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MEMORANDUM

DATE: April 9, 2019

TO: Butte County Board of Supervisors

FROM: Paul Gosselin, Director

RE: Camp Fire Impacts to the Miocene Canal

Background

The Camp Fire destroyed portions of the Miocene Canal which prevents water delivery for numerous commercial agricultural operations, residential wells, CalFire, the City of Oroville and critical wetland habitat. On March 29, 2019, the Board of Supervisors received public comment from a group of affected landowners, who staff were already working with to define issues and options. The Board of Supervisors directed staff to facilitate discussions between affected parties and provide an update to the Board. Staff recommend that Butte County continue facilitating discussions to assist the parties in addressing the impacts of the loss of the Miocene Canal with a goal that those responsible parties restore water supplies to affected beneficial users and improve the long-term water supply resiliency.

Action Requested

Provide direction to staff to continue to facilitate discussions to assist the affected and responsible parties in addressing the impacts of the loss of the Miocene Canal.

Miocene Canal

The Miocene Canal system is a PG&E hydroelectric water conveyance facility that includes PG&E's Upper Miocene and Middle Canals and California Water Service's (CWS) Lower Miocene (Powers Canal). The system originates at the West Branch of the Feather River, runs along the west side of Lake Oroville and terminates near Oroville. Besides providing water for hydroelectric facilities, water conveyed down the Miocene Canal is used to provide water for commercial agricultural operations, residential wells, wetland habitat and a portion of the water supply for the California Water Service (CWS) Oroville. The Miocene Canal being an old, leaky system provides recharge along its course. Along the Ridge, there are a number of residences with private wells that depend upon recharge from PG&E's Middle Miocene Canal and CWS' Lower Miocene Canal to maintain water levels. With no water coming down these canals, these residences are likely to have their wells fail later this year. There are about 30 agricultural properties served by water from the Miocene Canal. Commercial agricultural operations face a

separate set of complex challenges. Most affected agricultural lands raise cattle, olives and other crops. With the destruction of the Upper Miocene Canal, there is no water supply for these agricultural properties. Kunkle Reservoir and other ponds are filled by the Miocene Canal. Many of these water bodies are used by CalFire during fire events. The Miocene Canal provides water essential for the wetlands along its corridor. The loss of the water will deplete the wetlands habitat and will jeopardize a variety of species and increase fire risk. Since 1928, the CWS received a portion of their water supply from PG&E from the Miocene Canal. Through an agreement between Butte County and the California Department of Water Resources, PG&E water is delivered from the Miocene Canal at Lime Saddle into Lake Oroville for delivery to CWS. On April 9, 2019, the Board of Supervisors approved a resolution for an emergency alternative point of diversion at the West Branch of the Feather River. While the alternative point of diversion for CWS provides temporary remediation, the other impacts from the loss of water in the Miocene Canal have not been determined.

PG&E Response

PG&E estimates that the repairing the damage would cost over \$10 million but a detailed estimate has yet to be conducted. PG&E has stated that they do not intend to repair or replace the damaged portion of the Upper Miocene Canal. Prior to the Camp Fire, PG&E entered into negotiations with a prospective buyer of the hydroelectric facilities including the Miocene Canal. The Camp Fire and the subsequent bankruptcy filing by PG&E has delayed negotiations.

Proposed Actions

Staff have had several meetings with PG&E, the Miocene Coalition, CWS, Del Oro Water Company, Farm Bureau, Natural Resources Conservation Service, and Cooperative Extension. Staff recommend that Butte County address the impacts to the Miocene Canal by facilitating discussions and supporting grant funding for exploring options to restore water supplies of affected beneficial users, and improve the long-term water supply resiliency. To effectively carry out short and long term solutions, an evaluation of the scope of the damage and an assessment of potential options needs to be conducted. Staff have submitted a funding request to Butte Strong and USDA to assist the responsible parties to:

1. Assess water deliver impacts associated with the damage to the Upper Miocene Canal
2. Identify the affected landowners served by the Miocene Canal
 - a. Water contracted amount, if any
 - b. Type of use (agricultural, domestic)
3. Describe the potential wetland impacts (acres, location, species)
4. Evaluate potential options to restore water supplies
 - a. Restoration of portions of the Miocene Canal
 - b. Alternative points of diversion
 - c. Alternative water supplies

The information from the planning grant will help inform the following recommended actions.

