SECTION 7.0
ALTERNATIVES

7.1 INTRODUCTION

CEQA requires that EIRs contain an analysis of alternatives to the proposed project that would reduce or eliminate environmental impacts. Section 15126.6(a) of the CEQA Guidelines states that an EIR should describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. The selection of alternatives is governed by a “rule of reason” that requires an EIR to evaluate only those alternatives necessary to permit a reasoned choice (Section 15126.6(f)). The EIR should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons for that determination (Section 15126.6(c)). Additionally, CEQA requires discussion of the No Project Alternative to give decision-makers the ability to compare impacts of approving the proposed project with those of not approving the proposed project (Section 15126.6(e)).

The proposed project is a component of the Regional Water Facilities Master Plan. Program-level alternatives to capital improvement projects that were selected by the Water Authority to meet projected future water demands by member agencies through 2030 are addressed in the Master Plan PEIR, which is incorporated by reference into this EIR. Only alternatives to the project-specific components of the proposed project are discussed in this project-level EIR. A wide range of potential project alternatives were evaluated in terms of ability to meet project objectives, ability to reduce identified significant environmental impacts associated with the proposed project, engineering feasibility, and cost of implementation. Because a primary project objective is to eliminate the existing hydraulic bottleneck in MTRP caused by the series of high ridgelines, evaluation of alternative sites for the project was not considered feasible. The primary environmental impacts associated with the proposed project are the visual impacts of the FRS II control building for park users and residential neighbors, construction traffic impacts of trucks hauling excavated soil and rock and importing concrete and other materials into MTRP through the Tierrasanta community, construction impacts of dust and NOx emissions on air quality, recreation impacts associated with road and trail closures during construction, and direct and indirect impacts to biological resources during construction. Therefore, the selection of alternatives for this project-specific EIR focused on ways to avoid or reduce these impacts.

7.2 ALTERNATIVES CONSIDERED BUT REJECTED

Based on conceptual engineering development of major project components and initial environmental evaluation, some alternatives or alternative components were dismissed as either not meeting the project objectives or as being infeasible due to engineering or economic limitations. Three alternative components that were considered but rejected are discussed below.
7.2.1 Alternative Location for FRS II

A location for the up to 18-mg flow regulatory structure was considered approximately 1,800 feet south of the proposed project site, in the canyon between Elliott Vent #3 and Elliott Vent #4. Selection of this alternative FRS II location would reduce potential visual impacts of the control building from viewpoints west of MTRP in Tierrasanta, particularly from homes along the north end of Corte Playa Catalina. Construction activity would be concentrated at a greater distance from the residential area, and topographical barriers would reduce potential noise and visual impacts. This site is owned by the City of San Diego and managed by the San Diego Department of Park and Recreation as part of MTRP. Similar impacts to biological resources, generally coastal sage scrub and chaparral would occur at this alternative location.

Elevations at the alternative location range from approximately 720 to 760 feet AMSL. The elevation of the FRS II must be set so that the range of operating water levels (hydraulic grade line) would be between 768 and 792 feet AMSL, with a normal operating hydraulic grade line of 780 feet AMSL. At this alternative location, achieving the necessary operating water elevations would require an aboveground structure approximately 296 feet by 392 feet, and about 30 feet high. Development of an aboveground structure would substantially reduce the amount of excavation, and therefore the number of truck trips entering and leaving MTRP at Clairemont Mesa Boulevard during the projected 4-month construction phase. However, the tunnel portion of the project would remain unchanged, so projected truck trips for construction of the tunnel portals and export of tunnel “muck” would still occur from the South Portal and North Portal for the approximately 2-year project construction duration.

In spite of the fact that this alternative would reduce some short-term traffic impacts, it was rejected because it would generate significant long-term visual impacts within MTRP from the 30-foot-high, aboveground storage tank. A structure of this size would be highly visible and impossible to effectively screen from viewers in the park and in the surrounding residential areas.

7.2.2 Alternative Ingress/Egress Points and Truck Routes During Project Construction

Three points of ingress/egress were determined to be feasible for construction of the proposed project: Portobelo Drive, Clairemont Mesa Boulevard, and Calle de Vida. Various routes to and from these ingress/egress points were evaluated, including one-way and loop scenarios. The alternative routes that were considered but rejected are described below.

