



July 8, 2011

Mr. Carl Anderson, Ph.D.
Administrator
Solid and Hazardous Waste Division
Wyoming Department of Environmental Quality
152 N. Durbin Street Suite 100
Casper, WY 82601

Re: WDEQ Director's Decision Requiring Further Investigation
City of Sheridan Proposed MSW and C&D Landfill Expansion Variance Request
Burns & McDonnell Project No. 49341
WDEQ SHWD File #10.526

Dear Mr. Anderson:

On behalf of the City of Sheridan, Wyoming, Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) is pleased to provide this response to the March 23, 2011 Wyoming Department of Environmental Quality's (WDEQ) letter regarding the proposed municipal solid waste (MSW) and construction and demolition (C&D) landfill expansion variance request. The Final Variance Request for the Proposed MSW and C&D Landfill Expansion (Variance) was submitted to WDEQ on January 3, 2011.

The March 23, 2011 WDEQ letter requested the City conduct a more detailed investigation of alternative landfill locations within a reasonable distance of the City. As part of this investigation, the County Constraints maps in the Variance (Appendix J) were modified to reflect a 2-mile seasonal buffer zone for Greater Sage-Grouse leks and the exclusion of coal bed methane (CBM) wells from the water well restriction map. The revised maps are included in Attachment A of this letter.

Areas that are unconstrained by WDEQ site location restriction criteria are generally located west of the City in the foothills of the Big Horn Mountains and several scattered areas east of the City. Wyoming Solid Waste Rules (WSWR) Chapter 2 Section 3 - Location Standards for wetlands, National Historic Preservation Act, Endangered Species Act, big game winter range breeding grounds, and hydrogeologic conditions were not evaluated when developing the constraints maps in Attachment A due to the site-specific nature of these limitations. These location standards may further eliminate the areas shown as unconstrained in the Appendix A maps.

The additional information contained herein affirms the City has fulfilled the requirements of the Wyoming Solid Waste Rules Chapter 1, Section 2(i)(ii)(A). As WDEQ is aware, landfill siting, investigation, permitting, and construction is a lengthy, multi-year process. The City has proactively approached this process. The City's current landfill is estimated to reach capacity in 2019. Action is imperative, and by prolonging the variance ruling, the City's ability to best serve its citizens is impaired. Burns & McDonnell and the City of Sheridan again ask the WDEQ make a favorable decision on the proposed MSW and C&D landfill expansion variance request.

It is unknown if any of the unconstrained property, whether it be state land parcels or private land, could readily overcome obstacles such as potential public/environmental group/surrounding land owner

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opposition, landowners who may not agree to sell their land for landfill use, distance from transportation and utility infrastructure, unfavorable topography consisting of high topographic relief, CBM well purchase and abandonment, and unknown subsurface conditions.

The WDEQ constraint maps in Attachment A were further refined to account for soil suitability, which from a practicality standpoint is a key factor when siting a landfill. To further refine the alternative landfill location search, the soil suitability for sanitary landfill facilities was mapped using the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>) for Sheridan County. Soil types designated as “very limited” or “somewhat limited” for sanitary landfill development by the USDA-NRCS Web Soil Survey are shown in Attachment B. Also included in Attachment B is a revised Sheridan County map showing areas that are not excluded by WDEQ restrictions or USDA-NRCS soil constraints.

The geologic and hydrologic suitability of any site other than the proposed expansion area is unknown and is not accounted for in the USDA-NRCS Web Soil Survey results discussed above. The City has invested significantly and wisely in the historical detailed environmental investigations at the existing and proposed sites. These investigations have resulted in a detailed understanding of the site and the natural physical and chemical processes associated with the landfills in the natural environment. The original City landfill, which began operation in the 1940’s, has been monitored and investigated in detail. These investigations have demonstrated that waste in place for approximately sixty years has resulted in relatively minor environmental impacts limited to an area immediately adjacent to the landfill footprint only. The modern landfill engineering practices of today will protect the environment.

Assuming another site could be identified within the County that would meet all of the WDEQ location restrictions, is suitable and practical for development, and faces development opposition that is ultimately overcome, a new site would require land purchase, a more extensive permitting and design effort due to a complete subsurface exploration and full site layout and design, mass earthwork activities due to irregular topography, and the construction of landfill, transportation, and utility infrastructure.

Developing a new landfill in a location other than the site proposed by the City of Sheridan would significantly increase capital development costs, putting undue burden on rate payers. Assuming site acquisition, extensive site characterization, development of a new WDEQ solid waste permit, MSW and C&D landfill construction, new landfill buildings, such as a scalehouse and maintenance building, and utility and transportation infrastructure, a new site at another location could feasibility cost between \$12 million to \$15 million. If the City is required by WDEQ to pursue a new site, tipping fees have the potential to increase \$30 to \$40 per ton more than tipping fees if the proposed expansion area were developed.

Access is limited to nearly all locations shown as unconstrained in the figures in Attachment B due to the sites’ significant distances from developed roadways. Access road improvement is a significant cost that would be avoided by developing the proposed site. According to recent road project bids received by the City, the base course and asphalt that would be required for transportation from a developed roadway to

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the new landfill ranges from \$45 to \$55 per square yard. One mile of roadway to a new site would cost \$792,000 to \$968,000. This cost excludes roadway mass earthwork, final grading, drainage considerations, and design and construction administration. Road improvements alone could represent more than one million dollars in development costs that rate payers would be forced to bare.

The cost of waste disposal depends on the distance the waste must be hauled from the waste generators (citizens) to the landfill. The proposed landfills' physical location is desirable because it is within a reasonable proximity to the customers who use it. The proposed landfill development will enable the ratepayers to benefit from the avoided costs associated with remote landfill hauling. As shown in Attachment C, hauling has the potential to significantly impact the landfill tipping fee. A haul distance of 10 miles adds over \$4 per ton to the landfill tipping fee. If required to haul 20 miles, the tipping fee is estimated to increase by more than \$6 per ton.

The municipal wastewater rates may also be affected if the variance is not allowed because the wastewater treatment plant sludge is hauled to the landfill for composting purposes. Numerous citizens utilize the compost produced at the landfill and these customers enjoy the close proximity of the landfill to the City.

