

## APPENDIX 2 : WATER FEATURE PERMITTING IMPLICATIONS ANALYSIS

**Appendix 2: City of Visalia Water Feature**, Memorandum  
Summarizing Analysis of Potential Issues Associated with  
Environmental Permitting for the Jennings Ditch-Mill Creek *Water  
Feature* A2-1

Prepared by EDAW  
February 2008

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## Memorandum

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Date: February 6, 2008  
To: Alma Du  
From: Vick Germany, AICP  
Subject: City of Visalia: Water Feature

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Distribution:

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The purpose of this memo is two-fold:

- 1) to provide an analysis of the potential issues associated with permitting the Jennings Ditch - Mill Creek 'water feature' as described in the Provost & Pritchard Engineering Group, Inc. (herein referred to as P&P) technical memorandum from 2006, and
- 2) to provide an analysis of the potential issues associated with permitting a modified version of a 'water feature' for Mill Creek and Jennings Ditch.

I will discuss each of the channel segments separately, but first I will discuss the 'seasonal' versus the 'year-round' aspect of the water feature from the P&P technical memorandum. The intent of my analyses is to provide a framework for discussing potential biological and permitting issues of the various design proposals. Statements with respect to what permitting agencies may or may not permit are based on my experience with obtaining permits for flood control, roadway, and dam projects, my understanding of the state and federal regulations and the missions of the agencies. I have not spoken to any of the permitting agencies mentioned in this memorandum.

1. Jennings Ditch - Mill Creek 'water feature' as described in the Provost & Pritchard Engineering Group, Inc. technical memorandum.

### Seasonal versus Year-Round

While the technical memorandum prepared by P&P (2006) concluded it was technically feasible to create two types of systems (e.g., ponding water or recirculating) to create a year-round water feature, neither of these systems are desirable from a biological or water resource view or a permitting perspective. As noted in the P&P technical memorandum, flow (i.e., precipitation and irrigation) volumes in Mill Creek vary considerably by month and year; thus, a significant engineering intervention is required to change a current and historic seasonally wet (i.e., intermittent) creek to an unnatural perennial creek and pond. P&P described the challenges of this proposal:

- Construction and long-term operation and maintenance of an automated gate structure;
- Trash/debris removal;
- Construction and long-term operation and maintenance of a lift station;
- Construction and long-term operation and maintenance of a delivery pipeline;
- Water availability: construction of new groundwater well, rehabilitation of an existing groundwater well, tertiary treated water, or some combination. These potential water sources would require varying degrees of construction and long-term operation and maintenance;
- Mitigation to downstream water rights holders, which may take the form of acquiring additional surface or groundwater sources; and,
- Construction of a concrete low-flow channel in Jennings Ditch to eliminate seepage losses.

P&P describe some, but not all of the environmental and permitting issues associated with a new year round water feature. In addition to the summary provided in Section 9 of the P&P technical memorandum, I identified the following issues:

- Converting a seasonal creek to an artificially maintained perennial creek has long-term sustainability issues. The Central Valley Regional Water Quality Control Board (which was not mentioned in the P&P technical memorandum), California Department of Fish and Game (CDFG) and the U.S. Army Corps of Engineers (Corps) would likely not permit this Rube Goldberg system. It relies on the long-term operation and maintenance of structures and a long-term commitment of an unknown water supply in perpetuity. The agencies would require that a perennial creek be maintained in that state in perpetuity if it was created.
- Mitigating for the permanent impacts associated with converting an intermittent stream to a permanent stream. While it may seem counterintuitive that a project providing for year-round flows should mitigate for the loss of a seasonal or intermittent stream, the permitting agencies are still likely to view it as a loss of a type of habitat requiring mitigation.

