

## 2.2 Elements Common to All Alternatives

### 2.2.1 Trail Specifications

Trail design would follow existing USFS design standards. The trail design criterion specifies approximate tread widths of 36 inches for non-Wilderness sections of the trail and 24 inches for Wilderness sections. Trail clearing widths in oak brush would be approximately ten feet in non-Wilderness and eight feet in Wilderness. The trail would generally be constructed by hand and utilize native trail surfaces and would be consistent with USFS trail standards. Based on terrain features, vegetation types, and topography, these design specifications could vary slightly.

### 2.2.2 Design Considerations Common to All Alternatives

In response to public comments on the proposal, design considerations were developed to address some of the potential impacts the Action Alternatives may cause. Based on terrain features, vegetation types, and topography, these design specifications could vary slightly. Design considerations are described below and would apply to all Action Alternatives:

- Excavated material would be disposed of down slope and clear of the trail tread when possible. Materials should not build up at the outside of the trail to create an unstable soft edge or a berm that would block the flow of water across the trail. The trail would have approximately a 45 percent slope cut into the hillside above the tread and the tread would be out sloped at about three percent for drainage (see figure 9) to allow water to flow downhill and across the trail without creating erosion problems. The trail profile would also utilize a rolling up-and-down line that uses “reverse grade” sections to allow rainwater to be shed at the low points.

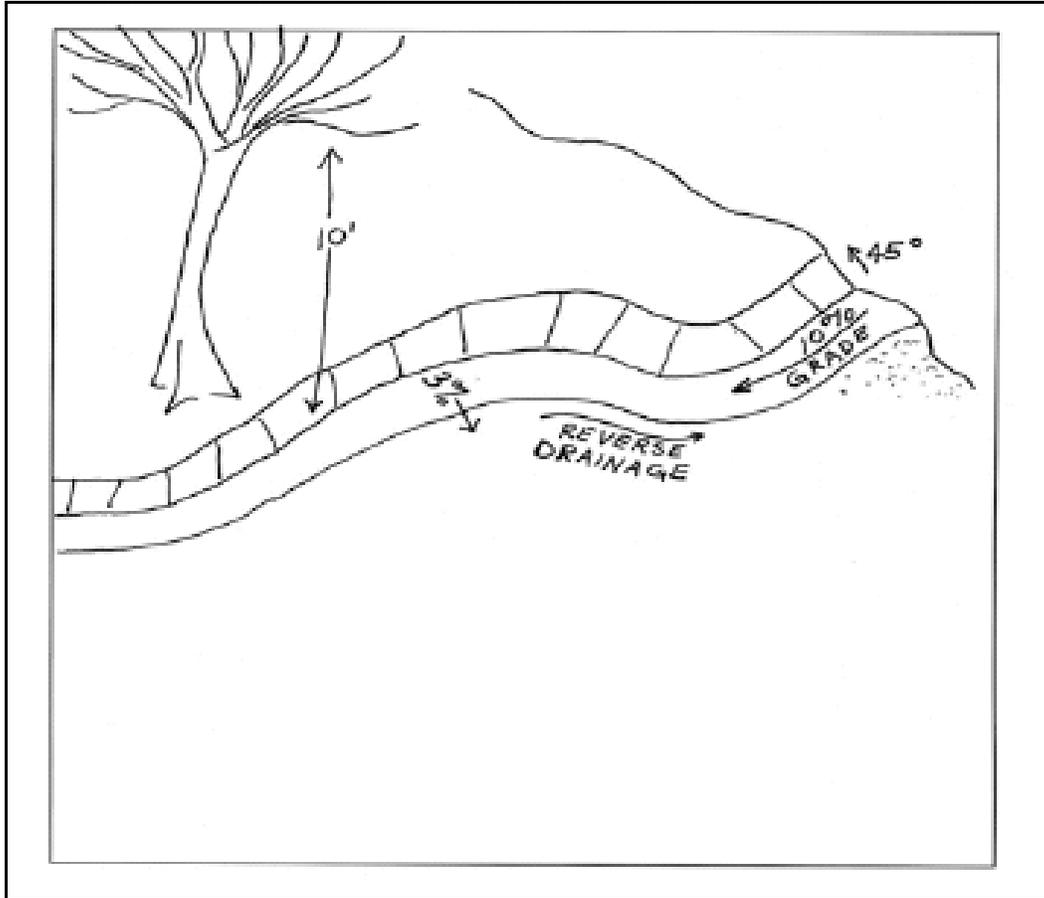


Figure 9. **Diagram of Conceptual Trail Design.**

- The reclamation of disturbed areas parallel to most trails or old four-wheel-drive routes and user-created trails that have been closed would be performed with the actual trail construction activities.
- Transplanting and seeding with native plant species compatible with those already established in the area would be utilized. A list of plants found in the Salt Lake County Regional Trails Plan identifies generally the desirable types of vegetation to be used in revegetation and reclamation project during trail construction. The Forest Botanist will determine revegetation on NFS lands.
- Trail signs will be strategically placed to provide trail users location and direction of travel. Trail signs will have the BST logo and will follow NFS signing regulations.
- Recreation use would be restricted to non-motorized use of the trail throughout Salt Lake County.
- Equestrian and animal use would not be allowed on trail sections across protected watershed lands. Dogs would not be allowed on the trail off-leash. Dogs could be allowed on trail sections crossing Wilderness boundaries if they are outside Salt Lake City

