IV. RESTORATION PROJECT ELEMENTS

For the 10 High priority sites (both Stream and Area of Concern), additional information about existing conditions and potential restoration approaches is included as a narrative below. For the High priority stream sites (S02, S15, S17), conceptual design plans are included in Appendix G (sheets G1 through G3). Sheets G4 through G8 show typical riffle and pool cross-sections, longitudinal profiles, reference data, and planting information appropriate for these projects.

Due to changing conditions at sites following runoff events and trail/road use, it is recommended that site-specific engineering solutions be developed for each restoration project at the time of implementation to appropriately address existing conditions.

S02, Little River above Bridal Veil Falls

Approximately 1860 feet of the Little River above Bridal Veil Falls is impaired as a result of eroding streambanks, poor floodplain access, lacking vegetation, and sedimentation from adjacent trails and bare areas. For part of this reach, the Little River Trail is within the riparian buffer, and, at times, along the top of the left stream bank. Some bare areas and eroding banks do exist between the trail and River. Additionally, a large part of this reach flows through a right-of-way for a power line, resulting in poor riparian vegetation. Finally, a closed trail crosses the right-of-way, connecting the Little River Trail to private property adjacent to Bridal Veil Falls. This trail, which is severely eroding and delivering sediment to the river, is still used by hikers and bikers, despite efforts to close it. A potential restoration approach would include stabilizing eroding streambanks through grading, matting, and revegetation, as well as installation of log and boulder structures in the streambed to protect streambanks, turn flow around sharp bends, and improve in-stream habitat. The Little River Trail would be partially relocated outside of the riparian buffer, and the closed trail would be permanently closed and stabilized with ground cover.

S15, Shoal Creek

Over 2100 feet of Shoal Creek has been identified as a potential restoration project due to vertical and lateral instability, poor vegetation, trail impacts, and poor floodplain access. The Shoal Creek Trail is within the riparian buffer of Shoal Creek for much of this reach, resulting in impacts to the riparian buffer and the trail serving as a source of stormwater and sediment to the stream. Additionally, an old road appears to exist to the right of a portion of the stream, which adds to the bare areas. The stream is generally incised and entrenched, with a head cut evident at the top of the reach. While the stream is not perennial at the location of the head cut, it may continue to migrate upvalley toward the power line right-of-way. The restoration approach would not be uniform over the entire length of the stream, as conditions differ throughout the reach. The most intensive restoration would be needed near the top of the reach, with grade control structures installed to raise the streambed and stabilize the head cut. Areas with eroding banks and no floodplain would be graded to an appropriate cross-section, including a floodplain at bankfull elevation. The Shoal Creek Trail would be relocated to the east, and bare areas would be planted with appropriate vegetation.

S17, Little River at Hooker Falls Road

Between the Hooker Falls parking lot and Hooker Falls is a very heavily used footpath, Hooker Falls Road. For approximately 800 feet, the road is very near the Little River, and provides multiple opportunities for access to the river. Multiple informal footpaths have been created to connect the road to the river, resulting in bare riparian areas and impacts to vegetation and streambanks. Additionally, a large bare area exists where a natural gas line crosses perpendicularly to the river and road. The right-of-way for the gas line is covered in grass and bare soil, and provides a popular point for people to access the river. Any restoration along this 800 feet of the Little River would be heavily dependent on excluding human access from the most vulnerable streambanks. A potential approach would include moving Hooker Falls Road far enough to the north that the river could not be seen, and permanently abandoning the existing road and connecting trails. Revegetation of streambanks and the gas line right-of-way would be needed.

P06, Bridge/crossing near Little River

The Little River Trail crosses a tributary to the Little River, with both a foot bridge and ford. The stream channel at the ford is over-widened, poorly vegetated, and contains a large amount of fine sediment. The combination of a bridge and ford has resulted in an unnecessarily large impact to the bed and banks of the stream. A potential solution would include constructing a new bridge or ford, though not both. In-stream structures, such as boulder j-hooks, could be designed to provide grade control downstream of a ford, protect streambanks, and promote sediment transport. Appropriate riparian vegetation could be installed in currently bare areas.

P17, Airstrip Trail below Airstrip

The asphalt Airstrip is approximately 2.5 acres in area, and surrounded by an even larger area of maintained grass. The large amount of impervious surface serves as a major source of stormwater during precipitation events. Two inches of rainfall on the airstrip would generate approximately 125,000 gallons of stormwater runoff. This runoff would flow off the airstrip in different areas, and would not necessarily all be concentrated flow. However, an area of concentrated flow does exist to the west of the airstrip. A gully has formed as a result of stormwater runoff. This gully is visible from the Airstrip Trail, and crosses the trail at a switchback. Fixing this problem would require eliminating the source of the water by grading in the vicinity of the airstrip to promote drainage via diffuse flow to stable, vegetated areas. Additionally, stormwater best management practices (BMPs), such as bioretention areas, could be installed to promote infiltration and treatment of stormwater runoff. The existing gully is in a forested area and would likely revegetate over time if its water supply was eliminated.

P34, Triple Falls Trail along Little River

The Triple Falls Trail between Little River and the vicinity of the Triple Falls picnic shelter is wide, steep, and eroding along several hundred feet of trail. The trail contains gullies, and appears to convey water during heavy rainfall, while serving as a source of sediment to the Little River. Opportunities to relocate the trail should be considered. If the trail remains in its current location, BMPs appropriate for steep gravel roads should be implemented.

P42, Stone Mountain Trail

The Stone Mountain Trail, along much of its length, is steep and severely eroding. The trail bed conveys water during heavy rainfall and serves as a major source of sediment to a stream it crosses, a tributary to Jim Creek. One option for water quality improvement is to properly abandon the trail and restore vegetation and ground cover to eroded areas. If the trail remains in use, improvements should be made to reduce sedimentation, such as the installation of switchbacks, water bars, sediment traps, and broad-based dips.

P44, Stream at Switchback Trail

A large hole exists adjacent to the Switchback Trail at a stream crossing. During heavy rainfall events, water flows across the trail and drops several feet vertically over a head cut. The Switchback Trail could be re-routed to the north to avoid this location. The existing hole will likely continue to grow in size and serve as a sediment source, as the head cut slowly migrates upvalley. A potential solution includes stabilizing the area through grading and installation of boulder grade control structures, coarse rock backfill, and appropriate deep-rooted vegetation.

P48, Fawn Lake

The shoreline of Fawn Lake appears to be a popular spot for swimming and picnicking. The portion of the shoreline used for water access is covered with grass and bare dirt. This serves as a sediment source to lake during times of rainfall or heavy human access. Restricting access to a smaller area, while restoring native vegetation to a portion of the shoreline, could reduce sedimentation to the lake. The remaining area designated for lake access could be planted and maintained with a thick stand of grass, potentially combined with hardscaping elements such as geogrid, concrete pavers, and terraces.

P49, Power lines at Fawn Lake Road

To the east of the Fawn Lake parking area, Fawn Lake Road crosses under power lines. On the north side of the road is a tall, steep bank that is actively eroding. Fine sediment from this bank is conveyed by a roadside swale to a nearby waterway. This area of upland erosion could be improved by grading the road bank to a stable slope and planting vegetation appropriate for under a power line. The roadside swale could be regraded to remove existing sediment and provide a trap for future sediment.