STORMWATER CONTROL PLAN REPORT

For

Crocker's Lockers
70 Nielsen Street
Watsonville, CA

May 12, 2021

Prepared For:

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Project #A21010

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I. PROJECT SETTING

A. Project Description and Location

The project area is located at 70 Neilson Street in the City of Watsonville, in southern Santa Cruz County, California. The 4.39-acre project site is situated along the north side of Neilson Street at the intersection of Airport Boulevard (Refer to the Vicinity Map in Figure 1).

The site is located within Water Management Zone I. The site previously contained a paved parking lot over the majority of the site, which has been/will be removed and replaced with development of the project. The properties to the north, east and south are all developed with industrial-type uses, and to the west on the other side of Airport Boulevard is the runway that serves the Watsonville Muni Airport. The project will include construction of six self-storage buildings, along with new asphalt parking lots, associated concrete curbs, walks, landscaping, site lighting, sanitary sewer, water services, storm drainage and other underground utilities.

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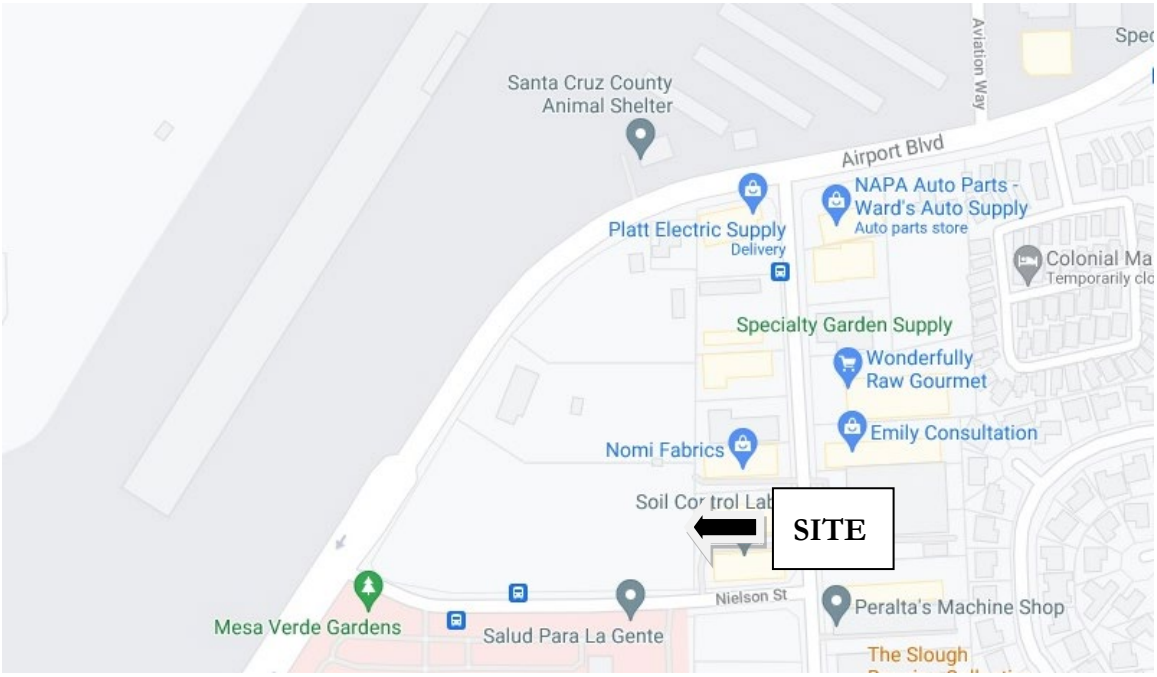

Figure 1: Vicinity Map

B. Existing Site Conditions

The prior development of the site included paved parking over the majority of the site. The site contains frontage improvements including curb, gutter and sidewalk, along with mature landscaping along the frontage of Neilson Street and Airport Boulevard. The site topography is moderately sloped with elevations ranging from 133 feet to 128 feet, generally sloping in a southerly/ southwesterly direction. Runoff is collected by existing storm drain inlets located along Neilson Street and Airport Boulevard and is conveyed via underground storm drainage facilities heading in a southerly direction off of Nielson Street within an existing 36" storm drain line.

C. Opportunities and Constraints for Stormwater Control

Under City Ordinance, this project is subject to the following Stormwater Post-Construction Performance Standards:

Performance Standard #3: Runoff Retention Performance Requirements using Low Impact Development (LID) Standards. The project is required to meet Performance Standard 3, Runoff Retention due to the fact that impervious surfaces in excess of 15,000 square feet are created or replaced.

Performance Standard #4: Peak Management applies because the project proposes to create and/or replace greater than 22,500 square feet of impervious surface. As previously stated, the existing site was previously developed with a high percentage of impervious area within the developed footprint. The project has the opportunity to create a more balanced site, incorporating landscaped pervious areas and treatment BMPs dispersed throughout the site. Furthermore, the amount of impervious surface will be less after development of the proposed project as compared to the existing condition, therefore the project is exempt for having to provide peak management/hydromodification.

