Wyoming Industrial Development Information and Siting Act

Section 109 Permit Application

Wamsutter LLC
Echo Springs Gas Plant
TXP4 Expansion Project

Prepared for

Wamsutter LLC

August 2008

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Acronyms and Abbreviations

AADT	annual average daily traffic
Ac-ft/yr	Acre Feet Per Year
ACHP	Advisory Council on Historic Preservation
AMSL	Above Mean Sea Level
BACT	best available control technology
bgs	below ground surface
BLM	Bureau of Land Management
BLM-SS	BLM-sensitive species
BLS	Bureau of Labor Statistics
BMP	best management practice
BS&W	Basic Sediment and Water
CCR1	Carbon County Road 1
CFR	Code of Federal Regulation
CIP	Capital Improvement Plan
CO	carbon monoxide
CO_2	carbon dioxide
CTL	coal-to-liquids facility
CUP	Conditional Use Permit
CWA	Clean Water Act
DKRW	Medicine Bow Fuel and Power coal-to-liquids facility
EMS	Emergency Medical Service
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FMV	fair market value
FR	Federal Register
FTE	full-time equivalent

FY	fiscal year
GDP	gross domestic product
gpd	gallon per day
gpm	gallon per minute
I-80	Interstate 80
IMPLAN	Impact Analysis for Planning
I-O	input-output
ISA	Industrial Siting Act
ISC	Industrial Siting Council
ISD	Industrial Siting Division
KO	Knock Out
kV	kilovolt
kW	kilowatt
LAER	Lowest achievable emission rate
LOS	level of service
m	meter
MBTA	Migratory Bird Treaty Act
MDEA	methyl diethanolamine
mg/l	milligram per liter
MMBtu/hr	million British thermal units per hour
MMscfd	million standard cubic feet per day
mpg	mile per gallon
MW	megawatt
NAICS	North American Industry Classification System
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NGL	natural gas liquid
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NOx	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System

NRHP	National Register of Historic Places
NSPS	New Source Performance Standards
NWI	National Wetland Inventory
O&M	operation and maintenance
O_2	oxygen
OES	Occupational Employment Statistics
OHV	Off-Highway Vehicle
PCE	personal consumption expenditures
ppmvd	part per million by volume, dry
Project	Echo Springs Gas Plant/TXP4 Expansion
PSD	Prevention of Significant Deterioration
RACT	reasonably available control technology
RAM	Ranch, Agriculture, and Mineral
RBLC	RACT/BACT/LAER Clearinghouse
REMI	Regional Economic Models, Inc.
RIMS II	Regional Industrial Multiplier System II
ROI	region of influence
RV	recreational vehicle
SCADA	supervisory control and data acquisition
SH	State Highway
SHPO	State Historic Preservation Office
SMH	Seven Mile Hill
SOP	Standard Operating Procedure
SSURGO	Soil Survey Geographic Database
STIP	State Transportation Improvement Program
SWPPP	Storm Water Pollution Prevention Plan
SWTSD	solid waste treatment, storage, and disposal
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
TXP4	Turbo Expansion Train
U.S.C.	United States Code

UI	Unemployment Insurance
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound
W.S.	Wyoming Statute
WAQSR	Wyoming Air Quality Standards and Regulations
WDEQ	Wyoming Department of Environmental Quality
WGFD	Wyoming Game and Fish Department
Williams Partners	Williams Partners L.P.
Williams	The Williams Companies, Inc.
WSGS	Wyoming State Geologic Survey
WTG	wind turbine generator
WYDOT	Wyoming Department of Transportation
WYNDD	Wyoming Natural Diversity Database
WYPDES	Wyoming Pollutant Discharge Elimination System

Executive Summary

Wamsutter LLC is submitting a Section 109 Permit Application pursuant to Statute 35-12-109 of the Wyoming Environmental and Quality Act and Industrial Development Information and Siting Act (ISA) for the construction and operation of the Echo Springs Gas Plant/TXP4 Expansion (the "Project").

Wamsutter LLC proposes to construct the fourth Turbo Expander Train (TXP4) to increase the Echo Springs Gas Plant's throughput from a nominal 395 million standard cubic feet per day (MMscfd) to a nominal 745 MMscfd (an increase of 350 MMscfd). The TXP4 expansion will be constructed within the facility's current fenced property, with the exception of a temporary laydown yard adjacent to the facility.

The Williams Companies, Inc. (Williams) is an affiliate of Wamsutter LLC, and is often the entity with whom the public is most familiar. For the purpose of the discussions in this application, Williams is interchangeable with Wamsutter LLC.

The Echo Springs Gas Plant produces pipeline quality natural gas and natural gas liquids (NGL) through a cryogenic turbo expansion process. The facility presently consists of three turbo expander trains with a cumulative nominal capacity of 395 million standard cubic feet per day (MMscfd) and after completion of the TXP4 will have a cumulative nominal capacity of 745MMscf/d. If Wamsutter LLC successfully captures future business, it will potentially expand this facility in future years with additional gas processing trains, slug catchers, tanks, and gathering compression systems compression and related infrastructure. For purposes of this application, Wamsutter LLC is defining only the details and impacts of the TXP4 expansion and will define the future expansion phases, if any, at a later date if and when they become a commercial possibility.

This Section 109 ISA Permit Application addresses the following for the Project: description, location, schedule, estimated ad valorem and sales and use taxes, estimate of capital costs, purpose, need, and benefit. Summary information regarding socioeconomic baseline conditions, analysis of socioeconomic impacts within the area of impact, potential environmental impacts, and plans for alleviating any identified impacts are also addressed.

Wamsutter LLC requests issuance of a Section 109 Permit pursuant to Wyoming Statute (W.S.) § 35-12-109 that covers the development of the expansion Project.

ISA Statute and Cost

A Jurisdictional Meeting was held with the Wyoming Department of Environmental Quality (WDEQ) – Industrial Siting Division (ISD) on April 24, 2008, to determine whether the Project was under the jurisdiction of the ISA. ISD staff reviewed estimated capital costs and determined that the Project is above the current statutory construction threshold cost of $170.3 million (W.S. § 35-12-102(vii)). Therefore, Wamsutter LLC is required to obtain an ISA permit for the Project prior to construction, as specified by ISA statutes.

Location

The existing Echo Springs Gas Plant is located in the western half of the southeast corner of Section 1 in Township 19 North, Range 93 West in Carbon County, Wyoming (approximately 8 miles southeast of the City of Wamsutter, Wyoming). The TXP4 Expansion Project will be constructed within the existing, fenced Echo Springs Gas Plant. However, the construction will require a 10-acre temporary laydown area located adjacent to the southwest corner of the existing facility.

Land Use

The proposed Project is located at approximately 7,000 ft above mean sea level (AMSL) above and south of Hansen Draw. The topography is varied but generally slopes northeast towards Hansen Draw.

The Project is in a sagebrush vegetation community with predominantly Wyoming big sage. Other forbs include fringed sage, Western wheatgrass, annual bluegrass, and prickly pear cactus. Soils are sandy loams and are generally stable due to the vegetation cover. There has been very little surface disturbance in this area, although buried pipelines and well pads are in the vicinity.

The Project will be located on land owned by Wamsutter LLC; however, the temporary laydown area will be leased from a private owner until the area is reclaimed.

Components

Gas Treating

Natural gas will enter the new TXP4 facility inlet from the pre-compression system where it will be filtered, metered, and sent through an amine system for CO_2 removal. The filtered inlet gas will pass through an amine contactor, which will strip the gas of the CO_2, then proceed to the dehydration system. The CO_2 rich amine will go from the contactor to the amine regeneration system, which will heat up the amine/CO_2 solution, vaporize the CO_2, and then the "lean" amine will be recirculated to the contactor. The heat required to regenerate the amine will be supplied by hot oil that is circulated through waste heat recovery units attached to the residue gas turbines, thermal oxidizer, and supplemental gas-fired heaters. The CO_2 off gas will be sent to a thermal oxidizer for destruction of pollutants.

Gas Dehydration

The treated inlet gas, which is now saturated with water as a part of the CO_2 removal process, will need to have the entrained water vapor removed before it can be sent through the cryogenic portion of the plant. Dehydration will be accomplished by the use of an adsorption system through the use of molecular sieve. The gas that is water saturated will pass through the mole sieve beds to remove virtually all the water, and then flow into the cryogenic portion of the plant.

As a part of the ongoing gas processing cycle, the mole sieve beds must be regenerated for reuse. The heat required for the mole sieve regeneration will be supplied by turbine waste

heat. The water collected during the regeneration process will be sent to new water treatment facilities for treatment and then reused by injection back into the amine system.

Cryogenic Gas Processing

Treated, dehydrated gas will flow to the cryogenic portion of the plant where it will pass through a system of exchangers, vessels, and turbo expander to drop the gas temperature. At this low temperature, the natural gas liquids consisting of ethane, propane, and heavier hydrocarbons will be condensed to a liquid, separated from the gas, and then pumped to NGL interstate pipelines for transportation to markets.

Construction Schedule

Wamsutter LLC proposes to begin construction on the Project as soon as all relevant permits have been obtained (early spring 2009). The current estimated completion date of the Project under normal construction circumstances, weather conditions, labor availability, and materials delivery is December 31, 2010. Additional contingency has been built into this analysis with a completion date of March 31, 2011.

Construction and Operation Workforce Requirements

Modular process modules will be fabricated offsite at the manufacturer's facility in Oklahoma. The process modules will be shipped to the site and assembled. This will help to minimize potential localized impacts by reducing the number of construction workers needed, the waste generated at the gas plant, and the duration of the Project. Construction of the aforementioned equipment is scheduled to begin during the second quarter of calendar year 2009 and be completed by December 2010. The overall construction schedule is anticipated to occur over a 21- to 25-month period.

Construction Workforce

Wamsutter LLC anticipates that the onsite construction workforce for the Project will vary from a low of 15 at commencement of construction activities in March 2009 to a peak of 175 construction tradesmen during peak construction activities in April and May 2010. Work on construction of the foundations for the facility and associated equipment would commence immediately and comprise the primary activity (in terms of workforce size) for the first 8 months of the Project construction phase. Following this activity, Instrumentation and Electrical activities represent the largest share of onsite workers until the last 2 months of the construction phase. Throughout this period, piping activities comprise the second most prevalent activity. Inspection activities will occur consistently over the entire duration of the construction phase. This Project is significantly smaller is size and scope than other jurisdictional projects that have been permitted through the Industrial Siting Act process (i.e., Medicine Bow Fuel and Power LLC, Coal to Liquids Project).

During the TXP4 construction period, it is likely that additional non-jurisdictional projects will be performed in and around the existing Echo Springs Gas Plant. These projects could include maintenance activities or small capital project (less than $170.3 million). Wamsutter LLC will encourage its plant contractor to use local workers to the extent practicable.

A total of 48 Wamsutter LLC staff personnel currently are employed at the Echo Springs Gas Plant. A total of 18 staff members are required to operate the facility. In addition, seven administrative office personnel along with 23 field technicians are also employed at the existing gas plant.

Operation Workforce

Williams estimates that this Project will require the expansion of its workforce by an additional seven full-time operations technician positions. Actual staffing will vary.

Public Involvement – ISA Statute Meeting Activities

Representatives of Wamsutter LLC conducted ISA statute meetings for State of Wyoming agencies and elected local government officials as part of the pre-application filing process to meet with and receive comments and input and identify potential mitigation solutions. Wamsutter LLC has been and continues to be active in the communities that may be affected by the Project. Representatives of Wamsutter LLC participated in numerous informational meetings and presentations and actively sought out potentially affected municipalities, counties, state agencies, and other stakeholders to discuss potential environmental and socioeconomic issues and mitigation recommendations and solutions.

The Project area of study, as identified by the WDEQ-ISD staff during the Jurisdictional Meeting, determined those elected local government officials to whom Wamsutter LLC sought to engage and provided meeting invitations. These include a meeting with the Town of Wamsutter; a meeting with the City of Rawlins, Sweetwater County Commissioners, and Carbon County Commissioners; and a public meeting in Rawlins.

Socioeconomic Impacts

The socioeconomic impact analysis evaluated the benefits and impacts to the social and economic resources in the area of study and primary area of impact. To measure potential impacts, the socioeconomic analyses compared the expected future conditions in the area of study with and without the Project. The area of study was defined as Albany, Carbon, Fremont, Natrona, and Sweetwater counties. The counties included in the area of study were determined in consultation with the ISD staff.

Benefits of the Project will be realized by both local communities and the state. Wyoming will realize economic benefits including permanent job creation, tax effects, and further expansion of oil and gas activities including upstream and midstream processes within this region of Wyoming. Locally, there are seven major benefits attributable to the Project: (1) allocation and distribution of impact assistance payment funds, (2) increased local spending on goods and services, (3) local economic activity, (4) increased land lease revenue (i.e., ranch landowners), (5) minimal impacts to local services and municipalities, (6) tax effects, and (7) minimal environmental impacts.

Due to the small size of the construction workforce, the Project will place minimal demands on new water, sewer, roads, electrical lines, or other local infrastructure. Therefore, construction and operation of the Project would not place significant additional demand on

the various public and non-public facilities and municipal services from the in-migration of workers for non-basic employment opportunities.

Environmental Impacts

Wamsutter LLC conducted cultural resource, wetlands and waters of the U.S., and threatened and endangered species habitat evaluations to document and characterize baseline conditions at the Project area. Although construction and operation of the facility may potentially displace some wildlife species and impact plant and wildlife habitats, the expansion of the gas plant will occur within the existing facility footprint and the temporary disturbance associated with the staging area will be sited in habitats common in the region and will not result in any population impacts.

A Class II cultural resource field inventory was complete in May 2008. However, no cultural resources were detected in the Project area.

No temporary or permanent impacts or discharges of dredged or fill materials to jurisdictional waters of the U.S. will result from construction activities associated with the Project. Therefore, implementation of the Project will not require any further coordination with the U.S. Army Corps of Engineers, and a Clean Water Act (CWA) compliance permit will not be required prior to construction activities.

An air quality permit application was submitted to the Wyoming Department of Environmental Quality/Air Quality Division. The analysis presented in the application showed that all federal and state air quality standards would be met.

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1.0 Purpose, Need, and Benefit

1.1 Purpose and Need

Wamsutter LLC currently operates the Echo Springs Gas Plant in Carbon County, Wyoming. The gas plant processes field gas from regional producers and creates pipeline quality natural gas and natural gas liquids, which is shipped to the end users via interstate pipelines.

Wamsutter LLC proposes to construct additional processing facilities in response to the increased volumes projected. New processing capabilities will need to be in place by the third quarter of calendar year 2010. Currently, the existing facility is at capacity, which processes a nominal 395 million standard cubic feet per day (MMscfd). With the Industrial Siting Commission's consent and after securing all required permits, Wamsutter LLC plans to initiate construction of the Echo Springs Gas Plant/TXP4 Expansion (Project) in 2009. The Project is planned to be operational in 2010.

1.2 Economic Benefits of the Project

The development of the Project carries significant economic benefits of new job and business creation and added ad valorem and sales and use taxes, while supporting the local economy. Economic benefits of the proposed Project to both local communities and the state of Wyoming include the following:

- Allocation and distribution of impact assistance funds over a 21- to 25-month construction period (up to 90 percent complete)
- New natural gas energy investment
- Local service industry expansion
- Negligible impact to local government and municipal services
- Millions of dollars to be spent on local purchases
- Job creation and stable employment
  - Peak of approximately 175 temporary construction jobs
  - Addition of approximately seven full-time permanent jobs
- Increased sales and use tax revenues from temporary and permanent employees purchasing goods and services during construction and operation
- Additional ad valorem taxes paid by Wamsutter LLC
- Increased need for local goods and services
- Additional property taxes paid by new employees moving into the area

1.3 Local Benefits

There are seven major local benefits attributable to the Project: (1) distribution of impact assistance funds, (2) increased local spending, (3) increased local economic activity, (4) land lease revenue payments (i.e., lease payments to ranch landowners), (5) minimal impacts to local services and municipalities, (6) tax effects, and (7) environmental benefits.

1.3.1 Distribution of Impact Assistance Funds

Pursuant to Wyoming Statute (W.S.) § 35-12-102(a)(vii), the proposed costs of the Project were reviewed by Industrial Siting Division (ISD) and determined to exceed the current statutory threshold construction cost amount of $170.3 million. Therefore, the Project falls under the Industrial Siting Act (ISA), and local governments are eligible to receive Impact Assistance Payment funds. Appendix A provides an estimate of the amount of Impact Assistance Payments.

The amount of Project impact assistance is based on the growth of sales and use tax during the previous 12-month period. The calculation uses an average of all the sales and use taxes in the county of the Project for the preceding 12-month period and is based on the growth of sales and use tax after construction is initiated. The Department of Revenue is responsible to calculate the 12 prior months of sales and use tax to establish a baseline. Then the following month's sales and use tax is compared to that baseline to determine that month's impact assistance funding. The difference, the growth in sales and use taxes, is the amount to be distributed in the Impact Assistance Payments. It is important to note that sales and use taxes are only used for the calculation. Lastly, the actual funds are issued by the Wyoming Department of Revenue and come from Wyoming's General Fund, rather than the Project proponent.

1.3.2 Increased Local Spending

The spending on construction and operation of the Project will positively affect the local economy through several different economic outlets. Construction and operations expenditures will impact the economy directly, through the purchases of goods and services locally, and indirectly, as those purchases, in turn, generate purchases of intermediate goods and services from other, related sectors of the economy. In addition, the direct and indirect increases in employment and income will enhance overall economy purchasing power, thereby inducing further spending on goods and services. This cycle continues until the spending eventually leaks out of the local economy as a result of taxes, savings, or purchases of non-locally produced goods and services.

1.3.3 Increased Local Economic Activity

The Project will be a modest to moderate source of new economic activity in the region. Specifically, the approximate seven full-time operations positions will provide new and local wage jobs (i.e., jobs above entry level and providing industry-scale income). The additional positions will also add to the local economy by potentially purchasing homes, thereby increasing the local tax base.

1.3.4 Land Lease Revenue Payments

The land proposed for development is owned by Wamsutter LLC; therefore, no land lease revenue payments will be realized by the Project.

1.3.5 Tax Effects

Tax effects are also an important consideration and benefit of the Project. The benefits related to the Project from a tax perspective would occur based primarily on the ad valorem taxes that would be collected over the life of the Project. In addition, in conjunction with associated ancillary activities, state and local tax revenues would be generated during construction and operation of the proposed facility. Although some of these tax revenues will be distributed on a local level, the state controls such distribution.

1.3.6 Minimal Impacts to Local Services and Municipalities

A typical concern with the location of new industries is that the demand for services such as schools, water supply, and waste disposal associated with population increases will increase more than the tax base that the new industry brings. While providing positive benefits to the local economy, the Project will have minimal impacts on communities and their infrastructure, such as schools, roads, and social services. Construction of the Project does not involve the "boom and bust" economic and social conditions associated with some other large electrical generation or oil and gas energy development projects in Wyoming. Therefore, local communities are able to plan for and accommodate those incremental changes from the in-migrating temporary construction workforce.

Due to the relatively small time frame of the construction workforce and limited operations workforce, the Project will place very minimal demands on new water, sewer, roads, electrical lines, or other local infrastructure. In addition, there would be little measurable increase in non-basic employment, as these jobs are generated from ongoing employment of the existing base of construction workers and would be maintained through the continued employment of both local and non-local construction workers. Therefore, construction and operation of the Project would not significantly affect the various public and non-public facilities and services described above from the in-migration of workers for non-basic employment opportunities.

1.3.7 Environmental Benefits

The environmental benefits of the Project are substantial. The Project expansion will occur within the existing industrial facility Project boundary and will entail approximately 6 acres of permanent disturbance. In addition, the 10-acre temporary staging area will be reclaimed and reseeded upon construction completion. In addition to the modular construction will help reduce waste generated during construction.

Natural gas is an important clean-burning fuel. When natural gas is burned, it produces virtually no emissions of sulfur dioxide or particulate matter. In addition, the natural gas process produces virtually no solid waste and has much less impact on local water quality.

2.0 Applicant and Facility Description

In accordance with W.S. 35-12-109, the application shall contain the information required by the ISA with respect to both the construction period and the following information the Council determines necessary.

The following sections provide information relevant to W.S. 35-12-109 and detailed Project specific information relating to Wamsutter LLC's intention to construct, own, and operate the Echo Springs TXP4 Expansion in addition to the future TXP5 and TXP6 expansions of the existing Echo Springs Gas Plant southeast of Wamsutter, Wyoming.

2.1 Applicant Information

W.S. § 35-12-109(a)(i) – Name and Address of Applicant. An application for a permit shall be filed with the division, in a form as prescribed by council rules and regulations, and shall contain the name and address of the applicant, and, if the applicant is a partnership, association or corporation, the names and addresses of the managers designated by the applicant responsible for permitting, construction or operation of the facility.

The applicant is:

Wamsutter LLC
One Williams Center
Tulsa Oklahoma 74172

The following managers have been designated by Wamsutter LLC to be responsible for permitting and constructing the Project:

Ms. Andrea Walton
Regulatory Specialist Western US
Williams
4980 State Highway 374
Green River, WY 82935

Mr. Casey Jensen
Project Management
Williams
4980 State Highway 374
Green River, WY 82935

The Williams Companies, Inc. (Williams) was originally founded by Dave and Miller Williams in 1908 as Williams Brothers and became a publicly traded company in 1957. To reflect its continued growth and diversification, the company changed its name to The Williams Companies, Inc. in 1971. Williams Partners L.P. (William Partners) was formed by Williams in 2005 and is a publicly traded limited partnership. Williams Partners was created to own, operate, and acquire a diversified portfolio of complementary energy assets. Williams Partners is principally engaged in the business of gathering, transporting, and

processing natural gas and fractionating and storing natural gas liquids. Williams has conducted business in the State of Wyoming for the last 50 years with the construction of the Northwest Pipeline in 1956 and the Opal Gas Plant in 1958. Williams has more that than 250 employees in Wyoming.

In 2007, Williams Partners acquired ownership interests in Wamsutter LLC from Williams. The Wamsutter LLC system includes the Echo Springs Gas Plant and related natural gas gathering system near Wamsutter, Wyoming.

The transaction structure was intended to allow Williams Partners to receive cash flows from the existing Wamsutter LLC business. Williams will retain the right to make material expansion investments.

2.2 Point of Delivery – Goods and Services

W.S. § 39-15-111(c) – Distribution. If any person commences after the effective date of this act to construct an industrial facility, as that term is defined in W.S. 35-12-102, under a permit issued pursuant to W.S. 35-12-106, or if the federal or state government commences to construct any project within this state with an estimated construction cost as specified in the definition of industrial facility in W.S. 35-12-102, the state treasurer shall thereafter pay to the county treasurer and the county treasurer will distribute to the county, cities and towns of that county in which the industrial facility or project is located, impact assistance payments from the monies available under paragraph (b)(i) of this section…

For purposes of this subsection, the industrial facility or federal or state government project will be deemed to be located in the county in which a majority of the of construction costs will be expended.

