

7.0 Conclusion

The Florin Vineyard Community Plan area can be developed using the concept presented in this drainage study. FVGCP area can build out at the designated densities without negatively impacting existing downstream hydraulic conditions or storm water quality with or without the North Vineyard Station Specific Plan Drainage Master Plan improvements. The improvements needed to accomplish this concept are as follows:

- Excavate Elder and Gerber Creeks
- Provide flood control and water quality detention basins along Unionhouse, Florin Elder and Gerber Creeks (Table 7.1)
- Construct storm drain pipes for the project area

Table 7.1 Detention Basins Required for FVGCP			
DET-BASIN	WATER QUALITY VOLUME (AC-FT)	FLOOD CONTROL VOLUME (AC-FT)	DETENTION BASIN AND BUFFER AREA FOOTPRINT (ACRES)
UNIONHOUSE CREEK			
UHDET2	5.6	32.6	5.6
WQSCK	2.5	N/A	1.4
UHDET1	N/A	30.5	8.3
WQUH1AN	5.8	N/A	2.4
ELDER CREEK WQ ONLY BASIN			
WQMH10	4.8	N/A	2.1
ELDER CREEK WITH LAGUNA SPILL			
E28	23.4	70.2	15.2
E31	6.0	73.0	12.8
ELDER CREEK WITHOUT LAGUNA SPILL			
E28	23.4	70.2	15.2
E31	6.0	73.0	12.8
GERBER CREEK WITHOUT LAGUNA SPILL			
G43	12.4	14.5	6.9
FLORIN CREEK			
WQDETSC2	8.6	5.7	3.6
SC2R71	N/A	6.0	1.9
DETF4C	24.9	17.7	10.9
SWATTD	N/A	34.9	6.4
MH6DET	N/A	25.5	4.6
INTERIM			
FBNE	3.2	9.9	3.7
VR	N/A	0.8	1.1
VRWQ	1.1	N/A	

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The above improvements will mitigate potential development impacts by not increasing flows and water surface elevations downstream of the project area in accordance with Sacramento County requirements. A summary of the flows and water surface elevations at the downstream project boundary is shown in the Table 7.2. Constructing the proposed detention basins at the same time the areas draining to them will allow the development of the FVGCP site without relying on any other projects.

Table 7.2: Comparison of Flows and Stages for FVGCP Post-development Conditions				
Condition	Florin Creek Reach 2 Node 22352	Project Boundary at Elder Creek Node Sta 4.795	City/County Boundary at Sta. 1.921	Unionhouse Creek Node Sta 15407
Post-project with Laguna Spill 100-year Flows (cfs)				
Existing	419	1897	1946	636
Post-development	352	1807	1843	560
Increase in stage	-67	- 90	-103	-76
Post-project with Laguna Spill 100-year Water Surface Elevations (feet)				
Existing	35.61	38.80	20.19	36.48
Post-development	35.21	38.71	19.97	35.59
Increase	-0.40	-0.09	-0.22	-.89
Post-project without Laguna Spill 100-year Flows (cfs)				
Existing	419	1897	1946	636
Post-development	352	1437	1740	560
Increase in stage	-67	-460	-206	-76
Post-project without Laguna Spill 100-year Water Surface Elevations (feet)				
Existing	35.61	38.80	20.19	36.48
Post-development	35.21	37.89	19.76	35.59
Increase	-0.40	-0.91	- 0.43	-.89
Condition	Elder Creek Tributary at Vintage Ranch	Elder Creek Tributary at Bradshaw		
	1.11	0.62		
Interim Conditions 100-year Flows (cfs)				
Existing	141	232		
Post-development	134	207		
Increase in stage	-7	-25		
Interim Conditions 100-year Water Surface Elevations (feet)				
Existing	66.79	61.86		
Post-development	66.75	60.77		
Increase in stage	-0.04	-1.1		

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Stand-alone Condition

The stand-alone conditions analysis indicates that the detention basin storage volumes provided for the FVGCP site are sufficient to reduce post-project flows and stages down to existing levels at the City/County boundary at River Mile 1.921 as shown in the Table 7.3. As discussed above, the purpose of the Stand-alone condition is to show that the FVGCP can develop with or without North Vineyard Station Specific Plan. The portion of FVGCP south of Gerber Road and west of Bradshaw cannot develop until the Laguna spill is shut off. Detention Basin G43 will therefore not be constructed until then.

Table 7.3: Comparison of Flows and Stages for FVGCP Stand-alone Conditions				
+ Condition	Florin Creek Reach 2 Node 22352	Project Boundary at Elder Creek Node Sta 4.795	City/County Boundary at Sta. 1.921	Unionhouse Creek Node Sta 154072
100-year Flows (cfs)				
Existing	419	1897	1946	636
Stand-alone	352	1852	1930	560
Increase in stage	-67	-45	-16	-76
100-year Water Surface Elevations (feet)				
Existing	35.61	38.80	20.19	36.48
Stand-alone	35.21	38.79	20.21	35.59
Increase	-0.40	-0.01	0.02	-.89