

4.6 WATER RESOURCES

This section describes the existing water quality and regulations for the project area, and assesses impacts to water quality from erosion and bacteria contamination. The Initial Studies for both the DFPMP and Off-Leash Dog Park Locations Study (Appendices A and B) determined no significant impacts from storm water drainage, flooding, and runoff. Therefore, these issues are not explained further in this EIR.

Summaries of the water resources setting of the Douglas Family Preserve (DFP), Shoreline Beach Area, and Hale Park are provided below. A more complete discussion can be found in the Water Quality Assessments for the Douglas Family Preserve, Shoreline Beach Area, and Hale Park prepared by Jones & Stokes Associates located in Appendix 1 of this EIR, bound separately. The water resources setting sections and analyses in those reports are incorporated by reference.

4.6.1 Setting

a. Douglas Family Preserve. Arroyo Burro Creek, which drains the western and northern slopes of the DFP, runs along the western, and part of the northern, side of the site, at the base of the bluff and hillside. Between the bluff and Cliff Drive, on the northern side, there is an unnamed tributary of Arroyo Burro Creek, which creates a small riparian area intermixed with southern oak woodland.

The most recent comprehensive water quality sampling and analysis of Arroyo Burro Creek was conducted in 1999. Results of testing showed elevated levels of nitrogen and phosphorous, likely the result of fecal deposits from any or all of the following: humans, wild and domestic birds and animals, and from fertilizer used for gardening and agriculture. The results show levels of indicator bacteria (total coliform, fecal coliform, and enterococcus) that exceed maximum threshold levels established by the Central Coast Regional Water Quality Control Board (RWQCB). However, the results do not indicate the actual source(s) of the indicator bacteria. The source could be anywhere within the Arroyo Burro Creek watershed, which spans approximately seven square miles, from the Santa Ynez Mountains to the Pacific Ocean, and includes four main tributaries to the creek. There are a wide variety of possible biological sources for these bacteria. No evidence indicates that the DFP site is a major contributor to the elevated pathogen levels recorded, or that current dog use activities at the DFP are having a notable adverse effect on water quality in lower Arroyo Burro Creek. Physical attributes of the DFP site, discussed below under Section 4.6.3 Impact Analysis and Mitigation, do not indicate that dog-related pathogens or nutrients have a reasonably likely pathway from the site to the creek. The RWQCB Water Quality Control Plan for the Central Coast (Basin Plan) does not indicate any impairment of Arroyo Burro Creek due to excessive sedimentation or excessive nutrients.

b. Hale Park. The entire site drains to an unnamed intermittent creek that traverses the site from the northeast to the southwest corner, where it enters a conduit upon exiting the park. The conduit eventually terminates on private property to the east of Summit Road. Flows

then drain to the Andree Clark Bird Refuge. The park is predominantly characterized by nonnative annual grassland. Within the nonnative grassland, there are occurrences of seeps (i.e., areas where groundwater seeps to the surface) supporting wetland vegetation. The stream course supports limited amounts of riparian vegetation. Small occurrences of coastal sage scrub are present in the northwestern portion of the site, on the northern side of the drainage.

Since no direct testing of water quality has been conducted at the unnamed drainage, it is not possible to assess current flows into the Andree Clark Bird Refuge. The identification of the source of contaminants at the Andree Clark Bird Refuge is complicated by the fact that a number of other sources feed into the refuge. The refuge watershed includes runoff from residential lawns, streets, and the zoo. In addition, fecal input into the watershed can be anticipated from a variety of wildlife and domestic pets. Therefore, the source(s) of increased nitrogen and phosphorous would be difficult to identify. A study conducted in 1991 by Penfield & Smith indicates that there has historically been high nutrient and organic matter levels in the lake at the bird refuge.

To accurately determine if the unnamed drainage contributes significant amounts of nitrogen or phosphorous, it would be necessary to conduct a stormwater sampling effort at the park location. Making a definitive determination whether or not levels observed were related to dog use at Hale Park could be difficult and would be expensive.

c. Shoreline Beach Area. There have been historic patterns of periodic elevated levels of indicator bacteria in the ocean, resulting in temporary closures of public beaches within Santa Barbara County. In response to historic periodic elevated levels of indicator bacteria (total coliform, fecal coliform, and enterococcus), the County of Santa Barbara Department of Environmental Health Services conducts weekly sampling and testing of surf zone water quality throughout the summer months at local beaches that are adjacent to creek outlets or storm drains. There are a wide variety of possible biological sources for these bacteria. No direct evidence indicates that the beach itself is a major contributor to the elevated levels recorded. The physical attributes of the surf zone (high salinity, continued agitation through surf action, and exposure to sunlight) are not especially conducive to long-term survival of indicator bacteria and associated pathogens. The ocean has a considerable ability to neutralize bacteria, and nutrients are not expected to be substantial in relation to the ocean's capacity to use these nutrients. The elevated levels of indicator bacteria occur temporarily during and after larger storm events, and after dispersal, the levels decline to acceptable levels.

