Hydrology and Water Quality

This section analyzes the drainage and on-site hydrological conditions, as well as whether the proposed Project would violate any water quality standards or waste discharge requirements, deplete groundwater supplies, or interfere with groundwater recharge, result in substantial erosion or siltation on-site or off-site, or provide substantial additional sources of polluted runoff. Information related to water supply and distribution is discussed in Section 5.15, Utilities and Service Systems.

The following information and analysis is based on the Preliminary Storm Water Control Plan, dated May 2017 and revised December 2017 (Appendix K) and the Preliminary Drainage and Detention Study dated March 2017 prepared by Fuscoe Engineering (Appendix L).

5.8.1 Existing Conditions

The development is an irregular “L” shape, due to multiple parcels. The site generally drains east to west with grades ranging from elevation 32 (at the corner of State Highway 221 and Napa Valley Corporate Way) to elevation 14 (Napa Valley Corporate Drive), as shown on Exhibit 5.8-1, Existing Drainage Configuration. The slope off Highway 221 varies from 10% to 4:1, then flattens to about 2% across the site, dropping off to 12 feet in elevation. The existing underground storm system within Napa Valley Corporate Drive collects storm water and directs it to South Creek (at the west side of Napa Valley Corporate Drive, past Napa Valley Corporate Way) and eventually into Napa River Marsh.

The intersection of Napa Valley Corporate Way with Highway 221 is one of the main entrances into the Napa Valley Commons corporate park, and is located at the southeast corner boundary of the Project site. This corner consists of a large grassy area, a curved rocked wall and pillars, and is backed by a grove of large trees. The ground slopes from behind the trees and into the site at an approximate 3:1 slope with an elevation 32 to 23.

An existing grassy berm runs along the south property line adjacent to Napa Valley Corporate Way. The berm is planted with mature trees and is approximately 3 feet above the roadway, and slopes back towards the site at an approximate 5:1 slope creating a 4-foot elevation difference.

The west side of the Project site located adjacent to the existing development includes a 3:1 slope from the site at elevation 21 down to the shared driveway at elevation 18. There are three Heritage Oak trees along the easterly edge of the shared driveway. Two of these trees are located very close to the back of curb and are supported by a tiered rock wall.

A Geotechnical Investigation Report prepared for Midstate Construction, by RGH Consultants, dated July 13, 2015 states that subsurface exploration indicated that the Project site is underlain with approximately 5 feet of clayey sand fill. The fill soils were described with variable amounts of gravel and occasional cobbles and boulders. The fill soils exhibit low to moderate plasticity and low expansion potential. Bedrock extends from below the surface materials to the maximum depths explored (8.5 feet). The test pits reached refusal at depths from a few inches to about 3.5 feet. Groundwater was not encountered during testing.
Exhibit 5.8-1  Existing Drainage Configuration
5.8.2 Regulatory Setting

The Clean Water Act\(^1\) is the principal federal statute governing water quality. The goal of the Clean Water Act is to protect the physical, chemical, and biological integrity of the waters of the United States. The Clean Water Act requires the state to adopt water quality standards for water bodies and have those standards approved by the Environmental Protection Agency (EPA). Water quality standards consist of a designated use or uses for a particular water body along with water quality criteria based on those uses\(^2\). Designations applied to water bodies describe the appropriate uses of that water body, such as contact recreation, warm water wildlife propagation and municipal or drinking water uses. Water quality criteria are set concentrations or levels of constituents (e.g., lead, suspended sediments and fecal coliform bacteria) or narrative statements that represent the quality of water that support a particular use.

Discharges of pollutants into waters of the United States are not allowed, except in accordance with the permitting program of the Clean Water Act, the National Pollution Discharge Elimination System (NPDES). Authority to implement and administer the NPDES program in California has been delegated by EPA to the state and regional water quality control boards. NPDES permits have been issued that apply to storm water discharges from large municipal storm sewer systems, specific industrial activities and large construction activities. The City of Napa is required by the Federal Clean Water Act to obtain a permit to discharge storm water. This General Permit (Order No. 2013-001 DWQ effective July 1, 2013) requires the City of Napa to:

- Develop and implement a Storm Water Management Plan (SWMP) that describes Best Management Practices (BMPs), measurable goals, timetables for implementation, and to implement the current Phase II Municipal Separate Storm Sewer System (MS4) permit requirements.