The construction and operation of the Project will result in the purchase of goods and services for the Project and for the needs of the associated construction and operation workforces. Goods and services procured for construction activities will be obtained from various local, regional, and national vendors. Wamsutter LLC anticipates that the majority of the Project's components will be trucked to the Project site.

Carbon County and the existing Echo Springs Gas Plant will be the primary point of delivery for goods and services including modular components associated with the Project.

2.3 Site Selection

W.S. § 35-12-109(a)(vii) – Site Selection. An application for a permit shall be filed with the division, in a form as prescribed by council rules and regulations, and shall contain a statement of why the proposed location was selected.

Due to the increased production of natural gas in the Rocky Mountain region, the Echo Springs Gas Plant has reached capacity and is currently bypassing untreated gas around the facility. The proposed Project will expand the existing facility. The Project site was selected because of its proximity to existing gathering wells and pipelines, existing infrastructure at the Echo Springs Plant, and proximity to the potential future expansion of natural gas production in the region. The expansion of the existing Echo Springs Gas Plant facility will

provide the ability to accommodate and process additional natural gas production in the region.

2.4 Nature and Location of the Facility

Rule I Section 7(b) (W.S. § 35-12-109(a)(iii) – Nature and Location of Facility. An application for a permit shall be filed with the division, in a form as prescribed by council rules and regulations, and shall contain a description of the nature and location of the facility; and Rule I Section 7(b) - A description of the specific, geographic location of the proposed industrial facility.

The Project site is located at the existing Echo Springs Gas Plant in Carbon County, Wyoming, approximately 8 miles southeast of the Town of Wamsutter (see Figure 2-1). The TXP4 Expansion Project will occur within the existing, fenced Echo Springs Gas Plant and will also require a 10-acre temporary laydown area located adjacent to the southwest corner of the existing facility.

The Project area is within the Great Divide Closed Basin, which is located between the Atlantic and Pacific drainage basins. Vegetation at the site is characteristic of the Wyoming big sage steppe community, dominated by a mixture of upland native grasses, forbs, and shrubs. The dominant shrub species at the site is Wyoming big sagebrush (*Artemisia tridentata*), the dominant grasses include western wheatgrass (*Pascopyrum smithii*) and annual bluegrass (*Poa annua*), and the dominant forbs include fringed sage (*Artemisia frigida*) and prickly pear cactus (*Opuntia spp.*). No wetland vegetation is present in the Project area.

Topography at the Project site slopes gradually downward towards Hansen Draw to the northeast of the Echo Springs Plant. Elevation at the site is approximately 7,000 feet above mean sea level. Operation and construction of oil and gas facilities, pipelines, and roads occur locally and in the vicinity of the existing gas plant. Livestock grazing is typical to the region.

The Project site will be accessed using Interstate 80 (I-80) and State of Wyoming Highway 789. A 4- to 5-mile private fee land (gravel) access road owned and maintained by Wamsutter LLC will be used as the primary access point off of Highway 789 and to the Project site.

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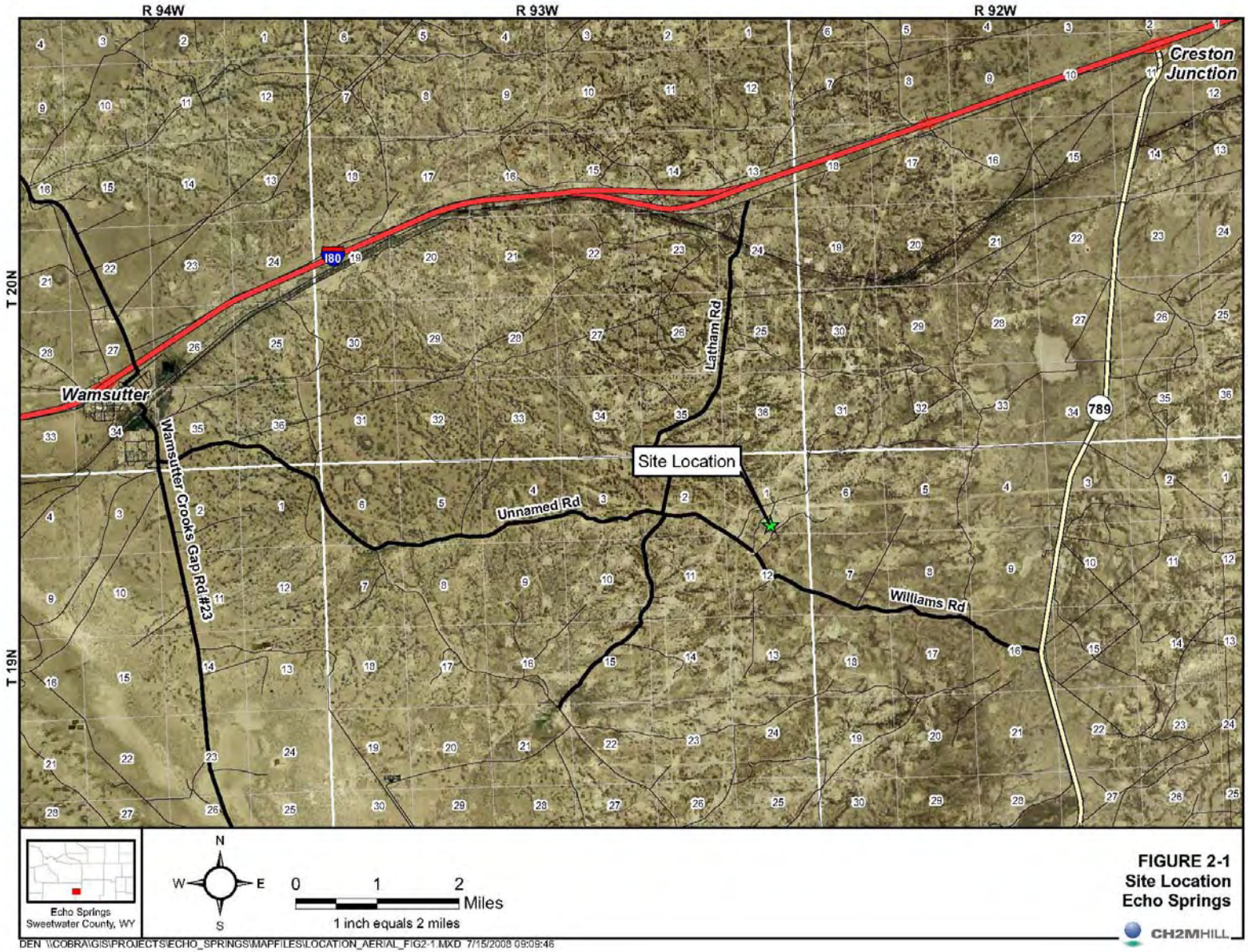


FIGURE 2-1
Site Location
Echo Springs

2.5 Preliminary Site Plan

Rule I Section 7(b) (i) – Preliminary site plans at an appropriate scale indicating the anticipated location for all major structures, roads, parking areas, on-site temporary housing, staging areas, construction material sources, material storage piles and other dependent components.

Wamsutter LLC has completed a preliminary layout site plan for the Echo Springs TXP4 Expansion Project and temporary laydown area. Refer to Figure 2-2 for the preliminary site layout.

2.6 Legal Description

Rule I Section 7(b)(ii) – The area of land required by the industrial facility and a land ownership map covering all the components of the proposed industrial facility.

The existing Echo Springs Gas Plant is located on privately owned fee land (i.e., owned by Wamsutter LLC). The 10-acre temporary laydown area will be leased using private fee lands held by the Echeverria Trust.

2.6.1 Site Legal Description

The Project and associated temporary laydown area will be located on private fee lands in Section 1, Township 19 North, Range 93 West, in Carbon County.

It is important to note that Bureau of Land Management (BLM)-administered federal lands will not be required to construct and operate the Project. Figure 2-3 shows the private, state, and BLM land ownership in the vicinity of the Project.

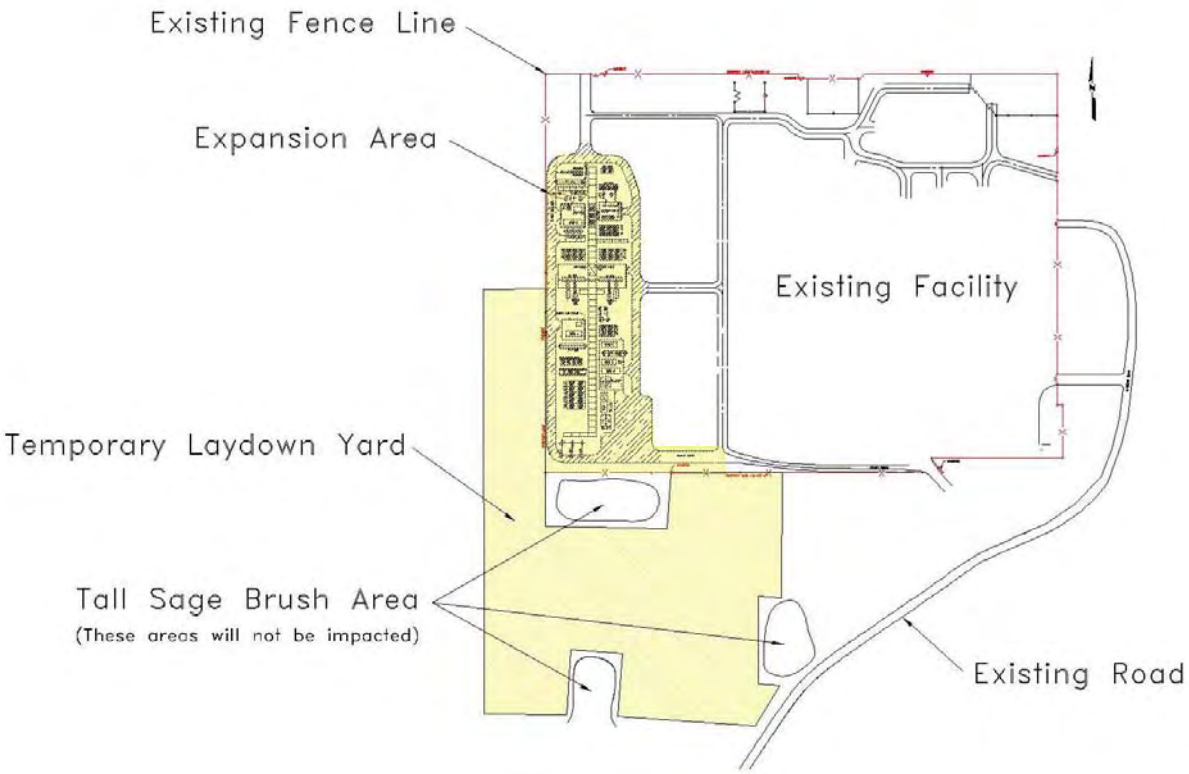


FIGURE 2-2
Site Layout

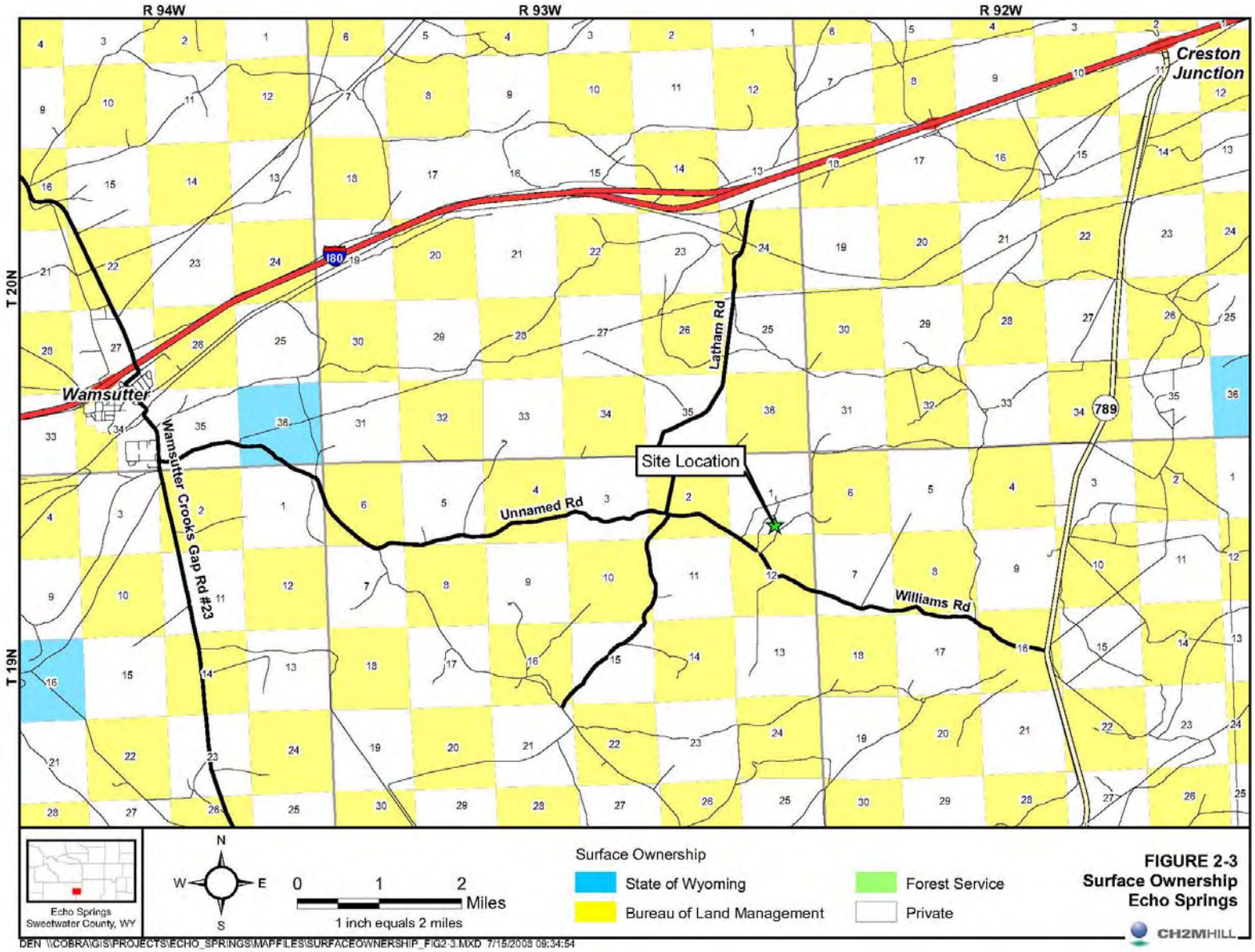


FIGURE 2-3
Surface Ownership
Echo Springs

2.7 Project Descriptions and Future Modifications

W.S. § 35-12-109(a)(vi) – Future Additions and Modifications. An application for a permit shall be filed with the division, in a form as prescribed by council rules and regulations, and shall contain future additions and modifications to the facility to which the applicant may wish to be approved in the permit.

Wamsutter LLC requests issuance of a Section 109 Permit pursuant to the ISA that covers the TXP4 Expansion Project as well as the future expansion discussed in this application. The Echo Springs Gas Plant produces pipeline quality natural gas and natural gas liquids (NGL) through a cryogenic turbo expansion process. The facility presently consists of three turbo expander trains with a cumulative nominal capacity of 395 MMscfd and after completion of the TXP4 will have a cumulative nominal capacity of 745MMscfd. If and when the commercial opportunity presents itself, Wamsutter LLC could expand this facility in future years. If any future expansions were to occur, they would likely involve the construction of additional gas processing trains, gas treating facilities, compression or related infrastructure. Because the need for future expansions is uncertain and because the types of facilities that could be required are uncertain, this permit application defined only the details and impacts of the TXP4 Expansion Project.

2.7.1 TXP4 Expansion

The purpose of the TXP4 Expansion Project is to increase the gas processing capacity at the Echo Springs Gas Plant to handle the increased volumes projected by gas producers. Currently, the Echo Springs Plant has three existing turbo expander plants with a nominal processing capacity of 395 MMscfd. Due to the increased volumes expected at the Echo Springs Plant, new processing capabilities will need to be in place by the third quarter of calendar year 2010. The increase in gas processing capacity will be accomplished through the addition of a fourth turbo expander plant, known as TXP4. The TXP4 plant will be designed to process a nominal capacity of 350 MMscfd of natural gas under standard conditions. Construction of the Project is scheduled to begin during the second quarter of calendar year 2009.

2.8 TXP4 Project Description

Rule I Section 7(c) – A general description of the major components of the proposed industrial facility such as boilers, steam generators, turbine generators, cooling facilities, production equipment, and dependent components.

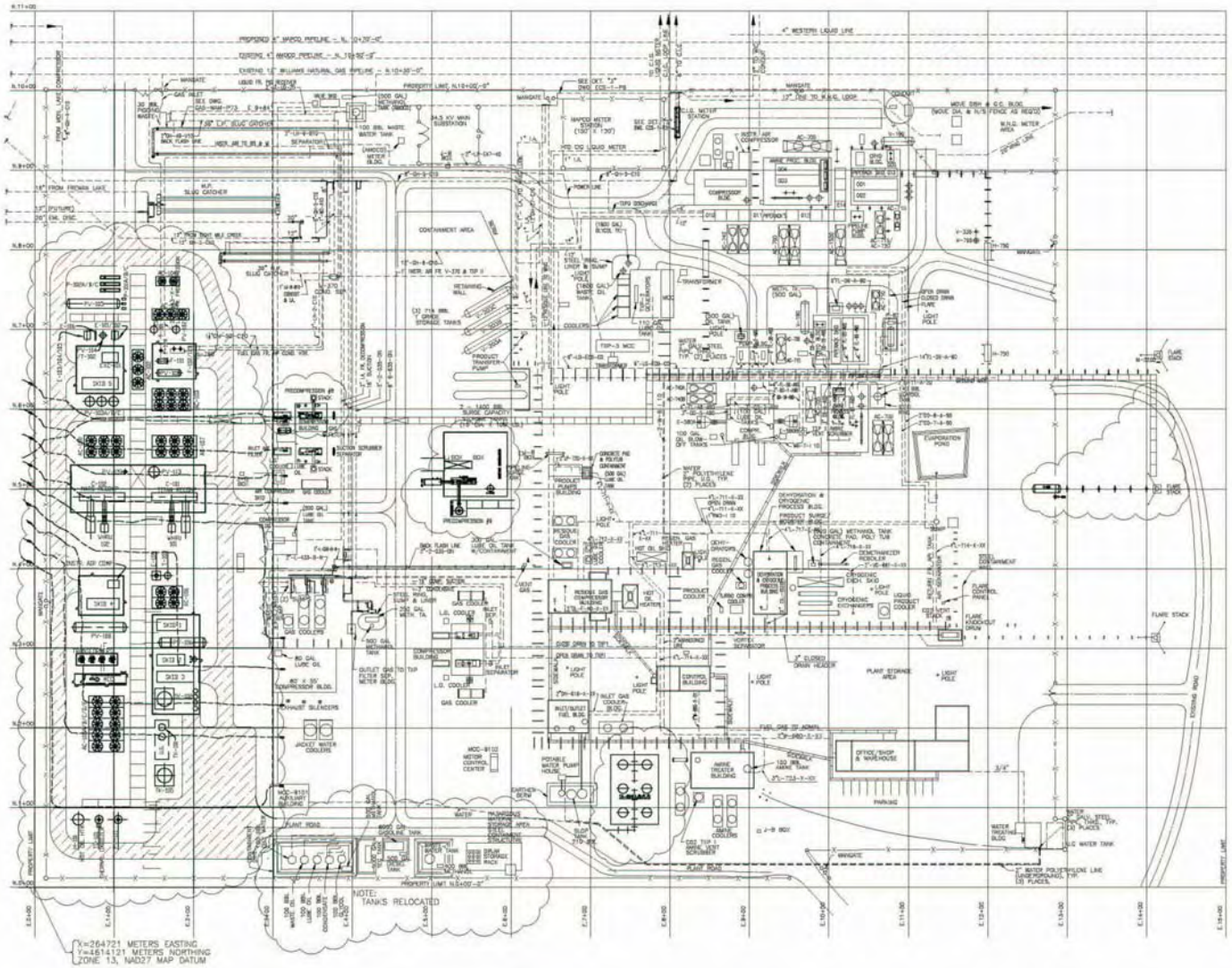
Echo Springs TXP4 is currently being designed. Many of its features and components are still being developed. This description is intended to provide a general overview of the Project as currently conceived. It does not include all of the features or components of the plant. Furthermore, this description may change significantly over time and may not reflect what will actually be built. Figure 2-4 shows the major equipment location.

The design of the facilities is based on a nominal flow capacity of 350 MMscfd of produced gas. The cryogenic plant and all associated utilities are to be constructed in Carbon County, Wyoming. The facilities for processing the gas are: (1) inlet compression; 2) inlet separation,

filtration, and coalescing equipment to remove inlet liquids and contaminants; (3) an amine treating plant to remove essentially all carbon dioxide from the inlet gas; (4) a Thermal Oxidizer to burn all contaminants from the amine plant off gases; (5) a molecular sieve dehydration system designed to dry inlet gas saturated with water; (6) a cryogenic gas plant; (7) installation of gas turbine driven centrifugal compression provided for inlet and residue compression; (8) a heat medium system utilizing waste heat recovery units on the gas turbines and thermal oxidizer along with a direct fired heater; and (9) a flare.

The Echo Springs TXP4 cryogenic plant will consist of the following major components:

- Inlet compression
- Inlet separation and filtration
- Amine treating for carbon dioxide (CO_2) removal
- Thermal oxidizer
- Molecular sieve dehydration
- Cryogenic gas plant
- Residue recompression
- Heat medium system with waste heat recovery
- Flare system
- Water supply, drain systems, and wastewater
- Utilities (fuel, air, water treating)
- Other facilities



Source: Prevention of Significant Deterioration Permit Application, prepared by Cirrus Consulting, LLC.

FIGURE 2-4

Major Equipment Location

2.8.1 Inlet Separation and Filtration

The inlet gas separation and filtration area is designed to remove water, condensate, and other contaminants from the inlet gas stream prior to treating. The majority of the incoming liquids will be separated and level controlled to the existing Basic Sediment and Water (BS&W) Separator.

The inlet gas then flows to the horizontal Inlet Gas Filter Separator, F-101, to remove solid contaminants and liquids carried over from the Gas Separator, PV-101. The liquids removed are level controlled to the existing BS&W Separator. The gas is further filtered by F-102 and F-103, vertical Inlet Gas Coalescers, in series to remove the fine liquid droplets and additional solid particulate from the inlet stream prior to the molecular sieve dehydration.

Liquids removed from the inlet gas stream in the Inlet Filter Coalescers are level controlled to a common header with the Inlet Gas Scrubber and the Inlet Gas Filter Separator and flow towards the existing BS&W Separator. At this vessel, the line is valved to flow either to the BS&W Separator or to the Condensate Pipeline.

