

Appendix B: Realigned Trails

Sections of existing trails, including internal Cabin Camp trails, with moderate or severe erosion and other condition problems (i.e., poor drainage, steep slope/terrain, and proximity to stream) as identified by Prince William Forest Park (PRWI) staff would be closed and realigned (see **Figure 1** and **Figure 2**). PRWI staff also identified existing trail sections that are priority for realignment (see **Figure 3**). **Table 1** identifies these trail sections and provides their approximate length and existing condition. All lengths in **Table 1** are approximate. Existing erosion condition and noted design issues were identified by PRWI staff.

Overall, realigned trails would be designed, constructed, and maintained according to the methodology, guidance, and design parameters described in **Appendix A**. **Table 1** provides additional potential treatment for the realignment of the priority trail sections.

Note that **Figure 1** through **Figure 3** do not show sections of existing internal Cabin Camp trails that suffer from moderate or severe erosion or other condition problems. The “Avoidance Area,” as described in **Appendix A**, is only shown for within PRWI on these figures.

Table 1: Priority Existing Trail Sections for Realignment

Trail Section	Approximate Length	Existing Condition and Potential Treatment
North Valley Trail north of Lake One Road	3,600 feet	<p>Approximately 900 feet of the trail closest to Lake One Road is moderately or severely eroded. This specific trail section traverses directly downhill/uphill (i.e., perpendicular to topographic contour lines). The trail also crosses Quantico Creek and riverine wetlands. A majority of the trail is within 50 feet of Quantico Creek and riverine wetlands.</p> <p>Potential Treatment:</p> <ul style="list-style-type: none"> ▪ Realign trail section currently closest to Lake One Road along sideslopes (i.e., following topographic contour lines) and use switchbacks where appropriate ▪ Improve Quantico Creek and riverine wetland crossings in accordance with NPS Director’s Order #77-1: Wetland Protection ▪ Realign trail sections currently near Quantico Creek and riverine wetlands at least 50 feet from Quantico Creek banks and riverine wetlands ▪ Realign and design trail in a manner that is consistent with the <i>Secretary of the Interior’s Standards for the Treatment of Historic Properties</i>
Birch Bluff Trail downhill from the Cannon/Reid Cemetery access trail	3,000 feet	<p>Approximately 1,100 feet of the trail is moderately or severely eroded. Some trail sections traverse directly downhill/uphill (i.e., perpendicular to topographic contour lines). Design issues include poor drainage (2,900 feet) and steep slope/terrain (120 feet). The trail also traverses near archeological sites.</p> <p>Potential Treatment:</p> <ul style="list-style-type: none"> ▪ Realign trail sections currently closest to Quantico Creek along sideslopes (i.e., following topographic contour lines) ▪ Construct frequent grade reversals and outslope trail tread to improve drainage

Trail Section	Approximate Length	Existing Condition and Potential Treatment
Birch Bluff Trail downhill from the Cannon/Reid Cemetery access trail (<i>continued</i>)		<p>Potential Treatment (<i>continued</i>):</p> <ul style="list-style-type: none"> Use knicks, rolling grade dips, and/or waterbars to improve drainage. If using waterbars, install waterbars at correct angle to prevent clogging. Avoid waterbars on slopes greater than 20 percent. Realign trail sections near archeological sites at least 33 feet from the sites
Little Run Loop from Taylor Farm Road to High Meadows Trail (both sides of loop trail)	2,100 feet	<p>The eastern section of the trail is within 50 feet of a perennial stream and crosses riverine wetlands. Some trail sections traverse directly downhill/uphill (i.e., perpendicular to topographic contour lines).</p> <p>Potential Treatment:</p> <ul style="list-style-type: none"> Improve riverine wetland crossings in accordance with NPS Director's Order #77-1: Wetland Protection Realign eastern trail sections at least 50 feet from the stream banks and riverine wetlands Realign trail sections currently traversing directly downhill/uphill along sideslopes (i.e., following topographic contour lines) and where appropriate, use switchbacks or consider use of steps to quickly gain elevation in a short distance
High Meadows Trail from the South Valley Trail junction to ¼-mile north of junction	1,400 feet	<p>Approximately 500 feet of the trail, including the section closest to the South Valley Trail junction, is moderately or severely eroded. These specific trail sections traverse directly downhill/uphill (i.e., perpendicular to topographic contour lines). Design issues include poor drainage (600 feet) and steep slope/terrain (690 feet). The northern end of the trail section also crosses a riverine wetland. The trail also traverses through an archeological site.</p> <p>Potential Treatment:</p> <ul style="list-style-type: none"> Realign trail sections currently traversing directly downhill/uphill along sideslopes (i.e., following topographic contour lines) and where appropriate, use switchbacks or consider use of steps to quickly gain elevation in a short distance Construct frequent grade reversals and outslope trail tread to improve drainage Use knicks, rolling grade dips, and/or waterbars to improve drainage. If using waterbars, install waterbars at correct angle to prevent clogging. Avoid waterbars on slopes greater than 20 percent. Improve riverine wetland crossing in accordance with NPS Director's Order #77-1: Wetland Protection Realign trail sections within and near archeological sites at least 33 feet from the sites