Data indicate that the watersheds of local creeks and storm drains are the main sources of these bacteria. Possible generators of fecal coliform and other indicator bacteria include humans, livestock, domestic pets, and birds and other wildlife. Because the levels of indicator bacteria typically fall within acceptable levels within a maximum of 400 yards down current of creek mouths or storm drain outfalls, data has not been systematically collected from the surf zone areas greater than 400 yards from the mouth of Arroyo Burro Creek. Levels of indicator bacteria have been found to decline to within acceptable limits at distances greater than 400 yards from the creek.

Information relating to Arroyo Burro Creek provided for the DFP is relevant here as well because this creek is within the Shoreline Beach Area. Nearshore wave conditions and longshore currents affect bacterial dissemination and breakdown from beach-related sources such as creeks. Longshore currents are currents along the coastline within the surf zone generated by waves approaching the beach at an oblique angle and breaking in shallow water. The currents are the strongest generally within the core of the surf zone and diminish near the shoreline and away (offshore) from the surf zone. Longshore currents are generally from west to east in the project area. Bacteria levels tend to be higher to the east of drainage facilities flowing into the ocean.

Densities of fecal bacteria discharged into the environment decrease over time. The die-off rate can be expressed as the time it takes for a given proportion of the population to die. The typical time for a 90 percent reduction in fecal bacteria in freshwater at ambient temperatures ranges from 2 to 20 days. Die-off rates are faster in seawater. For example, 90 percent reduction rates as short as several hours have been reported. Enteroviruses (intestinal bacteria) have been reduced by 90 percent within 1-2 days in seawater. Die-off rates reported in the literature are extremely variable due to the myriad of microorganisms tested, and the range of environmental exposure conditions.

Dog waste was observed on the beach during preparation of technical reports, and the level of compliance with feces pick up requirements of existing laws is estimated to be in the 50 percent range (Rincon, March 2002), and could be improved. Wave action periodically washes any contaminants on the beaches directly into the sea.

4.6.2 Policy

The City of Santa Barbara Coastal Plan policy requires the City to support the programs, plans, and policies of all government agencies, including those of the Regional Water Quality Control Board with respect to Best Management Practices for water quality. These programs, plans and policies are described below. The Coastal Plan also requires the City to use a buffer of native vegetation between top of bank and proposed development.

Two main regulatory programs exist, under which the City must address the quality of surface water. These are the National Pollutant Discharge Elimination System (NPDES), and Total Maximum Daily Loads (TMDLs). Under the Federal Clean Water Act, both of these programs are enforced through the Environmental Protection Agency (EPA), and both programs have been delegated to the California State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) for implementation. In addition, the RWQCB Water Quality Control Plan for the Central Coast (Basin Plan) contains water quality objectives to ensure a high water quality level.

a. National Pollution Discharge Elimination System. One of the programs under the federal National Pollution Discharge Elimination System (NPDES) regulations addresses

stormwater discharges. The stormwater program is divided into two phases. The first affects municipalities with populations greater than 100,000 people, and the second affects areas with an urban population of at least 50,000 people and/or an overall population density of at least 1,000 people per square mile. The second phase affects the City and County of Santa Barbara.

Under the Phase II requirements, small owners and operators of municipal separate storm sewer systems (“MS4s”) must obtain a storm water permit for discharges into surface waters, and must develop a program to reduce pollutant runoff to the maximum extent practicable. The application for this permit, which must include best management practices (BMPs) to reduce pollutant runoff into the storm sewer system, is due to the RWQCB by March 1, 2003. There are some differences between the Phase I and Phase II programs, notably the requirement for storm water monitoring. Phase I communities are required to conduct stormwater monitoring; Phase II communities (at least in the first five years) are not. Nonetheless, Project Clean Water (PCW), a watershed monitoring program, has been established under the Santa Barbara County programmatic effort to improve water quality. Although stormwater monitoring is not a requirement under NPDES Phase II regulations, the monitoring information from the PCW will be used to define pollution types and sources, will guide development of BMPs, and will establish current conditions to gauge the success of the long-term goals of the PCW.

Total Maximum Daily Load (TMDL) regulations are contained in section 303(d) of the Clean Water Act. TMDLs are designated for water bodies of the state that have indicated signs of being impaired or impacted for beneficial uses of these waters. The State Water Resources Control Board (SWRCB), with concurrence of the EPA and the RWQCBs, established a listing of all impaired water bodies. The most recent listing was in 1998. This listing is subsequently prioritized based on known and/or perceived impacts to the beneficial uses of these water bodies. Santa Barbara County currently has eight listed water bodies for specific pollutants of concern. Arroyo Burro Creek is identified as impaired due to high levels of pathogens.

b. Basin Plan. In addition to NPDES and TMDLs, the RWQCB sets water quality objectives to provide the highest quality water reasonably possible (RWQCB 1994). These are presented in the Basin Plan. The objectives are implemented and enforced through NPDES permits for discharges to surface water.