Construction access to the FRS II and tunnel portal sites from Mission Gorge Road at Jackson Drive was eliminated from consideration because the grades are too steep for large construction vehicles to safely negotiate the existing dirt utility road that runs from the river north to the top of the ridge at Elliott Vents #5 and the proposed South Portal area. Grades north of the river are 14 to 15 percent (Jacobs Associates 2005).

Construction access for the similar FRS I project in 1994 was obtained from the Caltrans easement for SR-52, prior to its completion. This alternative avoids the use of residential streets. This access point is no longer available, however, due to topographical differences between the
completed SR-52 and the project area and safety issues associated with trucks entering and leaving SR-52 without the benefit of an improved highway interchange.

Access from Seda Drive provides the shortest and most direct route to the proposed FRS II site. Use of this route would avoid the closure of many roads and trails that would occur as part of the proposed project, including the access points at Clairemont Mesa Boulevard and Calle de Vida. However, use of Seda Drive for construction vehicles was eliminated from consideration due to the narrow private streets and steep grades within a condominium development and the associated concerns regarding noise, vibrations, and traffic safety. In response to the FRS I project, the Water Authority has agreed to only use the Seda Drive access point for emergency vehicles.

Access to the northern end of the project from the condominiums north of Portobelo Drive, along a City of San Diego utility easement between the condominiums and SR-52, was rejected due to the amount of grading required to access the slope bank (approximately 15 feet high) within the condominium complex, and the need for a temporary construction easement.

Access to MTRP at the north end of Corte Playa Catalina was rejected because private improvements would have to be removed and grading would have to be conducted to allow equipment to pass. In addition, this potential access point does not provide easy access to the FRS II site or either tunnel portal, and would require the negotiation of steep and winding residential streets by large trucks.

**7.2.3 Spoil Disposal in MTRP at the BMX Site**

Opportunities for using excavated material within the park, both to provide a benefit to the park and to reduce truck traffic through the Tierrasanta community during construction, have been explored with the MTRP Senior Park Ranger. A need for clean fill within the park has been identified and suitable quality material may be useful at several locations damaged by erosion, including the river berm near the KFMB radio towers and Cowles Mountain trails. These areas would be pursued in coordination with the park rangers.

Use of the abandoned quarry that is currently a BMX recreational site was also considered for spoil disposal. As noted above, disposal of spoil within the park would reduce truck trips in the surrounding community. However, using the BMX location for spoil disposal was rejected because it is a desirable location for BMX activities in MTRP, and considerable local and volunteer efforts were invested in creating this recreational facility. In addition, transporting spoil from the construction sites to the old quarry location would have resulted in additional impacts to biological resources and trails within MTRP. Finally, due to the steep grades between Elliott Vents #5 and the San Diego River, truck trips would have to be routed through Tierrasanta to I-15 and from I-15 up Friars Road and Mission Gorge Road to Jackson Drive, where a U-turn would be required. Thus, the advantage of an in-park disposal site at this location would be lost.
7.3 NO PROJECT ALTERNATIVE

For a development project on identifiable property, the No Project Alternative is defined by CEQA as “the circumstance under which the project does not proceed.” Selection of the No Project Alternative would prevent the construction of the FRS II and tunnel pipeline project in MTRP, as proposed, the vent structures and blow-offs proposed for removal would remain in place, and the stabilized river crossing would not be constructed. Because no construction would occur under the No Project Alternative, none of the impacts examined in this EIR would occur. For example, the No Project Alternative would avoid impacts from truck traffic within the surrounding community, temporary interference with recreational activities in affected areas of the park, visual impacts of the access control building, and impacts to biological resources within MTRP, and potentially significant impacts to cultural resources. However, not constructing the FRS II storage facility and stronger pipeline would significantly hinder the Water Authority’s ability to reliably meet projected water demands to the south, particularly when other facilities are installed that would subject the pipelines in MTRP to increased pressure and surges. The No Project Alternative would not meet the goals and objectives of the project and is therefore not a viable alternative.

7.4 ALTERNATIVE TO THE FRS II CONTROL BUILDING

The FRS II control building would be the primary aboveground feature of the proposed project. The primary objective is to have the control building blend with the landscape to the greatest extent possible through the use of native materials and colors for all exterior features. The access/control building would house the inlet valves, the control room, and provide entry into the water storage basins. Valves would be accessed by crane through metal hatches in the roof. The outlet valves would be located in a buried vault on the west side of the storage basins. Security fencing 8 feet high would be installed around the exposed face of the building. Another 8-foot high security fence would be installed on top of the building, which would be accessible from the reshaped contours of the new hillside.