Goal 1: Restoration of Water Supplies

Action I: Restoration of the Middle and Lower Miocene Canal Water Supplies

The Middle and Lower Miocene Canals were not damaged by the Camp Fire. If there was a viable means of diverting water into the Middle Miocene Canal, water supplies for the Middle and Lower Miocene Canal would be restored to a large number of those dependent upon the Miocene Canal. One option involves diverting PG&E water from Lake Oroville into the Middle Miocene at Lime Saddle. Prior to the Camp Fire, water from the Miocene is being delivered into Lake Oroville for CWS. The proposed action would involve PG&E diverting water into Lake Oroville at the West Branch and then having the water pulled out of Lake Oroville at Lime Saddle into the Middle Miocene. The action would require agreement with PG&E to deliver the water to Lake Oroville and approval by the California Department of Water Resources (DWR) to allow use of non-project water in Lake Oroville. There will be a cost associated with the equipment (barge, pump(s), pipes) and energy that would likely be borne by the landowners and/or PG&E. An environmental review would need to be conducted by PG&E, but an emergency Notice of Exemption could be justified. A second option would be to utilize Paradise Irrigation District (PID) water. The PID service area is within a mile of Kunkle Reservoir. If a viable mechanism could be found to divert PID water into Kunkle Reservoir, water would be restored to the portions below Kunkle Reservoir. The role of the County would be to facilitate discussions among the parties.

Action II. Restoration of the CWS Water Supply

CWS uses approximately 3,000 acre feet of water from PG&E as part of the water supply for the City of Oroville. Under the County's agreement with the California Department of Water Resources, PG&E water was conveyed down the Miocene Canal before being delivered into Lake Oroville at Lime Saddle. PG&E water can no longer be delivered to Lime Saddle. An emergency alternative point of diversion into Lake Oroville will be made at the West Branch of the Feather River. The Board of Supervisors took action on April 9, 2019 to authorize the emergency alternative point of diversion. A Notice of Exemption will be filed by Butte County for this action which will last for three (3) years. During the three years, the original point of diversion will be restored or a permanent alternative point of diversion will be established pending an environmental review. This action is completed.

Action III: Restoration of Water to the Upper Miocene

Restoration of the Upper Miocene would provide water for all of the beneficial uses. PG&E or a future owner of the Miocene energy generation facilities would be responsible for restoring the Upper Miocene which is estimated to be greater than \$10 million. PG&E has indicated that they do not intend to restore or replace the Upper Miocene. Discussions should continue with PG&E and the prospective new owner to evaluate whether and how a business deal could be structured to facilitate the implementation of this action. Successful implementation of this action would

also require cooperation from CWS and DWR. The role of the County would be to facilitate discussions among the parties. In the event that PG&E or a new owner fail to enter into discussions, staff recommends that the Board of Supervisors authorize staff to draft a letter to PG&E outlining our concerns with the loss of water in the Miocene Canal and a letter to the California Public Utilities Commission requesting that they investigate and consider issuing an order to PG&E to restore water in the Miocene Canal.

Goal 2: Improve Water Supply Resiliency/Sustainability

Water delivered through the Miocene Canal will experience future reliability problems in the future due to droughts, fires, floods, age and other unforeseen incidents.

Action I: Provide Information to Landowner for Wells and Storage Tanks

Landowners should develop alternative water supplies such as wells and/or storage tanks. There are resources through USDA, NRCS, CDBG for landowners to install/improve wells and deploy storage tanks. Staff recommends that continued collaboration with partners continue in order to identify resources for wells and storage tanks. The role of the County would be to provide information to landowners. Individual landowners would be responsible for securing their water supply wells and/or storage tanks.