Beneficial uses of Arroyo Burro Creek, as listed in the Basin Plan, are identified and defined below.

- Municipal and Domestic Supply (MUN): uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply. All surface waters are considered suitable, or potentially suitable, for municipal or domestic water supply except where:
 - Total Dissolved Solids (TDS) exceed 3000 mg/l (5000 uS/cm electrical conductivity);
 - contamination exists that cannot reasonably be treated for domestic use;
 - the source is not sufficient to supply an average sustained yield of 200 gallons per day;

- the water is in collection or treatment systems of municipal or industrial wastewaters, process waters, mining wastewaters, or storm water runoff; and
 - the water is in systems for conveying or holding agricultural drainage waters.
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- Non-Contact Water Recreation (REC-2): Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beach combing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
 - Cold Fresh Water Habitat (COLD): Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
 - Spawning, Reproduction, and/or Early Development (SPWN): Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.
 - Water Contact Recreation (REC-1): Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.
 - Wildlife Habitat (WILD): Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, and invertebrates), or wildlife water and food sources.
 - Warm Fresh Water Habitat (WARM): Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

4.6.3 Impact Analysis and Mitigation

a. Significance Thresholds. Project water resource impacts would be identified as significant if they:

- Increase erosion of the bluff and other portions of the site during construction or operations resulting in substantial deposition of fine silt in adjacent wetlands or water bodies.
- Degrade surface or groundwater quality in violation of the Central Coast RWQCB Basin Plan or water quality regulations, and result in substantial degradation of water quality conditions that could affect beneficial uses of receiving waters.

b. Project Impacts and Mitigation. The following text describes the water resources impacts at each of the three sites.

Impact Water-1	The project has the potential to cause erosion that would result in deposition of eroded soils in nearby receiving waters.
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Douglas Family Preserve Management Plan. The DFP Management Plan proposes construction of a restroom, potentially a caretaker's residence, and some minor grading associated with trail improvements and installation of utilities for proposed structures, benches, mutt-mitt stations and signs. This soil disturbance could increase localized water erosion when vegetative cover has been removed, leading to water quality impacts. However, the amount of construction proposed is minor. There is ample vegetated buffer on the west and north slopes, and along Arroyo Burro Creek and its tributary along Cliff Drive, to prevent substantial amounts of storm-related sediment from moving from the mesa to the water. Hence, the physical characteristics of the site are not conducive to much sediment transport to adjacent water bodies. Therefore, erosion impacts from facility construction would be *less than significant* for the DFPMP. Nonetheless, standard erosion control mitigation measures are recommended that would ensure that erosion due to water flowing on exposed soils is minimized.

The restoration activities proposed in the DFPMP have the potential to expose creek bank soils, and substantially increase soil erosion on the banks, leading to sedimentation in the creek. The DFPMP has provisions designed to reduce erosion, including using a mosaic pattern to remove exotic invasive species, and an incremental approach, which reduces the areas that would be denuded of vegetation at any point in time. (See Section 4.2 BIOLOGICAL RESOURCES for a discussion of sensitive species' use of the creek and erosion). Even with the DFPMP measures, however, this impact would be considered *potentially significant but mitigable* because erosion is still possible. Mitigation measures to protect exposed soils, reduce the amount of soils in runoff, and re-establish vegetation to stabilize soils, are required to reduce the effects of sedimentation on receiving waters.

An article in the Santa Barbara News-Press (September 26, 2002) expressed concerns that gopher populations have increased on the site to the extent that increased erosion could occur on the bluff. Gopher and ground squirrel burrows are common at the top of the bluff and substantial bluff erosion is more likely to result from erosion at the bottom of the bluff that undercuts the mesa, or from drainage directed over the face of the bluff. If gopher and ground squirrel populations have increased, it is due to a lack of natural predators. The gopher and ground squirrel holes are currently present and are a part of the baseline condition. The appropriate question is whether increased dog use will result in increased gopher populations. It is not likely that there will be a substantial increase in gopher and ground squirrel populations due to increased dog use because dog use has likely already decreased predator presence. This impact would therefore be *less than significant*. Estimating an appropriate gopher population would be very expensive and since the impact is not significant, the mitigation measure is no longer recommended. ~~However, the issue of an appropriate population for gophers and ground squirrel should be addressed, and if the population is too great for the site, a population reduction program may be appropriate. A mitigation measure is recommended to further study the gopher and ground squirrel populations at the DFP, and to ensure they remain within appropriate numbers.-~~

