

## MISSION TRAILS PROJECT WORKING GROUP MEETING SUMMARY

**DATE:** August 4, 2005

**TIME:** 6 p.m. to 8:30 p.m.

**ORGANIZATION:** Mission Trails Project Working Group

**MEETING LOCATION:** San Diego County Water Authority

**PRESENTERS:** HDR: Michael Lambert and Jeff Moncrief  
Jacobs & Associates: Greg Raines

**STAFF RESOURCES:** San Diego County Water Authority:  
Gina Molise and Habib Hariri  
Katz & Associates: Jill Pasqualetto

**PRESENTATION SUMMARY:** Water Authority consultants presented design options  
Mission Trails Pipeline and Flow Regulatory Structure II,  
including the FRS II access building.

### **Mission Trails Project Working Group Members:**

David Oates, Tierrasanta Community Council (alternate)

Donovan Geiger, Tierrasanta Community Council

Fiona Pallag, Belsera Homeowners' Association

John Pilch, San Carlos Area Council, MTRP Citizens' Advisory Committee

Tracey Walker, Mission Trails Regional Park, MTRP Citizens' Advisory Committee

### **Absent:**

Bob Frain, DePortola Middle School (alternate)

Brent Eidson, Navajo Community Planners, MTRP Citizens' Advisory Committee

Don Steele, MTRP Foundation

Everett Neuman, San Diego Mountain Bike Association

Listy Gillingham, DePortola Middle School

### **Other attendees:**

Dorothy Leonard, Chair, MTRP Citizens' Advisory Committee

Gary James, Belsera resident

Clark Rasmussen, MTRP volunteer

### **Welcome/Introductions**

The Water Authority's design consultants for the project introduced themselves. Jeff Moncrief, of HDR, is managing the design of the Flow Regulatory Structure II (FRS II) and access building. Greg Raines, of Jacobs Associates, is managing the design of the new pipeline. Gina Molise welcomed the working group members and reviewed the agenda for the meeting. She asked them to review the June 9 meeting summary and to email her any changes or clarifications.

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### Project Status

Habib Hariri, the Water Authority's project manager for the Mission Trails Project, updated the working group on the project. A recent independent technical review identified the site across from the existing flow regulatory structure as the better of two potential sites for the proposed facility. This site would provide more efficient hydraulics for the new pipeline. The existing blue pipeline vent structures in the park will be demolished, with the possible exception the southern-most vent for Pipeline 4.

The draft environmental impact report is scheduled for release on November 29, 2005. Construction is slated to begin early 2007 and to be complete by early 2009. Currently, only 10 percent of the design has been completed. As the design process continues, the construction schedule will be refined further.

Habib reminded the working group of the project's constraints. The new pipeline and flow regulatory structure must meet the Water Authority's safety requirements, stay within budget, provide the hydraulic improvements needed to meet future water needs, and minimize impacts to the environment. A team of independent engineering experts conducted a "value engineering" review of the project at the request of the Water Authority and provided input on the 10 percent design. Jacobs Associates and HDR are incorporating some of the value engineering input into their designs.

The Water Authority updated the original project cost estimate and found that recent increases in the cost of concrete and steel have driven the cost of construction above the project budget. Habib is now looking for ways to reduce project costs.

### Pipeline Tunnel

Greg Raines, Jacobs Associates, gave a presentation about the tunnel designs. There are three alternatives that value engineering determined were efficient and met the requirements of this project:

1. Two short tunnels, north and south of FRS II, plus a short portion of pipeline constructed via open-cut / trench construction instead of a tunnel
2. One short tunnel north of FRS II, and trench construction south of the FRS II
3. One long tunnel

The tunnel that brings water from the north to the flow regulatory structure is the inlet tunnel; the pipeline that carries the water south from the FRS II is the outlet pipeline or tunnel. The blue vent structures in the park are located where the pipeline reaches a high point on a hill. At low points, the pipelines have blow-offs, which are smaller tan stacks.

#### Design Option 1: Separate inlet and outlet tunnels with short open-cut

- 2,400-foot-long tunnel constructed from the north portal
- 1,800-foot-tunnel constructed from the south portal
- 800 feet of open-cut construction along existing aqueduct
- Two tunnel shafts at Flow Regulatory Structure II
- Two years of construction

This option will concentrate most of the construction work at the south portal.

