

Sunday, December 22, 2019

Attn: Shawna Scott: Senior Planner, Community Development Department
City of San Luis Obispo
919 Palm Street, San Luis Obispo, CA 93401-3219

RE: Comments on Froom Ranch Specific Plan Draft EIR

From: David Chipping: [REDACTED] Los Osos, CA 93402
(Prof. Emeritus, Geology: CalPoly, SLO)

The following comments are narrowly focussed regarding hydrology and drainage related issues. I will, however, strongly recommend that any approved plan does not violate existing General Plan standards, most importantly the upholding of the 150 ft. contour building limit for all parts of the proposed project.

The hydrologic analysis largely rests within Appendix H, the analyses derived therein being presented in the main body of the document. I will present each numbered issue as a bulleted, numbered and underlined point for the purposes of clarity, with any questions and requests for response in regard to that issue in bold font at the end of my discussion on that issue.

• Hydrology Issues 1: Misstatement concerning original position of Froom Creek.

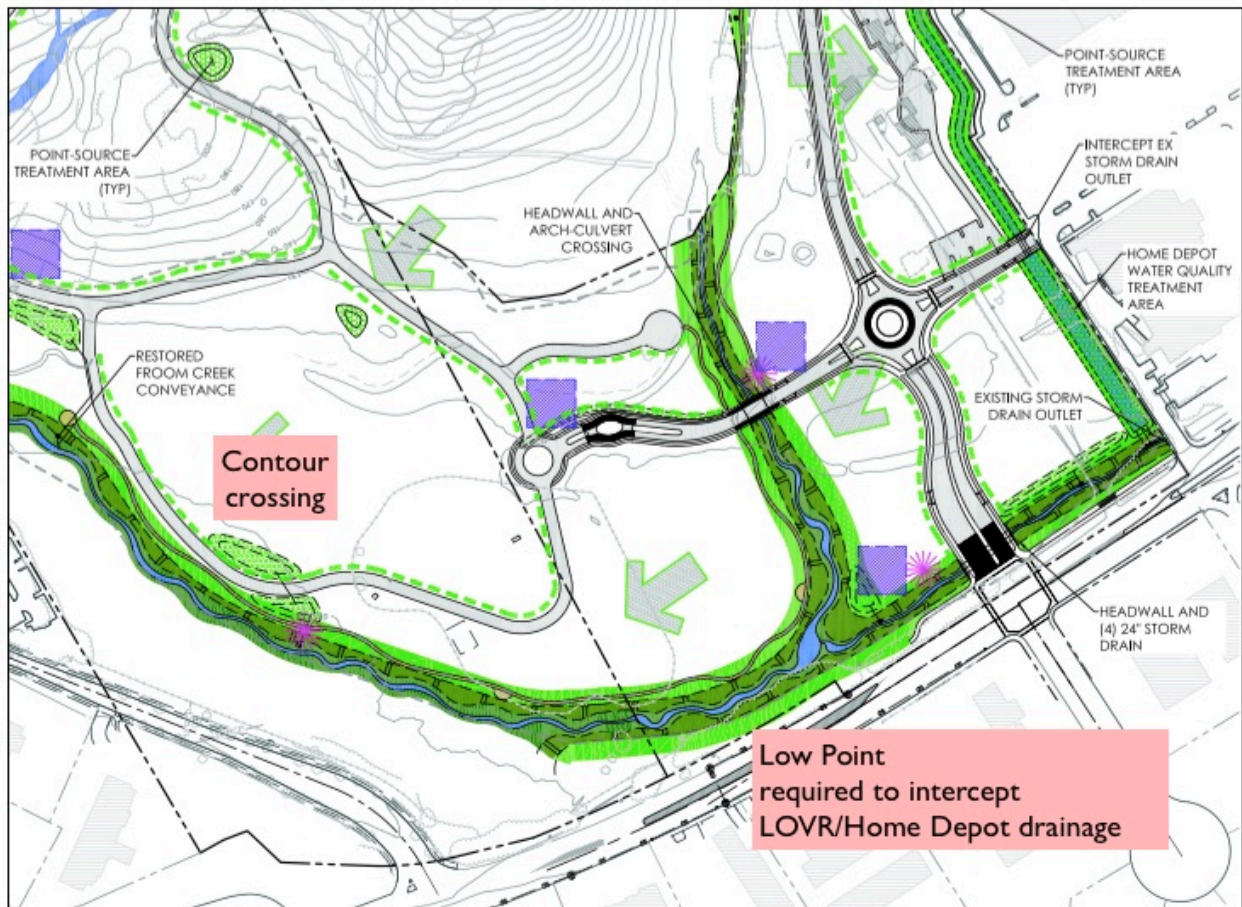
On page 13 (I-5) Appendix H states “*Development of the Specific Plan area will enhance and restore the historic Froom Creek corridor alignment and allow it to traverse future development areas.*” It is true that the original alignment joined the Laguna Lake close to the edge of what is now LOVR (topographic map from 1900). It then flowed through the currently lowest part of property and joined San Luis Creek. In no way did it turn southward and follow the current drainage along the eastern property line. Thus the creek realignment cannot be cited as a significant historic restoration. This is correctly noted in Section 1.4.