Douglas Family Preserve Dog Use. A concern is that excessive dog use, both on- and off-leash, on the vegetated hillsides could result in trampling of vegetation to the extent that the plant materials will no longer be able to stabilize the soils, causing erosion; this would then result in sedimentation in Arroyo Burro Creek. Off-leash dogs may be more prone to this since they are usually not under direct physical control of owners and can therefore more easily use the hillside. Mesa hillsides that lead to the creek are heavily vegetated, and the hillsides sufficiently steep to discourage dogs from entering this area. No dog use of this area was observed, and no evidence of trampled vegetation was identified, although occasional dog use of this area could occur. Therefore, even assuming a substantial increase in dog use under the various dog use alternatives, it is not likely that there would be substantial impacts from dogs trampling vegetation on the hillsides, and associated substantial soil erosion and sedimentation increases would not be anticipated. In descending level of impacts, Alternative A (dogs off-leash all the time) would have the greatest impacts, given the large amount of time dogs would be allowed off-leash, then Alternative E (dogs on-leash two days and off-leash five days), and Alternative D (dogs prohibited two days and off-leash five days). Alternatives C (dogs on-leash from 10 AM to 3 PM and otherwise off-leash) and F (dogs allowed off-leash on odd days of the month and on-leash on other days) would be similar, and Alternative B (dogs on-leash all the time) would have the least impacts. In any case, all dog use alternatives at the DFP would have impacts considered to be *less than significant*.

Reducing the slope of Arroyo Burro Creek and its tributary may be proposed as part of the separate Arroyo Burro Estuary Restoration Project, which would be subject to separate environmental review. If the Arroyo Burro Estuary Restoration Project reduces the slope on the banks in the project area, this could improve access to the area for dogs, leading to an increased potential for soil erosion on the banks of the creek or tributary, and sedimentation into the water bodies. Given the anticipated substantial increase in dog use of the DFP under most of the alternatives except Alternative B, the project that is the subject of this EIR may exacerbate the adverse effects of the tapered bank slopes by increasing the number of dogs in the area, and therefore the probability for erosion and subsequent sedimentation. However, due to the difficulty in gaining access to this area because of site topography, vegetative barriers, and configuration, and DFPMP proposed vegetative barriers designed to close unplanned trails in the area, increased off-leash dog use is not expected to result in a significant amount of erosion in the area. Note also that off-leash dog use is not proposed in the riparian area along the site drainages, and would be illegal. Increased enforcement of existing off-leash laws would be expected to further reduce this impact

Access to the sensitive riparian area along the southern bank of Arroyo Burro Creek is currently available from openings in the vegetation from the bridge that spans Arroyo Burro Creek on Cliff Drive to the bottom of the Oak Grove Trail where the dense vegetation of the bluff face precludes access. This area is identified as the base of the Oak Grove Trail. A fence located in this area has been pushed over and is currently lying flat on the ground. Access west of the bridge is reduced by Arroyo Burro Creek itself and the steep creek banks in some areas. Access from the remainder of the DFP is precluded by the steep bluff face and dense vegetation, often including poison oak, which reduces willingness to enter the area. Transients have created encampments in the riparian area, and occasional off-leash dog-use has occurred in this area.

Access to the riparian area from the area around the base of the Oak Grove Trail is available from unplanned trails, which the DFPMP proposes to block using downed wood and revegetation. Access to this area is not currently easy and the area is used only occasionally by the public. Both dogs on- and off-leash have the potential to enter the creek and tributary areas from this area. This potential may vary somewhat, depending on the particular dog use alternative. For example, dogs may be most likely to enter these areas under Alternative A (dogs off-leash all the time), and least likely with Alternative B (dogs on-leash all the time). There is likely to be more control by dog owners under Alternative B, which may result in less access into the sensitive areas. Moreover, no substantial increase in dog use is expected with Alternative B, unlike all of the other alternatives. Off-leash dog use is not currently allowed in the riparian area and will not be allowed under the DFPMP. Therefore, this impact would be considered *less than significant*, but mitigation is recommended for all dog use alternatives to further ensure protection of the riparian area. This includes mitigation in the Initial Study (Appendix A) for Cultural Resources that requires that access to this area be reduced using a thorny native vegetative barrier that will effectively preclude dog use in this area.

Hale Park Dog Use. Alternatives A and C-F have the potential to result in increased dog use at Hale Park, to varying extents. Increased dog use could result in trampling of vegetation, including grass, which currently holds soils in place, leading to erosion of site soils and siltation within the drainage at Hale Park, and ultimately at the Andree Clark Bird Refuge.

As dog use increases, and especially as the amount of time off-leash dog use occurs increases, the impacts would be greater because there would be more time and more instances of dogs digging, trampling, and removing vegetation cover that protects soils from erosion. A comparison of the impacts of the alternatives that allow dogs off-leash would show that the greatest sedimentation water quality impacts are associated with Alternative A (off-leash dogs all the time), followed by Alternative E (dogs on-leash two days and off-leash five days), Alternative D (dogs prohibited two days a week and off-leash five days), in descending order of level of impacts. Alternatives C (dogs on-leash from 10 AM to 3 PM, and otherwise off-leash), and Alternative F (dogs off-leash on odd days of the month and on-leash on even days) would be similar in level of impacts, and would have the least impact of the alternatives that allow unleashed dog use on the site. Alternative B (dogs on-leash all the time) would have the least impact of the dog use alternatives, because owners would have the best control of their pets, would be more able to prevent them from entering creek areas, and are more able to prevent them from trampling and digging in these and other areas.