II. MEASURES TO LIMIT IMPERVIOUSNESS

A. Measures to Cluster Development and Protect Natural Resources

No existing natural drainage features or natural resources will be disturbed or removed with the construction of the project. No creeks, wetlands and riparian habitats are present on the project site.

Proposed drainage features will contain elements of vegetation for both function and aesthetics.

Some landscape trees and shrubs will be removed and replaced with development of the project.

Development is designed to impact the minimum area possible. Landscaping areas have been proposed to limit the project's impact, and paved parking areas and drive aisles have been designed to be efficient and limit the development envelope as much as possible.

Impervious area will be minimized as much as possible with the use of landscaped areas. Paved parking areas have been minimized as much as allowable within code, and natural bioretention areas are used for treatment.

B. Measures Used to Limit Directly Connected Impervious Area

The site's development area is directed into pervious bioretention areas for treatment. Runoff is divided into two drainage shed areas, where a bioretention area is provided to treat each shed's runoff.

III. SITE HYDROLOGY

No Site Hydrology is included in this report since detention is not required for this project.

A. Stormwater Detention Analysis

No Stormwater Detention analysis is required since the amount of impervious surface is less than or equal to the existing amount of impervious surface over the site.

IV. SELECTION AND DESIGN OF STORM WATER BMPs

A. Selection of BMPs

The site drains into two bioretention areas within the site, each encompassing a specific drainage basin. The drainage basin boundaries and associated bioretention areas are shown on the Stormwater Control Plan. Pervious and impervious (roof, parking, hardscape) areas are routed into bioretention areas via sheet flow and underground storm drain lines, where runoff is treated and either infiltrates into the ground below the bio-retention basins, or leaves the site by way of the existing underground storm drainage. Additional design criteria can be found in this report.

B. Description of DMAs and BMPs

The site has been divided into two (2) Drainage Management Areas (DMAs). The site drains into DMAs BR-1 and BR-2; which are bioretention areas. These areas have been designed to best adhere to the site topography, and allow for easy maintenance throughout the life of the project. Each bioretention area is sized to treat the associated drainage area that drains into the basin. All runoff is expected to either infiltrate into the ground or drain into the public storm drain system after adequate stormwater quality treatment occurs. Subdrains and overflow drainage structures have been incorporated as a precautionary measure. The following is a description of each DMA and associated BMP as shown on the Stormwater Control Plan:

- DMA BR-1: A bioretention area BR-1, 5,465 SF in size, located near the southwestern portion of the site near the intersection of Airport Boulevard and Nielson Street. The bioretention area treats runoff from the majority of the site's impervious surface, including Buildings A through E, paved areas associated with these buildings, and a portion of pervious landscaped areas. Runoff is picked up in onsite drain inlets, then conveyed to BR-1 through storm drain lines. Treated stormwater then leaves BR-1 through a drain inlet which connects to an existing 15" storm drain line.

- DMA BR-2: A bioretention area BR-2, 912 SF in size, located near the southeastern portion of the site, south of Building B and adjacent to Neilson Street. The bioretention area treats runoff from Building F, paved areas associated with Building F, and a portion of pervious landscaped areas. Runoff is picked up in onsite drain inlets, then conveyed to BR-2 through storm drain lines. Treated stormwater then leaves BR-2 through a drain inlet and storm drain line which connects to an existing 27" storm drain line within Nielson Street.

C. Design of BMPs

The bioretention areas will be designed and constructed in accordance with the following material, derived from various clean water program guidance.

- Provide 10' minimum setback from structures, or as instructed by project structural and/or geotechnical engineer. Provide waterproofing per geotechnical and/or architectural recommendations for bioretention areas that encroach within the 10' setback.
- Reservoir depth shall be a minimum of 6 inches.
- Volume of subsurface storage meets or exceeds minimum required per calculations.
- Bioretention area shall be a minimum of 4'. Total surface area shall meet or exceed the value required per calculations.
- Bioretention area is designed as a basin with flat or nearly flat surfaces.
- 24" depth "loamy sand" soil mix with a minimum long-term percolation rate of 5 inches per hour. Per City of Watsonville Standard LID-001.
- Perforated pipe (4" minimum PVC SDR 35) underdrain placed in "12-inch Class 2 perm" layer and connected to underground storm drain facilities or discharge point. Per City of Watsonville Standard LID-001.
- Underdrain shall contain a clean-out constructed of a vertical, rigid, non-perforated PVC pipe, with a minimum diameter of 6 inches and water tight cap.
- Bioretention areas shall have an overflow drain inlet connecting to underground storm drain infrastructure or approved discharge location.
- Any through curb drains shall contain a minimum curb opening of 12 inches, with a ½ inch drop in elevation across the opening to discourage collection of debris. Grades immediately adjacent to curb openings shall be constructed a minimum 4 inches lower that curb opening elevation to prevent blockage due to vegetation growth, with energy dissipation where appropriate.
- Planting within bioretention areas shall be selected to flourish in climates experienced at the site, and be suitable for well-drained soils located in the bioretention area, as well as withstand occasional inundation during large storm events.
- Avoid smearing of the soils on bottom and side slope of the bioretention areas during excavation. Minimize compaction of native soils and rip soils if clayey and/or compacted. Protect the area from construction site runoff.
- Provide adequate irrigation to the bioretention areas to allow establishment and maintenance of vegetation. Irrigation should be connected to a water supply.