Division 7 of the California Water Code is the basic water quality control law for California. This law is titled the Porter-Cologne Water Quality Control Act (Porter-Cologne Act). The Porter-Cologne Act establishes a regulatory program to protect water quality and to protect beneficial uses of the state waters.

The Porter-Cologne Act Section 13000 provides that:

- The quality of all waters of the state shall be protected for the use and enjoyment by the people of the state; and
- Activities and factors which may affect the quality of the waters of the state shall be regulated to attain the highest water quality that is reasonable, considering all demands being made or to be made and the total values involved, beneficial and detrimental, economic and social, tangible and intangible.

The Porter-Cologne Act establishes the State Board and the regional boards as the principal state agencies responsible for control of water quality. The Act required the Regional Water

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21 1 U.S. Code, Title 33, §§1251, et seq. and 2 Code of Federal Regulations, Title 40, §131.3(i)
22 Code of Federal Regulations, Title 40, §131.3(i)
Quality Control Boards to initiate development of comprehensive regional Water Quality Plan.

The Napa Countywide Stormwater Pollution Prevention Program (NCSPPP) is the principal policy, guidance and reporting document for the Napa County NPDES Stormwater Program and is designed to achieve compliance with Basin Plan standards through Best Management Practices (BMPs). BMPs are procedures designed to minimize the release of pollutants. Relative to the proposed Project, the NCSPPP describes programs that will serve to:

- Prevent storm water pollution
- Protect and enhance water quality in creeks and wetlands
- Preserve beneficial uses of local waterways
- Comply with State and Federal regulations

5.8.3 Thresholds of Significance

For purposes of this DEIR, the thresholds of significance for evaluating project impacts are based on suggested criteria from the CEQA Environmental Checklist (Appendix G of the CEQA Guidelines) and policies of the City of Napa. The Project would result in a significant impact if it would:

a) Violate any water quality standards or waste discharge requirements;
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-site or off-site;
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
f) Otherwise substantially degrade water quality;
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami or mudflow.
5.8.4 Project Impacts Prior to Mitigation

The Storm Water Control Plan identifies potential storm water pollutants, hydrologic conditions of concern, and best management practices (BMPs) to reduce impacts from Project implementation. Potential impacts due to Project implementation are discussed below.

1. Constraints and Opportunities for Storm Water Control

   a. Existing soil exhibits very low permeability; therefore, the Project will not be able to support infiltration. The Project will need to rely on LID designs that incorporate subdrain piped drainage systems. In addition, excavations may prove difficult and costly due to the presence of shallow bedrock.

   b. Grade differentials near the shared driveway and the Heritage Oak trees restrict the installation of storm water treatment facilities in the adjoining landscape strips (which are at the low end of the site where treatment facilities are generally sited). Grade differentials also require the use of retaining walls and limits nearby landscape areas to accept runoff without velocity/erosion concerns.

   c. High intensity land use limits the areas available for storm water treatment and control. This land use is accompanied with heavy pedestrian use. Safety concerns dictate that any at-grade treatment areas are carefully located outside of these high use areas.

   d. Fixed grades are present on-site, and any development will require that the existing grades area matched.

   The site has several opportunities for storm water control and treatment, detailed on Exhibit 5.8-2, Storm Water Treatment Plan and discussed below.

   a. Due to differences in elevation a hydraulic head is needed to allow for flow into and throughout the treatment/control areas. The grade change also provides the opportunity for runoff to be collected in conventional inlets and piping to downslope biofiltration facilities.

   b. The proposed separated sidewalks along Napa Valley Corporate Drive and Napa Valley Corporate Way provide an opportunity for the landscape strip to act as a treatment for the new sidewalk.

   c. The proposed Project includes design elements such as artificial turf that are considered self-treating permeable pavement and can accept limited hardscape runoff.

   d. The Project incorporates landscaped areas adjacent to walkways and other hard surfaces with less than a 2:1 ratio to allow hardscape drainage into the adjacent landscaped areas. This would be considered a self-treating area that would be piped directly offsite.
Exhibit 5.8-2  Storm Water Treatment Plan

Source: Attachment 4, Preliminary Storm Water Control Plan; Fusco Engineering; May 22, 2017 (Appendix K to this EIR)
Low Impact Development Design Strategies

A. Optimization of Site Layout

A.1. Limitation of development envelope: Due to the project resulting in a densely developed site with limited space, steep slopes and geotechnical limitations, any storm water runoff management will be achieved through the use of bioretention facilities with subdrains: Flow-Through Planter Boxes, In-Ground Bioretention Areas, Silva Cells, and Permeable Pavement. Some minor areas such as a portion of steep driveway slopes will not be treated.