Even with increased dog use, however, all alternatives would result in erosion and sedimentation water quality impacts that are *less than significant*. The amount of erosion would be relatively small, given the limited site area where dogs would be allowed near the drainage. Nevertheless, mitigation measures are recommended to ensure that site vegetation is maintained to minimize any increases of erosion.

Shoreline Beach Area Dog Use. The Shoreline Beach Area has beach sands that are moved around by tidal action. Given the minimal amount of vegetation, dogs and owners walking and

running on the beach would not result in any vegetation trampling or removal due to digging. Dogs may dig on the beach, but no vegetation would be removed, and little increase in erosion would be expected. Dogs, mostly off-leash, may dig on the bluff face and damage vegetation growing there, but generally the bluff face is too steep for most dogs to access. Therefore, impacts from this type of activity, and related erosion, would be *less than significant* for all alternatives.

The greatest impacts would be associated with alternatives that maximize the amount of time that off-leash dogs are allowed on the beach area. Therefore, Alternative A (dogs off-leash all the time) would have the greatest impacts followed by Alternative E (dogs on-leash 2 days and off-leash 5 days), D (dogs prohibited 2 days a week and allowed off-leash five days), a tie for F (dogs allowed on-leash on odd numbered days of the month and otherwise off-leash) and C (dogs on-leash every day between 10 AM and 3 PM, otherwise off-leash), and then the least impacts associated with Alternative B (dogs always on-leash).

Mitigation Measures. The following **required** mitigation measures would apply to the DFP Management Plan components related to creek bank stabilization, exotic plant removal, and revegetation. Mitigation Measures Bio-2, -3, and -4 requiring reseeding of disturbed areas, restoration biologist guidance on reestablishing habitat, and other measures to minimize erosion, would also apply here.

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| MM Water-1 | Cover stockpiled soils and other similar materials when not being actively used. |
| MM Water-2 | If necessary, use straw bales, jute mats or other Best Management Practices (BMPs) on the channel banks to reduce runoff velocity and erosion while new vegetation is being established. |
| MM Water-3 | Apply standard BMPs appropriate to the project to protect surface water quality. BMPs would include measures such as revegetating or covering disturbed soils as soon as possible, and disturbing only the minimum area necessary for construction and revegetation. The disturbed area shall be marked to indicate access is not allowed until sufficient vegetative cover has been established. |

The following mitigation measures are **recommended** for the DFPMP.

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| MM Water-4 | Apply standard BMPs appropriate to the project to protect surface water quality. BMPs would include measures such as: <ul style="list-style-type: none">• Ensuring that catch basins large enough to contain site runoff from the disturbed area are constructed to contain all runoff in those areas |
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- Catch basins and erosion control devices are checked and repaired at the end of each day of construction
- Revegetation or covering disturbed soils as soon as possible after construction
- Ensuring that all down drains are appropriately designed and dissipation devices are provided to ensure flow velocities do not result in erosion at the discharge area
- Disturbing the minimum area necessary for construction and revegetation

~~MM Water 5 — The Parks and Recreation Department shall ensure that the gopher and ground squirrel populations on the site are maintained at a level normally anticipated for the type of habitat present.~~

The following mitigation measure is **recommended** for all alternatives at Hale Park and for potential impacts related to MM Safety-5 at the DFP (see discussion of potential fence impacts in Section 4.4.3). :

~~MM Water –65 The Hale Park grassland area and the Mesa area at DFP designated for off-leash dog use pursuant to MM-Safety-5 shall be monitored by the Parks and Recreation Department on a monthly basis, to determine if excessive trampling of the vegetation is occurring. In the event that excessive trampling is observed, the impacted areas shall be fenced off with temporary fencing, and reseeded with a mixture of native or other appropriate non-invasive grasses or vegetation, preferably those that occur on the site or the area or are compatible with such vegetation. Temporary signs shall be posted warning people to stay out of these revegetation areas explaining that revegetation is in progress. Signs and temporary fencing shall remain in place until vegetation has been reestablished. The Hale Park grassland area, and the mesa area of the DFP designated for off-leash dog use pursuant to MM Safety-5, area shall be monitored by the Parks and Recreation Department on a monthly basis, to see if excessive trampling of the vegetation is occurring. In the event that excessive trampling is observed, impacted areas shall be fenced off with temporary fencing, and reseeded with a mixture of native grasses that occur on the site or in the area. Temporary signs shall be posted warning people to stay out of these areas and explaining that revegetation is in progress. Signs and fencing shall remain in place until grassland vegetation has been re-established.~~

The following mitigation measure is **recommended** for the DFP under alternatives A, C, D, E, and F. The thorny native vegetative barrier is also included as a required mitigation for cultural resource impacts in the DFPMP Initial Study, and is required for Impact Bio-1 and Impact Water-2.