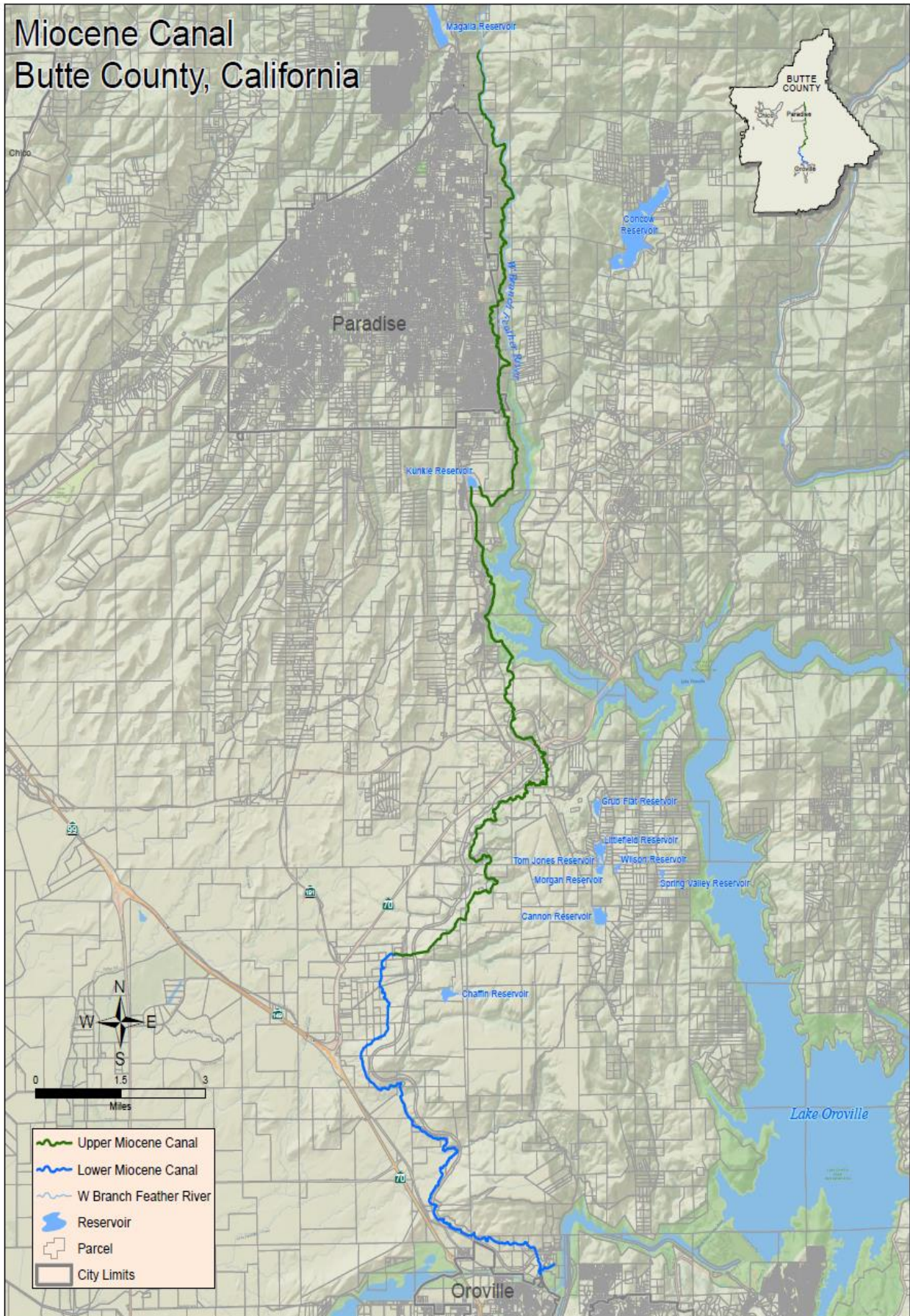
Action II: Operations and Maintenance

Reliance on PG&E and any future owner of Miocene facility to maintain and repair the system is not practicable. Landowners should have some responsibility and control for their water supply. Staff recommends that the County should facilitate discussions between landowners, CWS and PG&E or a future owner of the Miocene Canal regarding the value of the delivered water, including shared responsibility for the cost of the Miocene Canal operations and maintenance. Any long term agreement would be made between landowners, PG&E and CWS. The County would not be a party to any agreement that is reached.

