



TRI SAGE CONSULTING
Monthly Report
Carson Truckee Water Conservancy District

October 3, 2016

MONTHLY ACTIVITIES- September 2016

- 1) Performed inspections for 2016 Debris Removal needs along and within channel; Chairman Todd Westergard and Superintendent Ron Penrose accompanied on these inspections.
- 2) Drafted a letter for the City of Reno and prepared river maps to outline the channel maintenance work and areas that the City plans to maintain in cooperation with the District.
- 3) Follow up call/emails with USACE & City's Engineer regarding the Encroachment Permit application for City of Reno Sewer Crossing; Permit issued September 8th, 2016. The permit delays have impacted the constructability of the project during 2016.
- 4) Email USACE requesting clarification of 408 Encroachment Permitting process and requesting a conference call to discuss the apparent new process, submittal requirements, NEPA reviews and expected timing for permits. Call with Acting Chief of Flood Branch to discuss projects.
- 5) Review City of Reno request for determination whether Idlewild Path Rehabilitation Project requires a 408 Encroachment Permit; submit request to USACE and answer inquiries.
- 6) Notified Reno Tahoe Constriction regarding debris removal work for 2016.

UPCOMING ACTIVITIES

- 1) Draft service agreement for 2016 Debris Removal Project work including creating the scope of work based on the inspection findings; schedule contractor to perform this work.
- 2) Scheduled conference call with USACE for October 17th, 2016 to discuss items including Encroachment Process, NEPA for projects outside of Regulatory jurisdiction, permitting timelines etc.
- 3) Pursue responses to inquiries with USACE on outstanding letters (Riverside bank overtopping, maintenance projects and wall determinations) and projects and new inquires that might arise.
- 4) Work with project proponents for encroachment permit applications for City of Reno Idlewild Path Upgrades, City Strom Drain Addition, Chism Mobile Home Park and NDOT Verdi Bridge Scour Projects(this projects has now been delayed a year pending access).
- 5) Meet in field to discuss TMWA Glendale Weir Portage Project and encroachment permit requirements if any.

- 6) Discuss 2-D Model updates with TRFMA and opportunity for CTWCD to use this model update.
- 7) Work with the City of Reno to pursue a permanent encroachment permit for the West Street Plaza and any associated projects.
- 8) Continue to evaluate and discuss temporary flood control measures including flow limitations, cost, storage, installation requirements and options for West Street Plaza and Booth-Riverside Drive areas.
- 9) Evaluate additional needs for model updates upstream of Idlewild Park to State Line and downstream of Lake Street to Glendale Bridge; possibly needed for upcoming 408 Encroachment evaluations.
- 10) Run 14,000cfs steady state HEC-RAS flow model to establish water surface elevations along key river locations to evaluate issues; complete sections upstream and downstream of downtown.
- 11) Continued coordination with City of Reno for 1) Flood Response evaluation and incorporation of Interim Risk Reduction Measures into their Flood Response plan, and 2) Flap-gate Installation needs assessment and project.
- 12) Draft Vegetation Variance Application for Trees in Vegetation Free Zone if applicable under SWIF; confirm eligibility with USACE - once confirmation is received regarding wall determination, this item can be removed.
- 13) Finalize the Equipment Access/Entry Point Documentation and Mapping for the District Jurisdiction;

SUMMARY REPORT

Tri Sage along with Board Chairman Todd Westergard and Superintendent Ron Penrose inspected sections of the river on three different days to identify debris that requires removal during 2016. This was also an opportunity to review and discuss issues and areas along the river where there are relevant issues at this time. The inventory of debris will be used to create a scope of work for Reno Tahoe Construction to tackle under a service agreement for the removal.

Tri Sage has continued to work through issues related to permitting with the USACE Flood Branch and has requested a conference call to discuss the changes which have occurred in the USACE Process since the issuance of the Virginia St Bridge permit in May of 2014. The USACE has acknowledged that a new process was instituted in July of 2014 which requires the Flood Branch to include a full NEPA review prior to issuing a 408 Permit and also requires that all permits be signed by the Colonel not just the Chief District Engineer. These added elements are in addition to the technical project reviews formerly conducted by the Corps. These process changes have seemingly lengthened the time to get permits reviewed and authorized by the USACE. In addition, we are working to better understand what submittals will be required for projects that will require a full NEPA review by the Flood Branch and may require project proponents to perform Environmental Assessments and Cultural Resource studies for submittal for a permit. A conference call has been scheduled for October 17, 2016 for Chairman Westergard, Superintendent Penrose and Tri Sage to discuss these matters with the USACE team.

The encroachment permit for the City of Reno Sewer Crossing was issued September 8th, 2016 – 30 days following approvals by the Regulatory Branch regarding the Nationwide Permit. This delay in permitting has eliminated the possibility of the contractor excavating the river to install the sewer line as the Nationwide Permit requires the work in the river to end by October 15th. The City is attempting to install the pipeline using directional drilling in place of excavating the channel for this installation. If the boring is successful, the project will be able to be completed this fall/winter and if not, it will have to be constructed in 2017.