Trail Section	Approximate Length	Existing Condition and Potential Treatment
High Meadows Trail from the South Valley Trail junction to ¼-mile north of junction (<i>continued</i>)		Potential Treatment (<i>continued</i>): <ul style="list-style-type: none"> Realign and design trail in a manner that is consistent with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i>
Trail from Parking Lot C to the South Valley Trail	670 feet	<p>Most of the trail (580 feet) is moderately eroded. Design issues include poor drainage (370 feet) and steep slope/terrain (300 feet). The western end of the trail is within 50 feet of South Fork Quantico Creek and a riverine wetland.</p> <p>Potential Treatment:</p> <ul style="list-style-type: none"> Realign trail sections along sideslopes (i.e., following topographic contour lines) and where appropriate, use switchbacks or consider use of steps to quickly gain elevation in a short distance Construct frequent grade reversals and outslope trail tread to improve drainage Use knicks, rolling grade dips, and/or waterbars to improve drainage. If using waterbars, install waterbars at correct angle to prevent clogging. Avoid waterbars on slopes greater than 20 percent. Realign trail sections currently near South Fork Quantico Creek and riverine wetlands at least 50 feet from South Fork Quantico Creek banks and riverine wetlands
Quantico Cascades Trail between the North Valley Trail junction and Quantico Creek	1,300 feet	<p>The eastern end of the trail is within 50 feet of Quantico Creek and traverses through riverine wetlands. Approximately one-half of the trail length traverses directly downhill/uphill (i.e., perpendicular to topographic contour lines). A design issue includes steep slope/terrain (330 feet).</p> <p>Potential Treatment:</p> <ul style="list-style-type: none"> Realign trail sections currently near Quantico Creek and riverine wetlands at least 50 feet from Quantico Creek banks and riverine wetlands Realign trail sections currently traversing directly downhill/uphill along sideslopes (i.e., following topographic contour lines) and use switchbacks or consider use of steps to quickly gain elevation in a short distance Realign and design trail in a manner that is consistent with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i>
South Valley Trail in close proximity east of junction with High Meadows Trail	850 feet	<p>Approximately 290 feet of the trail closest to the High Meadows Trail junction is moderately or severely eroded. Design issues include poor drainage (680 feet), steep slope/terrain (115 feet), and proximity to a stream (50 feet). A short section of the trail traverses through slopes greater than 50 percent. The trail section closest to the High Meadows junction also traverses through an archeological site.</p>