- Ponding water up to Jennings Ditch may create higher groundwater levels which would adversely affect the oaks in proximity to the pond;
- Creating potential mosquito breeding habitat and subsequent mosquito abatement procedures, which may adversely affect flora and fauna;
- Creating an 'attractive nuisance' (not a biological or a permitting issue);
- Water rights:
  - P&P discussed potential impacts to water rights but only to downstream users. The City of Visalia would have to determine if they have a water right (e.g., a riparian right) to take water from Mill Creek for a beneficial use (e.g., domestic / municipal / industrial uses, irrigation, power production, mining, fish and wildlife preservation, aquaculture, recreation, stock watering, water quality protection, frost protection, and heat control) (SWRCB 2008). A 'water feature' is not a listed beneficial use. Most water rights are determined by the courts. According to the State Water Resources Control Board (SWRCB 2008), the only way to tell that someone has a riparian, prescriptive or pre-1914 water right is if a court has issued a decree that confirms that the right exists.
  - Water can only be diverted under a riparian right when that water is used on land that drains back to the creek from which the water was taken (which would be the case for natural flow on Mill Creek). Only the natural flow of water can be diverted under a riparian right. Water that is imported into a watershed from another river, stream, or creek cannot be used under a riparian water right. Water cannot be stored during a wet time for use during a drier time under a riparian right. Neither can water released from an upstream storage reservoir be used by a downstream user under a riparian right. Because a riparian right only allows the use of natural flow, it is possible to have water available under a riparian right during wetter years or months and not during drier years or months. This is common in California, because of the presence of many ephemeral (i.e., seasonal) streams (SWRCB 2008).
  - To get a water right permit, the following steps must be taken (SWRCB 2008):
    - File a fully completed water right application with the Division of Water Rights.
    - Pay all required fees
    - Provide sufficient information to allow the SWRCB to determine that there is water available for your proposed project.
      - Show that your proposed project would not deprive anyone who has a higher priority water right of the use of water under that right.
      - Show that your proposed project will not harm public trust resources (such as fish, recreation, and navigation uses) where it is likely feasible to protect those resources.
    - Show that your proposed project is in the public interest.
    - Provide adequate information so that the SWRCB can consider the impacts of your

- o project on water quality and the environment as required by CEQA.
- o If groundwater is used as described in the P&P technical memorandum, the SWRCB does not have authority to issue permits for groundwater diversions, except for diversions from subterranean streams. However, the state does have the authority to take action to stop wasteful or unreasonable uses of groundwater or to stop groundwater diversions that harm state resources, such as fisheries (SWRCB 2008).
- o My limited experience with the SWRCB and water rights was with vineyard owners with established riparian rights. The owners wanted to change a place of use, redistribute storage in existing reservoirs, and add a place of storage in an *off-stream* reservoir all *without* changes in diversion points, season, volume, or purpose of use, were one of intractability on the part of the SWRCB and CDFG. The vineyard operator had a water rights attorney, a hydrologist and a fisheries biologist working on studies requested by these agencies, as well as other consultants working on the EIR.

In conclusion, the year-round water feature as described in the P&P technical memorandum is less desirable from an environmental or permitting perspective. Mill Creek and Jennings Ditch can be enhanced to increase their habitat functions and aesthetics within the appropriate context of an intermittent stream, which is more characteristic of the regional landscape of the City of Visalia.

#### Mill Creek

P&P correctly identified that permits would be required from the Corps and CDFG, but failed to identify that a permit would also be needed from the Central Valley Regional Water Quality Control Board (CVRWQCB). This permit is independent of any water rights permit as described above. Section 401 of the Clean Water Act (CWA) requires an applicant, for any federal permit, which may result in a discharge into waters of the U.S., to obtain a certification from the state that the discharge will comply with provisions of the CWA.

In addition to, or as a separate permit, the CVRWQCB may authorize impacts by issuing a waste discharge requirement (WDR) or in some cases, a waiver of WDR, under the authority of the state Porter-Cologne Water Quality Control Act (PCA). The PCA broadly defines "waters of the state" as well as the term "discharge of waste." Waters of the state include any surface water or groundwater, including saline waters, within the boundaries of the state. Discharges of waste include fill, any material resulting from human activity, or any other "discharge" that may directly or indirectly impact "waters of the state." This jurisdiction includes waters (including wetlands and isolated wetlands) the Corps deems to be isolated or non-jurisdictional with respect to the SWANCC or the Rapanos decisions.