A.2. Preservation of natural drainage features: The natural drainage pattern will be maintained – from east to west. The project will use the landscaped and open space areas where practical to incorporate into storm water treatment areas.

A.3. Setbacks from creeks, wetlands, and riparian habitats: There are no creeks or riparian habitat adjacent to or within the site. The project will potentially impact 0.06 acres of seasonal wetland which cannot be avoided.

A.4. Minimization of imperviousness: Pervious/landscaped areas and permeable pavements are included wherever practical.

A.5. Use of drainage as a design element: The project concept relies on the project establishing a series of level areas stepped across the project. Treatment areas are incorporated as a design element wherever possible. This includes the use of permeable and self-treating areas as described in Items B and C, below.

B. Use of Permeable Pavements and Self-Treating Areas: The artificial turf is designed to transmit rainfall through the surface and is a self-treating area. The landscaped area will also act as self-treating or self-retaining.

C. Dispersal of Runoff to Pervious (self-retaining) Areas: The design of the site treatment focuses on the dispersal of storm runoff from impervious to pervious areas wherever practical, without exceeding a 2:1 ratio. If no nearby pervious area is available, the runoff from impervious areas will be collected and drain directly into the bioretention treatment areas.

D. Storm Water Control Measures: This project will utilize bioretention/LID BMPs to treat storm water runoff from impervious areas. Plant materials shall conform to the BASMAA Appendix F Bioretention Facility Plant Matrix.

2. Water Quality Management

The following site activities have the potential to pollute:

- Landscape maintenance, i.e. use of pesticides and fertilizers.
- Cleaning surfaces that drain into interior floor drains.
- Use and cleaning of refuse areas.
- Testing of the fire sprinkler system.
- Discharges from roof drains, condensate and/or boiler lines, and rooftop equipment.
- Sweeping and cleaning of sidewalks, plazas, and other exposed impervious surfaces.
Methods of construction and materials used can generate pollutants including products such as solvents, paints, finishing residues, and cleaners. Protocols will be implemented to prevent and/or reduce the discharge of pollutants to storm water by using soil erosion controls, enclosing or covering building material storage areas, using good housekeeping practices, using safer alternative products, and training employees. These protocols will be outlined in the project Storm Water Pollution Prevention Plan (SWPPP) and implemented by the proposed Project.

3. **Storm Water Facility Maintenance**

Responsibility for operations and maintenance will lie with the developer/owner until this responsibility is formally transferred to a subsequent owner.

**Summary of Maintenance Requirements for Each Storm Water Treatment Facility**

Bioretention facilities remove pollutants primarily through filtering runoff slowly through an active layer of soil. Routine maintenance is needed to ensure that flow is unobstructed, that erosion is prevented, and that soils are held together by plant roots and are biologically active. Typical maintenance consists of the following:

- Examine downspouts from rooftops or sheet flow from paving to ensure that discharge is unimpeded. Remove any debris and repair any damaged pipes. Check splash blocks or rocks and repair, replace, or replenish as necessary.
- Examine the overflow pipe/catch basin to make sure that it can safely convey excess flows to a storm drain. Repair or replace any damaged or disconnected piping.
- Check that the soil is at the appropriate depth to allow a reservoir above the soil surface and is sufficient to effectively filter storm water. Remove any accumulations of sediment, litter, and debris. Till or replace soil as necessary. Confirm that soil is not clogging and that the planter will drain within 3 to 4 hours after a storm event.
- Determine whether the vegetation is dense and healthy. Replace dead plants. Prune or remove any overgrown plants or shrubs that may interfere with planter operation.
- Clean up fallen leaves or debris and replenish mulch. Remove any nuisance or invasive vegetation by manual methods and soil amendment. Problem areas can be treated with vinegar-based products or non-selective herbicides.
- Add mulch as needed to maintain a 2” minimum layer (while still maintaining the soil depth. The top of mulch layer shall be below the facility overflow elevation.
- Remove graffiti and replace storm drain appurtenances, as needed.
- Check irrigation to confirm adequate but not excessive.
- No fertilizer to bioretention facilities and no synthetic fertilizers.