Topo base map from 1900. The creek crossing of the main highway and railroad is essentially at the current freeway overpass. LOVR and Madonna Rd. are present, but LOVR dead ends short of the current overpass

• Hydrology Issues 2: Natural slopes along the intended creek realignment's southern sections tilt against the intended gradient of the creek, thus increasing probability of increased flow depth, decreased flow velocity, and increased flood depths along the Calle Joaquin wetland and developments.

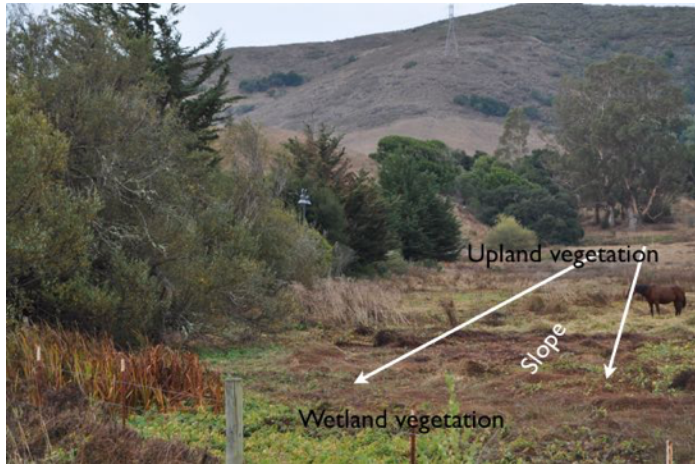
The following figure shows that the lowest point of the proposed new channel has to be low enough to receive flow from the LOVR ditch system, which also carries Home Depot-derived water. and is also designated as "Home Depot Water Quality Treatment Area". This same figure has detailed topographic contouring showing the creek crossing a contour in the uphill direction.



Thus while the original channel would have delivered Froom Creek flow directly to San Luis Creek at the overpass area, and the creek alignment from the 1940s still maintained a down-channel gradient of about 1 ft. in 100 ft (based on Google Earth-derived elevations), the proposed alignment appears to result in almost no down-channel slope. It appears that the channel will have to be considerably deepened downstream of the 'Low Point' shown in the above figure.

The following photograph shows the alluvial fan that is derived from the three small drainages at the southern end of the property, with the white arrows showing the slope direction of the fan surface. See also the contours on the picture above. The picture is taken

at the point where the proposed channel with turn to the northwest, with green wetland vegetation in the foreground.



Question: How will channel excavation affect subsurface water conditions in the jurisdictional wetlands adjacent to Calle Joaquin. Reference is given to pages. 228 and 230 of Appendix H, creek sections 2031 and 1757, which are shown cutting into the edge of the wetland by as much as 4 feet.

Question: Please clarify the expected flood discharge expected to (a) overflow into the Calle Joaquin wetlands during 2-100 year flooding, and (b) the amount that would be retained in the channel to flow to the box culvert and proposed storage basin at the southern end of the project.

• Hydrology Issues 3: The project intends to remove existing retention basins that currently capture discharge from the existing development to the west. These basins are to be replaced by a new retention basin adjacent to, and south of, the current Froom Creek box culvert.

On page 156 of Appendix H, there is the following table:

Total Creek Flow (Overbank Flowrate) (cfs)			
	Historic	Existing	Proposed
2-yr	253.3 (100)	253.3 (0)	518.7 (0)
10-yr	521.5 (318)	521.5 (89.4)	707.3 (188.6)
25-yr	714.3 (475.2)	714.3 (282.2)	877.2 (358.5)
50-yr	867.6 (599.3)	867.6 (435.5)	1098.1 (579.4)
100-yr	980.4 (691)	980.4 (548.3)	1240.8 (722.1)

This table appears to show that overbank flow rates will almost double for the 2 year flood, which appears to conflict with apparent design standards that seem to contain all peak

The above diagram appears to show an upstream slope for the bed of the stream (lower line) and a another profile which is higher than the wetland and drainage along LOVR. Appendix H does not seem to explain what this all means, and how the profiles reflect existing conditions and engineered changes.

Question: The FEIR should provide explanation for this figure, and show the places and elevations where LOVR and Home Depot drainage enter the engineered channel, and where storms greater than the 2-year storm are expected to have planned overbank flow.

• Hydrology Issues 5: There is no analysis of any cross-Calle Joaquin flows on flooding potential in that area

Analysis of photos taken during the 1973 flood show that water stands at an elevation at 106 feet, as elevations of the high water mark can be matched with Google Earth elevations. The existing land surface of the proposed drainage capture basin adjacent to the Froom Creek crossing of Calle Joaquin is 102-14 feet, and appears to be underwater in the 1973 flood.



The above photo clearly shows water flowing onto the southbound 101 from the west. Since 1973 there has been significant alteration of the grades along the southbound entry ramp, added impermeable surface around Calle Joaquin, but no significant change in drain capacity connecting the area to San Luis Creek. Raised water levels at the current culvert would also affect the sewer lift station, which will be expanded to greater capacity to meet Calle Joaquin and Froom Ranch demand.

Question: Are there public safety and property damage impacts that will result in the Froom Ranch development's added flood discharges across Calle Joaquin?