P&P speculated that nationwide permit (NWP) 41 could be applicable to Mill Creek<sup>1</sup>. NWP 41 only authorizes the reshaping (not construction of the automated gate structure, lift station or moving the creek) of drainage ditches to improve water quality (Corps 2007). Furthermore, it is unlikely that the Corps would consider Mill Creek a drainage ditch because it can be established that it was a natural stream prior to channelization. NWP 27 – Aquatic Habitat Restoration, Establishment, and Enhancement Activities may be the applicable NWP for the project described in the P&P. However, the Corps may decide that, given the permanent impacts to Mill Creek, an individual permit may be the more appropriate permitting instrument.

The CWA requires the Corps, when issuing a permit, to follow the requirements of the U.S. Environmental Protection Agency's (EPA's) guidelines for implementing Section 404(b)(1) of the CWA (Corps 2008). Fundamental to these guidelines is the precept that dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern (40 CFR 230.1[c]). Subpart B of the guidelines establishes four conditions, which must be satisfied to make a finding that a proposed discharge complies with the guidelines. Section 230.10 provides that:

- a) Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.
- b) No discharge of dredged or fill material shall be permitted if it violates state water quality standards, Section 307 of the CWA, or the Endangered Species Act.
- c) No discharge of dredged or fill material shall be permitted which would cause or contribute to significant degradation of the waters of the US.
- d) Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which would minimize potential adverse impacts of the discharge on the aquatic ecosystem.

To secure a permit from the Corps, the City of Visalia must demonstrate that the proposed project is the least environmentally damaging practicable alternative (LEDPA) and that less environmentally damaging alternatives do not exist.

The P&P technical memorandum failed to mention that the Corps, CVRWQCB and CDFG would require mitigation for the structures placed in Mill Creek because they result in a permanent loss of waters of the U.S. and riparian habitat. Given the site constraints, mitigation would have to occur at an off-site location, which usually translates into higher mitigation ratios. In general, agencies recommend that off-site mitigation be located in the same geographic area as the impacts and, to the

The Corps reissued their NWPs on March 12, 2007, and modified NWP 41 to clarify that it only authorizes the reshaping of drainage ditches where the purpose of reshaping is to improve water quality.

extent practicable, in the same watershed. With respect to the 'kind' of mitigation, the San Francisco RWQCB (2006)<sup>2</sup>, (Fish and Game Commission 1994), USACE (2002), USFWS (1993) recommend in-kind (i.e., of the same type as the affected resource) to achieve replacement; however, out-of-kind (i.e., different type of habitat) compensatory mitigation can be used to achieve functional replacement. As with location, out-of-kind mitigation should occur only when it is not practicable to perform in-kind mitigation or when it provides greater environmental or watershed benefit(s) than in-kind (i.e., of greater ecological importance to the region). Mitigation ratios typically start at a 1:1 ratio (that is for every acre lost, one acre will be replaced) and go up from there, depending on the affected resource.

Although there would be impacts to the creek by changing its alignment away from adjacent commercial buildings, it may be successfully demonstrated that realignment would increase habitat values because a greater area is made available for riparian plantings. Furthermore, the banks of the realigned creek would be shaped to minimize bank erosion and subsequent water quality affects of sedimentation. The project, in this respect, would be self-mitigating. However, the Corps, CVRWQCB and CDFG often require mitigation for temporal impacts. For example, the San Francisco RWQCB has typically required an additional 0.5 to 1.5 acres for temporal losses, resulting in a total minimum of 1.5 to 2.5 acres gained for each acre lost. Furthermore, the ratio may go up if off-site, out-of-kind or other than creation compensatory mitigation is proposed. In addition, the San Francisco RWQCB generally has not included buffers or upland areas in their mitigation ratios (SFBRWQCB 2006); however, the Corps may consider buffers.

