as a third-party beneficiary under the conservation easement.

Ms. Laura Cremin
Contra Costa County Public Works Department
June 18, 2020
Page 5

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. [Pub. Resources Code, § 21003, subd. (e)]. Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be found at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The completed form can be mailed electronically to CNDDDB at the following email address: CNDDDB@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.

CONCLUSION

CDFW appreciates the opportunity to comment on the MND to assist CCCPWD in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Ms. Jennifer Rippert, Environmental Scientist, at (707) 428-2069 or Jennifer.Rippert@wildlife.ca.gov; or Ms. Melissa Farinha, Senior Environmental Scientist (Supervisory), at (707) 944-5579 or Melissa.Farinha@wildlife.ca.gov.

Sincerely,

DocuSigned by:

BE74D4C93C604EA...
Gregg Erickson
Regional Manager
Bay Delta Region

cc: State Clearinghouse #2020040312



Contra Costa County
Public Works
Department

Brian M. Balbas, Director
Deputy Directors
Stephen Kowalewski, Chief
Allison Knapp
Warren Lai
Carrie Ricci
Joe Yee

July 15, 2020

Tony Allegro
Tallegro74@yahoo.com

RE: Marsh Creek Road Bridge Replacement Project,
Bridges #28C-0143 and #28C-0145 Project
Project No.: 0662-6R4083

Dear Tony Allegro:

Thank you for providing comments on the Marsh Creek Road Bridge Replacement Project, Bridges #28C-0143 and #28C-0145 Project.

This letter is intended to address your comments submitted on May 30, 2020 and June 1, 2020. Our responses to your comments are presented below and follow the order of your comments (numbered in the margin of your letter and attached for reference).

Response #1: See attached memo included below your comment letter: Baseline Environmental Consulting, Response to Comment on Marsh Creek Road Bridge Replacement 143 and 145 Project, Initial Study/Mitigated Negative Declaration.

Response #2: Table 1 on page 4 of the IS/MND contains an error. The parcel information is intended to be presented for each bridge location. Bridge 143 was mistakenly repeated twice. The correction is highlighted below.

Table 1: Anticipated Property Acquisition

| Marsh Creek Bridge 143 | | |
|----------------------------|---|--|
| Parcel No | Owner | Approximate Right-of-Way Acquisition (Acres) |
| 007-191-001 | Private Property | 2.07 |
| 007-192-008 | Save Mount Diablo | 0.02 |
| 007-192-007 | Private Property | 0.62 |
| 007-192-012 | Private Property | 0.05 |
| 007-192-002 | Private Property | 0.17 |
| Marsh Creek Bridge 143 145 | | |
| 007-380-011 | State of California Department of Parks and Recreation | 0.65 |
| 007-380-019 | Contra Costa County Flood Control and Water Conservation District | 1.03 |
| 007-160-014 | Contra Costa Water District | 0.17 |

Response #3: This comment refers to the parcel numbers presented in Table 1 on page 4 of the IS/MND. The parcel numbers are based on the Assessor Parcel Number maintained by the Contra Costa County Assessor's Office.

The first row of the table states a retired APN number. Retired APN: 007-191-001; new APN: 007-191-010. This APN was updated on the Assessor's Map on 10/27/2014.

All other parcel numbers reported in the table are current.

Please contact me if you have any further questions on our responses to your comments at Laura.Cremin@pw.cccounty.us or (925) 313-2015.

Sincerely,

Laura Cremin

Laura Cremin
Environmental Analyst II
Environmental Services Division

LEC:

G:\engsvc\ENVIRO\TransEng\Marsh Creek Bridge Replacements #143 and #145\CEQA\Noticing\Response to Comments\2. Response to Tony Allegro.docx
Enclosures

c: N. Leary, Design/Construction
A. Brown, Environmental

Comment Letter #5

Laura Cremin

From: tony allegro <tallegro74@yahoo.com>
Sent: Saturday, May 30, 2020 6:07 AM
To: Laura Cremin
Subject: CEQA for Marsh Creek bridge

1 | My name is Tony Allegro this is our property where bridge #143 is going to be built and I have some concerns with the CEQA report. Page 75 (a) states that there will be no impact on water in the area, that is wrong. We have a well within the scope of this project, the only well on this piece of property and it has the potential of being destroyed. How will you mitigate this?

