

## 4.0 AVOIDANCE AND MINIMIZATION

Once the site was selected, Twin Pines Minerals with its consultant, TTL, met to begin the design and permitting process. The team considered layout options that minimized impacts to aquatic resources, but also avoided/minimized impacts to threatened and endangered species.

Appendix B shows the general design of the proposed mining activity including plan and profile drawings. Impacts to some aquatic resources were avoided by locating the project’s facilities away from the higher quality wetlands.

Additionally, to avoid impacts to historic resource 5, identified offsite and adjacent to the southeastern portion of the Adirondack property, the proposed mining limits were adjusted northwestward to the northwestern side of Stream S3. This maintains a forested stream corridor between the proposed mining operation and the historic resource. The first mining block of the proposed project will permanently impact 84.706 acres of wetlands, and 2,197 linear feet of intermittent stream. The first mining block of the proposed project will temporarily impact 502.689 acres of wetlands. Figure 4.1a provides a map depicting the locations of the proposed impact areas for the applicant’s preferred alternative. The tables below summarize the avoided features.

**Table 8: Wetland Avoidance Summary**

Property	Wetland ID	Area (ac)	Avoided Area(ac)
Adirondack	WA	105.552	42.375
Adirondack	WB	7.430	0.000
Adirondack	WC	2.555	0.000
Adirondack	WD	10.327	0.568
Adirondack	WE	4.233	0.000
Adirondack	WF	4.055	0.000
Adirondack	WG	5.544	5.544
Adirondack	WH	3.180	0.000
Keystone	WA-1	58.667	0.006
Keystone	WA-2	153.254	0.518
Keystone	WA-3	103.653	0.685
Keystone	WA-4	19.097	0.000
Keystone	WA-5	5.162	0.002
Keystone	WA-6	28.786	0.000
Keystone	WA-7	11.596	0.000
Keystone	WB	2.194	0.458
Keystone	WC	0.957	0.423
Keystone	WD	6.323	0.120
Keystone	WF	0.704	0.000
Keystone	WG	5.970	0.307
Keystone	WH	14.141	0.730
Keystone	WI	6.068	6.068
Keystone	WJ	1.071	1.071
Keystone	WK	0.412	0.002
TIAA	WB	0.439	0.422
TIAA	WC	639.860	554.889
	<b>TOTAL</b>	<b>1201.230</b>	<b>614.188</b>