Protected Watershed boundaries. Maps that display which uses are allowed in each segment are shown in Section 3.3, Recreation and Visitor Use.

- Perennial and intermittent streams would be bridged with the appropriate structures as per USFS standards and guidelines.

## 2.3 Alternatives Considered but Eliminated from Detailed Analysis

One alternative was considered that would have located the alignment of the BST entirely within the national forest boundaries. Because of the following reasons, an alignment of the BST trail located entirely on NFS lands would not meet the purpose and need for this action and it has been eliminated from detailed analysis.

- Located on steep and difficult technical terrain.
- Constructing and maintaining trails would have been difficult and costly, as well as exposing construction personnel and the user public to potential safety issues.
- Did not meet criteria for aesthetic values outlined in the MOU (see section 1.1.3).
- Conflicts with objectives and goals of the Wilderness Areas.
- Potential impacts to wildlife.
- Does not meet the theme of the BST, as it would be located too high above the elevation of Lake Bonneville.

Two additional alternatives that were considered were (1) the “city street” alternative, and (2) the “Non FS Land” alternative. These alternatives were eliminated from detailed analysis because (1) they don’t meet the theme of the BST, and (2) the trail could not be completed because parts would need to cross FS land.

## 2.4 Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Information in table 9 is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

**Table 9. Comparison of Alternatives.**

Issue	Alternative 1	Alternative 2	Alternative 3
Special Status Plant Species	No direct effects. Indirect effects include disturbance of special status plant species through increased user-created trails.	Minor adverse effects to one or more species. Mitigation measures such as pre-surveys and minor re-routing of trail alignment as necessary would help to reduce impacts.	Same as for Alternative 2.
Invasive Plant Species	Lack of a formal project may allow status quo weed management to occur indefinitely. This would result in ongoing degradation of east bench/foothill ecosystems.	Both short-and long-term adverse effects would be reduced to minor by implementing a weed management plan as a required project mitigation measure.	Overall similar to Alternative 2, but higher potential for adverse impacts due to increased disturbance associated with developing new trail across otherwise intact native vegetation communities.
Big Game and Big Game Winter Range	No effect to minor adverse effect. No loss of additional habitat; human use would continue to increase.	Considerable adverse long-term effects. Habitat would be fragmented and 48 acres/mile of current habitat would not be used as it is now.	Considerable adverse long-term effects. Very little difference from Alternative 3. This alternative leaves lower elevation winter range available, but reduces access for wildlife by increasing fragmentation.
TES, Forest Service Sensitive Species, and MIS	No direct effects. Indirect effects include potential change in available habitat or use by species through increased user-created trails.	Minor long-term adverse effects. Minimal changes in habitat type. Some habitat fragmentation would displace some individuals.	Minor long-term adverse effects. Effects would be less than Alternative 2. Smaller trail footprint on NF land and additional restrictive use in Wilderness segments.
Migratory Birds	No effects. No change in available habitat or use by species.	Long-term minor adverse effects. Minimal changes in habitat type. Some habitat fragmentation would displace some individuals.	Long-term minor adverse effects. These effects would be less than Alternative 2. Smaller trail footprint on NF land and additional restrictive use in Wilderness segments.