2.8.2 Inlet Gas Treating Area

CO_2 is removed from the inlet gas prior to entering the cryogenic plant in order to meet residue and NGL pipeline specifications, to prevent CO_2 freeze in the cryogenic plant, and to increase product recovery. The CO_2 concentration is reduced by a methyl diethanolamine (MDEA) based amine system. The MDEA solvent is formulated specifically for CO_2 removal because the inlet gas does not contain H_2S or mercaptans.

Under normal operating conditions, untreated inlet gas feeds the Amine Contactor, T-101, below the bottom stage, Tray #1. An approximately 50:50 weight percent of water and formulated MDEA solvent feeds the contactor above the top tray, Tray #20, to remove CO_2 from the inlet gas via countercurrent adsorption.

The treated gas is then cooled by the Amine Contactor Overhead Cooler, AC-101, to condense excess water. The stream then flows to the Amine Contactor Overhead Scrubber, PV-102, where condensed water and amine carryover is removed from the treated gas stream. The liquid from PV-102 is level controlled from the vessel and combines with the CO_2-rich solvent that is level controlled from the Amine Contactor and flows to the Amine Flash Drum, PV-106.

The flash gas from Amine Flash Drum, PV-106, flows to the Thermal Oxidizer Knockout Drum, PV-111, through a pressure control valve, which regulates the Amine Flash Drum pressure. To prevent the Thermal Oxidizer from overheating, an alternate pressure control valve will open and direct flash gas to the flare if over-pressuring of the Amine Flash Drum occurs or if high flash gas rates occur.

The Amine Flash Drum contains an inlet feed distribution area, which directs the flow of the rich amine down under the liquid level to eliminate surface turbulence and to promote separation. The vessel also has a series of weirs to divide the separation area from the hydrocarbon drain area and the rich amine outlet area. The amine flows under the middle weir and over the outlet to the outlet nozzle. Any hydrocarbon will accumulate on top of the amine and fall over the weir on the inlet end of the vessel.

The rich amine flows from the Amine Flash Tank to the full-flow Rich Amine Filter, F-109, before it is heated in the plate-in-frame Amine Exchangers, E-108 A/B. A small portion of the amine and entrained vapor free flows through the filter vent to the Degassing Filter, F-110. The process has two plate-in-frame amine exchangers; however, only one is in service at any time. When one becomes fouled, the second exchanger should be placed in service and the fouled unit cleaned.

CO_2 is stripped from the rich amine by steam produced in the Amine Still Reboiler, E-109. This is a vertical once through thermosyphon exchanger. The Amine Still overhead is cooled by the Amine Reflux Condensers, AC-106A&B. The two-phase stream feeds the Amine Still Reflux Accumulator, PV-107, where the condensed water is separated and pumped back to the tower as reflux to the top tray number 22 of the Amine Still by the Amine Still Reflux Pumps, P-105A&B. The reflux flow is level controlled from the Amine Still Reflux Accumulator and has flow indication.

Vapor from the PV-107, which is almost entirely CO_2 and water vapor with a small amount of hydrocarbons, combines with the flash gas from the Amine Flash drum before flowing to the Thermal Oxidizer Knockout Drum, PV-111. From the Thermal Oxidizer Knockout Drum the gas flows to the Thermal Oxidizer, T-101. The Thermal Oxidizer operates at a temperature that meets Wyoming Department of Environmental Quality requirements for 99 percent destruction efficiency, with a 1 second residence time. A level switch on the Thermal Oxidizer Knockout Drum activates the Thermal Oxidizer KO Drum Pump, P-122, which recycles the liquid back to the Amine Reflux Accumulator.

The Thermal Oxidizer also provides waste heat recovery for the heat medium system through the use of WHRU-103.

The hot lean amine from the bottom of the Amine Still is pumped via the Amine Booster Pumps, P-103A/B, through the Amine Exchangers, E-108A&B, to the air cooled Lean Amine Coolers, AC-105A through E. From the coolers, a percentage of the cool lean amine is flow controlled to the lean amine filtration system. The stream first enters the Lean Amine Filter, F-106, where scale and other particulates are removed before the lean amine feeds the Amine Carbon Filter, F-107, which removes soluble heavy hydrocarbons. The Lean Amine After-Filter, F-108, removes fines carried over from the Amine Carbon Filter before flowing to the Amine Circulation Pumps.

2.8.3 Molecular Sieve Dehydration

Scrubbed treated gas from the Amine Contactor Overhead Scrubber, PV-102, feeds the vertical Treated Gas Filter Coalescer, F-104, to remove any remaining amine carryover and solid particulates from the treated gas stream prior to entering the molecular sieve dehydration system. The dehydration system consists of three molecular sieve beds designed to dehydrate inlet gas and the recycled regeneration flow.

The system is comprised of three Dehydrator vessels, PV-103A/B/C. At any time, two of the dehydrators are adsorbing water while the third dehydrator bed is in regeneration. The adsorption cycle for each bed is staggered. The dry gas exits the Dehydrators and flows to the Dry Gas Filters, F-105A&B, where one unit in operation removes particulate carryover from the Dehydrator beds before the gas enters the cold section of the cryogenic plant.

Downstream of the Dust Filters the flow for regeneration is taken off and flows to the Regeneration Gas Compressors, C-103A&B.

The operational Regeneration Gas Compressor pulls dry inlet gas from the inlet to provide regeneration gas for the system. The compressed regeneration gas is heated on the tube side of the Regeneration Gas Heater, E-107, by cross exchanging with heat medium fluid. The hot regeneration gas flows into the bottom of the dehydrator being regenerated removing the water. The hot exiting gas is then cooled by the Regeneration Gas Cooler, AC-102, where excess water is condensed. The condensed water is separated in the Regeneration Gas Scrubber, PV-112, and level controlled through the Regeneration Water Carbon Filter, F-111, to remove soluble hydrocarbons. The water then flows to the Raw Water Tank, TK-101, through the Regeneration Gas Scrubber level control valve. The water saturated regeneration gas is recycled to the inlet of the Dehydrators through the regeneration gas flow control valve. After the regeneration heating cycle is complete, the third bed is cooled by bypassing the Regeneration Gas Heater and flowing cool inlet gas through the system.

If necessary, the regeneration gas may also be directed to the low-pressure residue line upstream of the Residue Compression Suction Scrubber, PV-113. This alternative is primarily to add operational flexibility for non-standard operation such as emergency maintenance of dehydration equipment.

2.8.4 Cryogenic Plant

The dehydrated inlet gas from the Dust Filters, F-105A&B, is flow split to feed the Inlet/Reflux/Residue Exchanger, E-101/102, and the Inlet/Product/B. Reboiler/S. Reboiler Exchanger, E-103/104/105. The split directs the inlet gas to E-102/103 and E-103/104/105. The inlet gas to E-101/102 is cooled by cross exchange with cold residue gas. The other inlet stream is cooled by cross exchange with cold product in the Product Heater, E-103; cold liquids from Tray #1in the Bottom Reboiler, E-104; and cold liquids from Tray #10 in the Side Reboiler, E-105. The cooled inlet gas from the two brazed aluminum heat exchangers recombines and feeds the Cold Separator, PV-104. The Cold Separator liquid flashes across the level control valve and feeds the Demethanizer above the sixteenth tray. The Demethanizer trays are numbered from bottom to top.

The cold gas from the Cold Separator is split by a flow controller that directs the Reflux pass of E-101/102 with the remaining flows to the Expander, EXC-101. The cold reflux gas is condensed and then sub-cooled and then flashes across the flow control valve to feed the top stage of the Demethanizer, tray # 29. The cold stream is used as reflux to the column to recover higher amounts of ethane. The Expander discharge feeds the Demethanizer above Tray # 19.

The Demethanizer, T-102, is stacked above the Cold Separator to reduce the footprint of the cryogenic equipment. The bell contains 10 two-pass Koch Glitsch A-Valve trays. The bottom section contains 19 two-pass Koch Glitsch T-Valve trays.

The inlet gas split flow controller is reset by the bottom temperature to increase flow through E-103/104/105 if the Demethanizer temperature decreases below a specified set point. This ensures that Bottom and Side Reboiler passes have sufficient duty to meet NGL pipeline specifications for CO_2 and methane. The bottom pressure is set by the Expander Compressor speed control.

The NGL liquid product flows to the Product Surge Tank, PV-105, by gravity drainage. The Product Surge Tank is sized to provide surge capacity with no out flow. The Product Booster Pumps, P-101A/B/C, pump the liquid product from the Product Surge Tank through the Product Heater pass (E-103) in E-103/104/105 and to the suction of the Product Pipeline Pumps, P-102A/B/C. The Product Pipeline Pumps feed the product pipeline.

The Demethanizer overhead is heated by cross exchange with the inlet gas and cold reflux. The warm residue is compressed by the booster compressor end of the Expander Compressor and cooled by the Expander Compressor Discharge Coolers, AC-103A/B. The cooled gas flows on to the Recompressor Suction Scrubber, PV-113. The residue gas is compressed by two turbine gas compressors.

2.8.5 Residue Compression

Residue gas is compressed by two centrifugal compressors driven by gas turbines.

Gas from the cryogenic plant feeds the Recompressor Suction Scrubber, PV-113. The Suction Scrubber is liquid empty during normal operation due to the low hydrocarbon and water dew points of the residue gas. Liquid that accumulates in the vessel will be manually drained to the closed drain system, and a high level will activate a high-level switch to shut down the compression.

2.8.6 Fuel Gas System

Residue gas for fuel gas is taken from downstream of the Residue Gas Coolers, AC-107 and AC-108. The gas stream is reduced in pressure through a pressure control valve regulating the pressure of the High Pressure Fuel Gas Scrubber, PV-109. A level control valve passes liquids that may accumulate in PV-109 to the closed drain system. In normal operation, the Fuel Gas Scrubber is empty and the level control valve is closed. The Fuel Gas Scrubber overhead is metered and is then split between high-pressure and low-pressure users. Low-pressure fuel gas is used as purge gas to the flare system, blanket gas, and as fuel for the catalytic building heaters, Thermal Oxidizer, Flare, and Heat Medium Heater.

2.8.7 Heat Medium System

The heat medium system supplies a normal total heat duty that is consumed by the Amine Reboiler, Regeneration Gas Heater, and Trim Reboiler. This system has the capability to provide all units, operating at 100 percent of capacity.

The Heat Medium Surge Tank, PV-108, provides surge capacity for the heat medium. The outlet of the Heat Medium Surge Tank feeds two of the three Heat Medium Pumps, P-102A/B/C. The Heat Medium Pumps circulate heat medium through the system. The bulk of the cool heat medium is diverted to tempering, and a portion of the heat medium is heated by the Heat Medium Heater, H-101; the Titan 130 Waste Heat Recovery Unit, WHRU-101; the gas turbine Waste Heat Recovery Unit, WHRU-102; and the Thermal

Oxidizer Waste Heat Recovery Unit, WHRU-103. The outlet temperature of each waste heat recovery unit is controlled by regulating the flow of the heat medium at the inlet.

The bulk of the heat medium combines with the cooler tempering stream. The tempered heat medium stream is temperature controlled by adjusting the hot heat medium flow then feeds the Trim Reboiler and the Amine Reboiler. The flow of heat medium to the Trim Reboiler is controlled by process temperature and is normally in use only during ethane rejection. The flow of heat medium to the Amine Reboiler is regulated by a flow controller at the heat medium outlet. Flow from the Regeneration Gas Heater, Trim Reboiler and Amine Reboiler recombines and flows back to the Heat Medium Surge Tank.

2.8.8 Flare System

The flare header runs through the plant and then feeds into the Flare Knock Out (KO) Drum, PV-110. Liquid that accumulates in PV-110 is pumped to the existing Slop Tank by the Flare KO Pump, P-107. Gas from PV-110 is incinerated in the Flare Stack, FL-101. The flare is continually receiving purge gas for the pilot flame and is designed for emergency releases.

2.8.9 Instrument Air and Utility System

The instrument air system is comprised of two Instrument Air Compressors, IA-101A/B. Each compressor is sized to provide instrument air for all instrumentation in TXP4 with one compressor operating and the second on standby. The instrument air is discharged from the compressors to a Wet Air Receiver. The instrument air passes from the Air Receiver, through a Pre-Filter, two electrically heated Dryer Towers, and then through an After Filter.

The instrument air feeds five Instrument Air Receivers, PV-114, PV-115, PV-116, PV-117, and PV-118. One instrument air receiver is located at each of the five major process areas: the inlet area, gas treating, cryogenic plant, compressors, and heat medium area.

2.8.10 Deionized Water Treating System

The Deionized (DI) water treating system is sized to produce amine make-up and utility water.

The Raw Water Tank, TK-101, is an underground tank that is fed by water from the Regeneration Water Carbon Filter and outside water that is trucked in and unloaded. The Raw Water Pumps move the raw water through the DI Water Filters on the ion exchange skid and into the DI Water Tank, TK-102. The DI Water Make-Up Pumps, P-109A/B, pump the DI water to the amine system upstream of the Amine Carbon Filter.

2.8.11 Other Facility Equipment

In addition to the above, the TXP4 Project will include but will not necessarily be limited to the following:

- Roads, walkways, and drainage systems
- Buildings
- Foundations
- Pipe racks, structures, and platforms

- Piping systems
- Electrical power and distribution systems
- Instrumentation, electronics, communications, and controls systems
- Other tanks, vessels, towers, heaters, coolers, exchangers, and process equipment
- Other pumps, compressors, and rotating equipment
- Other related systems and equipment to complete the facility
- Temporary construction facilities

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3.0 Construction and Operations Descriptions

The following describes the general construction procedures, schedules, workforce estimates, housing plan, and safety mechanisms and provides information on the construction and operation descriptions of the Echo Springs TXP Expansion.

3.1 Time of Commencement and Construction Time

Rule I Section 7(a)(iv) – An application for a permit shall be filed with the Division, in a form as prescribed by Council rules and regulations, and shall contain information on the estimated time of commencement of construction and construction time.

Site work for the TXP4 Project would initiate in May 2009 or earlier pending all applicable permits, and startup is anticipated in December 2010 (with a contingency to May 2011). The construction schedule would last approximately 21to 25 months.

3.2 Construction Schedule

Rule I Section 7(e) - A statement that shall be a reasonable estimate of the calendar quarter in which construction of the industrial facility will commence, contingent upon the issuance of a permit by the Council.

Contingent upon approval from the Council and obtaining all other required permits, Williams anticipates initiation of construction activities in the second quarter of 2009. The current construction schedules for the Project are summarized in Figure 3-1.

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ID	Task Name	Duration
1	**General**	**497.2 days**
2	Award Project	1 day
3	Williams Air Permit Approval	1 day
4		
5	**Engineering/Purchasing**	**84 days**
12		
13	**Purchase Equipment**	**91 days**
92		
93	**Area 1 - Plant Inlet/Residue/Surrounding Area and Overall Plot**	**273 days**
105		
106	**Area 2 - Flare Header to Existing Facility**	**64 days**
117		
118	**Area 3 - Process**	**130 days**
129		
130	**Area 4 - Amine Treating**	**130 days**
141		
142	**Area 5 - Residue Compression**	**130 days**
153		
154	**Area 6 - Heat Medium**	**80 days**
165		
166	**Area 7 - Amine Regeneration**	**130 days**
177		
178	**Area 8 - Heater, Thermal Oxidizer, Transformers, MCC**	**200 days**
189		
190	**Purchase Distributed Materials**	**250 days**
197		
198	**Shop Fabrication**	**222 days**
202		
211		
218		
229		
236		
247		
248	**Field Construction**	**497.2 days**
251		
259		
271		
293		
313		
331		
344		
362		
377		

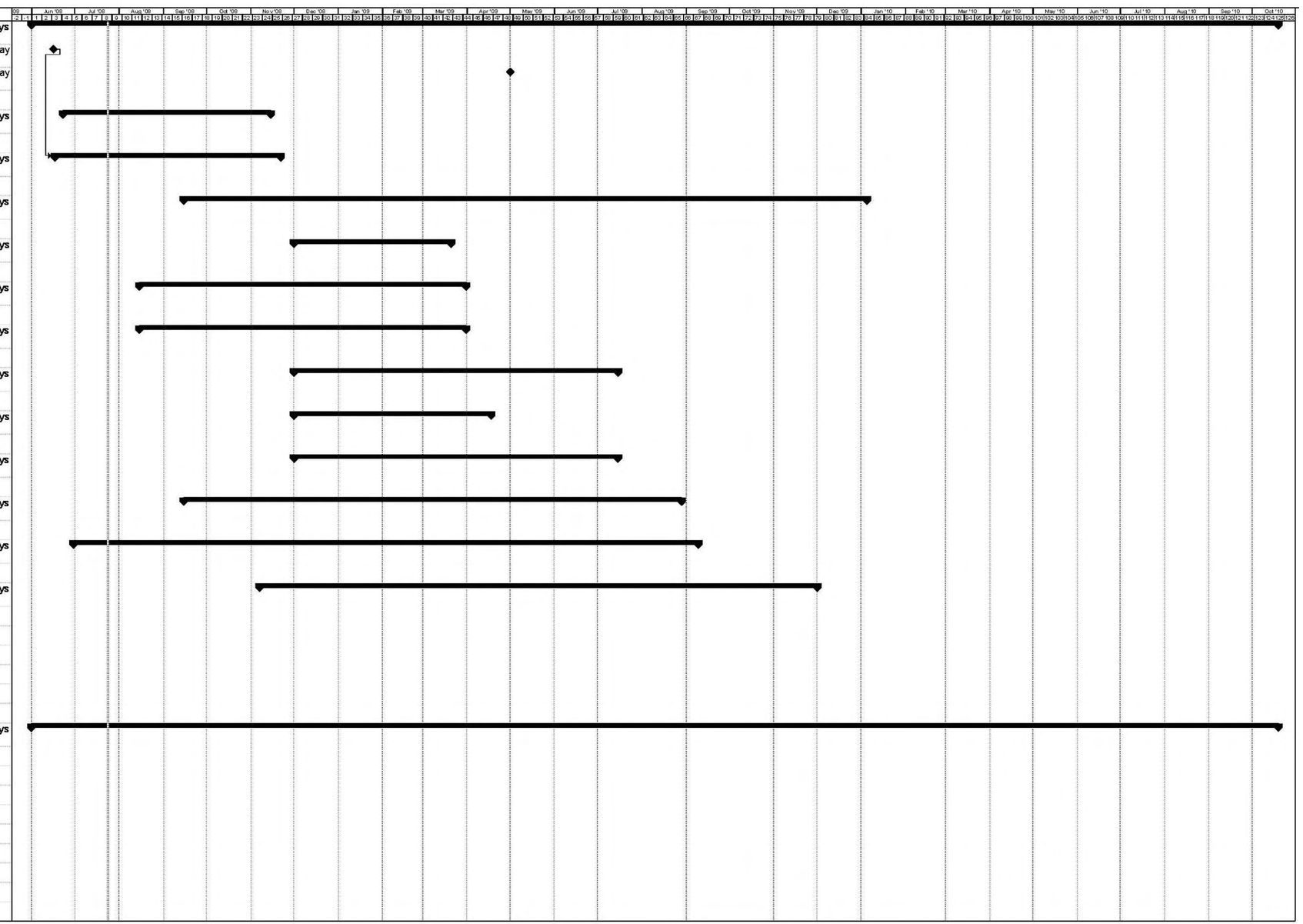

FIGURE 3-1
Construction Schedule

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3.3 Construction Completion Schedule

Rule I Section 7(f) - A statement that shall be a reasonable estimate of the maximum time period required for construction of the industrial facility and an estimate of when the physical components of the industrial facility will be ninety (90) percent complete, and the basis for that estimate.

As detailed in Figure 3-1, the Project erection and commissioning are anticipated to be finished in October 2010. Therefore, the TXP4 is anticipated to be 90 percent complete in the third quarter of 2010.

3.4 Construction Procedures

The balance of plant general construction contractor and subcontractors would prepare the construction site, complete site civil work, install the TXP4 infrastructure and appurtenant facilities, oversee construction, and complete final cleanup and restoration of the Project area and temporarily disturbed laydown area. Heavy construction equipment used to construct the Project would include earth-moving equipment, cranes, and support staff light trucks. Table 3-1 details the general equipment that is likely to be used for the Project.

TABLE 3-1
List of General Construction Equipment

Equipment	Construction Use
Motor Graders	Constructing Pad
Gravel Truck Haulers/Bottom Dump	Hauling and Placement of Aggregate
Backhoe/Trenching Machines	Excavating Foundation
18-Wheel Semi-Tractors	Delivering Project Component
Concrete Trucks and Pumps	Pouring Foundation
Conventional and Small Cranes	Off-Loading Equipment Onsite, Set Components
Heavy and Intermediate Cranes	Off-Loading Equipment Onsite
Pickup Trucks	General Use by Construction Personnel
Small Hydraulic Cranes/Forklifts	Loading and Unloading Minor Project Equipment

Source: CH2M HILL, 2008

3.4.1 Site Civil Work/Preparation

Prior to breaking ground, the construction work area will be surveyed and clearly demarcated with stakes and flagging. After the construction work area is delineated, the site location would be cleared and prepared for safe access and operation.

The TXP4 components would be delivered directly to the temporary laydown area using the existing access roads for onsite assembly.

3.4.2 Access Road

The existing access road is a private gravel road that is maintained by Wamsutter LLC from the gas plant east to highway 789. Leases and easements have been obtained by Wamsutter LLC from private individuals and the BLM for this road when the plant was originally constructed in the early 1990s. The gravel road west of the gas plant to the Wamsutter Crooks Gap Road is also a private road maintained by the natural gas producers in the area. No new access roads will be constructed for the Project, and no improvements to existing roads are necessary.

3.4.3 Foundations

After pad construction, crews would begin installation of the foundation. The concrete foundation would be excavated, forms would be set, rebar installed, and the concrete poured and cured to create the foundation.

3.4.4 Assembly

After the concrete foundations are in place and cured, the structures and equipment would be delivered to the Project site for installation and assembly. Cranes and/or other heavy equipment would lift and place the equipment.

3.4.5 Testing

After the TXP4 is constructed and assembled, all systems, controls, and safety equipment would be calibrated and tested before being placed in service. Qualified technicians, factory representatives and other technical experts, and electricians would test and inspect all mechanical, electrical, instrumentation and control systems to ensure that they comply with required design specifications and are working properly. All tests would be conducted and problems corrected prior to final commissioning.

3.4.6 Cleanup/Reclamation

Prior to construction, the temporary laydown area will be graded and the topsoil will be stockpiled. After construction and per terms of lease agreements, the temporary laydown area will be restored similar to pre-construction conditions.

3.5 TXP4 Expansion Construction Workforce Estimate

Rule I Section 7 (v) - Estimated number and job classifications, by calendar quarter, of employees of the applicant, or contractor or subcontractor of the applicant, during the construction phase and during the operating life of the facility.

The estimated number of construction workers by month is shown in Figure 3-2. Wamsutter LLC anticipates that the onsite construction workforce for the Project will vary from a low of 15 at commencement of construction activities in March 2009, to a high of 175 construction tradesmen during peak construction activities in April and May 2010. Wamsutter LLC anticipates a construction period for the Project of just over 2 years. Table 3-2 presents the workforce personnel breakdown.