Trail Section	Approximate Length	Existing Condition and Potential Treatment
South Valley Trail in close proximity east of junction with High Meadows Trail (continued)		Potential Treatment: <ul style="list-style-type: none"> Construct frequent grade reversals and outslope trail tread to improve drainage Use knicks, rolling grade dips, and/or waterbars to improve drainage. If using waterbars, install waterbars at correct angle to prevent clogging. Avoid waterbars on slopes greater than 20 percent. Realign trail sections currently on slopes greater than 50 percent Realign trail sections within and near archeological sites at least 33 feet from the sites Realign and design trail in a manner that is consistent with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i>
South Valley Trail between Pyrite Mine area and North Orenda Road	3,900 feet	<p>Approximately 630 feet of the trail is moderately or severely eroded. A short section of the trail traverses through slopes greater than 50 percent.</p> <p>A majority of the trail is within 50 feet of Quantico Creek and riverine wetlands. Design issues include steep slope/terrain (1,300 feet) and proximity to a stream (2,400 feet). The trail also traverses near archeological sites.</p> Potential Treatment: <ul style="list-style-type: none"> Realign steep trail sections along sideslopes (i.e., following topographic contour lines) and where appropriate, use switchbacks or climbing turns Realign trail sections currently on slopes greater than 50 percent Realign trail sections currently near Quantico Creek and riverine wetlands at least 50 feet from Quantico Creek banks and riverine wetlands Realign trail sections near archeological sites at least 33 feet from the sites Realign and design trail in a manner that is consistent with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i>
Turkey Run Ridge Trail from South Valley Trail junction to 1/8-mile north of junction	630 feet	<p>The entire trail is moderately eroded. Part of the trail traverses directly downhill/uphill (i.e., perpendicular to topographic contour lines). Design issues include poor drainage (580 feet) and steep slope/terrain (60 feet). The trail junction is within 50 feet of South Fork Quantico Creek and riverine wetlands.</p> Potential Treatment: <ul style="list-style-type: none"> Realign trail sections currently traversing directly downhill/uphill along sideslopes (i.e., following topographic contour lines) and where appropriate, use climbing turns

Trail Section	Approximate Length	Existing Condition and Potential Treatment
Turkey Run Ridge Trail from South Valley Trail junction to 1/8-mile north of junction (<i>continued</i>)		<p>Potential Treatment (<i>continued</i>):</p> <ul style="list-style-type: none"> Construct frequent grade reversals and outslope trail tread to improve drainage Use knicks, rolling grade dips, and/or waterbars to improve drainage. If using waterbars, install waterbars at correct angle to prevent clogging. Avoid waterbars on slopes greater than 20 percent. Realign trail sections currently near South Fork Quantico Creek and riverine wetlands at least 50 feet from South Fork Quantico Creek banks and riverine wetlands
Access trail from Cabin Camp 4 A-Unit to Lake 4	500 feet	<p>Approximately 370 feet of the trail is moderately or severely eroded. A majority of the trail traverses directly downhill/uphill (i.e., perpendicular to topographic contour lines). The southern end of the trail is within 50 feet of a freshwater pond wetland. Design issues include steep slope/terrain (230 feet) and proximity to a stream (65 feet).</p> <p>Potential Treatment:</p> <ul style="list-style-type: none"> Realign trail sections currently traversing directly downhill/uphill along sideslopes (i.e., following topographic contour lines) and use switchbacks or consider use of steps to quickly gain elevation in a short distance Realign and design trail in a manner that is consistent with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i>
South Valley Trail, mid-point between Parking Lot C and Parking Lot I	2,700 feet	<p>Approximately 1,700 feet of the trail is moderately or severely eroded. Part of the trail traverses directly downhill/uphill (i.e., perpendicular to topographic contour lines). Some sections of the trail within riverine wetlands and/or within 50 feet of South Fork Quantico Creek. Design issues include steep slope/terrain (1,700 feet) and proximity to a stream (1,000 feet).</p> <p>Potential Treatment:</p> <ul style="list-style-type: none"> Realign trail sections currently traversing directly downhill/uphill along sideslopes (i.e., following topographic contour lines) and where appropriate, use switchbacks or consider use of steps to quickly gain elevation in a short distance Realign trail sections currently near South Fork Quantico Creek and riverine wetlands at least 50 feet from South Fork Quantico Creek banks and riverine wetlands Realign and design trail in a manner that is consistent with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i>