Tri Sage has not heard back from The Chism Park Project following the request for engineered wall and stair drawings. It now appears that in the current USACE Flood Branch process, this project may also require an environmental assessment, cultural resources survey and other NEPA reviews in order to pursue a permit. While in the field, Tri Sage discussed options for this property with Chairman and Superintendent which may include restoring this property to its prior condition with a rock stabilized bank. Following our meeting/call with USACE Tri Sage will approach the applicant and discuss options.

The City has requested determination by the USACE whether a 408 Encroachment Permit will be required for the Idlewild Path Project. This project has only very minor involvement of work/construction within the 14,000cfs flow channel and the City will not be able to delay the work if permitting will take 6-9 months to accomplish. The District has forwarded the determination request to the USACE Flood Branch and has worked to answer some additional questions regarding the path's existence prior to the Martis Agreement and the lack of existence of perfected easements for this structure within the Agreement. The City will redesign the path to remove it from the flood channel if the permitting is going to require additional time and efforts.

Other projects which will require encroachment permits are in the planning stages at this time including a TMWA project to install a portage around the Glendale Weir and the NDOT project to apply scour protection to the Verdi Bridges. Tri Sage will meet with the TMWA project engineer in the coming weeks to discuss the need for a 408 Permit or not.

Tri Sage is working to create the 2016 Debris Removal Project scope of work and service agreement with Reno Tahoe Construction. As part of the debris work, the City has agreed to perform selective thinning and removal along City revetments and walls. Tri Sage has prepared a letter from the District to the City and Maps to accompany this which delineate areas to be managed by the City. This will help the City to incorporate this effort into their annual work.

The City of Reno is continuing with their review of the Flap-Gate requirements in order to address the USACE inspection issue; work is progressing well on this project and the City should have information from the study by March. The City is evaluating alternatives for the West Street Plaza interim risk reduction measures to be incorporated into the City's Flood Response Plan.

The following section is repeated from prior reports(*updates in Italics*):

Notably, the USACE has yet to issue their inspection report from April 2013. As a reminder, the USACE criteria for rehabilitation funding and notifications changed late in 2013 such that the CTWCD inspection issues are not subject to loss of the rehabilitation funding nor notification.

Since the May 2014 monthly report, no further discussion has been had with the USACE regarding the determination of “Floodwalls” versus “Channel walls” through the downtown Reno river corridor; however this is an issue that will be pursued for some resolution as it impacts other inspection issues as noted below.

The Status of USACE inspection issues are noted below and the status remains unchanged since July’s Monthly report except for the removal of the Box Culvert at Idlewild Drive and other italicized sections.

- 1) Shoaling- the shoaling deposits identified by USACE have been included in the recent modeling and at the current stage are NOT impacting the 14,000cfs flow. The USACE requested sensitivity analyses have been performed and indicate that doubling the size of the shoaling deposits does NOT push the waters out of the banks in any of the four areas identified during the inspection. The Keystone Avenue Bridge area has been eliminated as a shoaling deposit.
- 2) Flap-gates- *The City of Reno has engaged an engineer to evaluate each penetration relative to the water surface elevation at 14,000cfs through the downtown reach.* Once we have the model updated and run at the reaches upstream and downstream of the downtown areas to produce water surface elevation data, the City of Reno will continue their evaluation on the storm-drain penetrations into the channel. Tri Sage was able to get GIS data for the storm drain locations to correlate to model flow elevations.
- 3) Vegetation- vegetation along the walls and growing from the walls was removed by the City of Reno as part of the 2013 Debris Removal Project; however during the inspection it was noted that vegetation is developing again. *This was too minor to address in 2014 and was cut back as part of the 2015 project work.* Potential determination of the walls as channel walls, not floodwalls means that there is no “vegetation free zone” requirement and other than the short section that the USACE might determine to be floodwalls, vegetation may become a moot point once specific determination is confirmed.
- 4) *Idlewild Box Culvert/Bank Erosion- the box culvert encroachment was removed in October 2014 and once the flow has an opportunity to re-establish in the unobstructed channel the bank erosion on the Right Bank will be further evaluated if necessary.*
- 5) Flood Response- It appears from the current modeling that the 14,000cfs water surface elevation is below the horizontal surface in all areas downtown except for the West Street Plaza area. There was no approved encroachment by the USACE or the CTWCD for this project including the removal of the walls and railings along this section of river. The USACE has requested that the CTWCD work with the City of Reno to propose Interim Risk Reduction Measures that can be reviewed and approved by the USACE and incorporated into the City’s Flood Response Plan. *The City of Reno is working with the potential developer on this matter and will propose temporary measures at a minimum.* It is not clear at this writing what the requirements will be relative to the placement of plywood along the railings and walls as called for in the Martis Creek Agreement now that it is apparent from the modeling that the 14,000cfs flow is below the top of wall and below the horizontal surface in all sections except the West Street Plaza.

Next steps include the evaluation and running of the model in reaches above and below the Idlewild Park to Lake Street areas for the determination of water surface elevations and identification of problem areas.

RECOMMENDATION

It is recommended that the Board of Directors continue to pursue the inspection/evaluation items as outlined in this report and work toward confirming open items with the USACE Flood Branch.