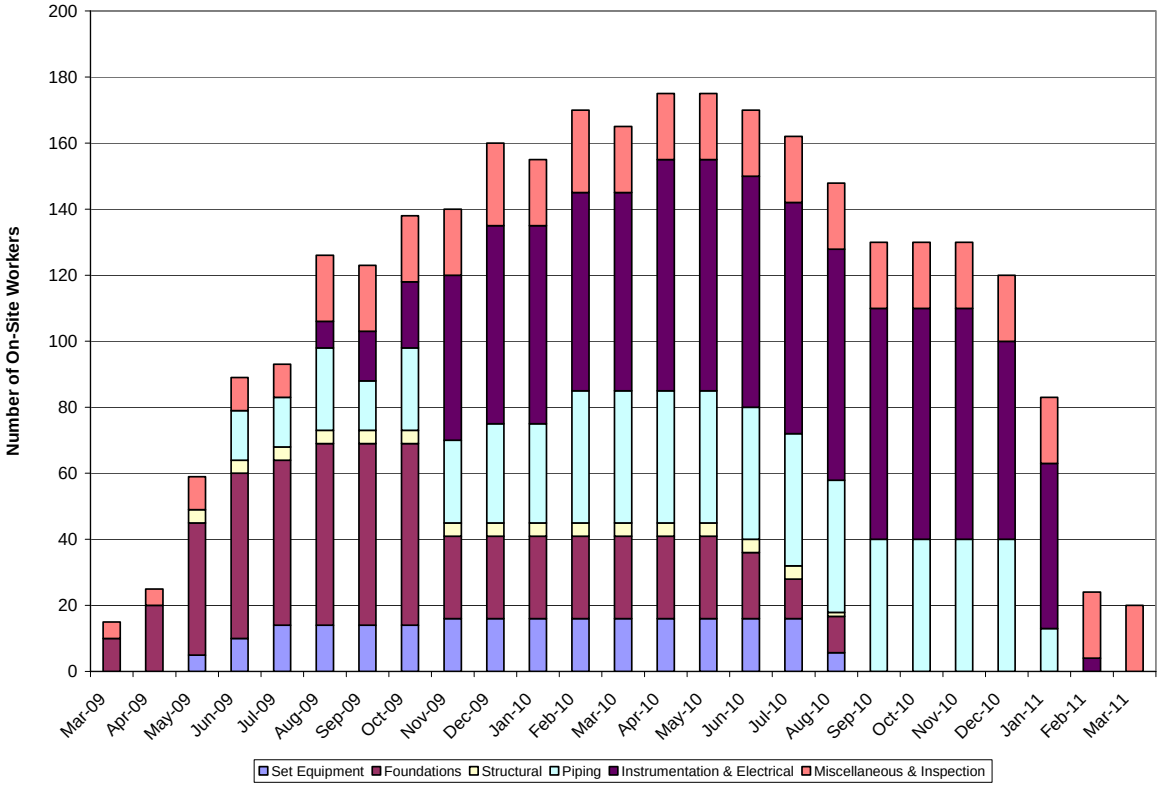

FIGURE 3-2
TXP4 Expansion Construction Phase Workforce (by Month and Activity)

TABLE 3-2
TXP4 Expansion Onsite Construction Workforce Personnel Breakdown

Month	Set Equipment	Foundations	Structural	Piping	I and E	Miscellaneous and Inspection	Grand Total
Mar-09	0	10	0	0	0	5	15
Apr-09	0	20	0	0	0	5	25
May-09	5	40	4	0	0	10	59
Jun-09	10	50	4	15	0	10	89
Jul-09	14	50	4	15	0	10	93
Aug-09	14	55	4	25	8	20	126
Sep-09	14	55	4	15	15	20	123
Oct-09	14	55	4	25	20	20	138
Nov-09	16	25	4	25	50	20	140
Dec-09	16	25	4	30	60	25	160
Jan-10	16	25	4	30	60	20	155
Feb-10	16	25	4	40	60	25	170
Mar-10	16	25	4	40	60	20	165
Apr-10	16	25	4	40	70	20	175
May-10	16	25	4	40	70	20	175
Jun-10	16	20	4	40	70	20	170
Jul-10	16	12	4	40	70	20	162
Aug-10	6	11	1	40	70	20	148
Sep-10	0	0	0	40	70	20	130
Oct-08	0	0	0	40	70	20	130
Nov-10	0	0	0	40	70	20	130
Dec-10	0	0	0	40	60	20	120
Jan-11	0	0	0	13	50	20	83
Feb-11	0	0	0	0	4	20	24
Mar-11	0	0	0	0	0	20	20

Source: Wamsutter LLC

3.5.1 Local to Non-local Workforce Ratio

Preliminary assessments of labor availability in the general area indicate a shortage of skilled crafts persons and workers with appropriate specializations. Wamsutter LLC encourages its plant contractor to use local workers to the extent practicable. However, for purposes of analysis and due to the availability of the in state workforce, it is anticipated that all skilled crafts workers will come from outside the area during the construction phase.

3.6 TXP4 Expansion Operations Workforce Employment

Rule I Section 7 (v) - Estimated number and job classifications, by calendar quarter, of employees of the applicant, or contractor or subcontractor of the applicant, during the construction phase and during the operating life of the facility.

A long-term benefit of the Project comes from the additional permanent employees who will operate and maintain the facility. Upon completion, the operation of the Project will require approximately seven additional full-time employees. Additional full-time employees may be required if Wamsutter LLC expands the facility in future years.

It is anticipated that the Project will have initial operation workforces in late 2010. Employees will be full-time over the calendar year and anticipated life of the Project. It is assumed that 50 percent of these employees will be people who currently reside within the area of study.

3.7 List of Permits Required for Construction

The purpose of this section is to identify anticipated permits required for construction. It is expected that all permits required for construction will be obtained prior to the initiation of the major construction activities in spring 2008. Regulatory agencies and permits are listed in Table 3-3.

TABLE 3-3
List of Potential Permits for Construction and Operation of the Project

Agency	Permit/Decision	Status	Anticipated Permit Date
Federal			
U.S. Environmental Protection Agency (EPA)	Spill Prevention Control and Countermeasure Plan (SPCC)	Update with TXP4 prior to operation	October 2010
State of Wyoming			
Wyoming Department of Environmental Quality	Wyoming Industrial Development Information and Siting Act/Industrial Siting Commission Order	Submit application August 1 2008	January 2009
	Wyoming Pollutant Discharge Elimination System (WYPDES)—Large Construction General Permit (WYR10-0000)	Submit application 30 days prior to construction	September 2008
	Used Oil Storage Permit	Is current and up to date	NA
Wyoming Department of Transportation	Port of Entry	Prior to construction	TBD
	Permit for Oversized / Overweight Loads	Prior to construction	TBD

3.8 Operation and Maintenance Activities

Section 7(d) - A description of the operating nature of the proposed industrial facility, the expected source and quantity of its raw materials, and energy requirements.

This facility will process 350 MMscfd of raw natural gas and will produce pipeline quality natural gas and NGL through a cryogenic turbo expansion process.

The raw natural gas supply for the proposed facility will predominantly come from the existing Wamsutter field that surrounds the plant site. Over the life of the Project, other supplies of raw natural gas may be obtained as wells are depleted.

During normal operations, the facility will consume about 7,000 million British thermal units per day (MMBtu/day) of natural gas for fuel and about 5,000 kilowatts (kW) of electrical energy. The fuel gas will be supplied by the facility. Electrical power will be purchased from Rocky Mountain Electric.

3.8.1 Anticipated Operation Life

Section 7(d)(i) - The proposed on-line life of the industrial facility and its projected operating capacity during its on-line life and, for transmission lines exceeding one hundred fifteen thousand (115,000) volts included as part of the proposed industrial facility, a projection indicating when such lines will become insufficient to meet the future demand and at what time a need will exist to construct additional transmission lines to meet such demands.

The economic life of the Project is anticipated to be 50+ years; however, this may be extended or reduced depending on market conditions and field gas supply in the region.

3.8.2 Facility Operations

(ii) Products needed by facility operations and their source.

This facility produces pipeline natural gas and NGL through a cryogenic turbo expansion process. The processed natural gas and NGL will be delivered into existing pipelines.

Potentially hazardous materials to be used during operation for maintenance may include general lubricants, general cleaners, ethylene glycol, methanol, amine, vehicle fuel, and herbicides for weed control. These materials will be stored in accordance with the facilities Standard Operating Procedures (SOPs) and local, state, and federal laws and regulations.

3.9 Health and Safety

Wamsutter LLC takes the health and safety of their employees very seriously. The Echo Spring Gas Plant has been operating since 1992 and has SOPs to ensure the safe operation of the facility. In 2007, Echo Springs Gas Plant had zero lost time accidents while exceeding a 99 percent operation reliability rate.

Wamsutter LLC requires their contractors to also prepare and follow a Health and Safety Plan for the work they will be performing.

Hazardous substances will be used in a manner that is protective of human health and the environment and will comply with all applicable local, state, and federal environmental laws and regulations. Accidental releases of hazardous materials (e.g., vehicle fuel during construction or lubricating oil for turbines) will be prevented or minimized through proper containment of these substances during use and transportation to the site. Any oily waste, rags, or dirty or hazardous solid waste will be collected, stored, and disposed of in accordance with the facility's SOPs and local, state, and federal laws and regulations.

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4.0 Socioeconomic Baseline Data and Analysis of Impacts

4.1 Introduction

Title 35 Public Health and Safety, Chapter 12 Industrial Development and Siting of the Statutes of the State of Wyoming, provides guidance relative to the socioeconomic topics of concern that shall be addressed during the permit application process. The following aspects of the socioeconomic environment that could experience adverse impacts associated with construction and operation of the proposed facility shall be addressed: economic base, housing, transportation, sewer and water facilities, solid waste facilities, police and fire facilities, educational facilities, health and hospital facilities, and water supply.

The Industrial Siting Council (ISC) shall grant a permit either as proposed or as modified by the council if it finds and determines that the facility will not pose a threat of serious injury to the environment or to the social and economic condition or inhabitants or expected inhabitants in the affected areas and will not substantially impair the health, safety, or welfare of the inhabitants. For the purposes of this permit application, the definitions of "health," "safety," and "welfare" are as follows. Health shall mean the state of being sound in body or mind and includes psychological as well as physical well-being. Safety shall mean freedom from fear of injury or threat of injury. Such injury or threat of injury may be premised on crime rates, traffic accident rates, dangers of industrial accidents or mishaps, or other similar considerations. Welfare shall mean considerations of public convenience, public well-being, and general prosperity. The term also properly covers those subjects encompassed under health and safety.

Guidance is provided regarding information that should be included in the permit application and includes area of site influence and local governments primarily affected by the proposed industrial facility; construction and operations workforce estimates; and inventory and evaluation of the social and economic conditions in the area of site influence.

4.1.1 Area of Site Influence and Local Governments Primarily Affected by the Proposed Industrial Facility

An area of site influence is defined as the areas that may be affected environmentally, socially, or economically, in any significant degree, by the location of the industrial facility at the proposed site. A local government primarily affected by the proposed industrial facility means any defined geographical area or unit of local government or special district in which the construction and operation of the industrial facility may significantly affect the environment, population, level of economic well-being, or level of social services or may threaten the health, safety, or welfare of present or expected inhabitants. Any such local government body or special district is within the area of site influence.

4.1.2 Construction and Operations Workforce Estimates

Estimates shall be provided of the number of employees needed to complete the construction and operation of the facility by the applicant, its contractors, and subcontractors. These estimates shall include job classifications by calendar quarter, seasonal fluctuations, and the peak employment during both construction and operation, annual payroll, and expected benefits, if any, to be provided including housing allowance, transportation allowances, and per diem allowances.

4.1.3 Inventory and Evaluation of Social and Economic Conditions

Social and economic conditions are inventoried and evaluated as they currently exist, projected as they would exist in the future without the proposed industrial facility, and as they would exist with the facility.

Potential impacts associated with the proposed facility are primarily driven by the numbers of new direct construction and operations workers entering the region and the additional service workers and families required to support these direct workers. Where appropriate, level of service (LOS) ratios are calculated for resources, and comparisons are made with statewide, national, local, and standard ratios to provide a perspective for succeeding impact assessment. LOS ratios express the quantity of a service (e.g., expressed as the number of firefighters or law enforcement officers in a service area) in relation to the population in the respective service area (e.g., per 10,000 residents). These ratios provide a means of comparing service levels across service areas and over time or against target or standard levels. LOS ratios can also be used to estimate the number of additional service personnel required to meet the demands of new residents while maintaining existing levels of service. If it appears that the resources are unlikely to be able to accommodate the new demands of the Project, then mitigation measures are proposed.

There are three major benefits attributable to the Project: tax revenues, direct employment, and secondary employment. Construction of the Project will provide employment opportunities for local and non-local workers. It is likely that some construction workers (and possibly family members) would relocate to the study area for the entire duration or a portion of the construction phase. Personal consumption expenditures by direct workers would generate sales tax revenues for the counties and municipalities that contain the points of sale. The purchase of equipment, supplies, materials, and services necessary for construction and operation of the Project could create indirect jobs, and purchases by direct workers could induce additional employment.

To the degree that workers (with or without their family members) temporarily relocate to the area as a direct result of construction of the Project, additional demands would be placed on resources in the area of site influence. For example, accommodations (permanent or temporary) would be required to house the relocating workers. New residents (even if temporary) could increase the demand for community resources and services such as public education and police and fire protection and add traffic to local roads and highways. Should the additional demand exceed the capacity of the existing service providers and infrastructure, it could be necessary to implement mitigation measures to alleviate the capacity issues.

4.2 Study Area and Area of Site Influence

Rule I Section 7(g) – The applicant shall identify what it deems to be the area of site influence and the local government primarily affected by the proposed industrial facility as defined in Sections 2(b) and (c), respectively, of these regulations. The immediately adjoining area(s) and local governments shall also be identified with a statement of the reasons for their exclusion from the areas(s) or local governments primarily affected by the proposed industrial facility.

4.2.1 Study Area

The socioeconomic impact analysis methodology involves a description of the general baseline (i.e., existing) conditions in a broader study area and more confined area of site influence closer to the Project site.

The study area is defined as a five-county area comprised of the following counties: Albany, Carbon, Fremont, Natrona, and Sweetwater as illustrated in Figure 4-1. These counties were identified early in the analysis and in consultation with the ISD. This decision was based partially on information regarding inter-county commuting patterns as described in Table 4-1.

For each of the counties of the study area, the majority of persons working in the respective county resides in the same county. Commuter flows relate directly to two major influences: the number of job opportunities at specific destinations; and the distance in driving time separating these destinations from places of residence. In the case of Albany County, the greatest shares of commuters leaving the county work in the neighboring counties of Laramie County to the east (48 percent of all known inter-county outflows), Natrona County to the north (15 percent), Carbon County to the west (6 percent) and Sweetwater to the west (5 percent). Strong reciprocal in-flows into Albany County originate in these same counties: 25 percent from Laramie County and 10 percent each from Natrona and Carbon counties, 7 percent from Fremont County, and 6 percent from Sweetwater County.

In the case of Carbon County, the major work destinations for residents are the adjacent areas of Natrona County to the north (25 percent of inter-county outflows), Sweetwater County to the west (25 percent), Albany County to the east (13 percent), and Laramie to the east (10 percent). The major origin counties for persons commuting to work in Carbon County are Natrona County (19 percent), Sweetwater County (17 percent) Albany County (15 percent), and Laramie County (13 percent). Fremont County residents commute for work mainly to Natrona County (36 percent), Sweetwater (13 percent), and Laramie (11 percent) while persons working in Fremont County originate mainly in Natrona County (20 percent. For residents of Natrona County, the major work destinations include Laramie County (20 percent), Campbell County (15 percent) and Sweetwater County (11 percent). Important places of residence for workers commuting into Natrona County include Converse County (18 percent), Fremont County (13 percent), Sweetwater County (9 percent), and Campbell County (9 percent). The major origin of workers commuting into Sweetwater County is Uinta County immediately to the west, while residents commute predominantly to work in Natrona County.

Commuting patterns for the counties of the study area appear to be determined to a high degree by the following conditions: convenient access provided by Interstate 80 that passes through, from east to west, Laramie, Albany, Carbon, Sweetwater, and Uinta counties; the major urban area of Casper in Natrona County; and smaller urban areas such as Laramie, Rawlins, Rock Springs, and Green River.

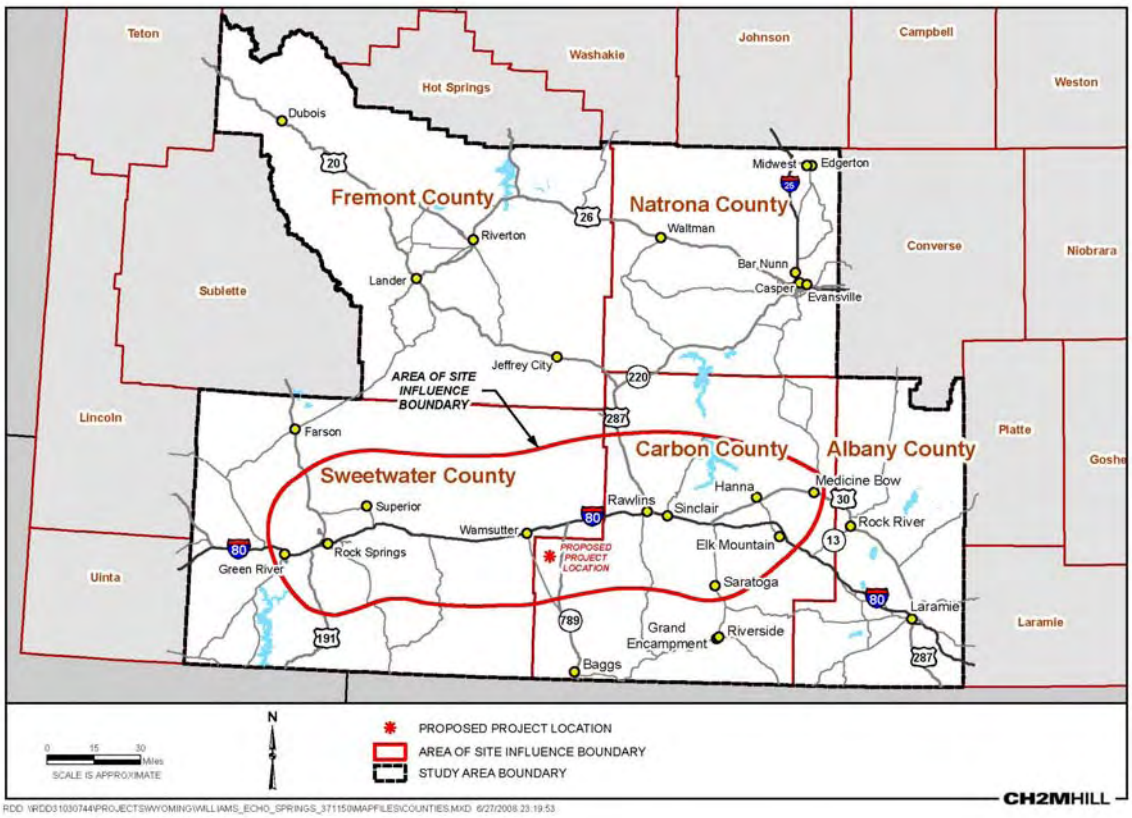

FIGURE 4-1
Counties Comprising the Study Area and Estimated Area of Site Influence

TABLE 4-1
Study Area Counties: Commuter Flows, 4th Quarter, 2005

County of Origin or Destination	Albany County		Carbon County		Fremont County		Natrona County		Sweetwater County	
	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow
Albany	NA	NA	15.2%	12.7%	5.5%	5.3%	3.6%	7.1%	2.5%	5.8%
Big Horn	1.9%	1.0%	0.7%	0.5%	1.6%	1.9%	1.9%	1.6%	0.7%	1.2%
Campbell	5.4%	3.5%	4.8%	6.9%	2.7%	5.8%	8.7%	15.3%	4.1%	15.4%
Carbon	9.6%	5.8%	NA	NA	7.4%	2.3%	5.7%	4.3%	11.6%	4.9%
Converse	1.5%	0.5%	1.6%	1.5%	1.8%	0.7%	18.4%	8.8%	1.6%	2.2%
Crook	1.2%	0.3%	0.1%	0.6%	0.6%	0.5%	1.4%	0.6%	0.4%	0.1%

TABLE 4-1
Study Area Counties: Commuter Flows, 4th Quarter, 2005

County of Origin or Destination	Albany County		Carbon County		Fremont County		Natrona County		Sweetwater County	
	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow
Fremont	6.6%	3.6%	9.3%	5.3%	NA	NA	13.2%	7.9%	10.0%	4.6%
Goshen	3.8%	1.0%	1.7%	0.6%	0.6%	0.8%	1.3%	1.3%	0.4%	0.2%
Hot Springs	1.4%	0.7%	0.6%	1.5%	8.3%	2.5%	1.9%	1.5%	0.9%	0.5%
Johnson	1.5%	0.9%	1.7%	0.3%	1.0%	0.5%	2.2%	2.5%	0.5%	0.1%
Laramie	24.5%	48.4%	12.8%	9.7%	6.0%	10.6%	8.4%	20.0%	3.5%	8.9%
Lincoln	2.5%	1.0%	1.3%	0.2%	2.7%	1.6%	2.0%	1.2%	7.0%	2.7%
Natrona	9.6%	14.8%	18.6%	25.2%	19.7%	35.5%	NA	NA	9.7%	28.6%
Niobrara	0.4%	0.1%	2.3%	0.1%	0.2%	0.0%	0.8%	0.2%	0.1%	0.1%
Park	5.0%	2.9%	2.5%	2.2%	4.8%	3.1%	4.8%	4.5%	3.3%	1.1%
Platte	4.4%	2.2%	1.6%	0.3%	1.1%	0.3%	1.7%	1.3%	0.7%	0.5%
Sheridan	5.8%	2.7%	4.1%	0.9%	3.1%	2.9%	5.0%	4.5%	1.5%	2.1%
Sublette	2.1%	1.2%	0.6%	1.0%	3.8%	1.7%	1.5%	1.1%	5.5%	8.2%
Sweetwater	6.2%	4.8%	16.9%	24.6%	9.1%	13.0%	9.2%	11.4%	NA	NA
Teton	1.6%	1.8%	0.8%	0.8%	9.3%	6.8%	0.8%	2.7%	1.7%	1.7%
Uinta	3.4%	1.6%	1.6%	4.6%	5.2%	1.7%	3.1%	1.4%	33.4%	10.6%
Washakie	1.1%	0.6%	1.1%	0.3%	4.8%	2.1%	2.4%	0.6%	0.7%	0.4%
Weston	0.7%	0.6%	0.1%	0.2%	0.5%	0.1%	2.0%	0.3%	0.3%	0.1%

Note: percentage values are share of total known inter-county flows.
Source: http://doe.state.wy.us/LMI/commuter_flow_2007.pdf

4.2.2 Area of Site Influence

Based on a review of the five-county study area, the area of site influence is defined as a more geographically restrictive area within which impacts are expected to be concentrated. This area extends approximately 50 miles east and west from the Project site. To the east, it includes the urban area of Rawlins as well as the smaller communities of Medicine Bow and Hanna in Carbon County. To the west, the area encompasses Rock Springs and Green River and includes Wamsutter immediately to the northwest, all located in Sweetwater County (Figure 4-1). It is within this area and the communities contained within it that the majority of construction and operations workers are expected to reside and within which the Project proponent will concentrate efforts to house any non-local workers. It is likely that temporary residents working at the Project site will be attracted to the communities that are closer, larger, and host a range of services and amenities. Thus, the communities included in the area of site influence are selected based on: (1) proximity to the Project site; (2) population size, and (3) number and range of amenities and services, including temporary accommodations. Based on these factors, it is estimated that most non-local workers would choose accommodations in Rawlins (35 percent of all workers), Rock Springs (33 percent), Green River (18 percent), and Wamsutter and Saratoga (3 percent

each). It is possible that a number of other communities (including Hanna, Sinclair, and Baggs) might accommodate non-local workers; however, their numbers would be small. In the event that additional lodging is constructed in Wamsutter, there would likely be a shift of workers staying in Wamsutter due to the proximity to the Project site.