Burns & McDonnell has learned through correspondence with WDEQ staff that WDEQ has identified an area southeast of the existing landfill that WDEQ feels may be suitable for landfill development. The property is currently owned by the State of Wyoming and is located in Township 55N Range 83W. This site was considered for future development, but excluded for the reasons discussed below. The following discussion is typical for other areas that look to be available on the figures in Attachment B.

On April 26, 2011, Burns & McDonnell contacted Dave Fuller at the Wyoming Office of State Lands & Investments (OSLI). According to Mr. Fuller, state land procurement is a multi-step process. If, after a rigorous and lengthy review process, the land is released for sale, the land is appraised according to its highest and best use. The land would then be sold at a public auction to the highest bidder. To Mr. Fuller's knowledge, state land has never been sold for the purpose of landfill development.

On paper, the tract of land identified by WDEQ appears to have great potential for landfill development. However, as with any potential landfill development area noted above, there are several environmental, public, and political factors that should be considered prior to concluding that this tract warrants additional study for landfill development. Some of these factors include:

- According to Mr. Fuller, this land is heavily used by the public for recreation. Purchasing this land and developing a landfill would remove a large area open to all members of the public for enjoyment of the great outdoors. According to Mr. Fuller, current use is taken into account when the application for sale is internally reviewed, and properties that are highly utilized by the public are less likely to be approved for sale.
- The area is picturesque. Landfill development on this site would potentially compromise the scenic quality of the landscape during the development life.

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- Landfill development on the land could potentially reduce the property value of the surrounding state land. Mr. Fuller indicated that this would be a consideration during the review process, and it has the potential to negatively influence the review process.
- A portion of the area is used for livestock grazing. Livestock would be displaced, and rancher objection is likely.
- Development may fragment wildlife habitat and displace local wildlife populations.
- Opposition from environmental and recreational groups is foreseeable.
- Recommendation for sale by the OSLI is not a guarantee.
- The land will be appraised for its highest and best use, which is likely not for waste disposal. Depending on the identified highest and best use, this could be very cost prohibitive for the City.
- As shown on the location restriction maps in Attachment A, the area has CBM wells on the property. A logical landfill layout and associated operations would likely impact these wells, and the City would be required to purchase and abandon several wells. Well purchase and abandonments would increase the cost of landfill development at this location.
- The area identified by WDEQ consists of a series of buttes. This topography is not suitable for landfill development. Extensive earthwork activities would be required, and landfill development may not be possible due to soil quality and quantity restrictions.
- As shown on the USDA-NRCS Web Soil Survey map in Attachment B, the core development area is classified as very limited for landfill development.
- Mr. Fuller indicated that trespassing has been an on-going issue on this land. Due to the recreational allure of the property, trespassing would be difficult to halt.
- Current transportation infrastructure may not be able to support landfill operations. Significant improvements would be required. The City (i.e. solid waste users) would bear the burden of this cost.
- Other utility infrastructure is not available.

The proposed MSW and C&D expansion area variance request has been met with opposition from a few surrounding landowners. The City recognizes and sympathizes with the personal and emotional charge behind the opposition, but also understands the high likelihood of equal or greater opposition to any proposed alternate landfill location. While an effective governmental body must be aware of its citizens concerns, it also is mandated by the same citizens and the State of Wyoming to provide for the health, safety and welfare of its residents. The City cannot respond to opposition to this project by ceasing its efforts on the proposed landfill expansion, rather it must respond to the community's current and future needs to determine, develop, and install effective methods of waste disposal and treatment in a manner that is both environmentally and cost effective.

As such, there is oftentimes no good answer when it comes to landfill siting and the City acknowledges that some governmental problems are difficult to solve and inevitably require making a tough decision where minority opposition may not be satisfied. Over the past 10 years, the City has extensively evaluated its future landfill options through historical studies, the Sheridan Solid Waste Management Plan (2001), the Integrated Solid Waste Planning (ISWMP) process (2009), and the Variance Request. The proposed landfill expansion, which is adjacent to the existing landfill, has been identified in these

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planning documents as clearly best for the community as a whole. The City has an affirmative responsibility to act in the best interest of its citizens. The Variance Request fulfills that obligation for both City and County residents.

Any other landfill development represents an undue burden on the City of Sheridan and the Sheridan solid waste rate payers. No other site possesses the current positive attributes, including the benefits of long term municipal planning, reasonable proximity to users, preferred cost, and a long term history of environmental protection. The proposed site development is an opportunity for the City of Sheridan and Sheridan County to enjoy an environmentally sound disposal site.

The City of Sheridan understands WDEQ variance criteria does not include the consideration of landfill development and operational cost, however, the City of Sheridan cannot ignore cost considerations in the execution of its duty to citizens. The City of Sheridan does not believe the significant costs associated with the unnecessary pursuit and development of an alternate site should be unfairly forced by the WDEQ upon the citizens of Sheridan and Sheridan County. The City of Sheridan has planned for this landfill development for over a decade and the proposed site is clearly the best choice for the City of Sheridan and Sheridan County.

The legislative intent behind the entire subset of variance rules is clear. The WDEQ and the State Legislature understood that certain facilities could not meet the inherently conservative state-wide landfill location restriction criteria, even though said facilities may be technically, environmentally, politically, and socially sound. The City understands the WDEQ must ethically explore all possibilities for this Variance request and also is faced with the same balancing requirements imposed upon the City of Sheridan, which include acknowledging concerns posed by surrounding landowners and hearing the opinions of City residents all while following the State's inherent mandate to ensure that political subdivisions and private entities interpret and follow state regulations accurately and in the manner intended by the WDEQ and state legislature for the good of the citizens of this State.

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In a highly technical and complicated task such as landfill permitting, this investigation and evaluation process is not taken lightly, nor in a vacuum, however, a government is charged with making the final decision for its citizens. The City of Sheridan must expand its landfill operations to meet community needs and must do so in the least intrusive manner for those same community members, both financially and physically. While the WDEQ is charged with overseeing this process, the City respectfully requests that your organization appreciate the City's diligent efforts to meet the specific requirements of its residents. To that end, the City provides this correspondence and supporting data to your organization for its consideration, and most importantly, to assist the WDEQ in reaching the clear conclusion that the proposed site is the best selection for this project. We look forward to your decision.