An alternative to the access/control building has been proposed. Under this alternative, the access/control building would be replaced by two vent structures (Figure 7-1). The instrumentation and controls for the valve vaults and water storage basins would be housed inside the existing FRS I access building. The vents would allow air to exhaust or enter each water storage basin as the water levels in the basin fluctuate. Each vent structure would include four panels of louvers, and would be approximately 7 feet by 7 feet square and approximately 8 feet high. The vent structure alternative would include hatches into the water storage basins for maintenance personnel to inspect the interior of each basin. A stairway would lead from each hatch into the basin. Entry through the hatch would require “permit-required” confined space entry procedures. Security fencing 8 feet high would be installed around the access hatches and vent structures.

The smaller structures would be less visible to MTRP users and surrounding residents. However, because the design would not include creation of a berm, there would be more export of excavated material offsite compared to the proposed access/control building design. Therefore, truck traffic would be greater. More open trenching would be required for
connections of communication equipment to the FRS I access/control building; therefore, air quality impacts would be slightly greater than for the proposed project. Noise from the vent louvers would be slightly greater than from the enclosed building. Impacts to land use, recreation, water resources, biological resources, and cultural resources would be essentially the same, as the footprint of the two-vent structures would be slightly smaller and the footprint for communication connections would be slightly greater.

7.5 ALTERNATIVE TUNNEL ALIGNMENTS

7.5.1 Combined Inlet and Outlet Tunnel from One Heading Alternative

The Combined Inlet and Outlet Tunnel From One Heading Alternative is the longest of the tunnel alignment alternatives (approximately 5,200 feet). The alignment would be generally the same as the proposed project, except the tunnel would continue under the FRS II structure and be a continuous tunnel from the South Portal to the North Portal (Figure 7-2). The major difference between this alternative and the proposed project is that it would be mined mostly from the South Portal, located between Elliott Vents #4 and #5. Therefore, traffic and other construction impacts at the North Portal would be reduced by this alternative as compared to the proposed project, which includes construction at both portals. Under this alternative, pipe installation and final grouting would only occur from the South Portal. Blasting for construction of the northernmost 200 to 1,000 feet of the inlet tunnel and construction activity for connecting the inlet tunnel to the existing pipelines would still occur from the North Portal.

Compared to the proposed project and the other tunnel alignment alternatives, the Combined Inlet and Outlet Tunnel from One Heading Alternative would generate the greatest volume of materials for export, estimated to be about 65,700 cy compared to 48,060 cy for the proposed project. Total truck traffic for hauling would therefore be greater than for the proposed project. Fugitive dust emissions associated with truck travel on unpaved roads would be somewhat higher than the proposed project, because trucks associated with the excavation of the tunnel would be required to travel 2 miles round trip on unpaved surfaces to and from the South Portal site rather than 1 mile round trip to access the North Portal site. For certain portions of the construction, therefore, emissions would remain above the significance thresholds for NOx and PM10. Impacts of noise during construction would be lower than with the proposed project, because there would be less construction activity at the North Portal. However, as noted above, blasting would still be needed at the North Portal, and the 10 days of continuous construction for the pipeline connection would also occur for this alternative. Impacts to recreation would be slightly less for this alternative because activity at the North Portal would be decreased and therefore the access and trails at this location would not have to be closed as long. Impacts to water resources would be slightly less for this alternative because of the decreased construction activity at the North Portal. Impacts to biological resources would be the same as for the proposed project because the project footprint would be the same. However, potential impacts to cultural resources would be less than for the proposed project because there would be less activity at the North Portal.
7.5.2 Inlet Tunnel and Trenched Outlet Pipeline

The Inlet Tunnel and Trenched Outlet Pipeline Alternative involves the construction of an inlet tunnel from the North Portal to the FRS II and a trenched pipeline from the FRS II south to Elliott Vent #5 (Figure 7-3). The Inlet Tunnel would be approximately 1,900 feet long. The trenched Outlet Pipeline would extend for approximately 2,700 feet from the FRS II to the existing Water Authority easement and would then follow the easement, replacing Pipeline 3 with a 96-inch diameter pipe. Existing flow in Pipeline 3 would have to be diverted into Pipeline 4, which would temporarily be kept in service during construction.