The Project proponent desires to maximize the benefits of the Project to the local communities, while minimizing adverse impacts as much as possible. While their intent is to ensure that adequate housing is available within the communities of Rawlins, Rock Springs, Green River, and Wamsutter for the workforce at the Project site, it is recognized that some members of the workforce may choose to reside temporarily outside these communities.

4.3 Baseline Socioeconomic Conditions

This section presents a summary of baseline socioeconomic conditions within the broader study area. The purpose of the section is to provide details of existing conditions regarding pertinent socioeconomic resources within the study area and to provide a frame of reference against which to assess Project-related impacts. The resources addressed include population, economic conditions, housing (permanent and temporary), education, public safety, health care, municipal services, and transportation facilities.

4.3.1 Population

Rule I Section (7)(i)(iii) – Population. A study of the area population including a description of methodology used. The study may include, but is not limited to, an evaluation of demographic characteristics for the current population and projections of the area population without the proposed industrial facility.

Past, present, and future characteristics of the population in the study area are described in this subsection. These characteristics include historical trends for the study area, counties, and incorporated places; age composition of the county populations; and migration patterns.

Population characteristics that are important in determining the location and availability of the local labor force include the location of population centers and the age distribution of the population (i.e., the identification of areas where persons of working age reside).

4.3.1.1 Historical Population Trends

Between 1920 and 2007, the population of the study area increased by almost two and one half times (233 percent) at an average annual rate of 1.4 percent, well above the 169 percent and 1.1 percent, respectively, registered by the state. Of the counties comprising the study area, Natrona County experienced the greatest change in population: an increase of almost four times (390 percent) at an average annual rate of 1.8 percent. Carbon County experienced the smallest population increase over this time period: 63 percent at an average annual rate of 0.6 percent. The pattern of this population increase is evident from the information presented in Table 4-2 and Figure 4-2.

As can be seen from Figure 4-2, all five counties had similar population bases in 1920: between about 9,000 and 15,000 persons. However, their respective growth trajectories differ markedly: Natrona County exhibited robust population increase;

Carbon County experienced modest population increase; and the remaining three counties all experienced rates of change slightly above that of the state.

TABLE 4-2
Population Trends in the Study Area (1920 to 2007)

Geographical Area	1920	1930	1940	1950	1960	1970	1980	1990	2000	2007
Albany County	9,283	12,041	13,946	19,055	21,290	26,431	29,082	30,797	32,014	32,227
Carbon County	9,525	11,391	12,644	15,742	14,937	13,354	21,896	16,659	15,639	15,486
Fremont County	11,820	10,490	16,095	19,580	26,168	28,352	38,992	33,662	35,804	37,479
Natrona County	14,635	24,272	23,858	31,437	49,623	51,264	71,856	61,226	66,533	71,750
Sweetwater County	13,640	18,165	19,407	22,017	17,920	18,391	41,723	38,823	37,613	39,305
Study Area	58,903	76,359	85,950	107,831	129,938	137,792	203,529	181,167	187,603	196,247
State of Wyoming	194,402	225,565	250,742	290,529	330,066	332,416	469,557	453,588	493,782	522,830

Sources: State of Wyoming, Department of Administration and Information, Economic Analysis Division, 2007 http://eadiv.state.wy.us/demog_data/cntycity_hist.htm; State of Wyoming, Department of Administration and Information, Economic Analysis Division, 2007 http://eadiv.state.wy.us/pop/SUB-06EST.htm

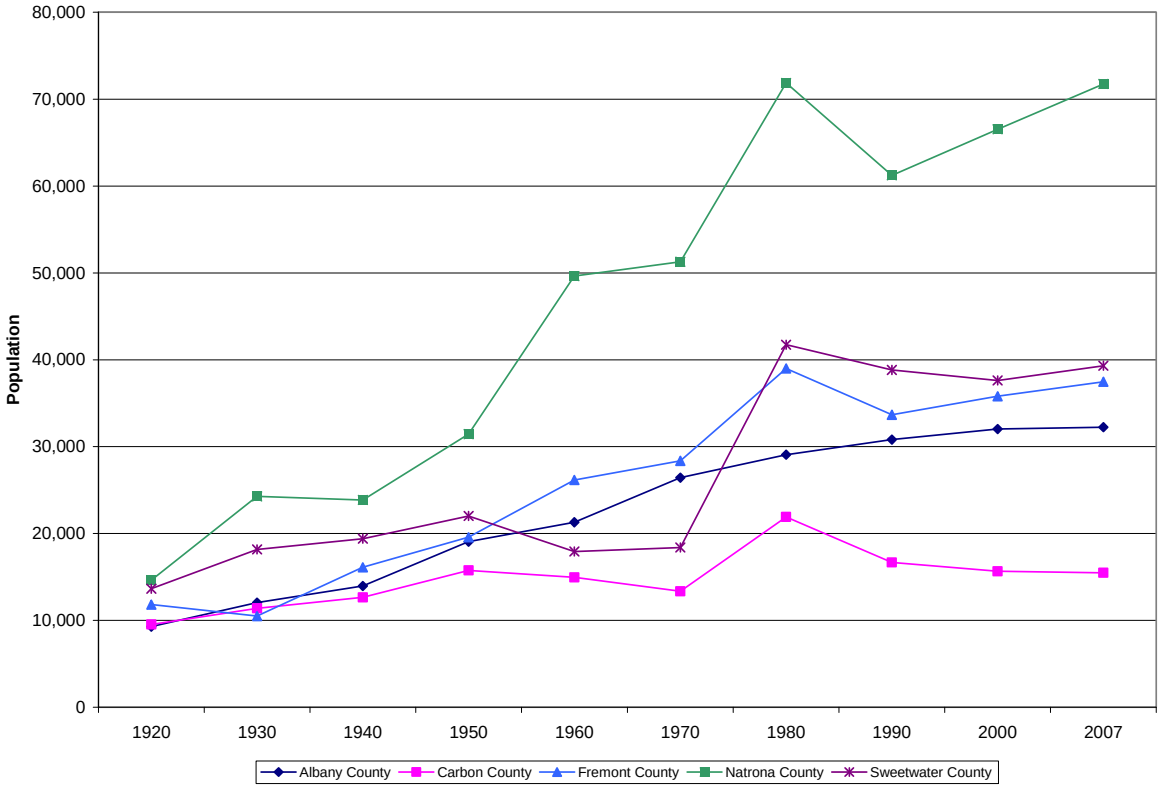

FIGURE 4-2
Population Trends: Counties and Study Area (1920-2007)

The combined population of the study area comprised 30.3 percent of the population of the entire State of Wyoming in 1920 and had increased to 37.5 percent by 2007. The majority of this added contribution to state population (of 7.2 percentage points) was contributed by Natrona County (6.2 percentage points) while the contribution of Carbon County declined (1.9 percentage points) (Table 4-3).

TABLE 4-3
Share of State of Wyoming Population (1920-2007)

Geographical Area	1920	1930	1940	1950	1960	1970	1980	1990	2000	2007
Albany County	4.8%	5.3%	5.6%	6.6%	6.5%	8.0%	6.2%	6.8%	6.5%	6.2%
Carbon County	4.9%	5.0%	5.0%	5.4%	4.5%	4.0%	4.7%	3.7%	3.2%	3.0%
Fremont County	6.1%	4.7%	6.4%	6.7%	7.9%	8.5%	8.3%	7.4%	7.3%	7.2%
Natrona County	7.5%	10.8%	9.5%	10.8%	15.0%	15.4%	15.3%	13.5%	13.5%	13.7%
Sweetwater County	7.0%	8.1%	7.7%	7.6%	5.4%	5.5%	8.9%	8.6%	7.6%	7.5%
STUDY AREA	30.3%	33.9%	34.3%	37.1%	39.4%	41.5%	43.3%	39.9%	38.0%	37.5%

Sources: State of Wyoming, Department of Administration and Information, Economic Analysis Division, 2007 http://eadiv.state.wy.us/demog_data/cntycity_hist.htm; State of Wyoming, Department of Administration and Information, Economic Analysis Division, 2007 http://eadiv.state.wy.us/pop/SUB-06EST.htm

The population of Carbon County increased between 1920 and 1950, declined through 1970, and experienced dramatic growth in the 1970s associated with energy resource development. This population peak was followed by continuous population loss through 2007 (Table 4-2 and Figure 4-2). The population of Sweetwater County exhibits a similar pattern of change to that of Carbon County, although the population growth spike of the 1970s was more pronounced: a rise of 127 percent versus 64 percent. The dramatic rise in population in Sweetwater County was related to large-scale mineral and energy development, new trona mining, and the construction of the Jim Bridger power plant.

Over the period 1970 to 2007, the populations of the counties of the study area (with the exception of Albany County) have exhibited marked swings on an annual basis with increases as high as 17.9 percent and declines as much as 6.7 percent, as can be seen from the information presented in Figure 4-3. Over the period 1970 through 2007, both Carbon and Sweetwater counties experienced "boom-bust" cycles that saw rapid growth between 1970 and 1981-2 with 4 years in which population growth exceeded 5 percent annually in Carbon County and 3 years in which population growth exceeded 10 percent in Sweetwater County. During the "bust" period between 1982 and 1992, population in Carbon County declined annually with 4 years registering population declines in excess of 4 percent annually. Population in Carbon and Sweetwater counties continued to decline until about 2005 for Carbon County and 2004 for Sweetwater County. The population decline in Natrona County was much more short-lived, and after 1991 population began to increase. The cyclical nature of the trend is evident in Figure 4-4 where the timing and magnitude of the trends are illustrated.

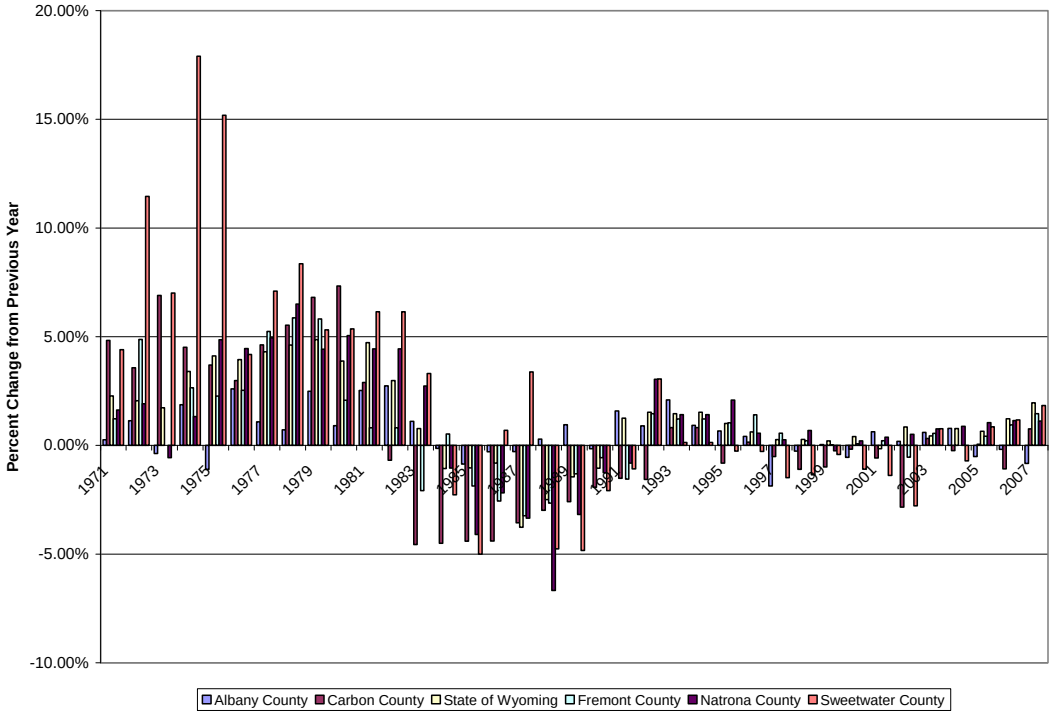

FIGURE 4-3
Annual Percentage Population Change: Counties (1970-2007)

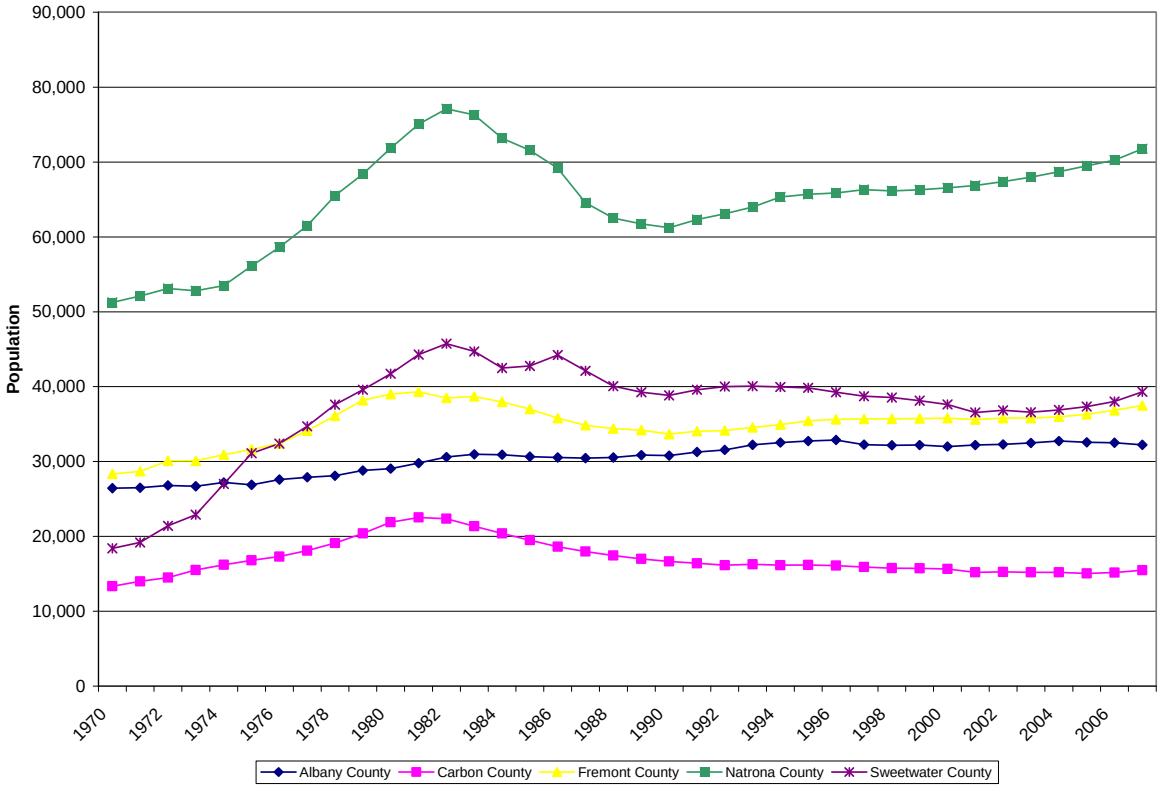

FIGURE 4-4
Population Trends: Counties (1970-2007)

4.3.1.2 Density and Location of Population

The majority of the population of the study area resides in the larger incorporated communities of Laramie, Rawlins, Lander, Riverton, Casper, Green River, and Rock Springs, which account for 70 percent of the total as can be seen from the information contained in Table 4-4. The unincorporated portions of the five counties contained 22 percent of the combined 2006 total population of the study area with the remaining 8 percent of the study area population contained in the numerous small incorporated places. The community closest to the Project site is Wamsutter, a town with less than 300 residents. This distribution of the population has remained virtually unchanged since 2000 (i.e., State of Wyoming, Department of Administration and Information, Economic Analysis Division). The spatial distribution of population as of the year 2000 is illustrated in Figure 4-5.

TABLE 4-4
Population by County and Community, 2000-2006

Place	Census 2000 Population	July 1, 2006, Population Estimate	% Change 2000 - 2006	Community as % of County Population (2006)	% of Study Area
Wyoming	**493,782**	**494,067**	**4.3**	NA	NA
Albany County	**32,014**	**31,850**	**-5.2**	**84.6%**	**15.8%**
Laramie	27,204	26,969	-5.5	84.6%	13.4%
Rock River	235	236	-14.0	0.7%	0.1%
Balance of Albany County	4,575	4,645	-2.7	14.7%	2.3%
Carbon County	**15,639**	**15,255**	**-2.0**	**NA**	**8.0%**
Baggs	348	353	5.5	2.4%	0.2%
Dixon	79	79	1.3	0.5%	0.0%
Elk Mountain	192	189	1.0	1.3%	0.1%
Grand Encampment	443	437	-0.2	2.9%	0.2%
Hanna	873	865	-1.8	5.6%	0.4%
Medicine Bow	274	270	-3.6	1.7%	0.1%
Rawlins	8,538	8,655	-4.3	56.3%	4.5%
Riverside	59	58	1.7	0.4%	0.0%
Saratoga	1,726	1,715	-0.3	11.2%	0.9%
Sinclair	423	415	-4.7	2.6%	0.2%
Balance of Carbon County	2,684	2,219	4.5	15.1%	1.2%
Fremont County	**35,804**	**37,163**	**3.8**	**NA**	**19.4%**
Dubois Town	964	1,018	5.6	2.7%	0.5%
Hudson Town	407	421	3.4	1.1%	0.2%
Lander City	6,907	7,047	2.0	19.0%	3.7%
Pavillion Town	165	166	0.6	0.4%	0.1%
Riverton City	9,259	9,728	5.1	26.2%	5.1%
Shoshoni Town	635	668	5.2	1.8%	0.3%
Balance of Fremont County	17,467	18,115	3.7	48.7%	9.4%

TABLE 4-4
Population by County and Community, 2000-2006

Place	Census 2000 Population	July 1, 2006, Population Estimate	% Change 2000 - 2006	Community as % of County Population (2006)	% of Study Area
Natrona County	**66,533**	**70,401**	**5.8**	**NA**	**36.7%**
Bar Nunn Town	936	1,527	63.1	2.2%	0.8%
Casper City	49,740	52,089	4.7	74.0%	27.1%
Edgerton Town	169	173	2.4	0.2%	0.1%
Evansville Town	2,255	2,313	2.6	3.3%	1.2%
Midwest Town	408	428	4.9	0.6%	0.2%
Mills Town	2,632	2,890	9.8	4.1%	1.5%
Balance of Natrona County	10,393	10,981	5.7	15.6%	5.7%
Sweetwater County	**37,613**	**38,763**	**3.1**	**NA**	**20.2%**
Bairoil Town	97	97	0.0	0.3%	0.1%
Granger Town	146	146	0.0	0.4%	0.1%
Green River City	11,808	11,933	1.1	30.8%	6.2%
Rock Springs City	18,654	19,324	3.6	49.9%	10.1%
Superior Town	244	240	-1.6	0.6%	0.1%
Wamsutter Town	261	267	2.3	0.7%	0.1%
Balance of Sweetwater County	6,403	6,756	5.5	17.4%	3.5%
STUDY AREA	**187,603**	**192,012**	**NA**	84.6%	

Source: State of Wyoming, Department of Administration and Information, Economic Analysis Division, 2007 http://eadiv.state.wy.us/pop/SUB-06EST.htm

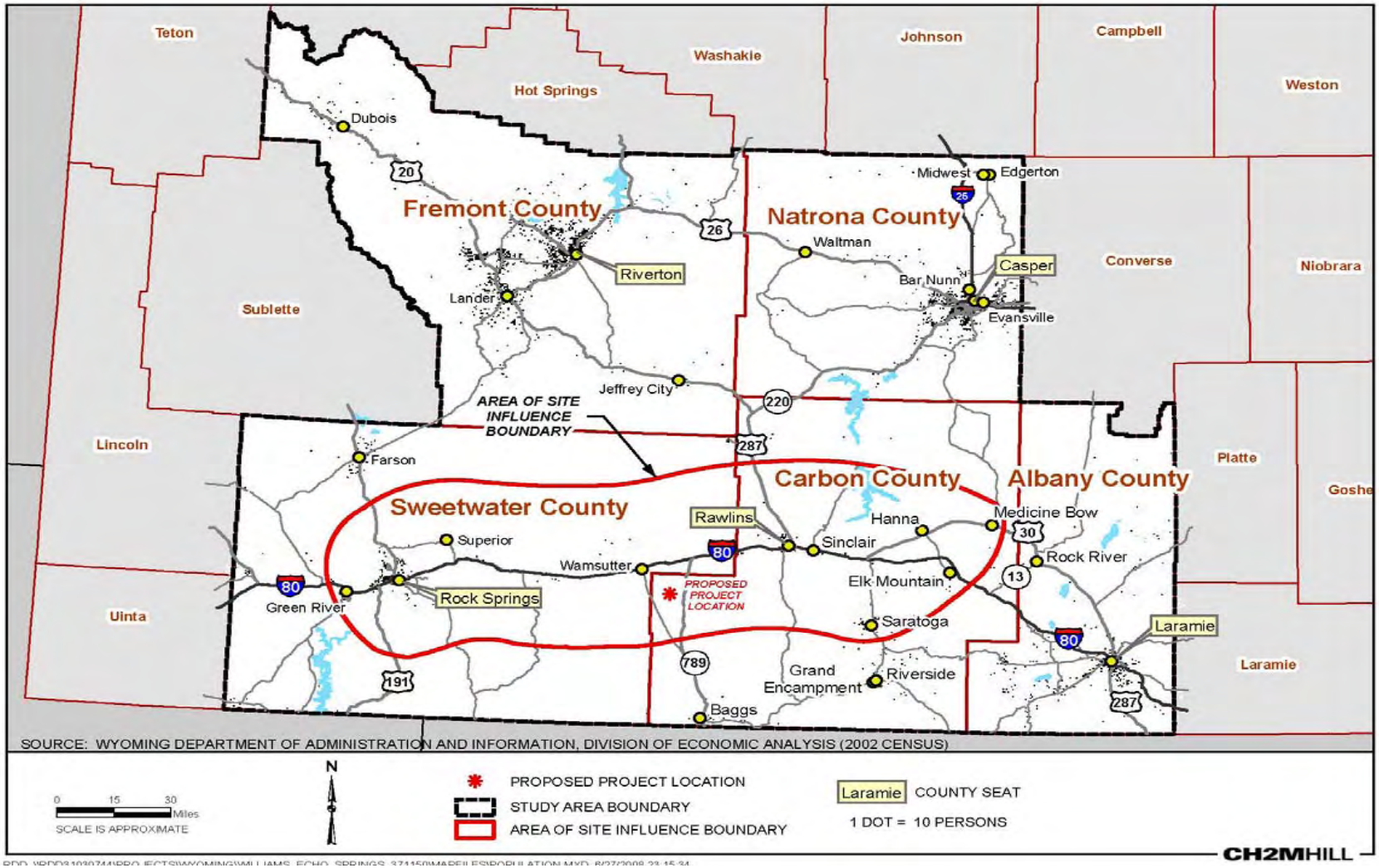

FIGURE 4-5
Population Distribution in the Study Area (2000 Census)

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4.3.1.3 Population Migration

Population change is attributable to births, deaths, and net migration. Much of the population change of the counties (with the exception of Albany County) has been attributable to net migration. As economic development related to energy resources accelerated, rapid in-migration occurred and as development declined, out-migration took place as can be seen from Figure 4-6. In Sweetwater County, net in-migration in 1974 measured 16 percent of the resident population of 1973 and the net in-migration of 1975 equated to 13 percent for the resident population of 1974. Net out-migration in 1984 measured 6 percent of the resident population of 1983, as was also the case in 1987. In Carbon County, net migration was also important, but to a lesser extent than for Sweetwater County. Net in-migration in 1980 measured 5 percent of the resident population of 1979 whereas net out-migration in 1983 measured 6 percent of resident population in 1982.