Sincerely,



Handwritten signature of Brandy S. Kean in blue ink.

Brandy S. Kean
Project Manager

Christopher J. Snider, PE, RG
Associate

BSK/CJS

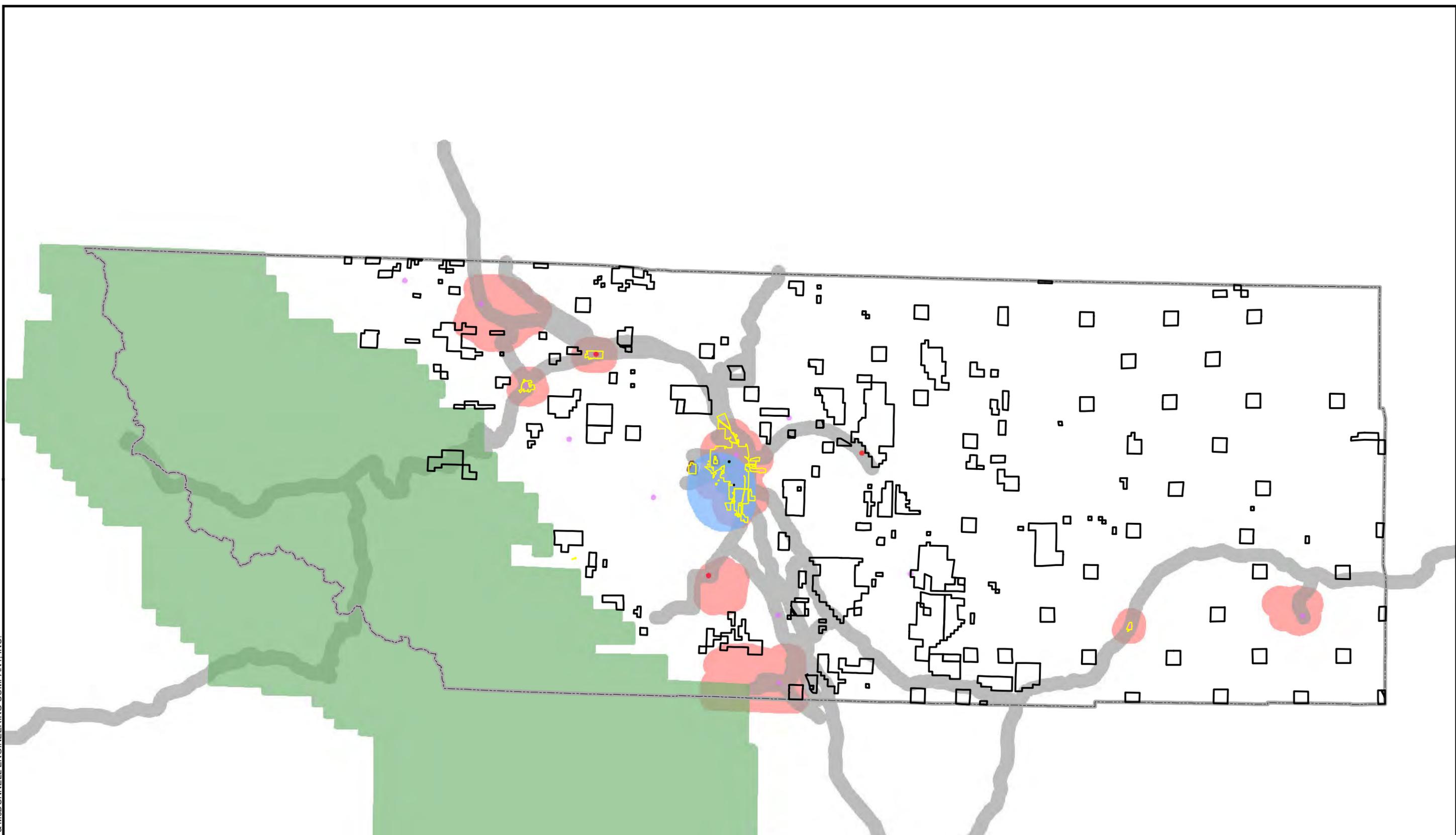
Attachments: Attachment A – Revised Location Restriction Maps
Attachment B – USDA Web Soil Survey Constraints
Attachment C – Hauling Impacts

Cc: Mayor Dave Kinskey, City of Sheridan
Mr. Nic Bateson, P.E., Public Works Director, City of Sheridan
Mr. Dan Roberts, P.E., Utilities Manager, City of Sheridan
Mr. Charles Martineau, Solid Waste Manager, City of Sheridan
Mr. John Corra, Director, WDEQ
Mr. Dale Anderson, Program Principal, WDEQ SHWD
Ms. Carol Stark, Environmental Scientist, WDEQ SHWD
Mr. Dave Fuller, Appraiser, Wyoming Office of State Lands & Investments
Rod Liesinger, P.E. Sheridan County Public Works Director

Attachment A

Revised Location Restriction Maps

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Legend

- State Lands
- City Limits
- County
- Airports
- Hospitals
- Schools
- Town Boundaries
- Roadways
- Parks
- Landmarks