Conclusion

The Camp Fire caused damage to the Miocene Canal which affected the water supplies of agricultural businesses, residents, CalFire, the City of Oroville and critical wetland habitat. Without actions to restore water supplies, significant economic, health, safety and environmental impacts will occur. Staff recommend that the Board of Supervisors provide direction to staff to continue facilitating discussions to assist the parties in addressing the impacts to the Upper Miocene Canal.

Miococene Canal Butte County, California





Camp Fire Impacts to the Miocene Canal Proposed Action Plan April 23, 2019

Introduction

The Miocene Canal system is a PG&E hydroelectric water conveyance facility that includes PG&E's Upper Miocene and Middle Miocene Canals and CWS's Powers Canal (Lower Miocene). The system originates at the West Branch of the Feather River, runs along the west side of Lake Oroville and terminates near Oroville. Besides providing water for hydroelectric facilities, water conveyed down the Miocene Canal provides water for commercial agricultural operations, residential wells, wetland habitat and a portion of the water supply for the California Water Service Oroville. The Miocene Canal being an old, leaky system provides recharge along its course. Along the Ridge, there are a number of residences with private wells that depend upon recharge from PG&E's Middle Miocene Canal and CWS's Powers (Lower Miocene) Canal to maintain water levels. With no water coming down these canals, these residences are likely to have their wells fail later this year. Commercial agricultural operations face a separate set of complex challenges. There are about 30 agricultural properties reliant upon water from the Miocene Canal system. Most affected agricultural lands are used for cattle, olives and other crops. With the destruction of the Upper Miocene Canal, there is no water supply for these agricultural properties. The Miocene Canal system provides water essential for the wetlands along its corridor. The loss of the water will deplete the wetlands habitat and will jeopardize a variety of species and increase fire risk. The CWS receives a portion of their water supply from PG&E from the Miocene Canal system.

The approach to address the impacts to the Miocene Canal involve the following two goals:

- Goal 1: Restoration of water supplies to affected beneficial users, and;
- Goal 2: Improve water supply resiliency.

To effectively find viable short and long term solutions, an evaluation of the scope of the damage and an assessment of potential options needs to be conducted. Butte County is pursuing a planning grant which will:

1. Assess water delivery impacts associated with the damage to the Upper Miocene Canal
2. Identify the affected landowners served by the Miocene Canal
 - a. Water contracted amount, if any
 - b. Type of use (agricultural, domestic)
3. Describe the potential wetland impacts (acres, location, species)
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Goal 1: Restoration of Water Supplies

Action I: Restoration of the Middle and Lower Miocene Canal Water Supplies

The Middle and Lower Miocene Canals were not damaged by the Camp Fire. If there was a viable means of diverting water into the Middle Miocene Canal, water supplies for a large number of those dependent upon the Miocene Canal system would be restored. One option involves diverting PG&E water from Lake Oroville into the Middle Miocene at Lime Saddle. PG&E water could either be pumped directly from Lake Oroville or could be diverted using the Del Oro Water Company's Lime

Saddle outtake facilities. The action would require agreement with the California Department of Water Resources (DWR) to allow use of non-project water in Lake Oroville. Either of these options have a cost associated with the equipment (barge, pump(s), intertie), energy and operational that would have to be borne by the landowners and/or PG&E. Another option would be to bring Paradise Irrigation District (PID) water to Kunkle Reservoir. If a viable mechanism could be found to divert PID water into Kunkle Reservoir, water would be restored to the portions below Kunkle Reservoir. The role of the County would be to facilitate discussions among the parties.

Action II. Restoration of the CWS Water Supply

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Restoration of the Upper Miocene would provide water for all of the beneficial uses. PG&E or a future owner of the Miocene generation facilities would be responsible for restoring the Upper Miocene which is estimated to be greater than \$10 million. PG&E has indicated that they do not intend to restore or replace the Upper Miocene. Discussions should continue with PG&E and the prospective new owner to evaluate whether and how a business deal could be structured to facilitate the implementation of this action. Successful implementation of this action would also require significant cooperation from CWS and DWR. The role of the County would be to facilitate discussions among the parties.