Trail Section	Approximate Length	Existing Condition and Potential Treatment
Muschette Trail	1,100 feet	<p>The trail traverses through an archeological site. The trail's location and current design is causing known impacts on archeological resources. Design issues include steep slope/terrain. Some trail sections traverse directly downhill/uphill (i.e., perpendicular to topographic contour lines).</p> <p>Potential Treatment:</p> <ul style="list-style-type: none"> ▪ Realign trail sections in archeological sites at least 33 feet from the sites ▪ Use wood chips, landscape fabric, or other methods to cover exposed archeological resources ▪ Manage archeological resource impacts in accordance with NPS policies ▪ Realign trail sections currently traversing directly downhill/uphill and steep trail sections along sideslopes (i.e., following topographic contour lines) and where appropriate, use climbing turns and switchbacks

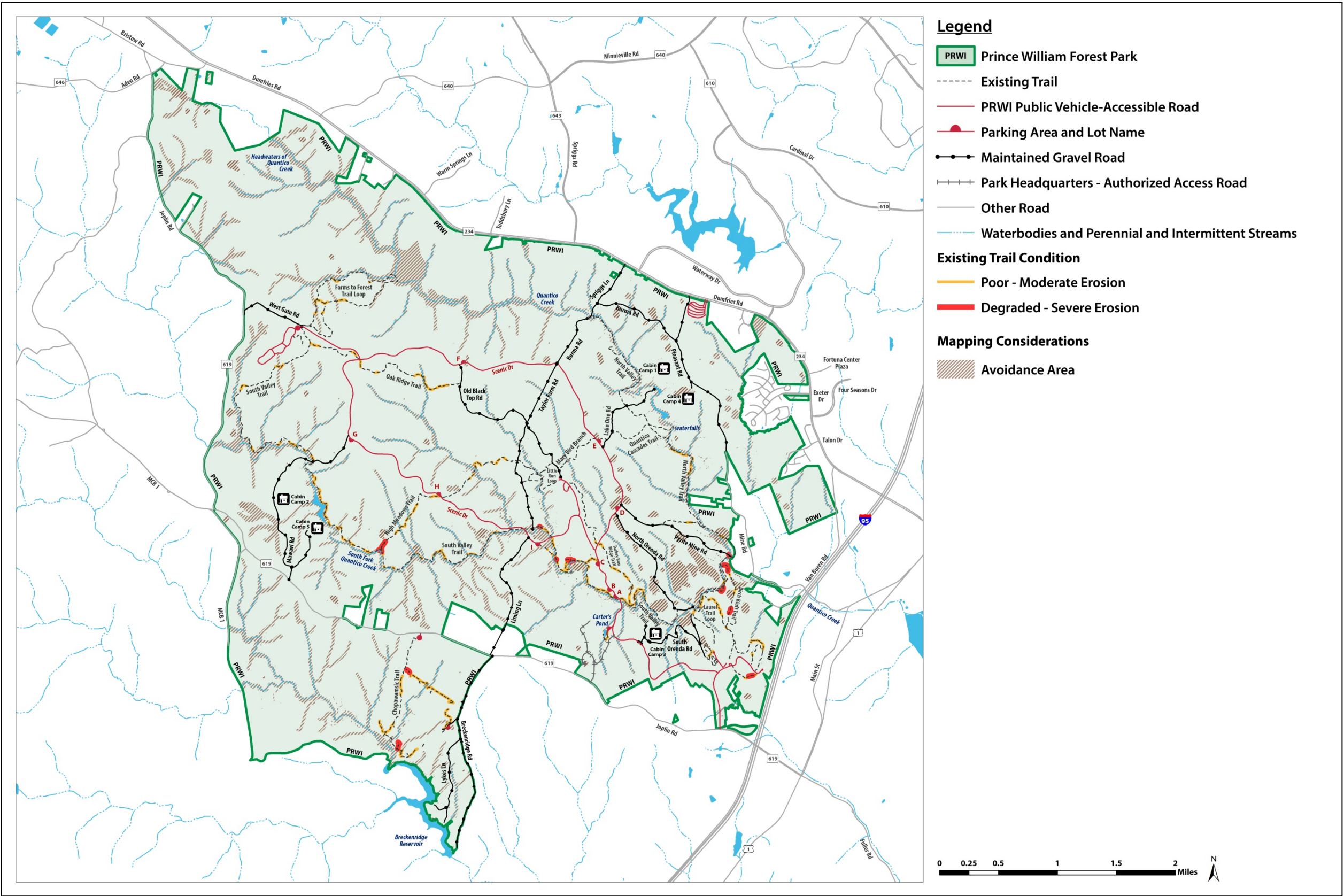


Figure 1: Existing Trails with Moderate and Severe Erosion

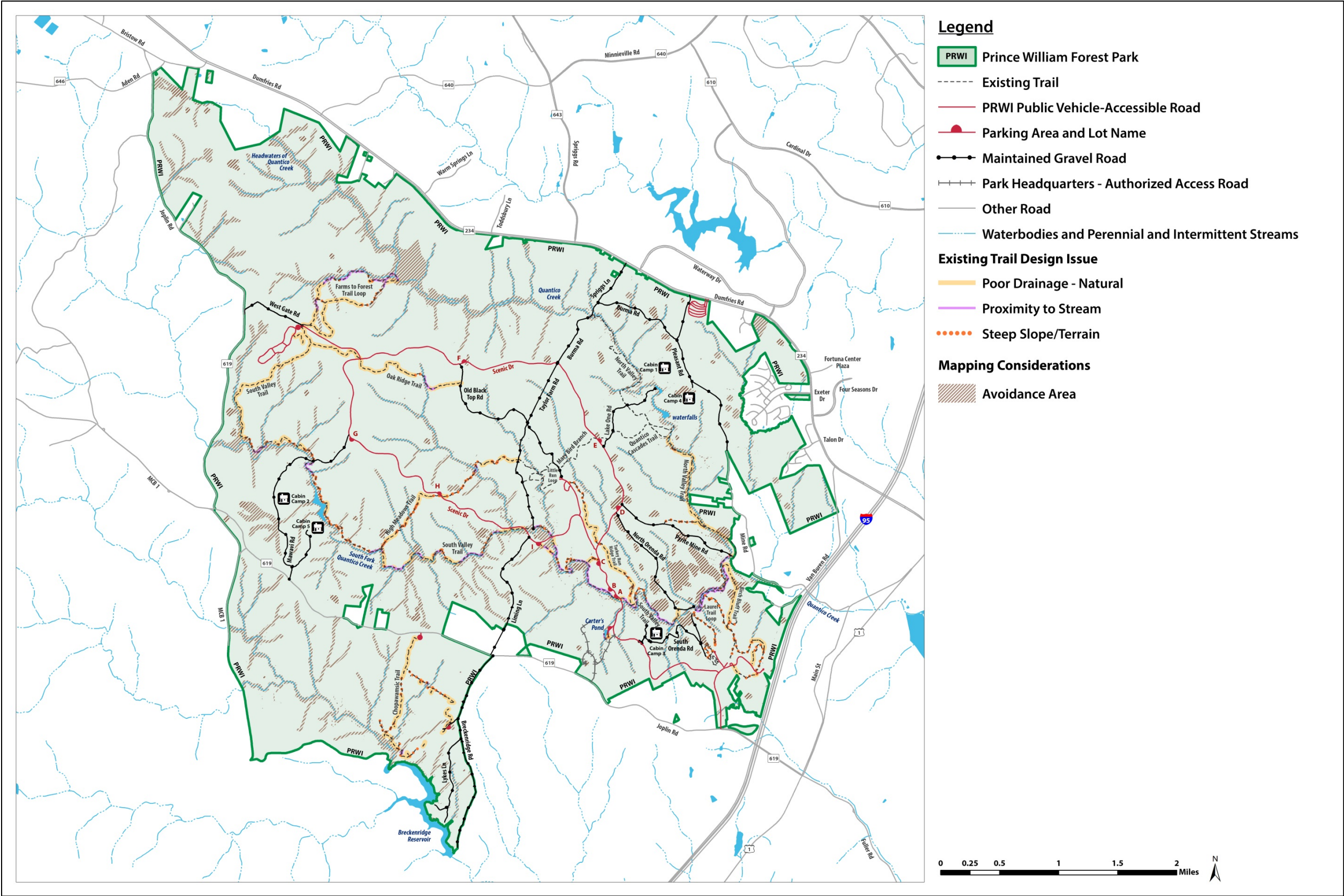


Figure 2: Existing Trails with Design Issues

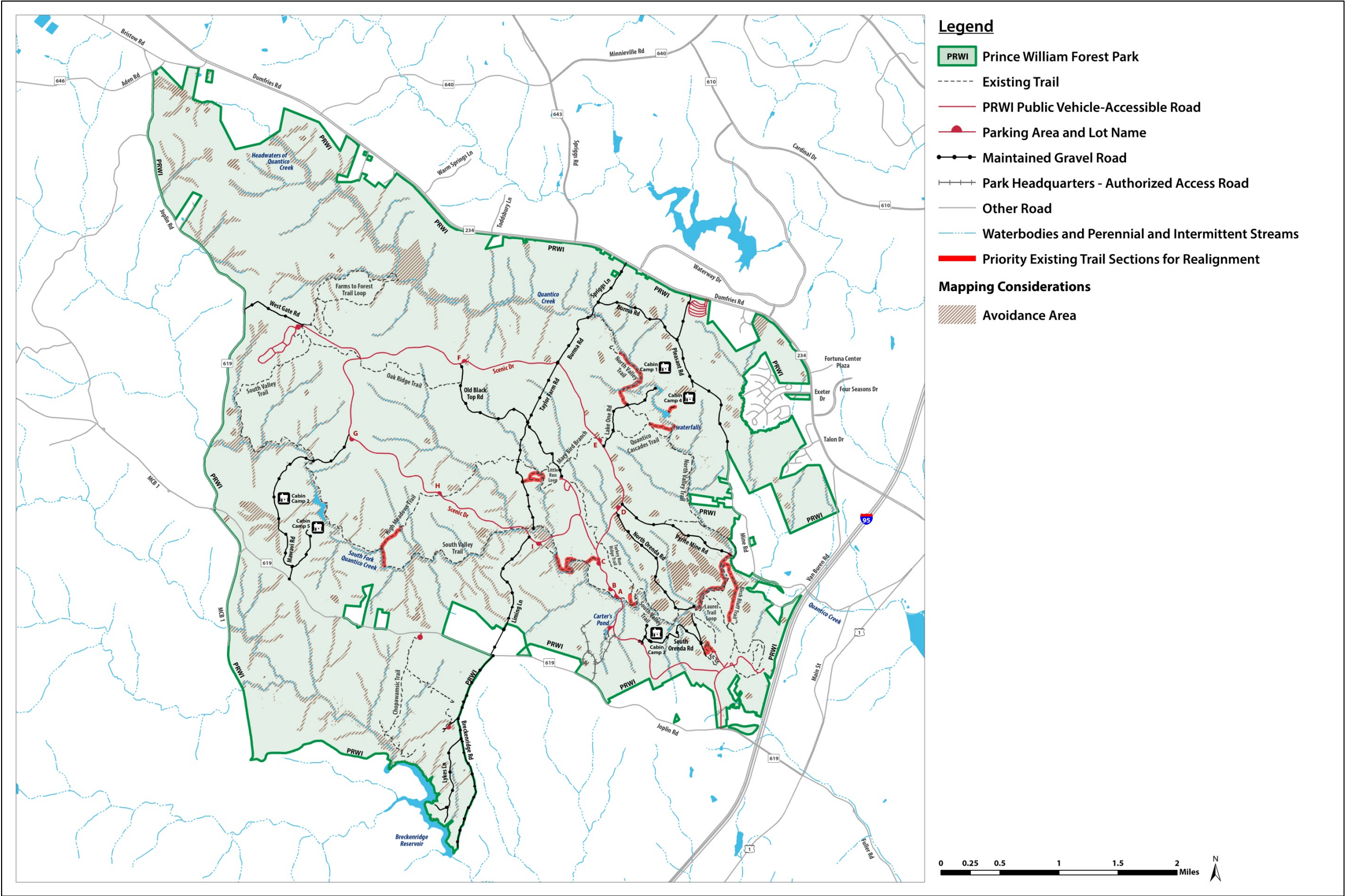


Figure 3: Priority Existing Trail Sections for Realignment