Thank You I expect a response soon, Tony

From: [tony allegro](#)
To: [Laura Cremin](#)
Subject: [BULK] Bridge 143 CEQA
Date: Monday, June 1, 2020 3:30:09 PM

2 | I have been reading more of the CEQA report and find some conflicting information so maybe you can clarify it for me. On page 4 table 1 you list both bridges as being 143 how can this be I thought there was bridge 143 and 145? It also seems that you have some of the parcel #'s wrong according to my records.

3 | I would appreciate a response, thank you Tony Allegro



13 July 2020
18308-01

Ms. Laura Cremin
Contra Costa County Public Works Department
255 Glacier Drive
Martinez, CA 94553

Subject: Response to Comment on Marsh Creek Road Bridge Replacement 143 and 145 Project, Initial Study/Mitigated Negative Declaration

Dear Ms. Cremin:

At your request, Baseline has prepared this letter to assist the Contra Costa County Environmental Services Division (County) in responding to a comment from Tony Allegro that was received on the Marsh Creek Road Bridge Replacement Project, Bridges #28C-0143 and #28C-0145 Initial Study/Mitigated Negative Declaration (IS/MND). The description of the proposed project is included in the IS/MND.

Based on a review of the IS/MND and discussions with County staff, Baseline understands that proposed activities associated with construction of the project would be conducted in the vicinity of an existing private water supply well located on private property. Figure 1 shows the location of the private water supply well, the location of the proposed bridge (#143) that is closest to the well, and the maximum extent of construction ground disturbance associated with the proposed project.

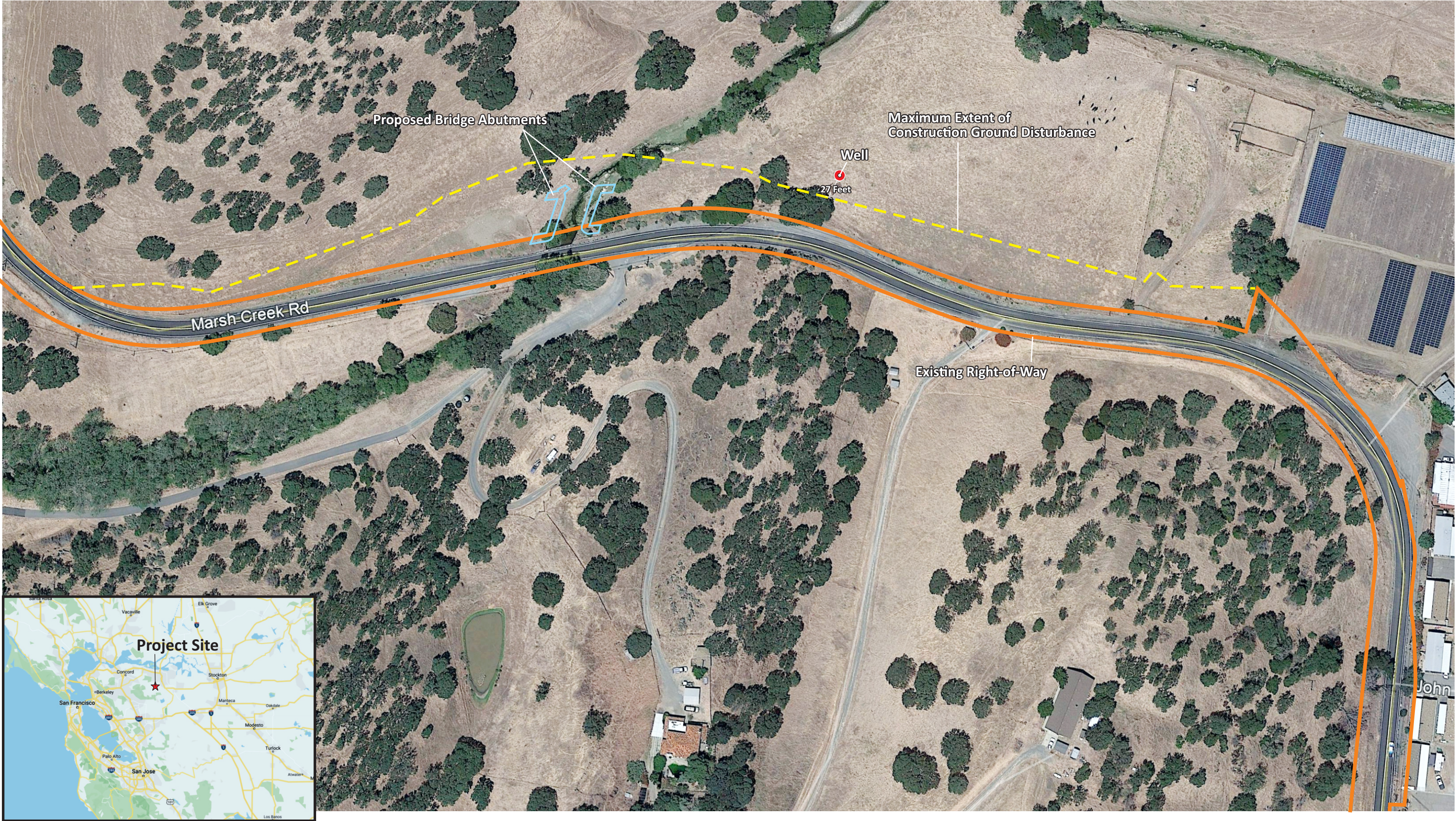
The following comments on the IS/MND identify concerns related to potential damage that could occur to the well due to construction activities, as follows:

“My name is Tony Allegro this is our property where bridge #143 is going to be built and I have some concerns with the CEQA report. Page 75 (a) states that there will be no impact on water in the area., That is wrong. We have a well within the scope of this project, the only well on this piece of property and it has the potential of being destroyed. How will you mitigate this?”

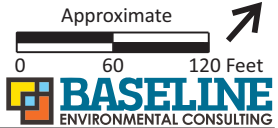
COMMENT RESPONSE

The commenter asserts that:

“Page 75 (a) [of the IS/MND] states that there will be no impact on water in the area., That is wrong.”



Marsh Creek Road Bridge Project
Contra Costa County, California



Ms. Laura Cremin
13 July 2020
Page 3

Page 75 of the IS/MND is the first page of the Utilities and Service Systems section and item (a) of the checklist specifically asks:

Would the project:

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?

The purpose of this checklist question is to evaluate the proposed project for the potential to require new or expanded facilities that could result in environmental effects, not whether project construction would cause impacts to surface or groundwater quality directly (or effect nearby wells). For example, if a large housing subdivision were the proposed project, would the needs of the subdivision exceed the existing sewer plant's capacity, requiring expansion of the treatment plant? The checklist question specifically asks if the needed hypothetical treatment plant expansion could result in environmental effects. The Marsh Creek Road Bridge Replacement 143 and 145 Project IS/MND correctly states that "the Project involves the replacement of two existing bridges and would not require or result in the relocation or construction of new or expanded water, wastewater treatment, electric power, or natural gas facilities (IS/MND page 75) and that "the Project would have a less than significant impact" related to new or expanded utility systems (IS/MND page 75). Therefore, the commenter misinterprets the meaning of the checklist response to XIX.(a) and this portion of the comment is not discussed further.

The second portion of the comment states:

We have a well within the scope of this project, the only well on this piece of property and it has the potential of being destroyed. How will you mitigate this?"

The commenter states that he owns a water supply well "within the scope of this project...and it has the potential of being destroyed." For clarification, the water supply well is not located within the proposed project construction boundaries (see Figure 1), but is approximately 27 feet outside of the maximum limit of construction where ground disturbing activities could occur. Since the water supply well is not located within an area of potential ground disturbance or construction activity, it is not possible for the project to directly impact the well (i.e., by driving over and damaging the wellhead or by excavating a portion of the well). The commenter does not include any specific information or statement as to how the project has the potential to destroy the well, or any specific information about the well depth or age of the well.

Baseline staff received information from the geotechnical team who had worked at the Bridge 143 site and a local farmer (no name provided), who noted that the depth to water in the well is about 55 feet below the ground surface.¹ Based on review of the Department of Water Resources groundwater level database, groundwater depths in nearby Brentwood (approximately 5 miles to the east) are generally 40

¹ Parikh, Gary (PARIKH Consultants, Inc.), 2020. Email communication with Neil Lowry, Contra Costa County Public Works, June 29. - *Note: this information is considered hearsay and not relied upon for any conclusions made in this analysis.*

to 50 feet below the ground surface.² While no data are available about the direction of groundwater flow locally, groundwater flow gradients typically mimic surface topography in unconfined aquifers. Therefore, groundwater is expected to flow toward Marsh Creek (a topographic low area relative to surrounding lands).