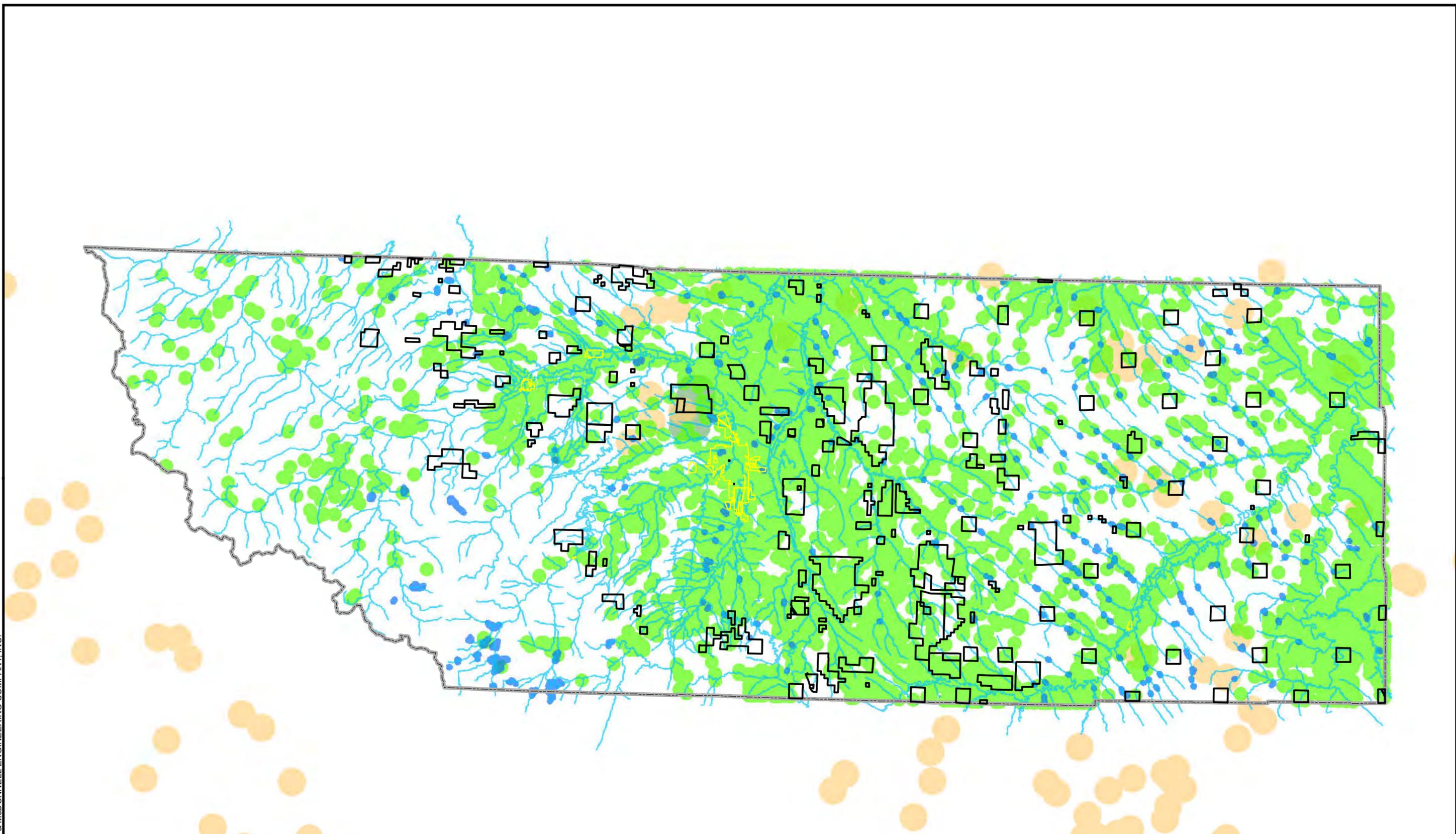
- Constraints Considered:
- Indian Lands – None in Sheridan County
 - Airport – 10,000 ft Buffer
 - Water Wells – ½ mile Buffer
 - Sage Grouse Seasonal – 2 mile Buffer
 - Hospitals – 1,000 ft Buffer
 - Lakes – 1,000 ft Buffer
 - Landmarks – 1,000 ft Buffer
 - Parks – 1,000 ft Buffer
 - Schools – 1,000 ft Buffer
 - Streams – 300 ft Buffer
 - Roadways – ½ mile Buffer
 - Town Boundaries – 1 mile Buffer

0 2.5 5 10 Miles



Revised Figure 2a
County Constraints
Sheridan County Wyoming

Source: ESRI and Burns & McDonnell Engineering.



Legend

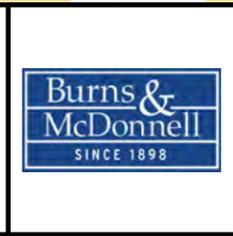
State Lands	Streams	Sage Grouse Spotting Area
City Limits	Lakes	BLM Grouse Sitting
County	Water Wells	

Constraints Considered:
Indian Lands – None in Sheridan County
Airport – 10,000 ft Buffer
Water Wells – ½ mile Buffer
Sage Grouse Seasonal – 2 mile Buffer
Hospitals – 1,000 ft Buffer
Lakes – 1,000 ft Buffer
Landmarks – 1,000 ft Buffer

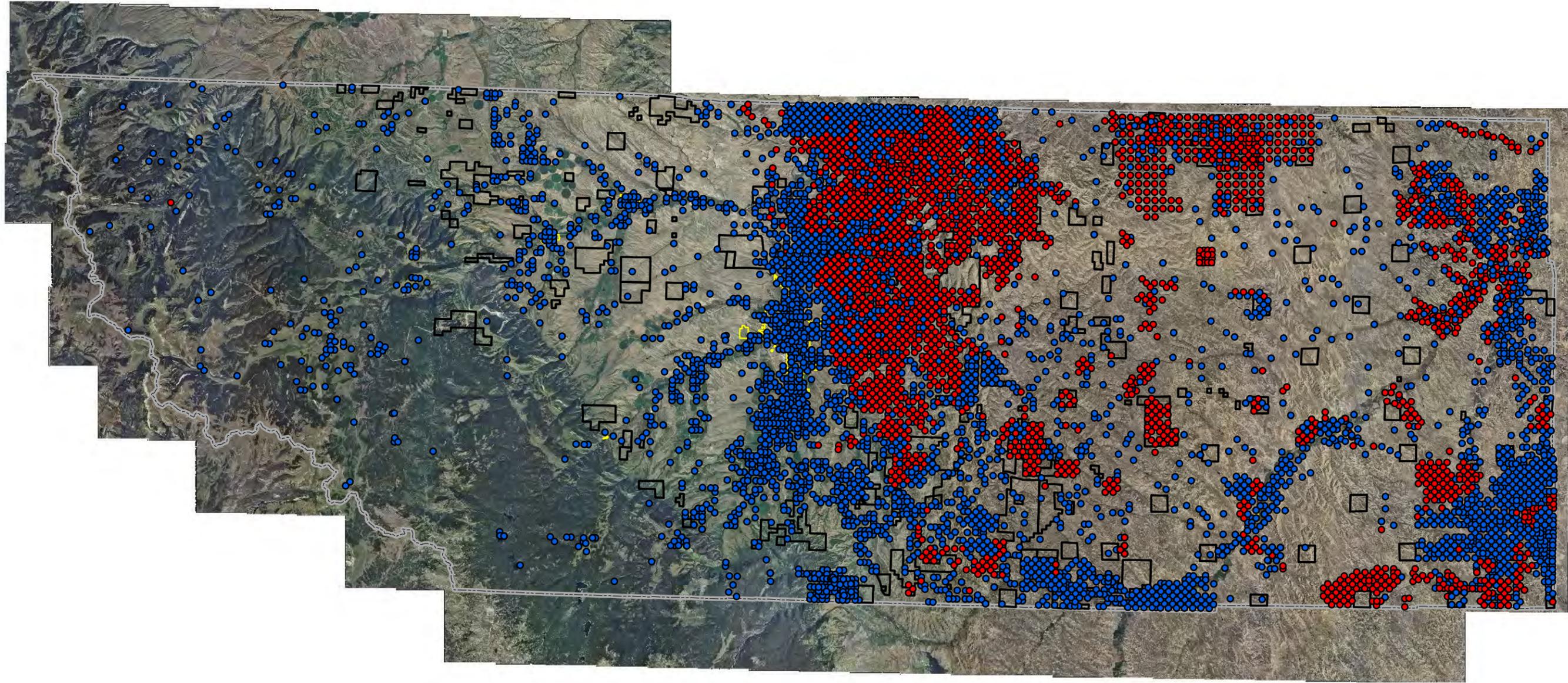
Parks – 1,000 ft Buffer
Schools – 1,000 ft Buffer
Streams – 300 ft Buffer
Roadways – ½ mile Buffer
Town Boundaries – 1 mile Buffer