For the trenched outlet pipeline portion of this alternative, new air release/air vacuum valve structures would be needed at the localized high points, near the locations of Elliott Vents #3 and #4, which would be removed by the proposed project. Also, three low points would be created by the installation of the 96-inch trenched outlet pipeline at locations near the low points on the existing Pipeline 3 and Pipeline 4. New blowoff structures would be needed at these locations.

The trenched pipeline alternative would result in the least quantity of spoils needing disposal, an estimated 33,000 cy. For this alternative, the estimated number of peak construction vehicle trips through the community would be reduced compared to the proposed project because there would be less export.

Emissions associated with this alternative would be unaffected at the North Portal as the North Portal construction scenario would be similar to the North Portal construction scenario for the proposed project. However, trenching in the southern part of the pipeline alignment would require a different mix of heavy construction equipment than tunneling would require, and emissions of criteria pollutants from heavy equipment would be lower than for the tunneling option. Because of the additional 18 acres of disturbance, emissions of fugitive dust associated with construction of this alternative would be higher by an estimated additional 90 lbs/day than the proposed project. Emissions would remain above the significance thresholds during construction of this alternative for NOx and PM₁₀.

Because the trenched portion would increase ground surface impacts in MTRP by approximately 18 acres over the proposed project, impacts to land use, recreation, water resources, and biological resources would be greater than for the proposed project. Impacts to visual resources would be greater because of the surface disturbance of the trench, which would need to be revegetated. Impacts from construction noise would be greater in MTRP because there would be surface trenching along the alignment of the outlet pipeline instead of belowground tunneling. Impacts to cultural resources would be the greater than for the proposed project because there would be more near-surface disturbance in the trenched portion, with a greater potential to encounter previously undiscovered buried resources than with deep tunneling.

7.6 COMPARISON OF PROJECT ALTERNATIVES

The feasible alternatives discussed in Section 7.4 are compared to the proposed project in Table 7-1. The environmental issues presented in the table are only those where the performance of the alternatives and the proposed project would differ. For the FRS II control building design, the
impacts of the two-vent structure alternative would be similar to the proposed project. However, they would be greater to traffic and air quality due to greater excavation and export, and reduced visual impacts due to the smaller structure.

For the tunnel alternatives, the Combined Inlet And Outlet Tunnel From One Heading Alternative has lesser impacts compared to the proposed project in five issues: land use, noise, recreation, water resources, and cultural resources, mainly due to less construction activity at the North Portal. Traffic and air quality impacts would be comparable to the proposed project, although the number of truck trips each day would be reduced as they would be spread over a longer period of time. The other tunnel alternative would have lesser impacts in terms of traffic, but greater impacts compared to the proposed project for the other issues.

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<th>Issue</th>
<th>Two-Vent Structure Alternative to FRS II Access/Control Building</th>
<th>Combined Inlet and Outlet Tunnel from One Heading</th>
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< Alternative has lesser impacts than the proposed project
> Alternative has greater impacts than the proposed project
= Alternative has the same level of impacts as the proposed project

7.7 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The No Project Alternative would be the environmentally superior alternative to the proposed project because it would not directly result in any significant environmental impacts. CEQA Section 15126.6(e)(2) states: “If the Environmentally Superior Alternative is the “no project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.” The alternatives considered feasible are two variations in the pipeline alignment and construction method (tunnel versus trenching), and an alternative to the FRS II access/control building.
Comparing the proposed access/control building and the two-vent structure, the proposed access/control building has been determined to be environmentally superior. This is because there would be increased export of excavated material offsite with the two-vent structure alternative since a berm would not be created onsite.

Among the pipeline alignment options, the Combined Inlet and Outlet Tunnel from One Heading Alternative has been determined to be environmentally superior. This is because construction activities at the North Portal would be reduced, which would result in fewer impacts compared to the proposed project in the following issues: land use, noise, recreation, water resources, and cultural resources.
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Tunnel Plan and Profile for Proposed Project

Mission Trails Flow
Regulatory Structure II, Pipeline Tunnel, and Vent Demolition Project

Figure 2-7
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