MM Water - 7-6 A dense vegetative barrier consisting predominantly of thorny native plants and including other plants appropriate to form this barrier (e.g., poison oak and stinging nettle) shall be planted and maintained to form an impediment to people and dogs from entering the riparian area between the Arroyo Burro Creek and the mesa. The access barrier shall be constructed on the south side of Cliff Drive from the Arroyo Burro Creek bridge at Cliff Drive to the mesa area where the existing slope and vegetation currently preclude access. A sign shall be posted warning the public that access for dogs and people to this area is not permitted.

Residual Impacts. Residual impacts would be **less than significant**. Some of the recommended mitigation measures would necessitate additional staff or volunteer maintenance and enforcement efforts. A determination of the feasibility of implementing these mitigation measures will ultimately be made by the City Council.

Impact Water- 2	The proposed project would result in a substantial decrease in water quality due to increased bacteria, chemicals, and contaminants in site runoff entering the surrounding surface and groundwater.
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Douglas Family Preserve Management Plan. The DFP Management Plan includes ongoing maintenance of invasive exotic vegetation. Herbicides may be used to control invasive exotic species and to clear poison oak from around fire hydrants to facilitate safe firefighter access. Increased use of herbicides to control vegetation could result in increased herbicide contamination of runoff and receiving waters. Existing regulations and manufacturer instruction for use will, when followed, reduce the risks of contaminating site runoff and groundwater with herbicides. Existing regulations require that herbicide applicators are properly trained, and hazardous materials like herbicides are properly stored, transported, and used. Impacts of herbicide use are *potentially significant but mitigable*, considering existing laws and regulations. Mitigation measures are proposed to minimize herbicide use. See Section 4.2 BIOLOGICAL RESOURCES for further discussion of this issue.

Equipment used on the banks of adjacent creeks during construction and maintenance activities could leak or spill oils and fuels that are toxic, and could contaminate adjacent water bodies. This impact would be *potentially significant, but mitigable*. Mitigation measures are proposed to minimize the potential for spills and leaks from equipment.

Douglas Family Preserve Dog Use. The concern is that nutrients and pathogens from increased amounts of dog waste (urine and feces) may enter surface runoff, which drains to Arroyo Burro Creek and its tributary. This could lead to accelerated eutrophication (increased nutrient loading resulting in proliferation of algae) of receiving waters, and disease due to increased pathogen transport. Excess algal growth would lead to increased turbidity that eliminates aquatic vegetation, destroying food for local species. This would inhibit recreation uses and suitability of water for drinking.

The physical attributes of the DFP indicate that dog-related pathogens or nutrients do not have a direct pathway from the site to the creek. Both of the hillsides of the mesa that lead to the creek (the west and north slopes) are heavily vegetated. With the exception of the trails on the mesa, the mesa itself is well vegetated. Vegetation buffers reduce contaminants carried in runoff by providing time for sunlight to break down chemicals, absorb nutrients, and protect water quality in receiving waters from runoff-related contamination. There is a vegetated buffer on the western and northern slopes, and along Arroyo Burro Creek and its tributary along Cliff Drive, that would reduce storm-related pathogens and nutrients from moving from the mesa to the receiving water. The areas near the creek would continue to be restricted from off-leash dog-use, dogs would primarily use the mesa area, away from these watercourses, and the creek and banks are steep and discourage most dogs from depositing fecal matter in the creek directly from the DFP. Nonetheless, there is still the potential for these contaminants to enter the watercourse presently, and as vegetation removal and restoration work occurs as part of the DFPMP. Even though there is a buffer between the mesa top and the creek, there could be an increase in pathogens in the creek due to increased dog use associated with Alternatives A and C-F. This impact would be ***potentially significant but mitigable***. Mitigation requiring enforcement of existing City laws governing dogs, and daily removal of feces and proper disposal, would reduce this impact to a less than significant level.

Concerns related to possible contamination by dog urine are addressed by inference in the discussion related to possible contamination by dog feces. The pathways for possible contamination are the same. The preponderance of the existing literature is focused on fecal material because the pathogenic aspects are considered greater than that for urine. Because the potential contamination pathways at each site are the same for both feces and urine, and because the public health concerns are greater for dog feces than for urine, the discussion and analysis focuses on dog feces. Another way of conceiving of this relationship is that dog feces represents a surrogate “~~worse-worst~~ case,” and that if no significant feces-related impacts are noted, then by inference urine-related impacts to water quality should not be a concern.