During the period from 1971 through 2006, migration has followed a cyclical pattern as can be seen from Figure 4-6. Much of the "boom and bust" pattern of population change addressed earlier is attributable to net in- and out-migration, respectively. Strong net in-migration took place between 1971 and 1980, followed by strong net out-migration between 1983 and 1990. The period since 1996 was characterized by moderate net out-migration. Albany County exhibited a similar pattern but the levels of migration were usually smaller, except for the period after 1996.

4.3.1.4 Age of Population

For the counties, the study area as a whole, and the state, the proportion of the population contained in the two age categories of 0-14 years and 25-44 years has steadily declined over the period 1980 through 2006. This decline has been compensated by increases in the age categories representing persons over 45 years of age. Albany County exhibits a pattern that differs markedly from that of other counties and the state. The county has an under-representation of persons aged 14 years and younger and an overrepresentation of persons aged 15-24 years as can be seen from the information presented in Figure 4-7. The preponderance of the latter age category is attributable to the student body of the University of Wyoming located in Laramie.

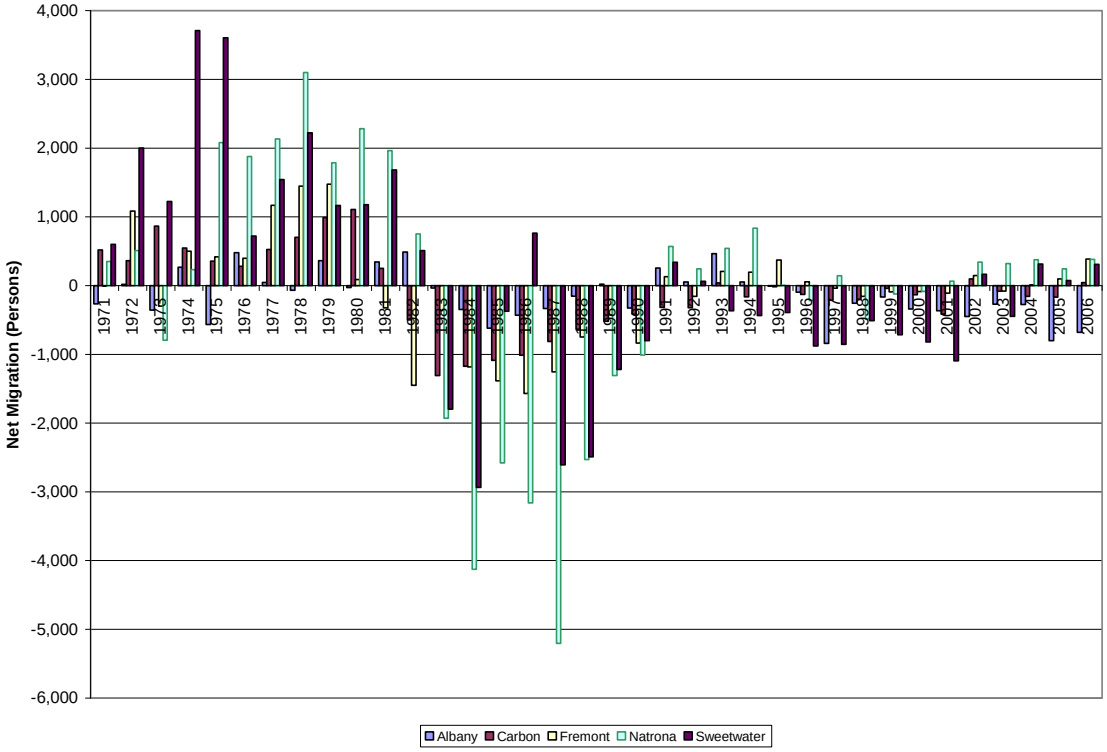

FIGURE 4-6
Net Population Migration (1971-2006)

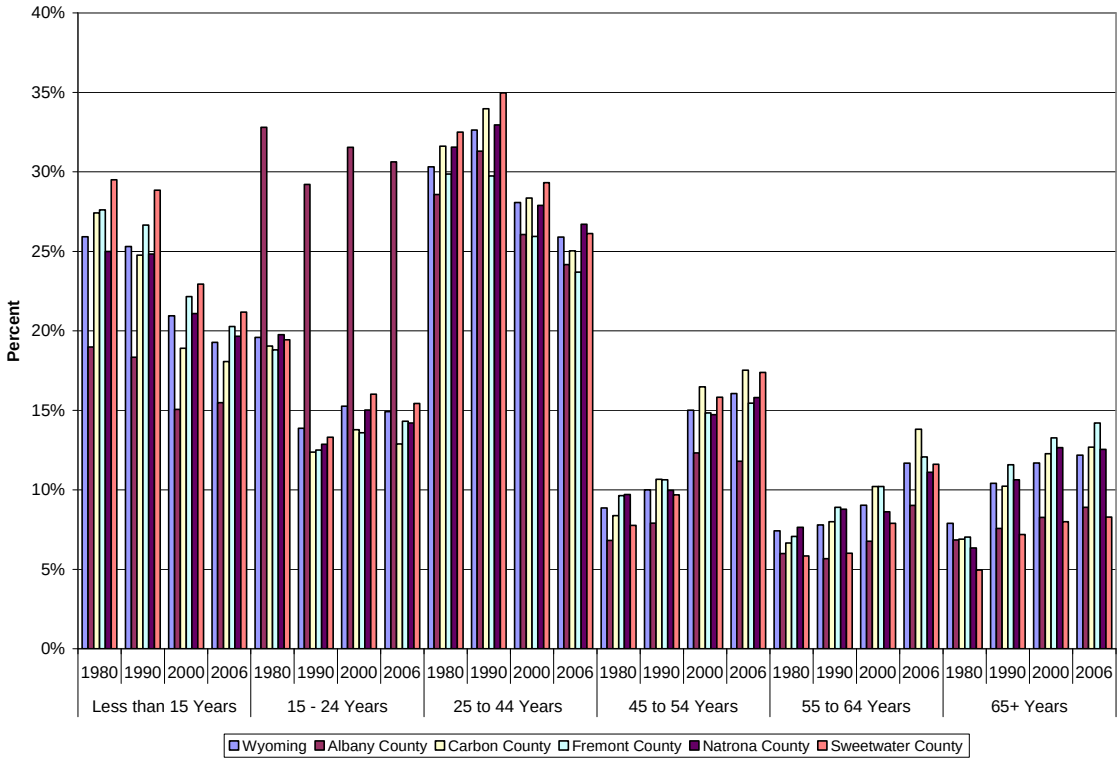

FIGURE 4-7
Population by Age Category (1980, 1990, 2000, and 2006)

4.3.1.5 Future Population

Population projections prepared by the State of Wyoming Economic Analysis Division forecast the populations of Albany, Fremont, and Sweetwater counties to increase at modest rates (below that of the state average annual rate of 0.7 percent). The population of Carbon County is projected to decline between 2010 and 2020 while that of Natrona County is forecast to increase at an average annual rate of almost 1 percent. See the information presented in Table 4-5.

TABLE 4-5
Population Forecasts for State, Counties, and Places (2010-2020)

	2010	2015	2020	2010-2020 Change		
	Forecast	Forecast	Forecast	Numeric	%	Av. Ann. %
Wyoming	540,040	559,210	579,090	39,050	7.2%	0.7%
Albany County	31,430	31,550	31,640	210	0.7%	0.1%
Laramie	26,528	26,629	26,705	177	0.7%	0.1%
Rock River	225	225	226	2	0.7%	0.1%
Carbon County	15,730	15,590	15,440	-290	-1.8%	-0.2%
Baggs	363	360	357	-7	-1.8%	-0.2%
Dixon	82	81	81	-2	-1.8%	-0.2%
Elk Mountain	195	194	192	-4	-1.8%	-0.2%
Encampment	452	448	444	-8	-1.8%	-0.2%
Hanna	889	881	873	-16	-1.8%	-0.2%
Medicine Bow	275	272	269	-5	-1.8%	-0.2%
Rawlins	8,912	8,833	8,748	-164	-1.8%	-0.2%
Riverside	60	60	59	-1	-1.8%	-0.2%
Saratoga	1,760	1,744	1,727	-32	-1.8%	-0.2%
Sinclair	421	417	413	-8	-1.8%	-0.2%
Fremont County	38,200	39,060	39,880	1,680	4.4%	0.4%
Dubois Town	1,037	1,060	1,082	46	4.4%	0.4%
Hudson Town	434	444	453	19	4.4%	0.4%
Lander City	7,261	7,424	7,580	319	4.4%	0.4%
Pavillion Town	174	178	182	8	4.4%	0.4%
Riverton City	9,905	10,128	10,340	436	4.4%	0.4%
Shoshoni Town	692	708	723	30	4.4%	0.4%
Natrona County	74,560	77,920	81,320	6,760	9.1%	0.9%
Bar Nunn Town	1,190	1,244	1,298	108	9.1%	0.9%
Casper City	55,409	57,906	60,433	5,024	9.1%	0.9%
Edgerton Town	186	195	203	17	9.1%	0.9%
Evansville Town	2,503	2,616	2,730	227	9.1%	0.9%

TABLE 4-5
Population Forecasts for State, Counties, and Places (2010-2020)

	2010	2015	2020	2010-2020 Change		
	Forecast	Forecast	Forecast	Numeric	%	Av. Ann. %
Midwest Town	458	479	500	42	9.1%	0.9%
Mills Town	3,098	3,237	3,379	281	9.1%	0.9%
Sweetwater County	41,620	42,810	43,990	2,370	5.7%	0.6%
Bairoil Town	106	109	112	6	5.7%	0.6%
Granger Town	161	166	170	9	5.7%	0.6%
Green River City	12,985	13,356	13,725	739	5.7%	0.6%
Rock Springs City	20,626	21,216	21,801	1,175	5.7%	0.6%
Superior Town	266	273	281	15	5.7%	0.6%
Wamsutter Town	291	300	308	17	5.7%	0.6%

Notes: Prepared by Wyoming Department of A'I, Economic Analysis Division (http://eadiv.state.wy.us), December 2006

4.3.2 Economic Conditions

Rule I Section 7(i)(ii) – Economy. A study of the area economy including a description of methodology used. The study may include, but is not limited to, the following factors:

(A) Economic bases and economic trends of the local economy;

(B) Employment projections by major sector;

(C) Estimates of basic versus non-basic employment; and

(D) Unemployment rates

This section addresses past, present, and future economic conditions and considers factors including labor force, employment, unemployment; income and earnings by industrial sector; commuting patterns and work centers; existing labor characteristics and availability; and government revenues such as property, sales, use, and lodging taxes.

4.3.2.1 Past and Present Economic Conditions

Rule I Section 7(i)(ii)(A) - Economy. A study of the area economy including a description of methodology used. The study may include, but is not limited to, including economic bases and economic trends of the local economy.

During the period 1990 through 2007, total employment in the study area increased by over 17,800 jobs or about 20 percent compared with a change of 25 percent for the State of Wyoming over the same time period. Growth was robust in all counties comprising the study area with the exception of Carbon County, which experienced a decline in employment as can be seen from Figure 4-8. The only county to exceed the average annual rate of change at the state level (1.2 percent) was Natrona County, which experienced a 1.5 percent change. Over the more recent period from 2000 through 2007, the annual rate of

change for both Natrona and Sweetwater counties (1.5 percent and 2.3 percent, respectively) exceeded that of the state (1.2 percent) as is evident from Figure 4-8.

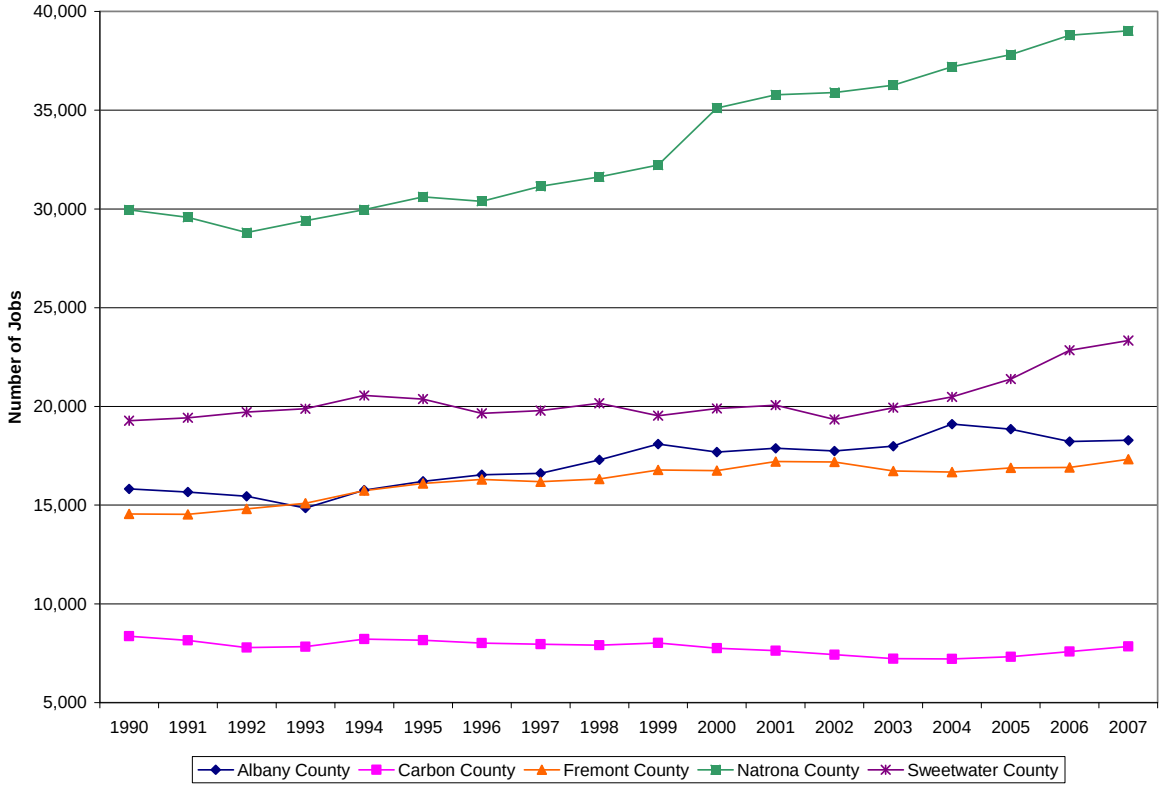

FIGURE 4-8
Employment in the Study Area by County (1990 through 2007)

4.3.2.2 Unemployment

Rule I Section 7(i)(ii)(D) – Economy. A study of the area economy including a description of methodology used. The study may include, but is not limited to, including unemployment rates.

The general trend in the unemployment rate for each of the counties of the study area and the state of Wyoming has been downwards over the period 1990 through 2007 as can be seen from the information presented in Figure 4-9. The trends for Fremont and Albany counties differ from those of the other counties and the state which, after a rise in the rate in the early 1990s, experienced a gradual and relatively consistent decline. The unemployment rate for Albany County exhibited a rapid decline from 1990 to 1999, which was followed by a short-lived increase before mirroring the gradual decline of other counties after 2001. The unemployment rate in Fremont County remained relatively constant and high, between 7 and 8 percent from 1990 through 1999. From 2000 forward, the trend conformed closely to that of other counties and the state although it remained higher than them. The unemployment rate for Carbon County mirrored very closely that of the state and exhibited a general downwards trend over the period 1990 to 2006 with periodic increases when employment growth faltered.

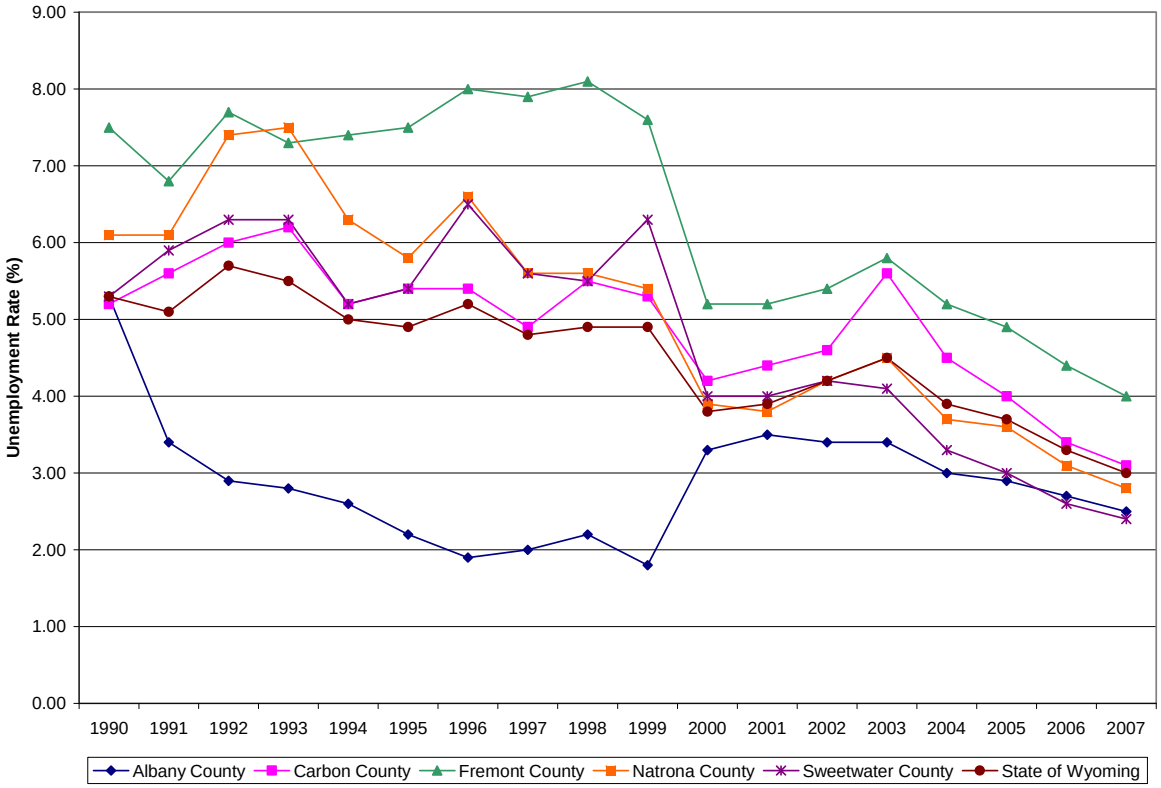

FIGURE 4-9
Unemployment Rate for Counties in the Study Area (1990 through 2006)

4.3.2.2 Existing Economic Conditions

Rule I Section 7(i)(ii)(B) – Economy. A study of the area economy including a description of methodology used. The study may include, but is not limited to, employment projections by major sector.

Employment by Industrial Sector. Over the period 1970 through 2000, total full- and part-time non-farm employment in the study area increased by 56,468 jobs as shown in Table 4-6.

TABLE 4-6
Study Area: Employment by Industrial Sector (1970 and 2000)

	1970		2000		Change in Non-Farm Employment (1970-2000)	
	Number	% of Total	Number	% of Total	Number	% of Numeric Change
Non-farm employment	61,042	95.3%	117,510	97.6%	56,468	
Private employment	47,518	74.2%	93,521	77.7%	46,003	81.5%
Agricultural services, forestry, fishing and other	313	0.5%	1,543	1.3%	1,230	2.2%
Mining	8,126	12.7%	7,764	6.5%	-362	-0.6%

TABLE 4-6
Study Area: Employment by Industrial Sector (1970 and 2000)

	1970		2000		Change in Non-Farm Employment (1970-2000)	
	Number	% of Total	Number	% of Total	Number	% of Numeric Change
Construction	3,593	5.6%	8,000	6.6%	4,407	7.8%
Manufacturing	3,432	5.4%	5,698	4.7%	2,266	4.0%
Transportation and public utilities	4,672	7.3%	5,757	4.8%	1,085	1.9%
Wholesale trade	2,223	3.5%	4,145	3.4%	1,922	3.4%
Retail trade	10,489	16.4%	21,791	18.1%	11,302	20.0%
Finance, insurance, and real estate	3,169	4.9%	7,285	6.1%	4,116	7.3%
Services	11,501	18.0%	31,538	26.2%	20,037	35.5%
Government and government enterprises	13,524	21.1%	23,989	19.9%	10,465	18.5%
Federal, civilian	1,914	3.0%	1,855	1.5%	-59	-0.1%
Military	965	1.5%	1,089	0.9%	124	0.2%
State and local	10,645	16.6%	21,045	17.5%	10,400	18.4%

Source: Population, Employment, Earnings and Personal Income Trends. By county and prepared by the Sonoran Institute. http://eadiv.state.wy.us/wef/eps.html

The sector of the economy experiencing the greatest increase in employment was services where the number of full- and part-time jobs increased by almost 20,037 jobs (from 11,501 in 1970 to 31,538 in 2000). This increase accounted for almost 36 percent of total job growth over this 30-year period. The contribution made by this sector to non-farm employment increased from 18 percent in 1970 to 26 percent in 2000 as can be seen from Figure 4-10. The other sector showing a noticeable change was mining which, although the numeric change in employment was small (a decline of 362 jobs), saw its contribution to non-farm employment fall from 13 percent to 7 percent. Employment in state and local government increased by 10,400 jobs and its share of non-farm employment rose from 17 percent to 18 percent.