0 2.5 5 10 Miles

Source: ESRI and Burns & McDonnell Engineering.



Revised Figure 2b
County Constraints
Sheridan County Wyoming

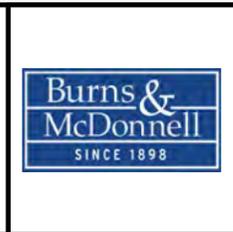


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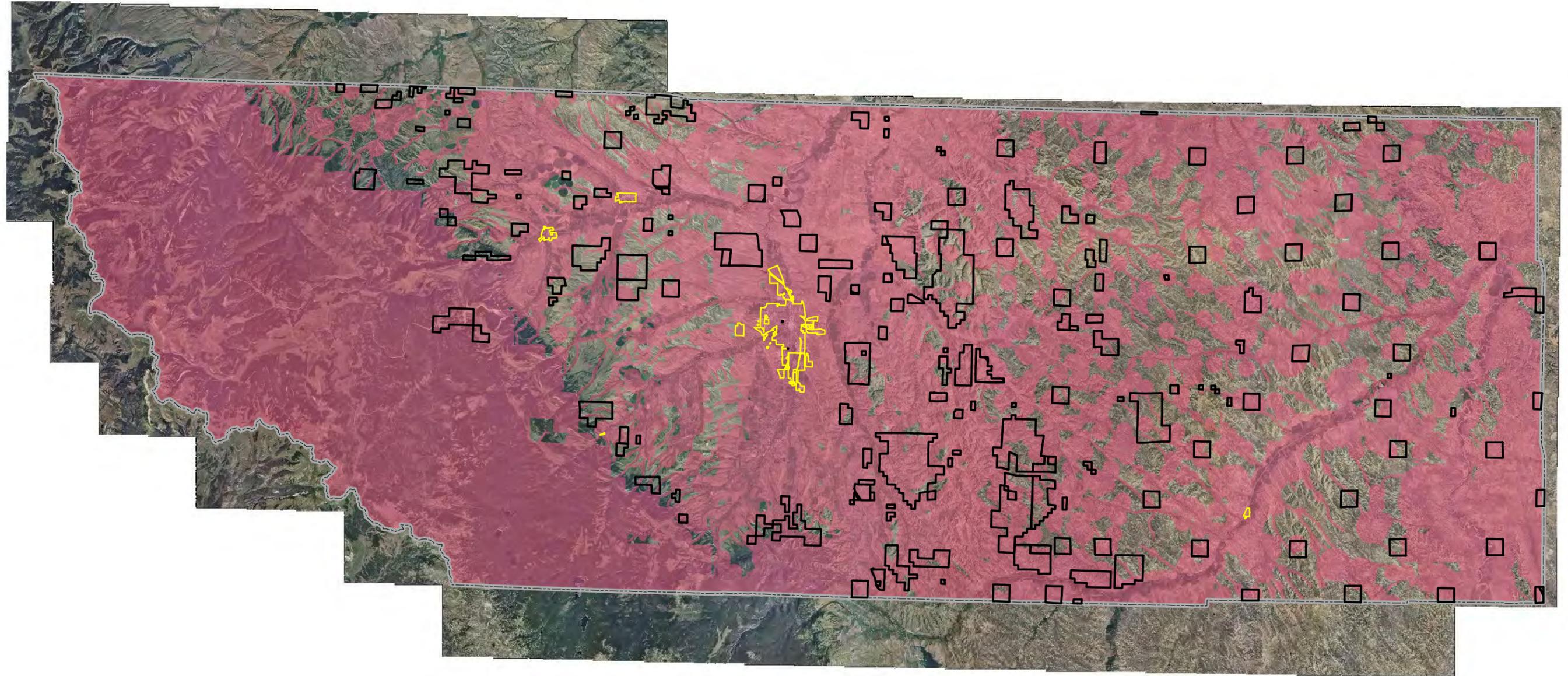
Legend State Lands County Coal Bed Methane (CBM) City Limits State Engineer's Office Wells (no CBM)		Constraints Considered: Indian Lands – None in Sheridan County Airport – 10,000 ft Buffer Water Wells – ½ mile Buffer Sage Grouse Seasonal – 2 mile Buffer Hospitals – 1,000 ft Buffer Lakes – 1,000 ft Buffer Landmarks – 1,000 ft Buffer Parks – 1,000 ft Buffer Schools – 1,000 ft Buffer Streams – 300 ft Buffer Roadways – ½ mile Buffer Town Boundaries – 1 mile Buffer
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0 2.5 5 10 Miles

Source: ESRI and Burns & McDonnell Engineering.