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### Design Option 2: Inlet tunnel and open-cut outlet pipeline

- 2,400-foot-long tunnel constructed from the north portal
- 2,800-foot-long open-cut outlet pipeline extending south from FRS II
- One tunnel shaft at FRS II
- Slightly reduced construction traffic
- Two years of construction

This option slightly reduces truck traffic because approximately half of the construction will be open cut. Open-cut construction would involve removing the old pipe and replacing it with a new pipeline in the existing trench. This produces less excavated material that would need to be hauled off site.

### Design Option 3: Single inlet / outlet tunnel

- 5,400-foot-long tunnel
- No open-cut construction
- 600 to 2,400 feet of tunnel from north portal
- 3,000 to 4,800 feet of tunnel from the south portal, depending on location of south portal
- Two tunnel shafts at FRS II
- Approximately two years of construction

With this option, the entire pipeline would be constructed in a single tunnel. A tunnel-boring machine could be used to excavate the tunnel except at the north portal, where hard rock would require controlled blasting. This design option would produce slightly more hauling traffic because tunneling creates more material that needs to be moved off site. With the exception of the short portion of controlled blasting, most of the tunneling would be conducted at the south portal where homes are at least ½ mile away. This option is more costly.

The primary staging area for the pipeline construction is planned to be located in the dirt parking area at the eastern end of Clairemont Mesa Boulevard in Tierrasanta. It would include construction trailers and parking for workers. Clairemont Mesa Boulevard is planned to be the primary ingress and egress point for construction. The Mission Gorge Road access route is difficult because of the topography.

Greg explained there would also be staging areas at the north portal and south portals for a trailer, equipment, and other construction materials. Jacobs Associates and the Water Authority are evaluating two potential locations for the south portal. The original site is closer to the FRS II but is on a fairly steep slope that would require significant grading to prepare the site before tunneling could begin. The alternate portal option is farther south, so it would require a longer tunnel, but is flatter, would require less grading, and provides easier access.

With the possible exception of the southern-most pipeline vent, known as Elliot 5, all the blue vents will be demolished. If the Elliott 5 vent is removed, under certain conditions the pipe could spill, releasing water into the park. This spillage would need to be contained to prevent erosion damage in the surrounding area. Staff and consultants are examining this risk and erosion control options.

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### Flow Regulatory Structure II

Jeff Moncrief and Michael Lambert, from the consulting firm HDR, presented design options for the flow regulatory structure. HDR and Jacobs are coordinating their construction planning for the FRS II and the pipeline so that contractors for the two facilities can use the same access routes for construction. The FRS II basin will be situated on a 12-acre parcel adjacent to and slightly north of the existing FRS I, on the east side of the Second Aqueduct. It will hold up to 18 million gallons of water.

### Access Building for Flow Regulatory Structure II

Jeff Moncrief summarized the functional requirements of the future access building for FRS II.

#### Access building requirements:

- Provide access to water surface in FRS II
  - Operations staff inspects water several times a week
  - Must allow access to basins for cleaning
  - Must allow ventilation for air release and vacuum relief
- Provide security to water surface and equipment
- Enclose electrical, communication, instrumentation and controls
  - Secure equipment
  - Provide clean, lighted environment for maintenance
  - Provide cool, dry environment for equipment
- Provide access to isolation valves

To provide a frame of reference for the future access building, Jeff reviewed key features of the existing access building for FRS I.

#### FRS I access building:

- Features
  - Building footprint is 30 feet x 50 feet
  - Exposed surface of building is 2,400 square feet
  - 1,200 feet of pipe connect it to the Second Aqueduct pipeline
- Other major structures outside access building
  - Outlet valve structure
  - Overflow energy dissipater

Jeff and Mark presented three design alternatives for the new FRS II access building.

#### Bermed alternative with gabled roof

A berm is a visual screen created by mounding earth, and resembles a long, low hill.

- Features
  - Building footprint is 15 feet x 50 feet
  - Exposed surface area of building is 2,000 square feet
  - Requires 1,200 feet of pipe to connect it to the new pipeline
  - Requires 105,000 cubic yards of soil to be exported from site
- Other required structures outside the access building
  - Inlet valve vault
  - Outlet valve vault
  - Overflow energy dissipater

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This option is smaller than the existing FRS I access building. The gabled roof would resemble the roofline of homes in the area and matches the existing FRS I access building. The berm hides the building from residents to the west. Some of the excavated material could be used to create the berm.

### Bermed alternative with flat roof

This option is identical to the gabled design except the roof is flat, which reduces the access building surface area from 2,000 square feet to 1,600 square feet. The flat roof allows easy access for maintenance and reduces the overall height of the building.