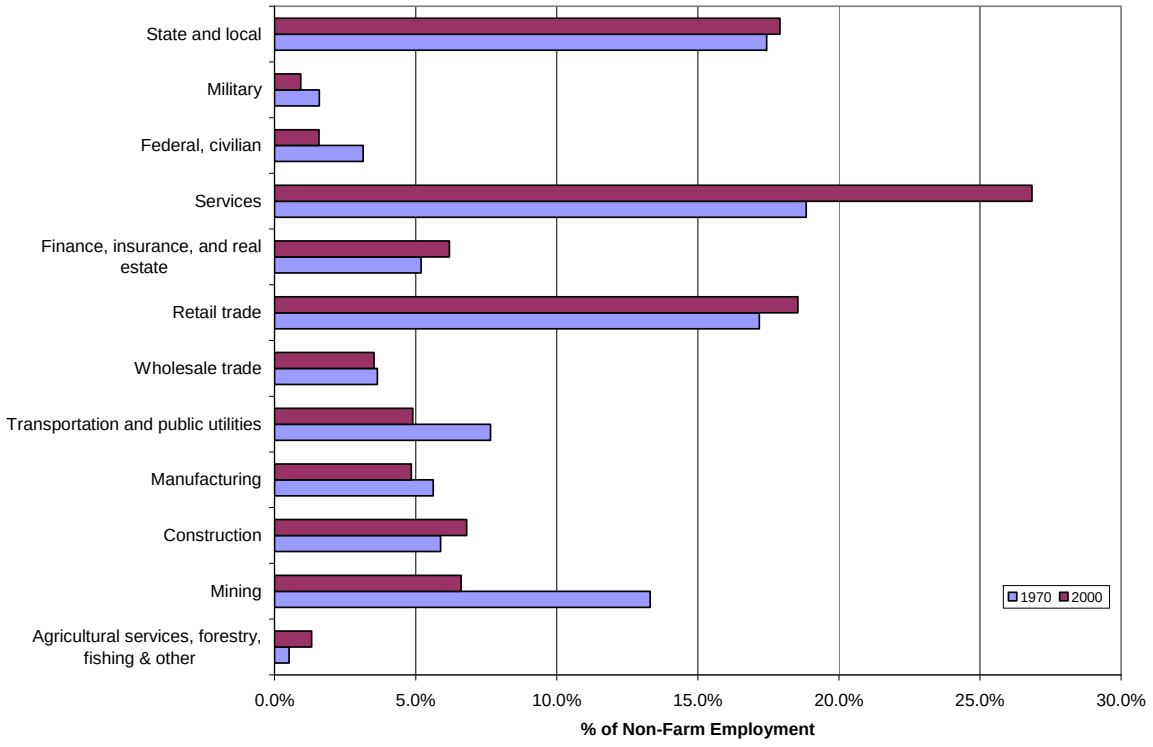

FIGURE 4-10
Contribution to Non-Farm Employment by Sector in the Study Area (1970 and 2000)

Of the growth in non-farm employment of 56,468 jobs over the period, three sectors contributed the great majority of this growth in employment: services (36 percent), retail trade (20 percent), and state and local government (18 percent) as can be seen from the information presented in Table 4-6.

As of 2006, major shares of non-farm employment in Carbon County were contributed by the following industrial sectors: local government (13 percent), construction (12 percent), accommodation and food services (11 percent), and retail trade (10 percent) as shown in Table 4-7. The contributions by construction and accommodations and food services (both in excess of state values) indicate a high level of development activity in the county. It should be pointed out that information regarding a number of industrial sectors is withheld including manufacturing and health care. For Sweetwater County, the following industrial sectors contribute sizeable shares to non-farm employment: mining (20 percent), local government (12 percent), retail trade (10 percent), and construction (9 percent). In the case of Albany County, the state government and educational services sectors have significantly greater shares of total employment than at the state level: 24 percent versus 4 percent for state government and 2.8 percent versus 0.9 percent for educational services. These differences are attributable to the presence of the University of Wyoming located at Laramie, the county seat of Albany County.

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TABLE 4-7
Share of Non-Farm Employment and Earnings by Industrial Sector (2006)

	Wyoming		Albany County		Carbon County		Fremont County		Natrona County		Sweetwater County	
	Employment	**Earnings**	**Employment**	**Earnings**	**Employment**	**Earnings**	**Employment**	**Earnings**	**Employment**	**Earnings**	**Employment**	**Earnings**
Forestry, fishing, related activities, and other	0.7%	0.3%	Not Disclosed	Not Disclosed	Not Disclosed	Not Disclosed	0.8%	0.3%	Not Disclosed	Not Disclosed	0.2%	0.1%
Mining	8.1%	18.9%	Not Disclosed	Not Disclosed	2.9%	5.1%	3.6%	9.8%	10.3%	26.6%	20.4%	36.0%
Utilities	0.7%	1.6%	Not Disclosed	Not Disclosed	0.6%	1.2%	Not Disclosed	Not Disclosed	Not Disclosed	Not Disclosed	Not Disclosed	Not Disclosed
Construction	9.3%	9.2%	5.6%	5.6%	12.1%	17.4%	8.4%	7.8%	7.8%	6.4%	9.1%	8.9%
Manufacturing	3.2%	4.7%	3.3%	3.7%	Not Disclosed	Not Disclosed	2.8%	2.1%	4.1%	4.8%	4.3%	7.8%
Wholesale trade	2.6%	3.5%	Not Disclosed	Not Disclosed	2.7%	3.5%	Not Disclosed	Not Disclosed	5.3%	8.3%	Not Disclosed	Not Disclosed
Retail trade	11.3%	6.2%	10.8%	6.5%	10.6%	5.9%	12.1%	8.4%	12.5%	6.5%	10.3%	4.9%
Transportation and warehousing	3.8%	5.2%	Not Disclosed	Not Disclosed	6.2%	10.2%	2.8%	3.7%	Not Disclosed	Not Disclosed	5.7%	6.6%
Information	1.4%	1.2%	Not Disclosed	Not Disclosed	0.9%	0.7%	1.8%	1.6%	1.3%	0.9%	0.9%	0.5%
Finance and insurance	3.3%	2.9%	3.1%	3.4%	2.4%	1.7%	2.5%	2.2%	3.6%	2.9%	2.1%	1.4%
Real estate and rental and leasing	4.2%	2.7%	2.7%	1.5%	4.4%	1.4%	4.6%	3.0%	4.6%	4.0%	3.0%	2.4%
Professional and technical services	4.6%	4.5%	6.8%	7.6%	3.0%	2.5%	3.8%	4.5%	4.7%	4.4%	2.8%	2.5%
Management of companies and enterprises	0.3%	0.6%	Not Disclosed	Not Disclosed	Not Disclosed	Not Disclosed	0.2%	0.1%	0.2%	0.4%	0.2%	0.2%
Administrative and waste services	3.3%	1.7%	Not Disclosed	Not Disclosed	Not Disclosed	Not Disclosed	2.1%	1.0%	4.3%	2.0%	3.1%	1.8%
Educational services	0.9%	0.4%	2.8%	2.5%	0.3%	0.0%	Not Disclosed	Not Disclosed	0.7%	0.1%	0.5%	0.1%
Health care and social assistance	7.3%	6.5%	7.1%	8.1%	Not Disclosed	Not Disclosed	Not Disclosed	Not Disclosed	11.0%	10.4%	4.3%	2.7%
Arts, entertainment, and recreation	1.8%	0.8%	1.8%	0.4%	2.2%	1.0%	1.7%	1.4%	1.8%	0.7%	Not Disclosed	Not Disclosed
Accommodation and food services	8.9%	4.2%	8.5%	3.3%	11.1%	4.2%	7.6%	3.4%	6.8%	2.3%	8.2%	2.7%
Other services, except public administration	5.6%	2.6%	Not Disclosed	Not Disclosed	5.5%	2.4%	6.5%	3.3%	6.2%	3.2%	5.2%	3.2%
Federal, civilian	2.0%	3.9%	1.1%	2.6%	2.2%	4.4%	2.0%	5.1%	1.3%	2.4%	0.8%	1.2%
Military	1.7%	2.4%	0.9%	1.1%	0.9%	0.9%	1.0%	1.1%	0.8%	0.6%	0.8%	0.5%
State government	3.9%	4.5%	24.6%	32.1%	4.7%	6.8%	4.3%	5.9%	1.4%	1.5%	0.9%	0.8%
Local government	11.2%	11.5%	9.0%	12.0%	12.7%	13.7%	17.1%	20.6%	7.9%	7.5%	12.0%	9.6%

Source: http://www.bea.gov/regional/reis/

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Earnings and Income. Total personal income increased in each of the counties over the period 1969 through 2006 (unadjusted for inflation): from $71.1 million to $937.8 million in Albany County; from $53.4 million to $528.6 million in Carbon County; from $80.6 million to $1.1 billion in Fremont County; from $215.9 million to $3.1 billion in Natrona County; and $64.1 million to $1.7 billion in Sweetwater County, as shown in Figure 4-11. However, as the absolute level of aggregate income for each of the counties increased, their share of statewide aggregate personal income declined, as can be seen from the information presented in Figure 4-12. There have been periods during this general downward trend when relatively short-lived increases occurred such as in Sweetwater County between 1971 and 1974. This upswing was associated with construction of the Jim Bridger power plant and the earnings of the sizeable construction workforce. Natrona County also experienced an upswing between 1973 and 1978.

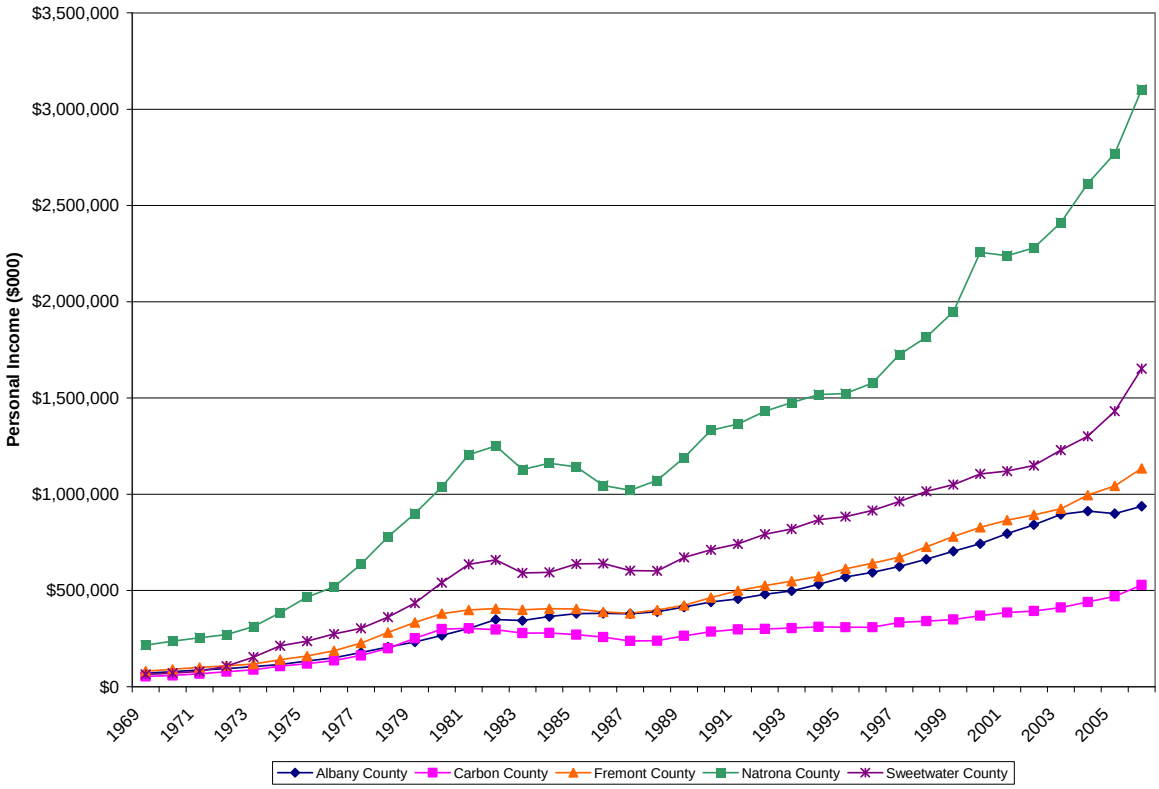

FIGURE 4-11
Aggregate Personal Income by County (1969-2006)

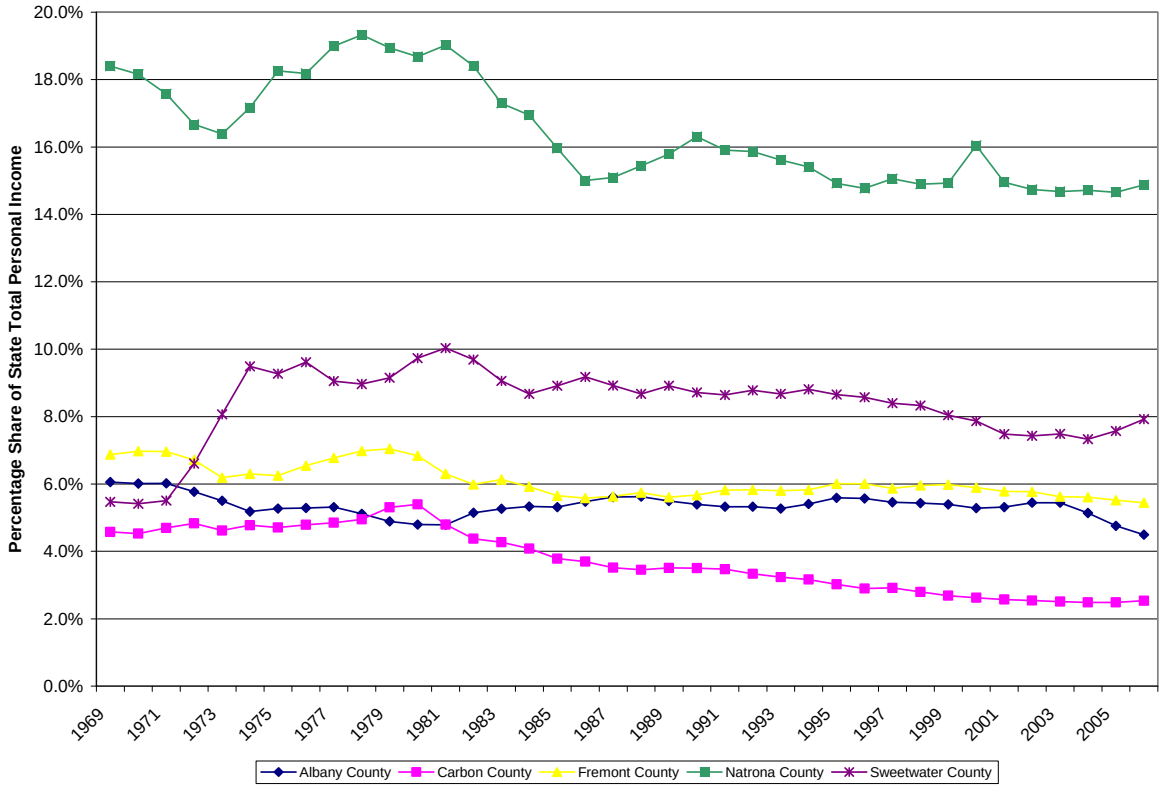

FIGURE 4-12
County Share of Aggregate State-wide Personal Income (1969-2006)

The largest share of personal income is derived from wages and salaries. However, as can be seen from the information presented in Figure 4-13, that share has declined consistently at both the state and county levels from between about 72 percent and 85 percent, respectively, in the late 1970s to between about 55 percent and 71 percent, respectively, in 2002-2003. Over this same time period, the contribution to total personal income attributable to dividends, interest, and rents and transfer payments increased.

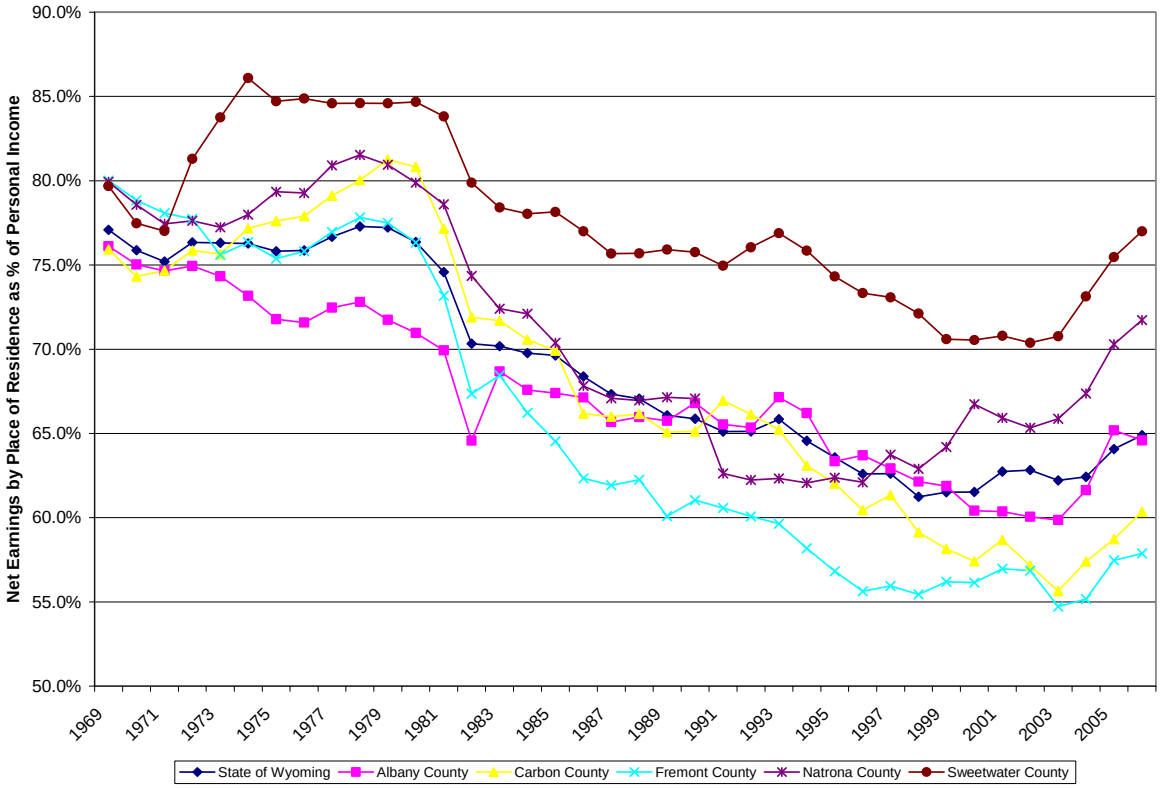

FIGURE 4-13
Earnings as a Percent of Total Personal Income (1969-2006)

The largest share of total non-farm earnings in the state of Wyoming in 2006 (which totaled over $15.2 billion) was contributed by employment in the services sector (27 percent, including 6.5 percent by health care and social assistance), mining sector (19 percent), and state and local government sector (16 percent). Other notable sectors were construction (9.2 percent) and retail trade (6.2 percent). Differences in these sector contributions exist between the counties and the state as can be seen from the information contained in Table 4-7 and Figure 4-14.

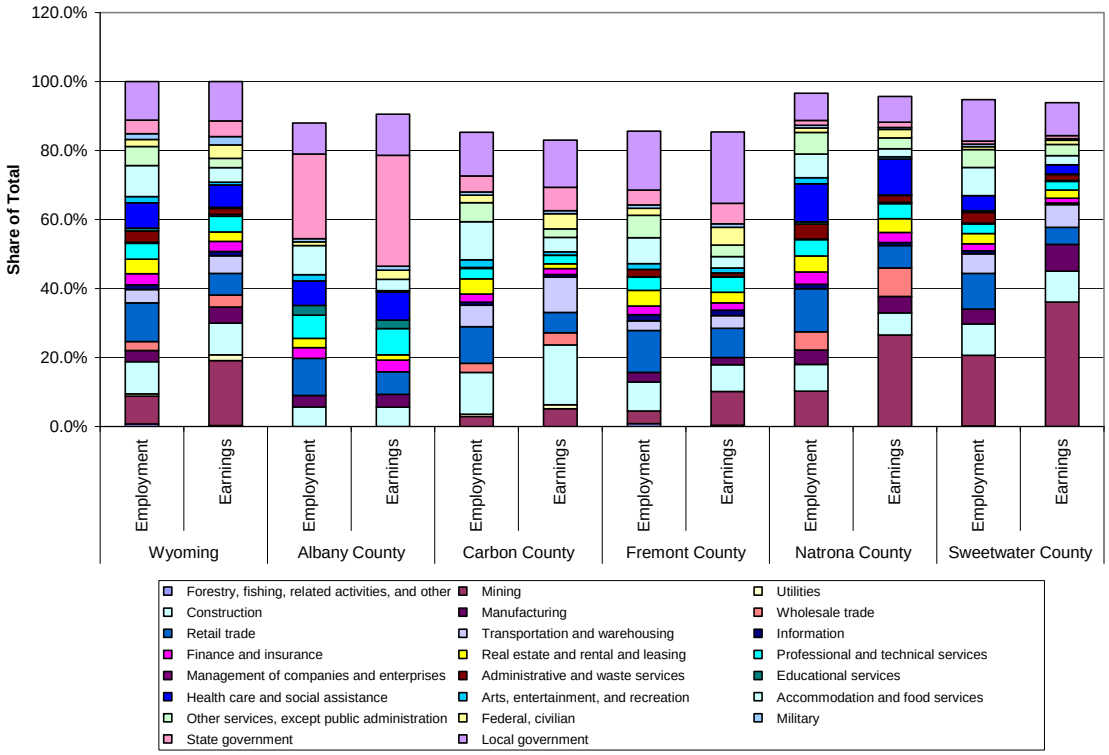

FIGURE 4-14
Non-Farm Employment and Earnings, Contribution by Industrial Sector for County and State (2006)

Because there are large variations in annual earning per job across the different sectors of the economy, the correspondence between a sector's employment share and its share of earnings can be quite different. In the case of the State of Wyoming, the mining sector of the economy contributes 8.1 percent of non-farm employment but 18.9 percent of earnings. The retail trade sector contributes 11.3 percent of employment but only 6.2 percent of earnings, and the accommodations and food services sector contributes 8.9 percent of employment but only 4.2 percent of earnings. The information presented in Table 4-7 reflects the corresponding shares of both employment and earnings for the state of Wyoming and each of the five counties comprising the study area, while Figure 4-14 illustrates the relationship graphically. Such inequalities can be explained by annual earnings by job type (at the state level): over $92,000 in mining, $21,700 for the retail sector, and $16,300 for the accommodations and food services sector. Such wage differences are also reflected at the county level.