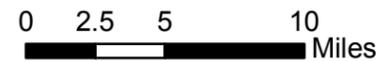
Revised Figure 2c
 County Constraints
 Sheridan County Wyoming



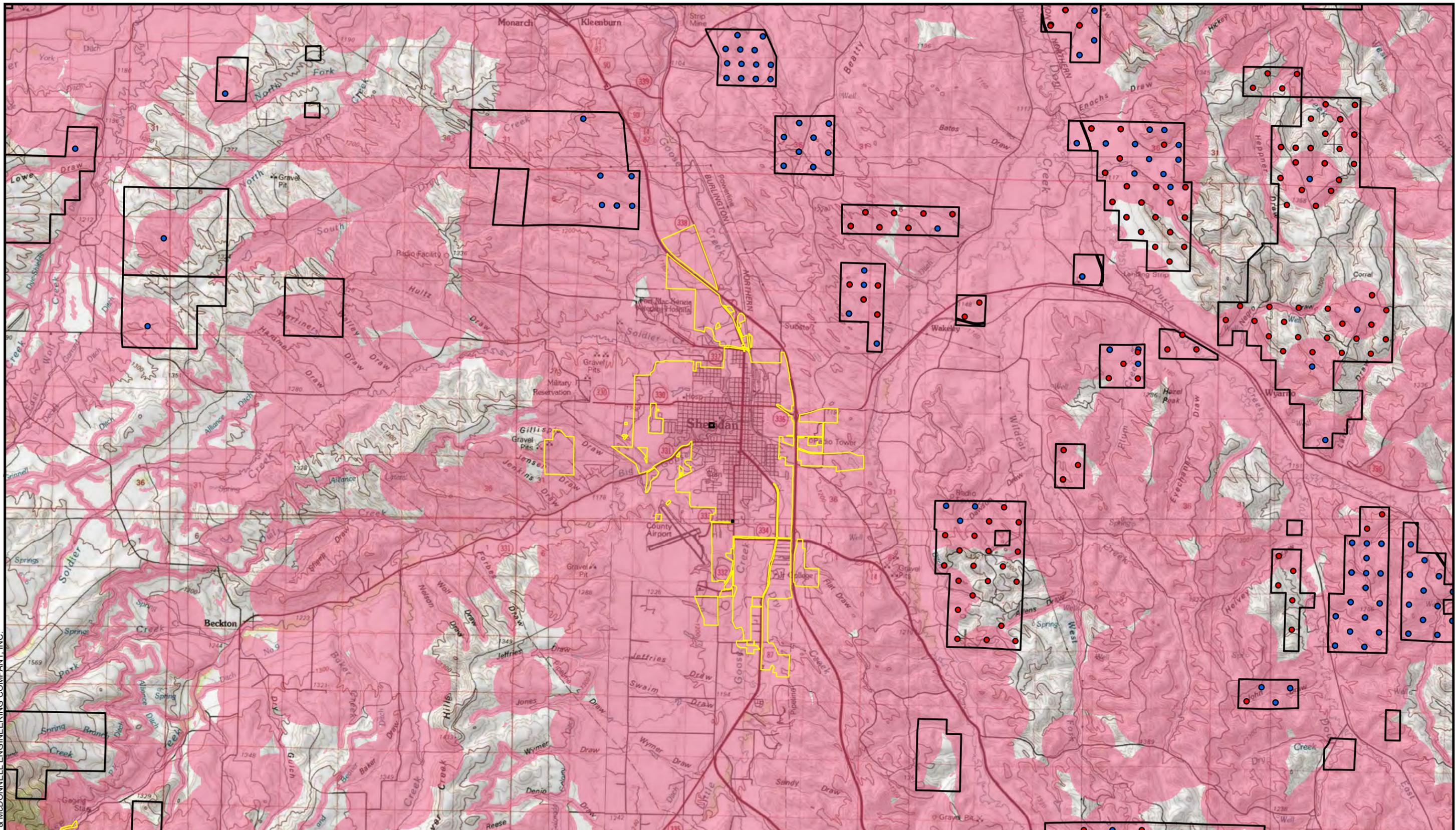
Legend

-  State Lands
-  County
-  City Limits
-  Constraints

- Constraints Considered:
- Indian Lands – None in Sheridan County
 - Airport – 10,000 ft Buffer
 - Water Wells – ½ mile Buffer
 - Sage Grouse Seasonal – 2 mile Buffer
 - Hospitals – 1,000 ft Buffer
 - Lakes – 1,000 ft Buffer
 - Landmarks – 1,000 ft Buffer
 - Parks – 1,000 ft Buffer
 - Schools – 1,000 ft Buffer
 - Streams – 300 ft Buffer
 - Roadways – ½ mile Buffer
 - Town Boundaries – 1 mile Buffer



Revised Figure 3a
County Constraints
Sheridan County Wyoming



Legend

State Lands	County	Coal Bed Methane (CBM)
City Limits	Constraints	State Engineer's Office Wells (no CBM)

Constraints Considered:
 Indian Lands – None in Sheridan County
 Airport – 10,000 ft Buffer
 Water Wells – ½ mile Buffer
 Sage Grouse Seasonal – 2 mile Buffer
 Hospitals – 1,000 ft Buffer
 Lakes – 1,000 ft Buffer
 Landmarks – 1,000 ft Buffer

Parks – 1,000 ft Buffer
 Schools – 1,000 ft Buffer
 Streams – 300 ft Buffer
 Roadways – ½ mile Buffer
 Town Boundaries – 1 mile Buffer

Note: Wells located on property not owned by the State of Wyoming are not shown.

0 1 2 Miles

Source: ESRI and Burns & McDonnell Engineering.