The Project proposes the use of permeable pavements to allow water to permeate the surface layer and pass into a porous base course and bedding materials and are
underlain by a perforated pipe and storm water system. The two main concerns associated with permeable pavement are settling of paving after construction and ongoing care to avoid clogging of the pavement by weeds or sediment.

Typical maintenance consists of the following:

- Inspect paving to check that water drains away after a heavy rain. Ponding indicates possible clogging in the drainage system. Inspect cleanouts, overflow inlets, and clean piping as needed.
- If paving settles, remove top surface and re-level bedding material. Replace top surface.
- Sweep surface and openings with wet vacuum sweeper to prevent clogging from sediment.
- Maintain planted areas adjacent to surface, immediately clean any soil deposited on pavement.

4. **On-Site Storm Water Detention and Connection to Existing Infrastructure**

The original storm system within the Napa Valley Corporate Park was designed for a commercial runoff coefficient and a 10-year storm event. Current city design standards require the proposed on-site piping system to convey the 25-year storm event while not impacting the existing infrastructure. Therefore, to meet the current city criteria, the proposed on-site storm system will include an underground storage vault. This vault will be designed to detain the differential volume between the 25- and 10-year events and employ an outfall that will constrict the discharge to match the 10-year storm, thereby matching the maximum flow of the existing infrastructure piping within Napa Valley Corporate Drive. Preliminary calculations provided by Fuscoe Engineering show the vault to be 11,700 cubic feet in size and utilizing a 15-inch discharge pipe.

The proposed storm water and detention system will convey storm runoff north and west through the Project site, with a new connection to the existing underground storm drain piping in Napa Valley Corporate Drive along the west frontage of the Project, as shown on Exhibit 5.8-3, Proposed Drainage Configuration.

This proposed connection will discharge storm waters at less than or equal to the original 10-year event for the Project. The storm flows will be discharged at one point of connection in Napa Valley Corporate Drive rather than being distributed through several connection points in Napa Valley Corporate Drive. This point of connection occurs at a smaller diameter pipe located upstream and adjacent to the Project. To accommodate the rerouted flows, the proposed design will require upsizing of a portion of the existing infrastructure in Napa Valley Corporate Drive.
Chapter 5. – Environmental Setting, Impacts, and Mitigation Measures
Draft Environmental Impact Report

5.8 – Hydrology and Water Quality

Exhibit 5.8-3  Proposed Drainage Configuration

Source: Appendix 4, Exhibit C-3; Preliminary Drainage and Detention Study; Fuscoe Engineering; March 2017 (Appendix L to this EIR)
Detention Calculation Results Summary

<table>
<thead>
<tr>
<th>TR-20 Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storm Type 1A per City of Napa Standard Specifications, July 2008, page 44</td>
</tr>
<tr>
<td>NOAA 24-Hour Rainfall</td>
</tr>
<tr>
<td>10-year storm = 4.63”</td>
</tr>
<tr>
<td>25-year storm = 5.63”</td>
</tr>
<tr>
<td>Soil Group = C</td>
</tr>
<tr>
<td>Curve Number = 94 for Commercial Development in Soil Group C</td>
</tr>
<tr>
<td>Time of Concentration</td>
</tr>
<tr>
<td>Tc = T(initial) + T(overland) + T(time in pipe) = 18.6 mins</td>
</tr>
<tr>
<td>Tc used = 15 mins</td>
</tr>
<tr>
<td>Runoff Detention Volume Needed</td>
</tr>
<tr>
<td>11,700 CF (@ 3’ depth) and 15” outlet</td>
</tr>
<tr>
<td>Proposed Project Runoff Flow Rates: cfs (cubic feet per second)</td>
</tr>
<tr>
<td>10-year storm Q = 11.6 cfs</td>
</tr>
<tr>
<td>25-year storm with detention Q = 11.6 cfs = 11.6 cfs: OK</td>
</tr>
</tbody>
</table>

5. WQMP BMPs

The proposed Project will comply with Best Management Practices as provided by the Storm Water Quality Control Plan. Table 5.8-1 below describes the potential source of runoff pollutants, and permanent source control BMPs and operational control BMPs.