Based on our review of the proposed project activities and the location of the water supply well, Baseline determined that the only potential effects the project could have on the well would be indirect effects, limited to: 1) a substantial permanent lowering of the groundwater table, causing the well to go dry (or resulting in reduced yield); 2) degradation of groundwater quality such that water in the aquifer around the well is no longer usable; and/or 3) physical damage or collapse of the well related to project-induced groundborne vibration. Each of these three indirect potential effects is described in more detail below.

Lowering of Groundwater Table

Typically, groundwater levels can only be significantly affected by projects that result in: 1) pumping of groundwater for an extended duration (i.e., removal of water from the aquifer); or 2) placement of substantial amounts of new impervious surfaces (e.g., pavement) that prevents aquifer recharge in areas where recharge occurs.

The proposed bridge replacement project would not include groundwater pumping during construction or operation. Construction of proposed bridge #143 could require short-term construction period dewatering in Marsh Creek, if surface water is present. As stated in the IS/MND (page 4), “dewatering is expected to consist of a bypass pipe to ensure downstream flows are maintained and pumping of seepage from the work area if necessary.” Collecting water at or upstream of the bridge site and discharging into the creek downstream will have little to no effect on groundwater levels or groundwater flow direction, as the flows in the creek would be maintained and underlying groundwater would be unaffected.

The project proposes a net increase in impervious surfaces of approximately 0.84 acres (IS/MND Table 4, page 54) related to relocation and widening of the Marsh Creek roadway. As part of the roadway construction process, some soil areas adjacent to the new roadway could also be compacted from heavy equipment (including water trucks) driving over these areas. If the project site was an active recharge area, the creation of this new impervious surface area and soil compaction could incrementally decrease aquifer recharge, which could also affect groundwater levels. However, the project site and vicinity are mantled with Hydrologic Group C and D soils (including Altamont-Fontana complex, Brentwood clay loam, Los Gatos loam, Millsholm loam).³ Hydrologic Group C soils have moderately high runoff potential when thoroughly wet and water transmission through the soil is somewhat restricted. Hydrologic Group D soils have high runoff potential and water transmission through the soil is restricted or very restricted. Both Group C and D soils have high clay content and little infiltration capacity. Therefore, even under undeveloped conditions (i.e., no impervious cover), these soils would not allow substantial infiltration of precipitation and aquifer recharge to occur. In addition, as stated in the IS/MND (page 56) “most

² California Department of Water Resources (DWR), 2020. Water Data Library (WDL) Station Map, accessed June 30 2020 at: <https://wdl.water.ca.gov/waterdatalibrary/>

³ USDA, Natural Resource Conservation Service, 2020. Soil Web Survey; accessed on 6/29/20 at: <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

Ms. Laura Cremin
13 July 2020
Page 5

roadway run off would be conveyed to pervious roadside ditches and potential biofiltration systems before reaching Marsh Creek, which would allow infiltration and percolation similar to the existing condition.” Therefore, the project is not expected to substantially affect infiltration and recharge.

Based on the reasoning presented above, the IS/MND correctly states that “the Project would not affect groundwater supply. The Project is not located within a groundwater basin and is not listed for groundwater recharge as a beneficial use. There are no anticipated impacts on local aquifers and groundwater volumes.” (IS/MND page 55). Therefore, the project would not lower the groundwater table or interfere with aquifer recharge and would not affect the well’s water yield.

Degradation of Groundwater Quality

If the project were to result in substantial degradation of groundwater quality at the construction site, it is possible that water quality in the water supply well could be adversely affected. The only way the project could affect groundwater quality is by an accidental release of chemicals (e.g., diesel fuel) to the ground surface in a quantity sufficient to infiltrate deep into the ground so that the chemicals reach the groundwater table.