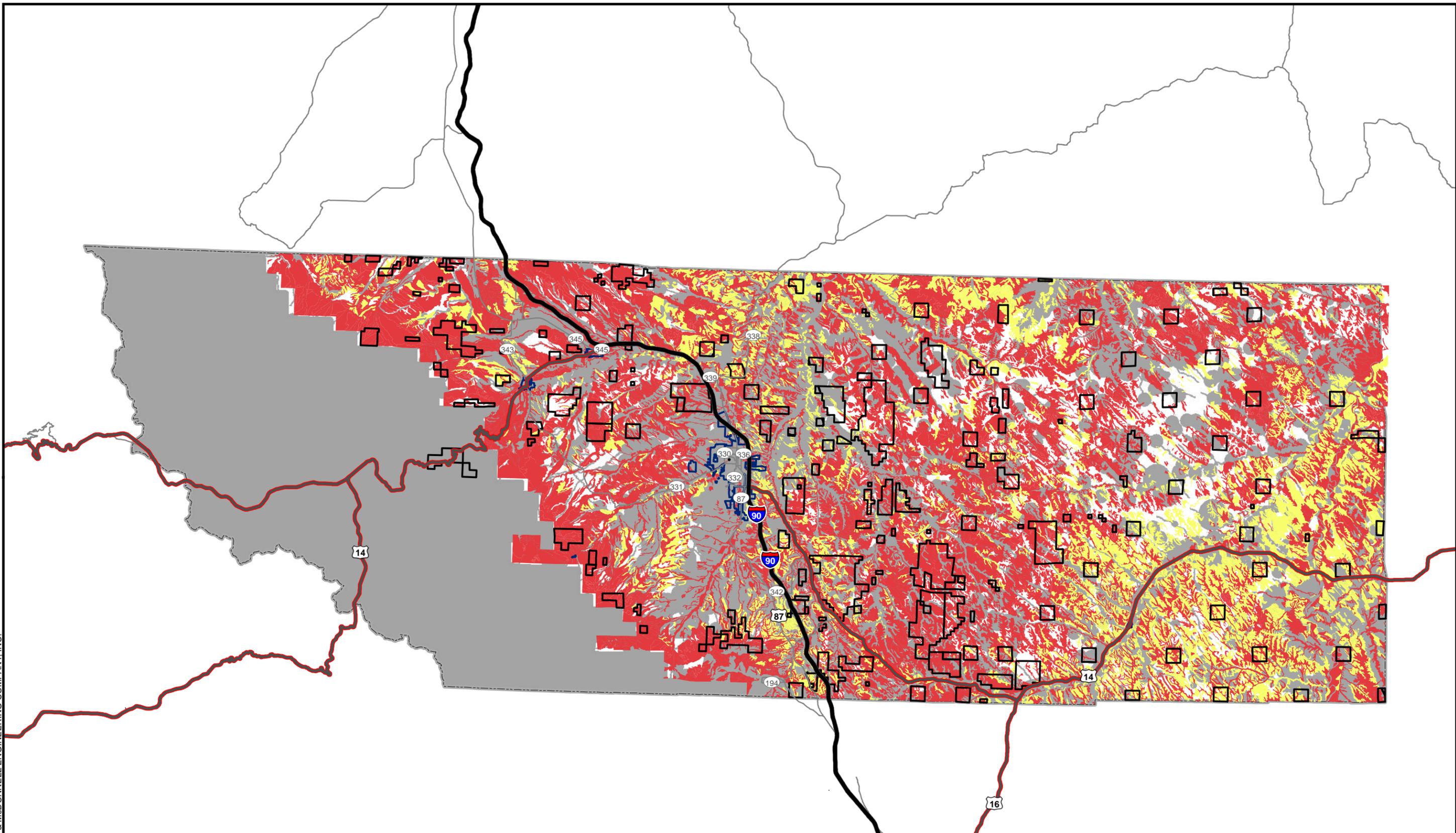


Revised Figure 3b
 County Constraints
 Sheridan County Wyoming

Attachment B

USDA Web Soil Survey Constraints

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Legend

	State Lands		WEDQ Rule Constraints		USDA-NRCS Somewhat Limited Soil
	City Limits		USDA-NRCS Very Limited Soil		
	County				

0 2.5 5 10 Miles

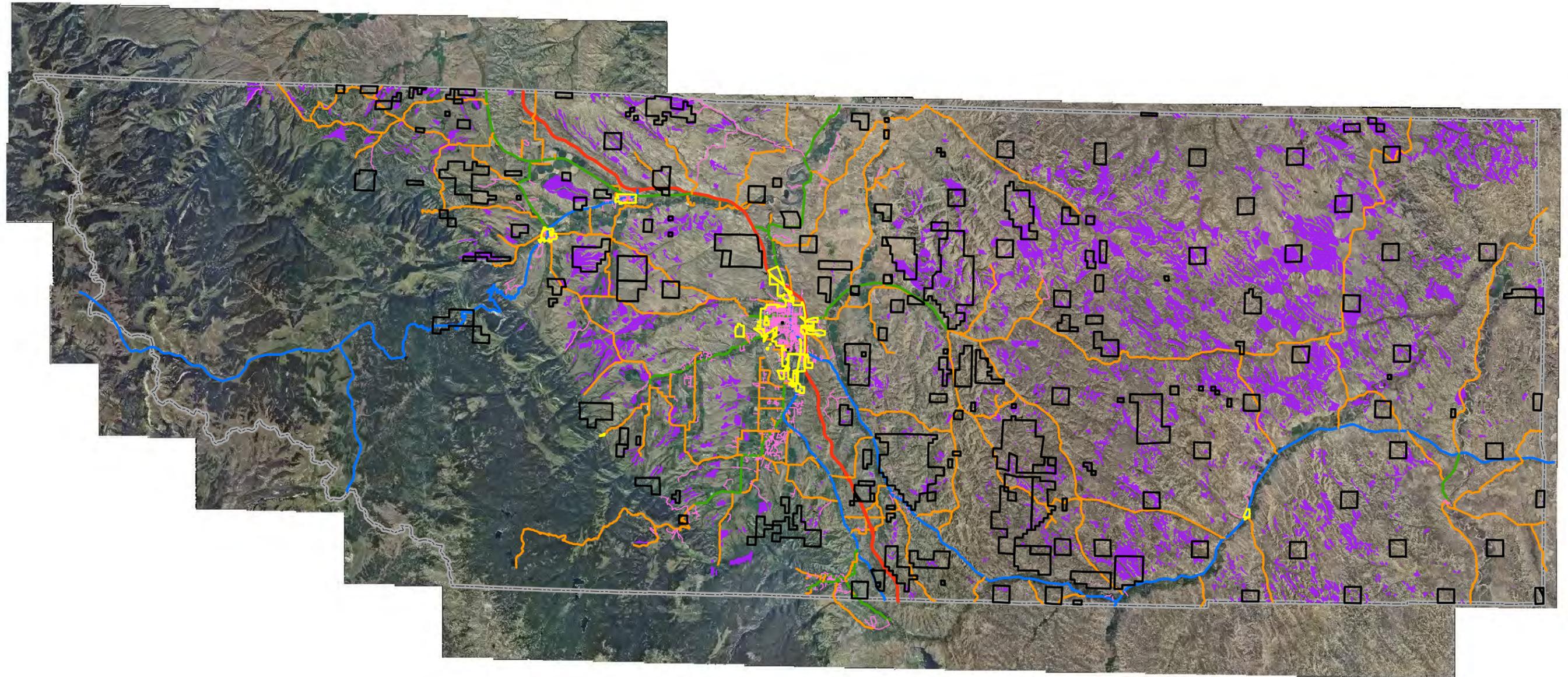
Source: ESRI and Burns & McDonnell Engineering.