Table 5.8-1  Source Control Measures

<table>
<thead>
<tr>
<th>Potential Source of Runoff Pollutants</th>
<th>Permanent Source Control BMPs</th>
<th>Operational Source Control BMPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-site storm drain inlets</td>
<td>Mark all inlets with the words “No Dumping! Flows to River”</td>
<td>• Maintain and periodically repaint or replace inlet markings.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Provide storm water pollution prevention information to new site owners, lessees, or operators.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Inspect, repair, and clean inlets to maintain integrity of the system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Include the following in lease agreements: “Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains.”</td>
</tr>
<tr>
<td>Interior floor drains in kitchens and bathrooms</td>
<td>Interior floor drains will be plumbed to the sanitary sewer.</td>
<td>Inspect and maintain drains to prevent blockages and overflows.</td>
</tr>
<tr>
<td>Elevator shaft sump pumps</td>
<td>Sump water shall be held in a container and hauled away offsite.</td>
<td>Inspect water level in container to ensure overflows are avoided.</td>
</tr>
<tr>
<td>Need for future indoor and structural pest control</td>
<td>All building vents will be constructed so as to discourage and/or eliminate the access of pests.</td>
<td>• Provide Integrated Pest Management information to owners, lessees, and operators.</td>
</tr>
<tr>
<td>Potential Source of Runoff Pollutants</td>
<td>Permanent Source Control BMPs</td>
<td>Operational Source Control BMPs</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>------------------------------</td>
<td>----------------------------------</td>
</tr>
</tbody>
</table>
| Pools, Spas, Decorative Fountains    | Provide regular cleaning, consistent, adequate chlorine levels and well-maintained water filtration and circulation systems. | • Per agency requirements will not be plumbed to discharge into storm or sewer system.  
• Control algae with chlorine or similar.  
• For Discharges: Dechlorinate water with a neutralizing chemical |
| Food Service                         | Provide floor drains, floor sink. | • Drains to be connected to a grease interceptor before discharging to sanitary sewer. |
| Landscape/Outdoor Pesticide Use      | • Final Landscape Plans will accomplish all of the following:  
  • Preserve existing native trees, shrubs, and ground cover to the maximum extent practical.  
  • Landscape will be designed to minimize irrigation and runoff, promote surface infiltration where appropriate, and minimize the use of fertilizers and pesticides that can contribute to storm water pollution.  
  • Where landscape areas area used to retain or detain storm water, the plants shall be tolerant of saturated soil conditions.  
  • The use of pest-resistant plants (especially adjacent to hardscape) will be considered.  
  • Plant selection will be made with consideration to site soils, slopes, climate, sun, wind, rain, land use, air movement, and plant interactions. | • Provide Integrated Pest Management information to owners, lessees, and operators.  
• Maintain landscaping using minimum or no pesticides.  
• Use non-toxic chemicals for maintenance when possible. |
| Refuse Areas                         | • Signs will be posted on or near dumpsters with the words “Do not dump hazardous materials here” or similar.  
• Refuse area will provide clearly marked collection areas for recycling as well as refuse. | • Maintenance crews will be responsible for the entire site. Their standard duties will include: inspect the receptacles regularly, repair or replace leaky receptacles, keep receptacles covered, post “no hazardous materials” signs, inspect and pick up litter daily and clean up spills immediately. |
| Fire Sprinkler Test Water            | The fire sprinkler test water will drain to landscape when feasible otherwise into a floor sink with a ¼” lip from the finished floor, then into the sanitary sewer. A restriction device will be utilized to avoid overwhelming of the downstream sewer system. | The capacity of the lateral will be calculated and sized accordingly. |
| Miscellaneous Drain or Wash Water:   | • Condensate lines shall be plumbed to drain outside the building into a nearby landscape area  
• Boiler drain lines  
• Rooftop equipment | |
### Potential Source of Runoff Pollutants

<table>
<thead>
<tr>
<th>Potential Source of Runoff Pollutants</th>
<th>Permanent Source Control BMPs</th>
<th>Operational Source Control BMPs</th>
</tr>
</thead>
</table>
| • Rooftop equipment with the potential to produce pollutants shall be roofed and/or have secondary containment.  
• No roofing, gutters, or trim will be made of copper or other unprotected metals that may leach into runoff. |                               | • Plazas, sidewalks and exposed parking areas will be swept regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system and direct water into nearby landscape areas. To avoid unsafe runoff and potential contamination, cleaning agents and degreasers shall not be used. |
| Plazas, sidewalks, and exposed parking lots. |                               |                               |

### 6. Winery Wastewater

It is anticipated that the winery will produce approximately 200,000 gallons of industrial wastewater per year, ranging from approximately 0 to 500 gallons per day to 3,500 to 5,000 gallons per day with the greatest amounts of wastewater produced during high crush season. The winery industrial wastewater will be held in a subterranean tank beneath the winery and transferred through an underground piping system to an on-site wastewater treatment area located immediately across the internal drive aisle from the winery, as shown on Exhibit 5.8-4, Winery Wastewater Treatment Area. The wastewater treatment area will be approximately 2,200 to 2,800 square feet in size and includes the wastewater treatment system and three cylindrical water storage tanks. The wastewater treatment system and water storage tanks will be installed as above ground components. Each cylindrical water tank will be capable of holding up to 10,000 to 15,000 gallons of purified water.