Construction activities would require the use of heavy construction equipment and associated fuels and lubricants. While it is possible that accidental release of fuels and lubricants could infiltrate the ground surface, it is unlikely that any construction-related spill to the ground surface would reach the groundwater table. As described above all surface soils at the site and vicinity are Hydrologic Group C and D soils that have high clay content and little infiltration capacity. These soils do not allow substantial infiltration of precipitation and similarly would not allow rapid infiltration of liquid fuels or lubricants. In addition, existing regulations would be enforced that ensure the potential for spills and impacts to the public and environment would be minimized (and if they do occur, cleaned up), as stated in the IS/MND (page 49-50):

“During construction, trucks would travel to and from the Project Sites. Vehicles would include diesel powered trucks, backhoes, graders, dump trucks, excavators, water trucks, compactors, skid steers, pick-up trucks, pavers, and hoppers. This equipment may require the use of fuels and other common liquids that have hazardous properties (e.g., fuels, oils, fluids that are flammable) but they would be handled in small quantities that would not create a substantial hazard for construction workers and/or the public.”

Additionally, the IS/MND specifies that a Stormwater Pollution Prevention Plan (SWPPP) would be required under existing regulations (IS/MND page 55). A SWPPP identifies all potential pollutants and their sources, including erosion, sediments and construction materials and chemicals and includes a list of best management practices to reduce discharges of construction-related stormwater pollutants. A SWPPP includes a detailed description of controls to reduce pollutants and outlines maintenance and inspection procedures and is kept onsite for ongoing monitoring requirements.

The IS/MND includes a mitigation measure designed to further minimize the risk of spills and includes requirements for spill response, as follows:

Ms. Laura Cremin
13 July 2020
Page 6

Mitigation Measure BIO-1Bb; (IS/MND page 24)- No construction or maintenance vehicles will be refueled within 200 feet of the streams unless a bermed and lined refueling area is constructed and hazardous material absorbent pads are available in the event of a spill.

Compliance with all the existing regulations related to management of hazardous materials and CEQA mitigation measures would ensure that the risk of chemical releases is minimized and the low infiltration capacity soils at the site would ensure that any construction-related spills would not reach the groundwater table before they were cleaned up. Based on this reasoning, it is not expected that the project would result in chemical spills that could adversely affect groundwater quality and subsequently affect the well. In addition, there would be no new operational period activities that could affect groundwater quality. The IS/MND (page 55) correctly states that:

“The Project would not directly create wastewater discharge or degrade surface or ground water quality. Drainage design features will be based on hydrologic and hydraulic analysis to ensure existing drainage patterns and water quality standards are maintained (Jacobs 2019). Accidental releases could occur during construction. However, as stated above, a SWPPP will be prepared for the Project and standard BMPs will be implemented during construction activities to minimize sediment or pollutants from construction activities from accidentally entering the creek. Therefore, the Project would have a less than significant impact.”

Construction-Generated Groundborne Vibration

The project will require the use of heavy off-road equipment. Operation of certain types of equipment, typically pile drivers and vibratory compactors, can introduce substantial vibration energy into the ground surface. If enough vibration energy is created close to certain types of structures, it is possible for the vibration to cause damage. Baseline conducted a quantitative vibration analysis (see Attachment A) for this project to determine whether the vibration associated with the project construction equipment would be of sufficient magnitude to damage the nearby water supply well. The types of damage that a water well could experience from vibration range from minor effects related to a temporary increase in water turbidity (suspended sediment) to more severe effects such as collapse of the well. Collapse could only occur if the well is near the end of its useful life and the casing and/or screen are in an advanced state of corrosion. The technical memorandum documenting this quantitative analysis is included as Attachment A to this letter.

The vibration analysis compiled readily available reference vibration magnitudes associated with each type of equipment that will be used in bridge and roadway construction; identified each type of equipment that would be used near the water supply well, and the level of vibration that would be transmitted to the well (after propagating through the underlying soil and rock).

The results of the analysis indicated that the level of vibration at the wellhead associated with the most energetic piece of construction equipment (i.e., the vibratory roller) would be approximately 20 times lower than the level of vibration that would be needed to cause any damage to the well. Further, if it is assumed that the deeper portion of the well (where groundwater enters the well – assumed to be approximately 50 feet below the ground surface) is the most susceptible to vibration effects, the vibration levels at this depth would be 40 times lower than the level of vibration that would be needed to cause any damage to the well. In addition, there would be no new operation period sources of vibration introduced as a result of the project.

Ms. Laura Cremin
13 July 2020
Page 7

Therefore, based on this analysis, the proposed bridge construction and operation activities will not cause vibration damage to the water supply well.