Issue	Alternative 1	Alternative 2	Alternative 3
Recreation and Visitor Use	No new acres of disturbance. Potential short- and long-term adverse effects will likely occur as user-created trail proliferation and unmanaged recreation activities increase.	Impacts from implementing this trail would likely reduce adverse impacts already in place. Establishing a managed network of trails would likely result in long-term beneficial impacts for the local and regional recreation experience.	Long-term beneficial effects. More trail located on NFS and designated Wilderness would provide a more secluded experience for visitor use. Would require additional elevation gain and steep sections that may not provide the same recreation benefits as Alternative 2.
Wilderness	No direct effects. Indirect effects include potential change in Wilderness character through increased user-created trails.	Impacts include increased access to Wilderness areas and 2.74 miles of proposed trail traversing Wilderness. Visitor use is expected to increase, but user-created trails and trail proliferation would not be allowed. Compared to the No-Action Alternative, wilderness character and regulations would be easier to manage because there would be a designated trail system.	Increased access to Wilderness areas and 5.24 miles of proposed trail traversing Wilderness. Additional impacts are similar to Alternative 2.
Open Space, Scenery Management, and Aesthetics	No direct effects. Trail is in highly urbanized area. No new facilities would be constructed. Indirect effects include potential change in visual quality through increased user-created trails.	Minor adverse effect. Construction of new trail and related signs, trailheads, and bridges may have a negative impact on the scenic integrity of the project area.	Same as for Alternative 2.
Soils and Erosion	No effect to minor adverse effect. Since no new trail would be constructed, there would be no new disturbance of soils. Existing use and proliferation of user-created trails could increase. These types of uses are generally not constructed to FS standards and in areas that are susceptible to erosion.	Minor, adverse effect. Total new acres of disturbance on NFS lands would be 3.65. Mitigation measures and design criteria would reduce soil erosion, soil compaction and subsequent loss of soil nutrients.	Minor adverse effect. Effects would be slightly higher than Alternative 2 since total new acres of disturbance on NFS lands would be 7.6 acres. As with Alternative 2 impacts would be reduced with proper implementation of mitigation measures.

Issue	Alternative 1	Alternative 2	Alternative 3
Landslide and Slope Failures	No effect to minor adverse effect. Since no new trail would be constructed, there would be no new disturbance. Existing use and proliferation of user-created trails could increase causing a potential increase in landslide and slope failures.	Total new acres of disturbance on NFS lands would be 3.65. Mitigation measures would reduce the probability of landslides and slope failures.	Minor adverse effect. Implementing Alternative 3 would have more impacts since it would be constructed on steeper slopes and would disturb more acres on NFS lands (7.6).
Water Quality	No effect to minor adverse effect. Existing use and proliferation of user-created trails could increase causing a potential reduction in water quality.	Approximately 8.9 acres of total new disturbance would occur under this Alternative, resulting in minor short- and long-term adverse effects.	Compared to Alternative 2, approximately 0.2 additional acres of disturbance would occur. Additional acres, combined with steeper slopes, implementing this alternative could result in more impacts to water quality than Alternative 2. These impacts would not be significant and effects of implementing Alternative 3 would be minor adverse short- and long-term.
Public Water Supply/ Protected Watersheds	No new acres of disturbance. No new adverse or beneficial impacts would occur under this alternative.	Approximately 1.8 acres of total new disturbance would occur in protected watersheds under this alternative, resulting in minor short- and long-term adverse effects.	Compared to Alternative 2, approximately 0.1 additional acres of disturbance would occur in protected watersheds under this alternative and could result in a minimal increase in adverse effects to protected watersheds. Effects of implementing Alternative 3 would be minor adverse short- and long-term.

Issue	Alternative 1	Alternative 2	Alternative 3
Riparian Areas	No effect to minor adverse effect. Existing use and proliferation of user-created trails could increase causing potential adverse effects to riparian areas.	Under this alternative impacts to riparian areas would occur where the trail intercepts riparian areas. No new trails would be built parallel to riparian areas, resulting in no to minor short- and long-term adverse effects to riparian areas.	Same as for Alternative 2.
Wetlands	No effect to minor adverse effect. Existing use and proliferation of user-created trails could increase causing potential adverse effects to wetland areas.	Increased use may occur and could result in minor adverse effects to wetlands located near existing trails. New trails would not be built near trails and would not introduce new sources of sediment or other pollutants.	Same as for Alternative 2.
Archaeological, Cultural, and Historic Resources	No direct effect. Indirect long-term, adverse effect due to increased user-created trails.	No adverse effect. Potential beneficial effect from increased awareness and protection of the location of any previously undocumented sites.	Same as for Alternative 2.
Fire	No effect to long-term adverse effect. The potential for increased use and additional user-created trails could result in increased risk of fire.	Minor adverse effect to beneficial effect. Increased use could result in increased risk of fire. Beneficial effects that may occur include better access to areas for fire fighting activities, established fire control line, increased speed of fire reporting, and increased firefighter safety.	Same as for Alternative 2.

Issue	Alternative 1	Alternative 2	Alternative 3
Socio-Economic Resources	Increased recreation, trail proliferation, and user-created trails are likely to occur and could result in adverse effects to socio-economic issues.	<p>Minor adverse effects may occur from:</p> <ul style="list-style-type: none"> <li>• trespassing</li> <li>• vandalism</li> <li>• conflicts between visitor users and nearby property owners</li> <li>• increased traffic, transportation, and parking</li> </ul> <p>Mitigating these effects revolve around effectively communicating trail regulations at each trailhead and access point, law enforcement and patrol.</p> <p>Beneficial effects may also occur as adjacent properties have easy, walk-in access to a regional network of trails and open space.</p>	Similar to Alternative 2. Segment 2 is all on Forest Service NFS land and therefore would have less of an effect on private property.