The wastewater treatment area will be located next to the neighbor’s relocated trash enclosure at the western boundary of the Project site and shielded from view through the use of fencing and landscaping. The proposed wastewater treatment equipment will be screened from view by the neighboring office buildings through the planting of African Sumac and California Sycamore trees along the outside perimeter of the wastewater treatment area. The wastewater treatment area will be accessed through a gate to ensure that the area remains secure.

The industrial wastewater treatment process includes a filtration process where solid and liquid elements of the wastewater will be separated. The solids will be dewatered and disposed of with normal trash, and remaining water will be filtered to a pure state through a reverse osmosis system. The resultant pure water will be stored in tanks in the wastewater treatment area and dispersed through the Project’s landscape irrigation system, which will be directly connected to the pure water storage tanks. The proposed winery will not connect into the sewer system or use a hauling system, because industrial wastewater water produced by the winery will be treated on-site. All domestic wastewater flows will be discharged into the Napa Sanitation District pipeline for treatment.
Chapter 5. – Environmental Setting, Impacts, and Mitigation Measures

5.8 – Hydrology and Water Quality

Draft Environmental Impact Report

January 2018 Trinitas Mixed-Use Project

Exhibit 5.8-4  Winery Wastewater Treatment Area
5.8.5 Mitigation Measures

1. Standard Mitigation Measures

Standard mitigation measures herein are per Policy Resolution No. 27.

**MM H/WQ-1** To ensure adequate drainage control, the Developer of any project that introduces new impervious surfaces (roof, driveways, patios) that will change the rate of absorption of drainage or surface run-off shall submit a drainage and grading plan designed in accordance with Policy Resolution No. 17 and the City of Napa Public Works Department Standard Specifications to the Public Works Department for its approval.

**MM H/WQ-2** For any construction activity that results in the disturbance of 5 acres or greater total land area, or that is part of a larger common plan of development that disturbs 5 acres or greater total land area, Developer shall file a Notice of Intent with the California Regional Water Quality Control Board (SWRCB) prior to any grading or construction activity. In the event construction activity for the Project occurs after the SWRCB has changed its General Permit for construction activity to cover disturbance(s) of 1 acre or more, this measure shall apply to any construction activity for this Project which results in the disturbance of 1 acre or greater total/and area, or is part of a larger common plan of development that disturbs 1 acre or greater total land area.

**MM H/WQ-3** The Developer shall ensure that no construction materials (e.g., cleaning fresh concrete from equipment) are conveyed into the storm drain system. The Developer shall pay for any required cleanup, testing and City administrative costs resulting from consequence of construction materials into the storm water drainage system.

**MM H/WQ-4** All materials that could cause water pollution (e.g., motor oil, fuels, paints) shall be stored and used in a manner that will not cause any pollution. All discarded material and any accidental spills shall be removed and disposed of at an approved disposal site.

**MM H/WQ-5** All construction activities shall be performed in a manner that minimizes, to the maximum extent practicable, any pollutants entering directly or indirectly the storm water system or ground water. The Developer shall pay for any required cleanup, testing and City administrative costs resulting from consequence of construction materials into the storm water drainage system.

**MM H/WQ-6** Developer shall meet the requirements of discharging to a public storm drainage system as required to ensure compliance by the City with all state and federal laws and regulations related to storm water as stipulated in the Clean Water Act. Developer shall meet the requirements of the National Pollutant Discharge Elimination System (NPDES) permit in effect prior to completion of Project construction for storm water discharges from the municipal storm water system operated by the City of Napa. Developer shall
comply with the Storm Water Pollution Mitigation Plan (SWPMP) submitted by Developer as part of its application as (modified and) approved by the Director of Public Works.

MM H/WQ-7 Developer shall mark all new storm drain inlets with permanent markings, which state "No Dumping-Flows to River." This work shall be shown on improvement plans.