SUMMARY

In summary and in response to the comment, construction and operation of the proposed project would not “destroy” or cause direct impacts to the well as it is outside the area of construction ground disturbance. Additionally, construction of the project would not cause indirect impacts to the well related to permanent lowering of the groundwater table, degradation of groundwater quality, or physical damage to the well related to project-induced groundborne vibration. As the proposed project would not significantly impact the well, no additional mitigation measures are required.

Please feel free to contact me if you have any questions or need further clarification.

Sincerely,



Bruce Abelli-Amen
Senior Hydrogeologist, PG No. 5593, CHg No. 96

BAA/jm/km

Attachments

cc: Neil Leary, Senior Civil Engineer, Design/Construction Division, Contra Costa County Public Work

Attachment A

Vibration Analysis Memo



MEMORANDUM

Date: 30 June 2020

To: Laura Cremin, Contra Costa County Public Works Department

From: Lisa Luo, Environmental Engineer II, Baseline Environmental Consulting

Subject: **Vibration Analysis for Marsh Creek Road Bridge Replacement 143 and 145 Project**

The purpose of this memorandum is to calculate the potential groundborne vibration that could occur as the result of operation of construction equipment in the vicinity of proposed bridge replacement 143, and to evaluate the potential vibration effect, if any, on a nearby water supply well.

GENERAL INFORMATION ON GROUNDBORNE VIBRATION

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Several different methods are used to quantify vibration. Typically, groundborne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors to vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment. Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or as root mean square (RMS) velocity. PPV is defined as the maximum instantaneous peak of the vibration signal. PPV is appropriate for evaluating potential damage to buildings, but it is not suitable for evaluating human response to vibration because it takes the human body time to respond to vibration signals. The response of the human body to vibration is dependent on the average amplitude of a vibration. Thus, RMS is more appropriate for evaluating human response to vibration. PPV is normally described in units of inches per second (in/sec), and RMS is often described in vibration decibel (VdB).

VIBRATION CRITERIA

Whiffen Vibration Criteria for Continuous Vibration

Caltrans has compiled a summary of vibration criteria that have been reported by various researchers, organizations, and governmental agencies in the *Transportation and Construction Vibration Guidance Manual*.¹ Table 1 relates human response to vibration from vehicular traffic

¹ Caltrans, 2013. Transportation and Construction Vibration Guidance Manual. September.

Memorandum

30 June 2020

Page 2

(continuous vibration). Note that these criteria are also commonly applied to non-transit-related sources of vibration, such as construction equipment.

Table 1: Human Response to Continuous Vibration from Traffic

| PPV (in/sec) | Human Response |
|--------------|-------------------------|
| 0.4-0.6 | Unpleasant |
| 0.2 | Annoying |
| 0.1 | Begins to annoy |
| 0.08 | Readily perceptible |
| 0.006-0.019 | Threshold of perception |

Source: Caltrans, 2013. Transportation and Construction Vibration Guidance Manual.

Vibration Criteria for Damage on Wells

Philip R. Berger & Associates (Berger) measured vibration levels from blasting (related to hard rock mining activities) at four sites in Appalachia and the potential for groundborne vibration to affect water wells. All of the data collected in this study indicate that a vibration level of at least 2.0 in/sec PPV at the surface of the well is required to cause well damage.² This criterion can also be applied to other construction equipment because both blasting and construction equipment generate groundborne vibration (ground oscillation). The Berger study also concluded that vibration measured at depth in the wells is less than that measured on the surface.

PROJECT ANALYSIS

Construction Equipment

Construction activities can result in varying degrees of ground vibration, depending on the equipment, activity, and soil conditions. Federal Transit Administration recommends assessment of vibration damage potential for each piece of equipment individually.³ The reference vibration levels at 25 feet from the construction equipment that could be used near the well are summarized in Table 2. Table 2 also shows the closest distances that each piece of equipment could be operated from the well and the estimated vibration levels at the well.

² Philip R. Berger & Associates, Inc. 1980. Survey of Blasting Effects on Ground Water Supplies in Appalachia. November.

³ Federal Transit Administration, 2018. Transit Noise and Vibration Impact Assessment Manual. FTA Report No.0123. September.