D. Sizing Calculations of BMPs

Project bioretention areas (BMPs) have been sized in accordance with City of Watsonville Storm Water Management Program, Appendix B. Calculations have been performed to determine the minimum surface area. The permeable material layer shall be per Caltrans specification 68-1.025.

Project Name: **Crocker's Lockers**
Location: **70 Nielson Street, Watsonville**
Type: **Treatment Only**
Drainage Area: **4.39 acres**

Un-Treated Areas

DMA Name	Area (SF)
PAVE-3	895

Self-Treating Areas

DMA Name	Area (SF)
LAND-3	2,380

IMP Name: IMP1 (BR-1)- Bio-Retention Basin

DMA Name	DMA Area (SF)	Post-Project Surface Type	DMA Runoff Factor	DMA Area X Runoff Factor
PAVE-1	39,650	Asphalt	1	39,650
ROOF-1	90,510	Roof	1	90,510
LAND-1	10,130	Landscaping	0.1	1,013
			Total	131,173

IMP Sizing Factor	Minimum Area	Proposed Area
0.04	5,247	5,465

IMP Name: IMP2 (BR-2)- Bio-Retention Basin

DMA Name	DMA Area (SF)	Post-Project Surface Type	DMA Runoff Factor	DMA Area X Runoff Factor
PAVE-2	8,450	Asphalt	1	8,450
ROOF-2	9,050	Roof	1	9,050
LAND-2	8,240	Landscaping	0.1	824
			Total	18,324

IMP Sizing Factor	Minimum Area	Proposed Area
0.04	733	912

V. BMP OPERATION AND MAINTENANCE

A. Means to Finance and Implement BMP Maintenance

All storm water treatment facilities in this plan will be owned and maintained in perpetuity by the private owner of the subject property. The applicant accepts responsibility for interim operation and maintenance of the facilities until such time as this responsibility is formally transferred to a subsequent owner.

The applicant will execute, prior to completion of project construction, an Agreement Regarding Maintenance of Structural or Treatment Control BMPs (Best Management Practices). This Agreement can be found in the City of Watsonville Storm Water Management Program. The Agreement will "run with the land" and be enforceable on subsequent property owners. The applicant will provide the City access to stormwater treatment devices for inspection.

B. Summary of Maintenance Requirements

Bioretention Areas

These facilities remove pollutants primarily by 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:

- Inspect **inlets** for channels, exposure of soils, or other evidence of erosion. Clear any obstructions and remove any accumulation of sediment. Examine rock or other material used as a splash pad and replenish if necessary.
- Inspect **outlets** for erosion or plugging.
- Inspect **side slopes** for evidence of instability or erosion and correct as necessary.
- Observe soil at the bottom of the swale or filter for uniform **percolation** throughout. If portions of the swale or filter do not drain within 48 hours after the end of a storm, the soil should be tilled and replanted. Remove any debris or accumulations of sediment.
- Confirm that **check dams** and **flow spreaders** are in place and level and that channelization within the swale or filter is effectively prevented.
- Examine the **vegetation** to ensure that it is healthy and dense enough to provide filtering and to protect soils from erosion. Replenish mulch as necessary, remove fallen leaves and debris, prune large shrubs or trees, and mow turf areas. When mowing, remove no more than ⅓height of grasses. Confirm that irrigation is adequate and not excessive. Replace dead plants and remove noxious and invasive vegetation.
- Abate any potential **vectors** by filling holes in the ground in and around the swale and by ensuring that there are no areas where water stands longer than 48 hours following a storm. If mosquito larvae are present and persistent, contact the Contra Costa Mosquito and Vector Control District for information and advice. Mosquito larvicides should be applied only when absolutely necessary and then only by a licensed individual or contractor.

VI. CERTIFICATIONS

The selection, sizing and preliminary design of stormwater treatment and other control measures in this plan meet the requirements of the Regional Water Quality Control Board Order R2-2009-0074 and Order R2-2011-0083, along with the current edition of the BASMAA post-construction manual.

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Signature

Robert A. Karn

VII. ATTACHMENTS

SW1- Stormwater Control Plan