MM H/WQ-8 Developer shall record a plan for long-term private maintenance acceptable to the Director of Public Works and the City Attorney for any structural storm water pollution removal devices or treatment control BMP incorporated as part of the Project. The plan shall comply with City and SWRCB requirements including, but not limited to, a detailed description of responsible parties, inspections, maintenance procedures for the detention system, including monitoring and documentation of annual report to the Public Works Department and procedures for enforcement. Appropriate easements or other arrangements satisfactory to the Public Works Director and City Attorney necessary or convenient to ensure the feasibility of the scheme and fulfillment of maintenance responsibilities shall be secured and recorded prior to approval of the final/parcel map or issuance of a building permit, whichever comes first.

2. Special Mitigation Measures

MM H/WQ-9 Prior to the issuance of grading permits, the Project Applicant shall demonstrate compliance under California’s General Permit for Storm Water Discharges Associated with Construction Activity. The Project Applicant shall prepare and submit to the City a Storm Water Pollution Prevention Plan that describes erosion and sediment control BMPs and BMPs that will be used during the construction of the Project.

MM H/WQ-10 Prior to issuance of building permits, the City of Napa shall ensure the building plans demonstrate that properly designed and sized LID features have been incorporated into the Project.

3. Conditions of Approval

In accordance with Section 4.36.140 of the Napa Municipal Code, the Applicant/Owner shall be responsible for payment of a Storm Water System Service Fee for inspection and maintenance services.

5.8.6 Level of Significance after Mitigation

The Project Applicant will be responsible for operation and maintenance of storm water treatment facilities. Such responsibility would be transferred to any subsequent owner.

Thresholds of significance identified in the CEQA Guidelines, Appendix G, and policies of the City of Napa state that a project would have a significant impact if it would:
a) Violate any water quality standards or waste discharge requirements;
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-site or off-site;
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-site or off-site;
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
f) Otherwise substantially degrade water quality;
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami or mudflow.

The Storm Water Control Plan includes maintenance required for each stormwater facility to ensure that flows are unobstructed, that erosion is prevented, and that clogging of permeable pavements is avoided. Such maintenance measures will ensure that all stormwater facilities provide adequate protection from stormwater runoff pollutants, and impacts will be less than significant.

As a part of the Project, an underground storage vault will be constructed for the purpose of detaining the differential volume between the 25-year and 10-year storm events. The storage vault will be designed with an outfall that will constrict discharge to match the 10-year storm, thereby matching the infrastructure piping in Napa Valley Corporate Drive which has a 10-year storm capacity.

The Storm Water and Drainage Control Assessment analysis responds to CEQA Guidelines, Appendix G Checklist as follows.

With implementation of the mitigation measures identified herein, the Project, as proposed, will not violate any water quality standards or waste discharge requirements, substantially alter the existing drainage pattern of the site including the course of a stream or river, or increase the rate or amount of surface runoff resulting in flooding on-site or off-site.

The Project will not contribute runoff that would exceed the capacity of stormwater drainage systems or otherwise substantially degrade water quality. The Project site is not in a 100-
year flood hazard area and will not place housing or other structures within a flood hazard area or impede or redirect flood flows.

The Project is not in the immediate vicinity of a levee or a dam and, therefore, will not expose people or structures to injury or death due to the failure of a dam or a levee. Due to the location of the Project site, there is no risk of inundation by seiche, tsunami, or mudflow. Therefore, upon implementation of the proposed mitigation, the Project impact on Hydrology and Water Quality will be reduced to a level of insignificance.

5.8.7 Cumulative Impacts

The proposed Project drainage system, as designed, will not generate an increase in storm water runoff or decrease water quality beyond the existing condition. Cumulative development in the Project area could result in alterations to the drainage pattern and flow rates in the Project vicinity. Impacts will be mitigated by construction of Project-specific drainage improvements consistent with the City of Napa. Storm drain improvements for the proposed Project will be designed to provide projected levels required by City of Napa and the NPDES county-wide permit. The development is designed to implement Low Impact Development that mimics the pre-development existing flows, volumes, and water quality prior to discharge from the Project site.

The Project's individual runoff contribution, when combined with other area projects, would not be considerable. The proposed Project, when considered with other existing or foreseeable projects, will not result in cumulatively considerable impacts in the area of Hydrology and Water Quality.

5.8.8 Unavoidable Adverse Impacts

The proposed Project will not have any unavoidable adverse impacts.