



May 2, 2024

Ms. Ava Moussavi
Riverside County Flood Control and Water Conservation District
1995 Market Street
Riverside, California 92501

SUBJECT: TEMESCAL VALLEY COMMERCE CENTER DRAINAGE TECHNICAL
SUMMARY
(RICK JOB NUMBER 18602)

Dear Ms. Moussavi:

This letter presents a summary of the proposed onsite development (by Thienes Engineering) and offsite improvements (by RICK) as well as the supporting hydrologic and hydraulic calculations for the Temescal Valley Commerce Center project. For a detailed analysis and narrative of the hydrologic and hydraulic design of the project, please refer to the separate drainage studies listed below:

- “Hydraulic Analysis Report for Temescal Valley Commerce Center,” dated May 2, 2024 (RICK Job Number 18602)
- “Drainage Study for Temescal Valley Commerce Center (Offsite Frontage Roads),” dated May 2, 2024 (RICK Job Number 18602)
- “CLOMR for Temescal Wash,” dated May 2, 2024 (RICK Job Number 18602)
- “Preliminary Hydrology Calculation for Temescal Valley Commerce Center,” dated March 1, 2024 (Thienes Engineering, Inc.)

This letter summarizes the proposed onsite and offsite improvements of the Temescal Valley Commerce Center (project) located at the intersection of Temescal Canyon Road and Dawson Canyon Road in the County of Riverside, CA. The approximately 50-acre site includes seven warehouse style buildings, onsite parking, roadway improvements, realignment of Coldwater Canyon Wash (CCW) and improvements to Temescal Wash.

Existing Condition

The project site is currently barren and unpaved, consisting of largely compacted soil, formally known as the Rinker Plant. The site generally drains to the north, across Park Canyon Road, and into Temescal Wash. The pre-project flow rate of the onsite area is calculated as approximately 42 cfs by the preliminary hydrology study for the onsite development.

Coldwater Canyon Wash (CCW) is channelized along the southern and western boundary of the site, flowing to a double 7' x 12' reinforced concrete box (RCB) culvert under Dawson Canyon Road North and ultimately discharging to Temescal Wash downstream of Dawson Canyon Road Bridge. The existing confluence of CCW and Temescal Wash is located immediately downstream of Dawson Canyon Road, between the road and the Temescal Driving Range. The current alignment of CCW bypasses offsite run-on from Temescal Canyon Road and the hillside to the southwest. As studied by the report titled “Coldwater Canyon Wash Geomorphology Study”, dated

September 2018 (JE Fuller), the channelized section of CCW adjacent to the Rinker Plant only has capacity for approximately 2,000 cfs which is approximately the 5-year storm event for Coldwater Canyon Wash. This results in split-flow through the Rinker plant to Temescal Wash during larger storm events. In conjunction with the JE Fuller Report, a “flood hazard zone” (FHZ) was delineated along CCW to represent the probable erosion and flood hazard based upon the overall geomorphic setting. The FHZ is very broad in the vicinity of the project, reflecting the anthropogenically realigned left bank of CCW as well as the historic channel alignment of the right bank. A portion of the project area is also currently mapped as being within the FEMA “Zone AE” floodplain of Temescal Wash.

Proposed Condition

The proposed realignment of CCW to the east of the site (consistent with the historic drainage pattern for the CCW) will intercept the offsite run-on from the upstream watershed that the site is subjected to in the existing condition. The realignment of CCW will consist of a trapezoidal channel designed for conveyance of the full 100-year flow rate of 5,250 cfs calculated for CCW by the JE Fuller Report. The channel will be maintained by Riverside County Flood Control and Water Conservation District (RCFC), and it will be designed to their standards. The upstream limits of the CCW channel realignment consists of a trapezoidal section armored with loose riprap. This upstream transition section provides a “hard point” for the CCW with lasting resistance to both lateral and vertical migration. The realigned CCW channel is then conveyed along the eastern perimeter of the site via a series of trapezoidal armored drop structures, providing both lateral and vertical stability to the channel. Between drop structures the proposed CCW channel is an earthen bottom with non-erosive velocities. Where space allows the side slopes of the earthen channel sections are vegetated with side slopes of 4:1. Upstream of the planned Temescal Canyon Road crossing, which is anticipated to be constructed by others in the future, the side slopes are 2:1 and armored by loose riprap. The realigned CCW will discharge to Temescal Wash upstream of Dawson Canyon Road Bridge, mimicking the historical outfall location of CCW, via a proposed culvert beneath Dawson Canyon Road (South). This culvert is anticipated to be maintained by either the Riverside County Transportation Department or RCFC. The proposed development will be protected from the erosion hazard and flooding concerns associated with the existing alignment of CCW by these previously described improvements.

Additional improvements to the southern slope of Temescal Wash are proposed adjacent to the proposed confluence of CCW. To protect the proposed Dawson Canyon Road South against identified instabilities of the existing side slope of Temescal Wash, a soil cement slope is proposed with varying steepness, projecting to a calculated scour depth to provide resiliency against future lateral and vertical migration of Temescal Wash. Additional riprap armoring beneath the Dawson Canyon Road North bridge is also proposed to provide additional resiliency against vertical erosion. A CLOMR/LOMR will be processed with FEMA to document the revised floodplain limits associated with Temescal Wash as a result of the project. Due to the incisement of Temescal Wash that has occurred since the effective model for Temescal Wash was created, the proposed floodplain limits do not result in flooding of the project area. The Hydraulic Report prepared for the project includes specific discussion of the impacts of the proposed channel improvements to Temescal Wash and the Dawson Canyon Road North Bridge.

With implementation of the proposed Project, a majority of the Project site would be developed with impervious hardscape. Runoff generated on site would be conveyed to a series of catch basins and storm drain lines ranging in size from 12 inches to 60 inches. First flush runoff would be directed to various underground infiltration systems for water quality treatment. Following water quality treatment, the remaining runoff would be conveyed to the easterly cell of the double 7' x

12' reinforced concrete box (RCB) culvert under Dawson Canyon Road North discharging to Temescal Wash. First flush runoff from the frontage roads, Temescal Canyon Road, Dawson Canyon Road North, and Dawson Canyon Road South, will be directed to the onsite storm drain system for water quality treatment, HCOC, and any required flood control detention requirements (which is addressed by the onsite Hydrology Study and PWQMP prepared by Thienes) before also being directed to the easterly cell of the existing double 7' x 12' RCB culvert under Dawson Canyon Road North. The proposed condition 100-year discharge from the site is approximately 95.7 cfs. Offsite run on towards Temescal Canyon Road and high flows from the frontage street improvements will be bypassed to the westerly RCB culvert beneath Dawson Canyon Road with a 100-year flow rate of approximately 156.7 cfs. The projected increase in peak runoff from the Project site would not alter the existing drainage pattern of the site or area and would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems.

Conclusion

As mentioned previously, the project proposes seven warehouse style buildings, onsite parking, roadway improvements, realignment of CCW and improvements to Temescal Wash. Hydrologic and hydraulics analyses were performed CCW and Temescal Wash. The site plans provided separately depict the planned onsite development as well as the surrounding drainage and flood control improvements. The proposed development will be protected from the erosion hazard and flooding concerns by the proposed improvements. As the proposed improvements include work outside of the project boundary, letters of permission from the affected property owners will be provided separately by ownership. The proposed improvements will not adversely affect the offsite drainage infrastructure or Dawson Canyon Road North Bridge.

If you have any questions, please contact Chris Mattox of Rick Engineering Company at 619-291-0707.

Sincerely,

RICK

Brendan Hastie
Principal
R.C.E. #65809, Exp. 9/25