### Parapet Alternative

A parapet is formed by exterior walls that extend above a flat roof. Existing ground topography allows the access building to be partially buried below the higher ground elevations on the eastern side of the property.

- Features
  - Building footprint is 30 feet x 50 feet
  - Exposed surface area of building is 1,000 square feet
  - Requires 900 feet of pipe to connect to the new pipeline
  - Requires export of 150,000 cubic yards of soil
- Other structures outside the access building
  - Outlet valve vault
  - Overflow energy dissipater

This option has a lower profile and the structure is partially buried in the side of the existing hill. Since the excavated material is not used onsite for a berm, it must be shipped offsite, resulting in increased truck trips.

### Comparison of bermed and parapet alternatives

- Export of excavated material is reduced by 50 percent for both bermed alternatives.
- Bermed alternatives are less costly.
- Footprint for bermed access building alternatives is smaller.
- Exposed surface area is greater for bermed alternatives.
- Access building in the bermed alternatives is less visible from homes.
- All are equal in meeting operations and maintenance and safety requirements.

Jeff Moncrief discussed a preliminary sight line study conducted to evaluate how visible the building would be from homes overlooking the park. The study shows that earthen berms can hide most or all of the access building. Because the existing FRS I access building was built on the high point of the FRS I site, it is more visible to park users and the community than the planned access building would be.

### **Working Group Comments on Design Options**

After some discussion, the working group reached consensus that the bermed alternative for the FRS II access building is preferred. It reduces hauling traffic during construction and minimizes the visual impact of the structure after completion. The working group members were also in agreement that they prefer design option #3 for the pipeline tunnel – a single tunnel -- because it

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reduces construction impacts to the park and to residents of the Belsera community adjacent to the north portal.

Dorothy Leonard informed the project team that the Mission Trails Regional Park Citizens' Advisory Committee and the MTRP Task Force will want a similar project presentation before providing formal input to the Water Authority on the options preferred by the working group. To obtain input as early as possible during this phase of design, the project team requested a special meeting of the MTRP CAC and Task Force, since these groups have no meetings scheduled until September. Dorothy offered to explore options for a special meeting and to contact the project team with this information.

### **Question and Answers**

Key: Q = question A = answer C = comment

**Q 1:** What is the truck traffic going to be like?

**A1:** The peak of traffic is expected during excavation of the FRS II site at the beginning of the project. After the excavation materials are removed, the traffic will consist of construction deliveries (concrete, pipe, equipment, construction materials, etc.) and removal of material excavated from the tunnel. The traffic will probably enter Clairemont Mesa Boulevard and exit Calle de Vida, in a clockwise circular pattern. The joint staging area for both facilities is planned to be located at the Clairemont Mesa Boulevard access point. This area allows access for power, water and sewer connections for the project management offices/trailers, and reduces the number of project management trailers within the park.

**Q 2:** How many truck trips?

**A 2:** The duration and total volume of traffic still needs to be evaluated. We do not have enough data to give actual numbers.

**Q 3:** What are the proposed hours of construction?

**A 3:** Construction will take place Monday through Friday from 7 a.m. to 7 p.m at the north portal. There may be some deviation from this schedule during certain periods of construction for the tunnel construction. At the south portal, tunneling will be under way 24 hours a day, 7 days a week. On Sundays, work may be limited to the day shift.

**Q 4:** What will happen to the hiking trail near the site of the proposed FRS II?

**A 4:** As part of construction, the trail will be rerouted with the help of Ranger Walker. The trail will be closed in the vicinity of the FRS II site during construction.

**Q 5:** Are there any SDG&E easements that overlap in this project?

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**A 5:** The SDG&E transmission tower easements are farther south, but there is an SDG&E underground easement along the Water Authority's Second Aqueduct to supply power to the FRS sites.

**Q 6:** How flat is the area where the FRS II will be placed?

**A 6:** The area is fairly flat now. The bermed option would create natural shadows and include new vegetation.

**Q 7:** Does the bermed option limit the park acreage for public access?

**A 7:** No.

**C 1:** Vegetation usually has a hard time coming back after construction. Please keep this in mind.

**C 2:** I am concerned about having Calle de Vida used for truck traffic. It is close to homes.

### **Closing:**

Gina Molise thanked the working group members and guests for attending. The next working group meeting will be announced at a later time. At the next meeting, working group members will finalize their list of community concerns and place the list in priority order.