Attachment B
Figure 1

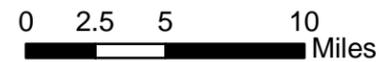
USDA Web Soil Survey Constraints
Sheridan County Wyoming

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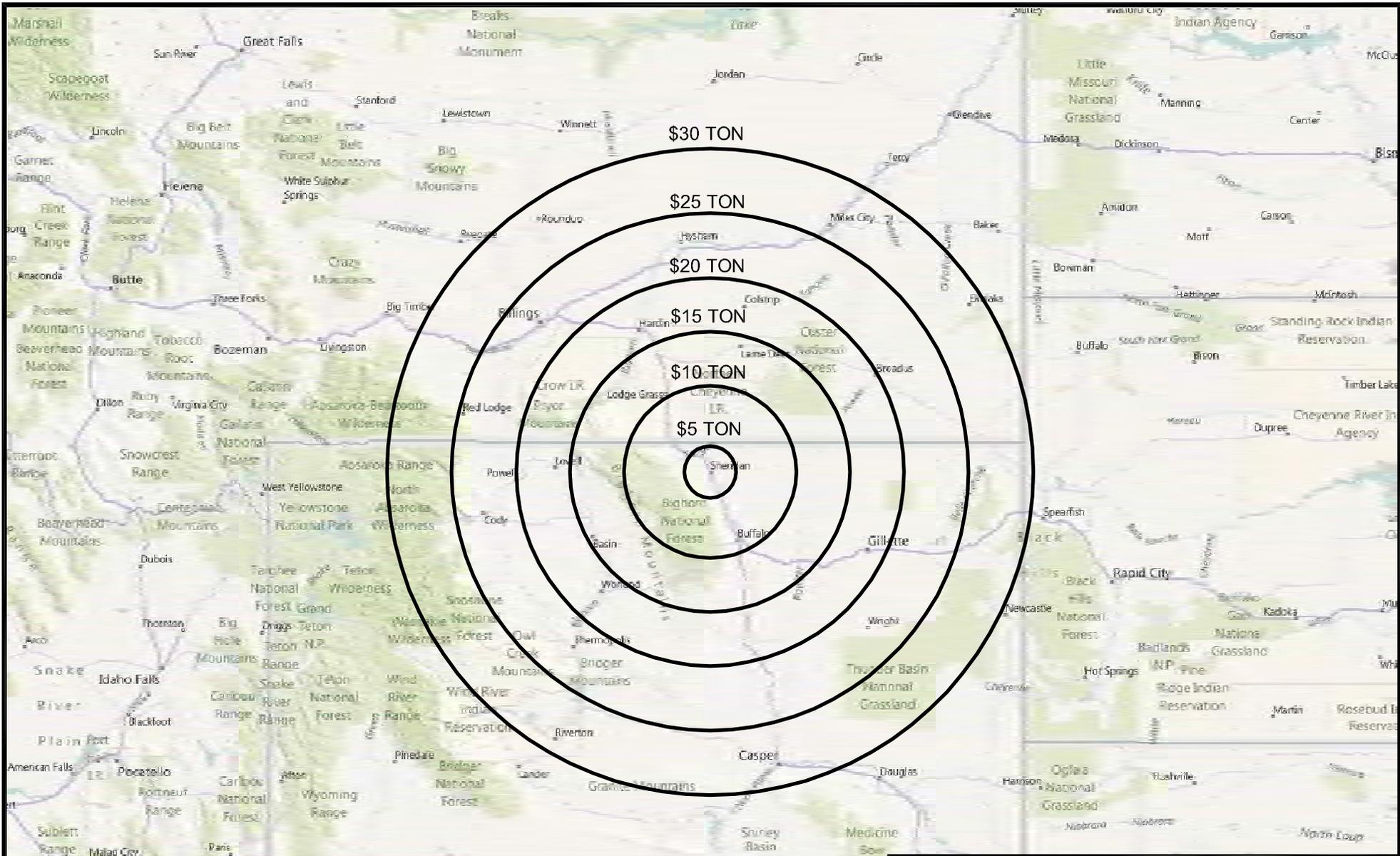
- | | | | |
|-------------|-----------------------|----------------------|--|
| State Lands | INTERSTATE | SHERIDAN COUNTY ROAD | Areas not constrained by WDEQ rules or USDA-NRCS soil survey |
| City Limits | US HIGHWAY | PUBLIC ROAD | |
| County | WYOMING STATE HIGHWAY | | |



Attachment B
Figure 2
WDEQ/USDA Web Soil Survey
Unconstrained Areas
Sheridan County Wyoming

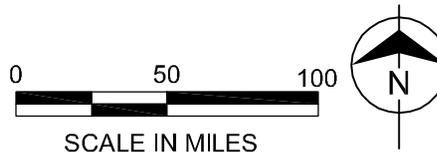
Source: ESRI and Burns & McDonnell Engineering.

Attachment C
Hauling Impacts



NOTE:

1. DISTANCES AND COSTS SHOWN ARE APPROXIMATE AND WOULD REQUIRE FURTHER REFINEMENT BASED ON ACTUAL TRAVEL ROUTES, SPEED AND PAYLOADS



ATTACHMENT C
HAUL COST VS. DISTANCE
SHERIDAN COUNTY, WYOMING