Most (68 percent) of the existing dog owners are complying with existing regulations requiring them to pick up after their dogs (Rincon, March 2002). This means that most feces are being removed from the site soils by the pet owners soon after being deposited, reducing the possibility of contaminants from the feces from leaving the area in runoff. Alternatives A and C-F would result in a substantial increase in dog use at the DFP. Both dogs on- and off-leash may leave feces on the ground but the potential is higher for off-leash dogs since there is often less owner control and accountability. As described in Section 4.1 AIR QUALITY, compliance with dog

feces pick-up requirements may be decreased overall as more dogs use the site, and more dogs result in a greater overall likelihood for dog waste to be left on the ground.

In descending level of impacts, Alternative A (dogs off-leash all the time) would have the greatest impacts, then Alternative E (dogs on-leash two days and off-leash five days), and Alternative D (dogs prohibited two days and off-leash five days). Alternatives C (dogs on-leash from 10 AM to 3 PM, otherwise off-leash) and F (dogs allowed off-leash on odd days of the month and on-leash on other days) would be similar. Project impacts from dog waste entering the creek and its tributary via direct deposit would be *potentially significant, mitigable* for Alternatives A and C-F due to the increase in dog use. Impacts related to Alternative B would be *less than significant* because there would be no increase in the amount of dogs on the site. Mitigation measure Water-76 is required for Alternatives A and C-F and recommended for Alternative B. Mitigation measures Air-1 through -5 are required for alternatives A and C-F, and recommended for Alternative B, to address the need to maximize compliance with feces removal laws, regularly remove feces not removed by owners, and properly dispose of dog feces. Prompt removal of feces and the intervening soils and vegetation would reduce the amount of contaminants in adjacent watercourses.

The Arroyo Burro Estuary Project may separately propose creek bank modifications, including slope reduction. Reduced creek bank slope could increase off-leash dog access to the area. The increase in access would be minimal because it would still be necessary to cross the relatively deep creek or to use trails that would be closed with a vegetative barrier. Off-leash dog use would not be authorized in this area, and enforcement of off-leash leash laws would reduce dog use in this area. Nevertheless, it can be expected that an occasional dog would find its way into this area and could deposit dog waste directly into the creek or creek bank. Due to the anticipated low use of this area, however, this impact would be *less than significant*.

Hale Park Dog Use. Alternatives A and C-F have the potential to result in direct and indirect deposition of dog waste into the on-site drainage, which would transport the nutrients and pathogens in that waste to the Andree Clark Bird Refuge, which already has high nutrient levels. Direct deposits of dog waste could occur where dogs would enter the drainage itself, depositing waste there. Indirect transport of waste would occur as rainfall and irrigation transport dog waste deposited on the other portions of the site over the soils to the drainage. As dog use increases, and as the amount of time off-leash dog use occurs increases, the impacts would be greater, because there would be more time and more instances of dog waste being deposited into the drainage.

A comparison of the impacts of the alternatives shows the greatest water quality impacts being associated with Alternative A (off-leash dogs all the time), followed by Alternative E (dogs on-leash two days and off-leash five days), Alternative D (dogs prohibited two day a week and off-leash five days), in descending order of level of impacts. Alternatives C (dogs on-leash from 10 AM to 3 PM, and off-leash the remainder of the week) and F (dogs off-leash on odd days of the month and on-leash on even days) would be similar in level of impacts, and would have the least impact of the alternatives that allow off-leash dog use on the site. Therefore, Alternatives A and C-F would result in *potentially significant, mitigable* impacts on receiving waters by adding to

nutrients and pathogens in receiving waters both directly and indirectly. Mitigation prohibiting dogs and their owners from entering the creek area, fencing the area within 25 feet of the creek centerline, and use of signage would reduce impacts to less than significant levels. Alternatively, MM Safety-6, which provides a fenced off-leash only area, could be employed. In either case, MM Air-1 through -5 would also be required to further prevent dog feces from polluting water bodies.

Alternative B would have the least impact of the dog use alternatives, because owners would have the best control of their pets, and would be more able to prevent them from entering creek areas; they would also be more aware that their dogs have deposited feces, and so would be more likely to pick up and properly dispose of the feces. Also, Alternative B would not result in a substantial increase in dog use. Therefore, impacts from Alternative B would be *less than significant*.

Shoreline Beach Area Dog Use. Ocean and Arroyo Burro Creek contamination from feces could occur as dogs defecate directly in the water, or on the beach where wave action periodically washes contaminants on the sand into the ocean. Since Alternatives A and C-F would result in substantial increases in dog use at the beach, the potential for dog feces to be left at the site is increased.