Goal 2: Improve Water Supply Resiliency/Sustainability

Water delivered through the Miocene Canal will experience future reliability problems in the future due to droughts, fires, floods, age and other unforeseen incidents.

Action I: Provide Resources for Wells and Storage Tanks

Even if water supplies are restored to some or all of the Miocene Canal system, the water supply will remain unreliable to other unexpected outages and droughts. Landowners should develop alternative water supplies such as wells and/or storage tanks. There are resources through USDA, NRCS, CDBG for landowners to install/improve wells and deploy storage tanks. The role of the County would be to provide information to landowners. Individual landowners would be responsible for securing their water supply wells and/or storage tanks.

Action II: Operations and Maintenance

Long term discussions should be held with landowners, PG&E (and/or the future owner) and CWS regarding the value of the delivered water, including shared responsibility for the cost of the Miocene Canal operations and maintenance. Any long term agreement would be made between landowners, PG&E and CWS. The County would not be a party to any agreement that is reached.



Media Release

Concentrations of Some Pollutants Increasing in Streams Following Camp Fire

Public Warned Not to Drink or Cook with Untreated Surface Waters

For Immediate Release

April 24, 2019

Contact: Clint Snyder
(530) 229-4397

REDDING – Five months after the Camp Fire ravaged 153,336 acres and became the deadliest wildfire in California history, state water quality officials continue to monitor waterways impacted by the fire. The most recent testing of surface water samples shows a rise in concentrations of some metals and contaminants, prompting the State Water Board to underscore a longstanding caution about consuming such water.

While the public should never drink or cook with untreated water from lakes and streams, it is especially important at this time to not use or drink water from waterways in the Camp Fire burn zone.

The most recent round of samples indicates increased concentrations of some metals and polycyclic aromatic hydrocarbons (PAHs). Surface waters are those waters that flow on the ground surface and do not include water that comes from wells.

This second round of surface water samples, collected on March 27, was timed to assess pollutant concentrations following a five-day storm event. This is noteworthy because sustained rainstorm activity would have triggered erosion issues – charred and possibly contaminated soil being swept into the waterways.

Preliminary laboratory analyses found concentrations of aluminum, antimony, arsenic, cadmium, lead, and selenium exceeding Primary Maximum Contaminant Levels (MCLs) at most monitoring stations. These concentrations were higher than previous sample results. PAH concentrations also increased compared to previous sample results but did not exceed Primary MCLs. Primary MCLs are drinking water standards that protect public health.

“We are working closely with local, state and federal partners to better understand the impacts to surface water, groundwater, and drinking water resulting from the Camp Fire. It is very likely that we will be expanding the surface water monitoring program to include locations further downstream,” said Clint Snyder, Central Valley Water Board assistant executive officer. “It’s important that the public not drink or cook with untreated surface water.”

The [Central Valley Regional Water Quality Control Board](#) is conducting targeted sampling of surface waters at various locations throughout the Camp Fire burn area and downstream of

the burn area in coordination with Butte County, the California Department of Water Resources, and the California Department of Transportation.

PAHs are a class of chemicals that occur naturally in carbon containing substances such as coal, crude oil, and gasoline. PAHs are also produced when wood, garbage and other carbon-based substances are burned.

Additional data are required to determine if the concentrations detected during the January and February sampling are representative of post-fire surface water quality in the burn area. Our agencies will continue to monitor surface waters and will provide updates to the public regarding these monitoring efforts as results become available.

Homeowners with shallow wells along Butte Creek and Little Butte Creek should review their well construction details and consider testing their well water if they have not already done so. Visit www.ButteCountyRecovers.org to download the Private Well Safety and Testing guidance or call the Butte County Environmental Health Division at (530) 552-3880 for more information.

The public should direct any questions regarding the quality of their drinking water supplied by a public water system to their local water purveyor or the State Water Board's [Division of Drinking Water](#) at (530) 224-4800.