Memorandum

30 June 2020

Page 3

Table 2: Reference Vibration Levels and Calculated Vibration Levels, PPV (in/sec)

| Equipment | Reference Vibration Levels at 25 Feet ¹ | Closest Distance to the Well, Feet ² | Calculated Vibration Levels at the Well, in/sec ³ |
|---------------------|--|---|--|
| Vibratory compactor | 0.21 | 45 | 0.087 |
| Water Truck | 0.076 | 28 | 0.064 |
| Roller | 0.21 | 60 | 0.056 |
| Paver | 0.21 | 60 | 0.056 |
| Plate compactor | 0.21 | 60 | 0.056 |
| Scraper | 0.089 | 45 | 0.037 |
| Grader | 0.076 | 45 | 0.031 |
| Loader | 0.076 | 45 | 0.031 |
| Excavator | 0.089 | 60 | 0.024 |
| Backhoe | 0.076 | 60 | 0.020 |
| Concrete pump truck | 0.076 | 60 | 0.020 |
| Drill rig | 0.089 | 300 | 0.002 |
| Casing oscillator | 0.089 | 300 | 0.002 |
| Sweepers/scrubber | NA | 60 | NA |
| Crane | NA | 60 | NA |
| Generator | NA | 60 | NA |

Notes: NA- Not Available. There are no established vibration levels, as this type of equipment is not expected to generate substantial vibration.

- Some equipment in Table 2 do not have established vibration levels values in the source described below. The following approximation were made: 1) Because an excavator and a scraper are both earth moving machinery, the vibration level is estimated to be similar to a large bulldozer. 2) The vibration levels created by the normal movement of vehicle, including graders, loaders, and backhoes are of the same order-of-magnitude as the ground-borne vibration created by heavy vehicles traveling on streets and highways. Therefore, vibration levels from these equipment are estimated to be similar to loaded trucks. 3) Vibration levels for a vibratory compactor and a paver are estimated to be similar to vibratory rollers. 4) Vibration levels of a drill rig and a casing oscillator are estimated to be similar to caisson drilling. 5) The following equipment are not anticipated to generate perceptible vibration levels: sweepers/scrubbers, cranes, and generators.
- Water trucks could operate as close as 28 feet to the well head. Graders, scrapers, loaders, vibratory compactors would be used for embankment construction and could get as close as 45 feet to the well head. Drill rigs and casing oscillator could be used as close as 300 feet to the well head. The other equipment would be transported on the new road, which could get as close as 60 feet to the well head.
- Vibration levels are calculated based on the following equations:

$$PPV2 = PPV1 \times (D1/D2)^{1.5}$$

Where:

PPV1 is the reference vibration level at the reference distance (25 feet)

PPV2 is the calculated vibration level

D1 is the reference distance (in this case 25 feet), and

D2 is the distance from the equipment to the receiver

n=1.5 as the project site is underlain by thin young alluvium composed of pebble, gravel, sand, and clay underlain by sandstone, and claystone.

Source: Federal Transit Administration, 2018. Transit Noise and Vibration Impact Assessment Manual. FTA Report No.0123. September. Parikh Consultants, Inc., 2016. Preliminary Foundation Report Marsh Creek Road Bridge. July 8.

Memorandum

30 June 2020

Page 4

Discussion

As shown in Table 2, vibration levels could reach up to 0.087 in/sec PPV at the well from vibration associated with operation of a vibratory compactor during road rebuilding. It is estimated that the vibratory roller would be operated at this location (nearest to the well) for a maximum of 3.5 weeks.

As discussed above, vibration levels would need to exceed 2.0 in/sec PPV for any damage to occur at a water well. The calculated vibration level at the surface of the well of 0.087 in/sec PPV would be 20 times lower than the minimum threshold required for damage to occur at the nearby water well. Assuming a water depth of 50 feet below ground, the slant distance from a closest vibratory compactor to the top of the water surface would be approximately 67 feet, which results in a vibration level of 0.048 in/sec PPV. This would be 40 times lower than the minimum threshold required for damage to occur at the nearby water well.

In addition, as shown in Table 1, the calculated maximum vibration level at the water supply well (0.087 in/sec PPV) would be just above the threshold for a human being to be able to notice the vibration (i.e., readily perceptible), meaning that is likely that a person standing next to the well may barely be able to perceive the ground vibration when the vibratory roller is operating at the nearest location to the well.

Conclusion

Based on the findings of this analysis, construction of the project would not cause groundborne vibration that could result in physical damage or collapse of the well.