

**Technical Committee Recommendation
Mill Creek Well Site #3 Proposal
June 2016**

Assignment: Review the proposed Millcreek replacement well site locations and make a biological recommendation.

Background:

The Millcreek area within the Red Cliffs Desert Reserve (Reserve) currently has two well site locations at the north end of Millcreek road. A third well site was located NE of well site #2 but removed (~ 1990-1991) prior to the creation of the Red Cliffs Desert Reserve and the Cottonwood Canyon Wilderness Area. The City of St. George is requesting to again add a third well site location with two proposed alternative locations; the first alternative, referred to as MC#3A, is located immediately east of the existing Millcreek road and the second, referred to as MC#3B, is 562 L.F. (16,860 sq ft or 0.39 acres) west of the Millcreek road, across the Washington Hollow Wash. The City of St. George prefers MC#3B because 1) it is a more open and therefore easier to work in and 2) it is slightly farther from existing well site MC#2.

The proposed well site locations are on State Institutional Trust Lands Administration and there is no federal nexus.

TC Recommendation:

Both proposed well sites occur in excellent desert tortoise habitat. The TC carefully considered each proposal to help determine which site might best minimize impacts and threats to the tortoise and its habitat. The Utility Development Protocols states that the Reserve “will be considered an avoidance area for the location of new utilities. This means that new utilities will be encouraged to co-locate along existing infrastructure when practical.”

To minimize impacts to tortoises and their habitat, follow the intent of the UDP, to reduce fragmentation, and to maintain the integrity of the Reserve, the TC unanimously recommended proposed site MC#3A. A more in-depth comparison of each proposed site follows:

1. Loss of desert tortoise habitat:

Because the site is adjacent to the existing Millcreek road, MC#3A would impact less desert habitat and result in less take of desert tortoise habitat. Proposed site MC#3B would require extending the road, waterline and powerline 562 L.F. across Washington Hollow wash (utility corridor would have a 30 ft. right-of-way). Total take of desert tortoise habitat at MC#3A is estimated at 0.41 acre

(17,763 sq ft well site) while total take at MC#3B is estimated at 0.80 acres (16,860 sq ft for road + 17,763 sq ft for well site).

2. Fragmentation/ Reserve Integrity

Proposed MC#3A is located along an existing dirt road indentified as an R3 road on the Utility Development map. Further, the terrain at MC#3A would concentrate impacts close to the road and along existing infrastructure. Locating the well site along existing infrastructure would reduce fragmentation and maintain Reserve integrity. In contrast, the proposed MC#3B site is not located along an existing utility corridor resulting in greater fragmentation.

3. Wash Impacts

The proposed MC#3A site would not require crossing a wash. Proposed site MC#3B would require crossing the Washington Hollow Wash and laying concrete on the wash bottom to stabilize the road and reduce erosion. A stream alteration permit may be necessary.

4. Road extension/Utility extension

Proposed site MC#3A would not require an extension of the road, waterline or powerline. Proposed site MC#3B would require constructing a road with a 30 ft. easement and installing underground power and water lines. The road would be extended 562 L.F. for a total additional impact of 16,860 sq ft (562 ft x 30 ft) or 0.39 acres. Roads may act as corridors for dispersal of invasive plants and predators, degrade habitat through soil erosion and desertification, and increase the potential for tortoise roadkills.

Table. Comparison of major issues between the two Millcreek proposed sites within the Red Cliffs Desert Reserve.

Impacts	Proposed Locations	
	MC #3A	MC #3B
Direct Habitat Impacted	Permanent loss of 0.41 acres of desert tortoise habitat	Permanent loss of 0.80 acres of desert tortoise habitat. This includes the 0.41 acres for well site and 0.39 acres for road extension.
Fragmentation	Impacts located along existing infrastructure	Increase fragmentation and reduce Reserve integrity.
Wash Impacts	No impact on wash	Substantial impacts; wash would be lined with concrete to reduce erosion on road through wash. Stream alternation permit may be necessary.
Road Extension	No road extension	Road extension would

	result in 0.39 acres of permanent loss of habitat. Continual maintenance of road would be required.
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