In descending level of impacts, Alternative A (dogs off-leash all the time) would have the greatest impacts, then Alternative E (dogs on-leash two days and off-leash five days), and Alternative D (dogs prohibited two days and off-leash five days). Alternatives C (dogs on-leash from 10 AM to 3 PM, otherwise off-leash) and F (dogs allowed off-leash on odd days of the month and on-leash on other days), would be similar. Due to the serious public health issues raised, Alternatives A and C-F are expected to have *potentially significant but mitigable* impacts by increasing nutrients and bacteria in the ocean adjacent to the site. For Alternatives A and C-F, there would also be *potentially significant but mitigable* impacts resulting from potential creek contamination. However, only a small area of the creek is exposed at the Shoreline Beach Area, and there is limited access to the creek from the bank. Mitigation measures are required to minimize the contamination of the ocean and the creek. Since Alternative B would not result in a substantial increase in dog use, and dogs would be on-leash only, which reduces the potential for feces to be left on site, impacts would be *less than significant*. Mitigation measures are recommended for Alternative B to further minimize potential contaminants.

Mitigation Measures. The following mitigation measures are **required** for the DFPMP to reduce potential water quality impacts. Mitigation Measure Safety-1 relating to protection of herbicide applicator personnel would also apply here.

MM Water – 87

Utilize the following construction BMPs:

- **Maintain construction equipment in good working order.**
- **Inspect equipment for any fluid leaks twice daily.**
- **Clean up equipment leaks, drips and spills immediately using dry cleaning methods wherever possible/ remove**

soils contaminated with leaks and dispose of contaminated soils in a licensed landfill.

- **Refuel and service equipment over an impervious surface away from water courses where spills can be contained and removed without removing soils and contaminating water bodies.**

MM Water – ~~98~~

The following measures shall be implemented to minimize use of herbicides and reduce the potential for spills and misuse:

- **All applications of herbicides shall be performed under the supervision of a chemical applicator licensed in the State of California.**
- **Preference shall be provided for use of mechanical means of vegetation removal before chemical methods are used.**
- **Mixing of chemicals shall occur in a single onsite location away from water resources that shall be protected from spills using permanent or temporary impervious surfaces.**
- **All applicable laws and manufacturers requirements and directions regarding transportation, storage, use, and disposal of herbicides shall be followed.**

Mitigation Measures Air-1 through -5 designed to reduce feces left on the sites, and MM Water-~~7-6~~ to further restrict riparian access, are **required** for alternatives A and C-F and recommended for Alternative B at the DFP to minimize water quality impacts.

The following mitigation measure, *OR* MM Safety-6, is **required** for Alternatives A and C-F at Hale Park. MM Air-1 through -5 shall also apply here to ensure compliance with dog waste pick-up laws and to increase efforts to regularly remove such waste at Hale Park.

MM Water – ~~109~~

The exterior boundaries of the riparian area shall be marked with an aesthetically appropriate barrier approved by the City Architectural Board of Review that is located a minimum of 25 feet from the centerline of the creek, with the exception of areas where creek crossings occur. At creek crossings, a bridge that spans the creek banks shall be constructed, along with barriers designed to keep dogs and humans outside of the riparian area.

The following mitigation measure is **required** for Alternatives A, and C-F at Hale Park, and **recommended** for Alternative B at Hale Park.

MM Water – 10

Signs shall be provided near the riparian area, indicating that dogs and humans are precluded from entering the area. Signs

shall be aesthetically appropriate and shall be approved by the City Sign Committee, as appropriate.

MM Air-1 through -5 are also **recommended** for Alternative B at Hale Park.

Mitigation measures Air-1 through -6 are **required** for Alternatives A and C-F, and **recommended** for Alternative B at the Shoreline Beach Area.

Residual Impacts. Residual impacts would be **less than significant**. Since total and complete compliance with and enforcement of dog-related regulations called for in the mitigation measures for Hale Park and the Shoreline Beach Area are probably not possible, there remains the potential for dog-related water quality impacts upon implementation of the mitigation measures. However, these remaining impacts would still be less than significant. If the City Council determines that increasing enforcement is not feasible, then the impacts would remain significant and unavoidable.

c. Policy Consistency. The Coastal Plan requires the City to use a setback buffer for native vegetation between the top of bank and proposed development. The project includes preservation and restoration of riparian vegetation and is therefore consistent with this policy. The project is consistent with the Basin Plan because it does not lead to the impairment of the listed uses of any water body used for beneficial purposes when proposed mitigation measures have been implemented, and because it would be consistent with the general NPDES permit requirements.

d. Cumulative Impacts. Cumulative impacts are analyzed within the Arroyo Burro watershed, and the watershed that drains from Hale Park to the Andree Clark Refuge. Urban runoff from current development has resulted in impairment in the water quality of both watersheds. Little new development is expected in either watershed, because they have already been largely built out. After mitigation measures have been incorporated into the project, project impacts on water quality would be less than significant. Therefore, the project would contribute little to the eutrophication of the Andree Clark Refuge and to the bacteria levels in Arroyo Burro Creek. Project contributions to cumulative water quality impact would be **less than significant**.