#### Jennings Ditch

Jennings Ditch may correctly be considered a drainage ditch (or an irrigation ditch); however, the construction of a one-foot deep concrete channel would not fall under auspices of NWP 41. If the Corps takes jurisdiction over the ditch, then the 'single and complete' project would be Mill Creek and Jennings Ditch; thus, a Corps permit would include both channels. As with structures placed in Mill Creek, the Corps would likely require mitigation for the loss of 1,100 linear feet waters of the U.S. because of the construction of the one-foot deep concrete channel.

It is doubtful the CVRWQCB and CDFG (and the Corps) would permit the inclusion of a one-foot deep concrete channel in Jennings Ditch, even with substantial mitigation, because there is no overriding biological benefit. With respect to permits, see the above discussion under 'Mill Creek.'

2. EDAW modified version of a 'water feature' for Mill Creek and Jennings Ditch.

Based on a review of the EDAW plan and discussions with you, the following is my analysis of the potential issues.

Mill Creek

Based on the photos in the City of Visalia Urban Streams Restoration Program Application (Keller & Wegley 2005), I agree with the City's proposal to relocate the creek away from the adjacent commercial buildings on either side of N. Burke St. and to create a meander (if feasible from a geomorphic standpoint). Because of the proximity of the buildings, riparian habitat is nonexistent along the south bank (the north bank and uplands are not significantly different, however), the banks show signs of erosion, and there appears to be an ad hoc response to bank erosion, which could be exacerbating bank erosion and contributing to water quality degradation. Relocating Mill Creek away from the commercial buildings (and future mixed-use residential) would allow for the creation of a buffer between the edge of the buildings and the creek bank, more stable banks, and a narrow riparian planting area on both sides of Mill Creek. If a river walk were installed as shown on the EDAW plan, a buffer area would provide a separation from the creek bank/riparian area and the trail; thus, minimizing (but not totally alleviating) the disturbance to wildlife from pedestrian/bicycle traffic.

As part of relocating the creek, I recommend a study be conducted into constructing a floodwall along the edge of the commercial area. A floodwall would provide a physical separation from the commercial (or future mixed-use residential area) and the creek, thus protecting the properties from potential flooding and protecting the creek from trespass and illegal dumping. Depending on hydrology (based on future build out of the area), the height of the floodwall may not be sufficiently tall to provide a physical barrier. In this case, a fence can be constructed on top of the floodwall to create a barrier.

As noted previously, permits would be required for the relocation of Mill Creek and all of the permits discussed above would be required. However, as described above, the project may be self-mitigating, except for temporal impacts. See Jennings Ditch below for a discussion on temporal impacts.

To provide the maximum area for creek relocation, meander and floodplain terracing, I recommend the concept of a 'multi-use lawn' be dropped from the plan. The site is constrained on the north by the existing railroad tracks, so available area is limited. To have room to relocate the creek, create a meander(s), and a floodplain terrace, most of the site will likely be needed. To provide a focal point per the City's vision, the proposed water feature and event plaza would remain. The 'riparian' plantings will likely be high terrace species (e.g., oaks) given the seasonality of the creek, and irrigation associated with a lawn would be incompatible with these species.

2 A comparable document was not found in a search of the CVRWQCB; however, the RWQCBs are known to use documents developed by other RWQCBs.



### Jennings Ditch

A scaled-down version of a year-round water feature is proposed under the EDAW plan. This proposal minimizes some of the concerns previously stated for the original year-round feature discussed above. Permits from the Corps, CDFG and CVRWQCB would still be required for the installation of an impermeable barrier with rock on top in the bottom of the ditch, the proposed School Ave. bridge, and any other crossings (depending on they are constructed). CDFG would require mitigation for the loss of oaks along the ditch. However, the creation of oxbows and additional planting may mitigate for these impacts as well as the temporary impacts associated with relocating Mill Creek. To claim mitigation credit, the majority of the plantings would have to be native species, and be species normally found in association with intermittent streams (e.g., oaks, etc). To get mitigation credit, the layout and plans would need to specify that proposed oxbows and plantings are to mitigate for the temporal impacts to Mill Creek and the permanent and temporal impacts to Jennings Ditch.

This concludes my analysis of the two proposed water features for the City of Visalia.

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