When compared to the state as a whole, Carbon County exhibits a concentration of non farm wage and salary income in the construction (17 percent versus 9 percent) and transportation and warehousing (10 percent versus 5 percent) sectors of the economy, as can be seen from Figure 4-14. The mining sector, on the other hand, exhibits an under-representation compared to the state: 5.1 percent versus 18.9 percent. In the case of Sweetwater County, major differences with the state are evident in the following sectors: mining (36 percent versus 20 percent) and manufacturing (8 percent versus 5 percent). The complete

breakdown of non-farm earning by sector for Carbon and Sweetwater counties is displayed in Figure 4-15 and Figure 4-16, respectively.

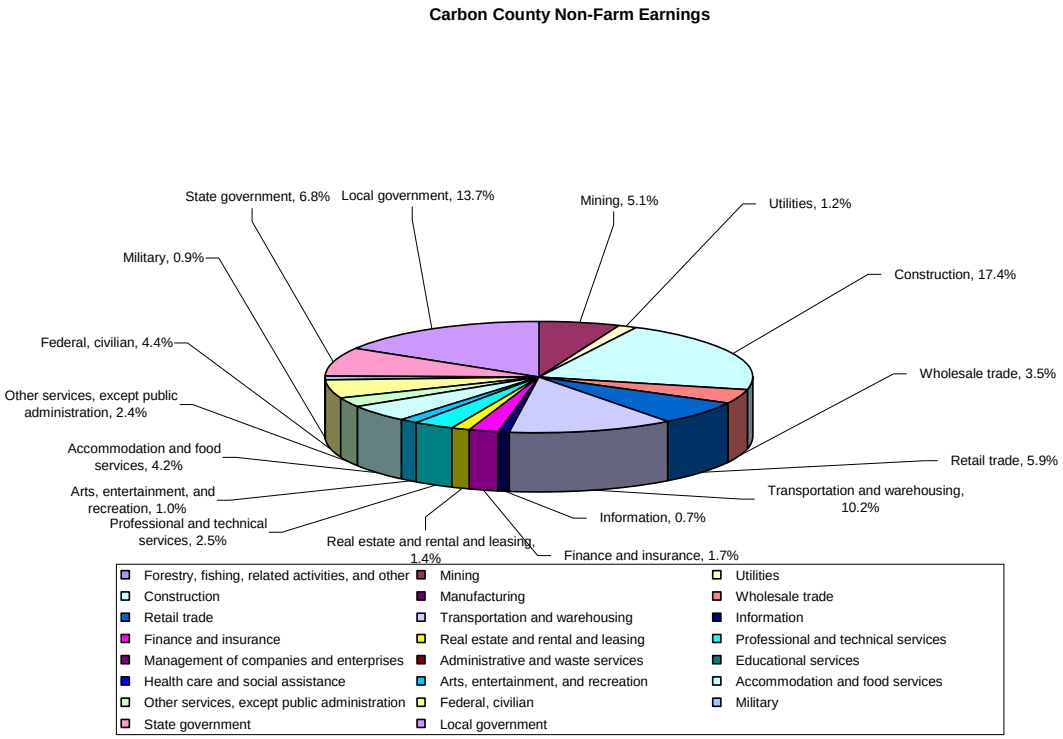

FIGURE 4-15
Non-Farm Earnings Shares by Industrial Sector, Carbon County (2005)

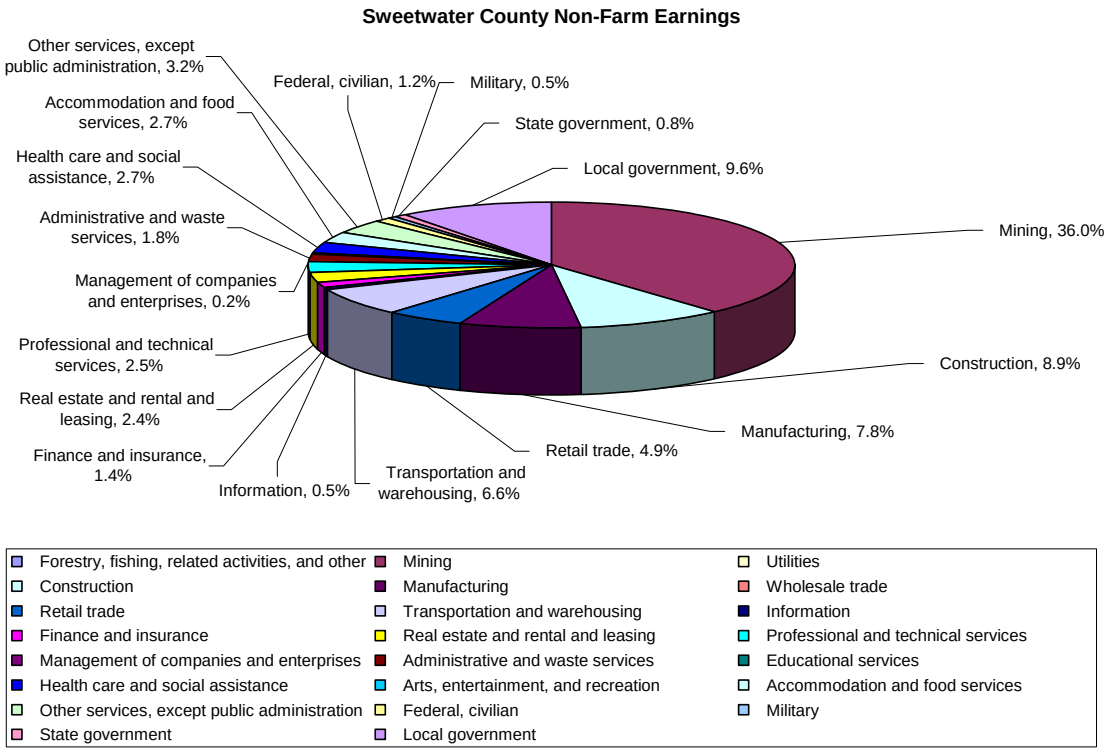

FIGURE 4-16
Non-Farm Earnings Shares by Industrial Sector, Sweetwater County (2005)

Work Centers and Bedroom Communities. Depending upon the balance between the number of employment opportunities in a county and the number of workers who reside in the county, the county can be classified between the two extremes of work center and bedroom community. In the case of a work center, there are typically more job opportunities in the area than resident workers; for a bedroom community, the reverse is true. The differentiation between counties in highly urban and metropolitan regions can be quite distinct with the cost of housing playing a significant role. In predominantly rural areas where employment opportunities can often be concentrated in a few large communities, the differentiation between work center and bedroom community can also be quite marked.

Information derived from the Wyoming Department of Employment, Research and Planning provides a detailed picture of inter-county commuting, which can provide a good indication of the economic linkages and interdependencies between counties. Table 4-8 presents information regarding the main workplaces for the residents of each of the counties comprising the study area. In all cases, as expected, the overwhelming majority of county residents work in the same county. Geographically adjacent counties typically account for the highest commuter flows (e.g., Carbon County residents commute predominantly to Carbon, Natrona, and Sweetwater counties). Out-commuting Albany County residents travel to Laramie, Carbon, and Natrona counties and Sweetwater County residents commute predominantly to Natrona and Uinta counties.

TABLE 4-8
County Economic Interdependencies (2005, 4th Quarter)

Place of Residence County	Workplace County	Number of Commuters	Place of Residence County	Workplace County	Number of Commuters
ALBANY COUNTY			**NATRONA COUNTY**		
Albany	Albany	11,603	Natrona	Natrona	32,897
Albany	Laramie	905	Natrona	Laramie	619
Albany	Natrona	276	Natrona	Campbell	476
Albany	Carbon	108	Natrona	Sweetwater	353
Albany	Sweetwater	90	Natrona	Converse	272
Albany	Fremont	68	Natrona	Fremont	245
Albany	Campbell	66	Natrona	Albany	219
Albany	Other Counties	489	Natrona	Sheridan	140
CARBON COUNTY			Natrona	Park	139
Carbon	Carbon	5,354	Natrona	Carbon	132
Carbon	Natrona	434		Other Counties	506
Carbon	Sweetwater	423			
Carbon	Albany	219	**SWEETWATER COUNTY**		
Carbon	Laramie	167	Sweetwater	Sweetwater	19,285
Carbon	Campbell	118	Sweetwater	Natrona	697
Carbon	Fremont	92	Sweetwater	Campbell	375
Carbon	Uinta	79	Sweetwater	Uinta	259
Carbon	Other Counties	235	Sweetwater	Laramie	216
			Sweetwater	Sublette	200
FREMONT COUNTY			Sweetwater	Albany	141
Fremont	Fremont	14,028	Sweetwater	Carbon	120
Fremont	Natrona	1,002	Sweetwater	Fremont	113
Fremont	Sweetwater	366	Sweetwater	Other Counties	313
Fremont	Laramie	299			
Fremont	Teton	191			
Fremont	Campbell	164			
Fremont	Albany	150			
	Other Counties	647			

Source: Wyoming Department of Employment, Research and Planning, "Commuting Pattern Data Model Methodology and County-Level Output Tables," February 2007.
http://doe.state.wy.us/LMI/commuter_flow_2007.pdf

The federal Bureau of Economic Analysis reports annually, on a county basis, on personal income in terms of location of residence. Estimates are developed on how much money is earned in a county by persons residing outside the county (referred to as "total gross earnings outflow") and how much money is brought into a county by residents who work outside the county (referred to as "total gross earnings inflow"). Subtracting one from the other and dividing the result by the total personal income of county residents gives the "net residence adjustment," which indicates the role of the county as a "bedroom community" or "work center."

Where the total gross earnings inflow exceeds the total gross earnings outflow, the net residence adjustment will be positive, and the community is classed as a bedroom community. Conversely, where the total gross earnings outflow exceeds the total gross earnings inflow, the net residence adjustment will be negative and the community is classed as a work center.

Where there is a relative balance between inflow and outflow of income, the community or county has a jobs-to-housing balance. The role that a county plays over time can change as the locations of residences and job opportunities change differentially. This can be seen from examination of the net residence adjustment values presented in Figure 4-17. With the exception of Sweetwater County, counties of the study area have a relative balance between jobs and residences. Sweetwater County exhibits a strong role as a work center. Table 4-9 shows the net residence adjustment and classification for each county as of 2006.

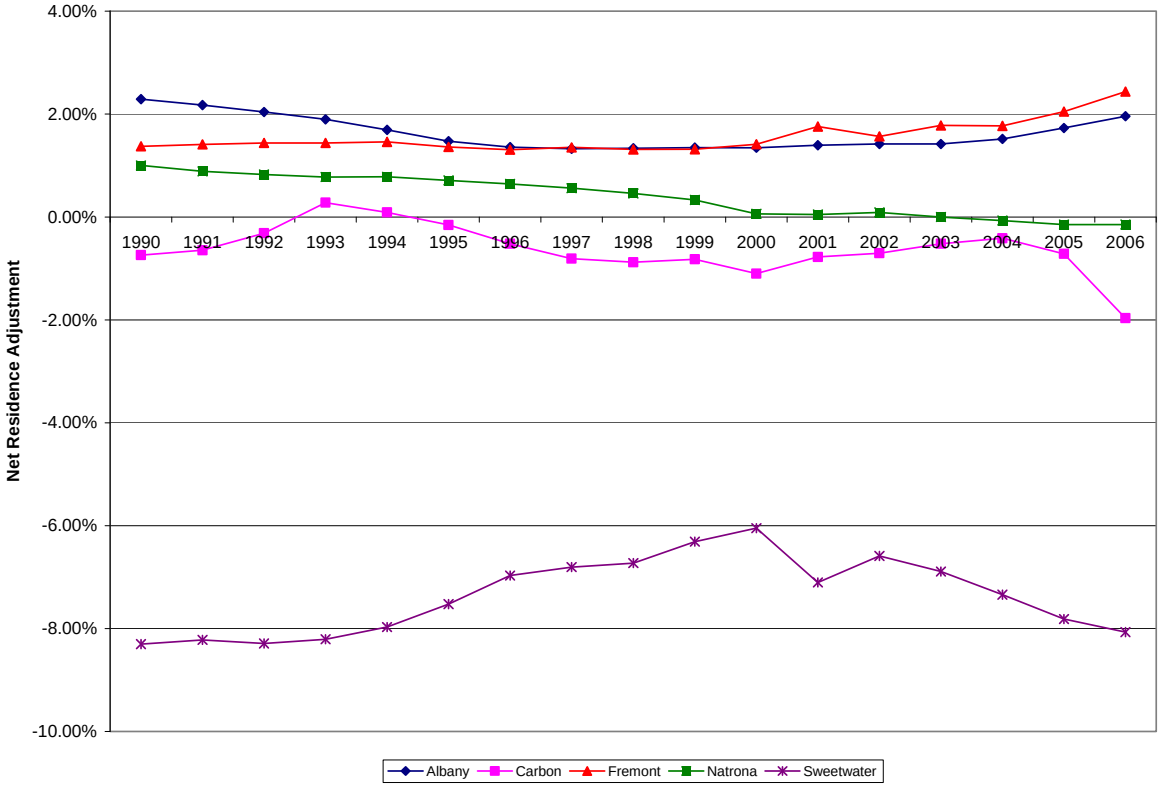

FIGURE 4-17
Net Residential Adjustment Values (1990-2006)

TABLE 4-9
County Commuting Patterns

County	Net Residence Adjustment (Percent of Total Income in County in 2006)	Bedroom Community or Work Center
Albany	+1.96%	Bedroom Community
Carbon	-1.97%	Work Center
Fremont	+2.44%	Bedroom Community
Natrona	-0.15%	Work Center
Sweetwater	-8.07%	Work Center

Source: CH2M HILL based on data from http://www.bea.gov/regional/reis/

4.3.2.3 Existing Labor Characteristics and Availability

Rule I Section 7(i)(ii)(C) – Economy. A study of the area economy including a description of methodology used. The study may include, but is not limited to, including estimates of basic versus non-basic employment.

The following sections focus on past, present, and projected employment and earnings for the construction industry in the study area.

General Construction Labor Characteristics. Employment in the construction sector is characteristically cyclical in nature as can be seen from the information presented in Figure 4-18. Trends have been similar for both Sweetwater and Natrona counties with strong employment growth in the early and late 1970s in the former and throughout the 1970s in the latter. This growth was followed by a rapid decline until the early 1990s, after which both counties have experienced virtually consistent growth through 2006.

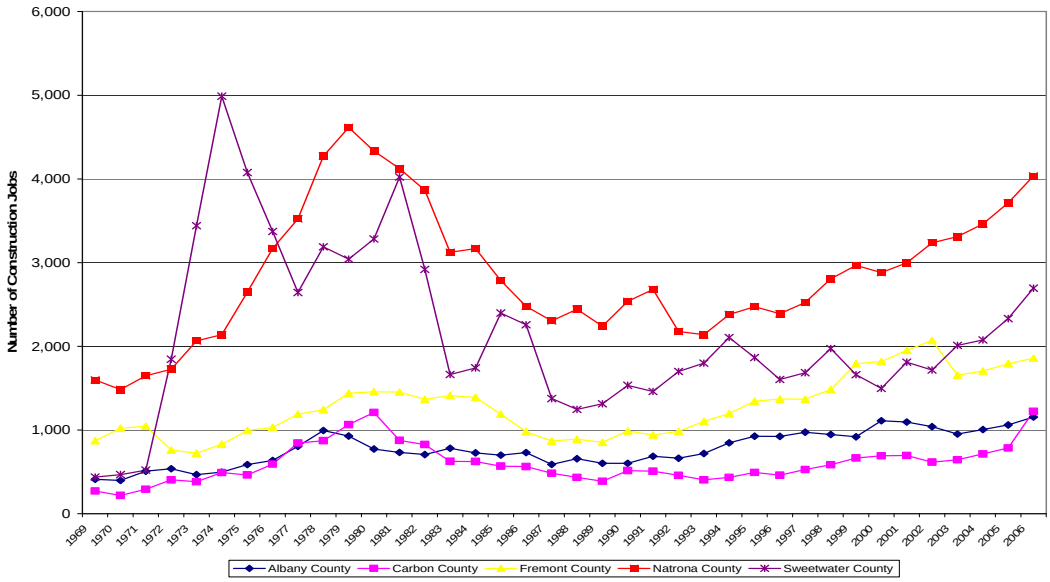

FIGURE 4-18
Construction Employment by County (1990 through 2006)

The median annual wage for persons in construction and extraction occupations for the state of Wyoming (as of March 2008) was $38,612, which was 24 percent higher than the average for all occupations ($31,221). Specialty trade contractors and heavy and civil engineering construction contractors are two of the top 10 industries expected to add the most jobs through the period to 2012. The demand for construction laborers and skilled trades people (e.g., carpenters, electricians, operating engineers, plumbers, and occupations requiring long-term on-the-job training) is also expected to increase substantially over this period. Prospects for the construction sector are also addressed in Section 4.3.2.5, Future Economic Conditions.

4.3.2.4 Governmental Revenues and Finances

This section addresses assessed property values; sales, use, and lodging taxes; and government finances.

Assessed Property Values. The assessed value of real property is the major source of ad valorem taxes. Properties are assessed at both the state and local (county) level. The state assesses the value of utility and mineral properties, while the counties assess residential, agricultural, commercial, and industrial land and improvements.

The total assessed value of real property in 2007 for the five-county study area was $5.814 billion as displayed in Table 4-10. Of this total, 41 percent was represented by Sweetwater County, 20 percent by Fremont County, 18 percent by Natrona County, 15 percent by Carbon County, and 5 percent by Albany County. Together, the counties accounted for about 27 percent of the assessed value of all real property in the state.

Of the six types of properties assessed in the study area, the greatest contribution is associated with mineral properties which accounted for 64 percent of total assessed value. The majority of this assessment is in Carbon, Fremont, and Sweetwater counties where mineral properties comprise about 75 percent of total assessed value. In Albany County, mineral property assessed value contributes less than 2 percent of total assessed value of property, as can be seen from Table 4-11. For the state as a whole, the contribution by mineral property was almost 68 percent.

In Carbon County, each of the other categories of property contributes less than 7 percent to total property assessment. For Sweetwater County, other categories contribute 10 percent or less of property assessment.

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TABLE 4-10
Assessed Valuation by Type of Property by County (2007)

	Locally Assessed Valuation				State Assessed Valuation		Total
County	**Agricultural Land**	**Commercial Land, Improvements and Personal Property**	**Residential Land, Improvements and Personal Property**	**Industrial Property**	**Non Minerals (Utilities, Railroads, and Airlines)**	**Minerals**	
Albany	$6,794,736	$60,950,461	$189,060,881	$7,046,558	$32,325,051	$4,800,959	$300,978,646
Carbon	$8,495,565	$18,389,354	$63,398,551	$65,834,235	$59,467,588	$676,413,047	$891,998,340
Fremont	$10,619,380	$43,618,978	$175,450,198	$73,743,651	$20,190,394	$866,915,401	$1,190,538,002
Natrona	$6,044,315	$142,967,781	$385,698,540	$54,316,636	$37,794,608	$406,617,408	$1,033,439,288
Sweetwater	$4,351,619	$51,271,170	$169,796,990	$246,714,241	$135,630,638	$1,789,510,897	$2,397,275,555
Study Area	$36,305,615	$317,197,744	$983,405,160	$447,655,321	$285,408,279	$3,744,257,712	$5,814,229,831
STATE	$193,407,094	$922,026,388	$3,617,168,638	$1,364,510,842	$807,774,018	$14,586,380,458	$21,491,267,438

Source: State of Wyoming Department of Revenue 2007 Annual Report

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TABLE 4-11
Contribution by Type of Property by County (2007)

County	Agricultural Land	Commercial Land, Improvements and Personal Property	Residential Land, Improvements and Personal Property	Industrial Property	Non Minerals (Utilities, Railroads, and Airlines)	Minerals	Total
Albany	2.26%	20.25%	62.82%	2.34%	10.74%	1.60%	100.00%
Carbon	0.95%	2.06%	7.11%	7.38%	6.67%	75.83%	100.00%
Fremont	0.89%	3.66%	14.74%	6.19%	1.70%	72.82%	100.00%
Natrona	0.58%	13.83%	37.32%	5.26%	3.66%	39.35%	100.00%
Sweetwater	0.18%	2.14%	7.08%	10.29%	5.66%	74.65%	100.00%
STATE	0.90%	4.29%	16.83%	6.35%	3.76%	67.87%	100.00%

Source: State of Wyoming Department of Revenue 2007 Annual Report

Ad valorem taxes (calculated by applying county- and use-specific mill rates to the assessed value) support a number of county and municipal operations including airports, fire protection, hospitals, libraries, museums, public health, recreational systems, special districts, and education. Table 4-12 displays the major beneficiaries of ad valorem taxes in the state.

TABLE 4-12
Beneficiaries of Ad Valorem Taxes in Wyoming (2007)

Beneficiary	Percent of Total
Schools	54.47
Counties	18.53
Foundation Program	18.73
Special Districts	6.91
Municipalities	1.36

Source: State of Wyoming Department of Revenue 2007 Annual Report

Sale, Use, and Lodging Taxes. Sales and use tax collections are two principal sources of revenue for state and local governments. Local governments can also impose a lodging tax. Each of these tax rates for the counties of the study area are shown in Table 4-13.

TABLE 4-13
State and County Sales, Use, and Lodging Tax Rates

County	State Tax Rate	General Purpose Option	Specific Purpose Option	Total Sales and Use Tax Rate	Lodging Tax Rate	Total Tax Rate
Albany	4%	1%	1%	6%	4%	10%
Carbon	4%	1%	-	5%	2%	7%
Fremont	4%	-	1%	5%	2%	7%
Natrona	4%	1%	-	5%	3%	8%
Sweetwater	4%	1%	1%	6%	2%	8%

Source: Wyoming Department of Revenue, July 2007

Sales Tax. The state-imposed tax rate is 4 percent, and the collections are distributed 69 percent to the state and 31 percent to the respective county. Of the counties of the study area, all except Fremont County impose a 1 percent optional sales tax, of which the revenues (less administrative costs) are returned by the state to the county of origin. Total sales tax collections for the years 2002 through 2007 for each county in the study area are presented in Table 4-14 and Figure 4-19. Collections in Carbon County, after a decline from 2002 to 2003, experienced a sharp increase through 2007. Sales tax collections more than doubled (118 percent) in Carbon and Sweetwater counties between 2002 and 2007, while the increase at the state level was 55 percent.

TABLE 4-14
Sales, Use, and Lodging Tax Collections (Fiscal Year 2002-2007)

SALES TAX						
	2002	**2003**	**2004**	**2005**	**2006**	**2007**
Albany County	$23,521,324	$23,532,103	$25,342,693	$25,892,238	$27,553,099	$26,268,065
Carbon County	$14,800,381	$13,245,550	$17,248,894	$20,461,971	$26,855,968	$32,213,914
Fremont County	$22,469,370	$19,713,508	$22,356,209	$25,774,224	$28,994,972	$30,021,600
Natrona County	$61,923,336	$62,181,247	$71,128,758	$78,432,104	$88,395,192	$93,393,353
Sweetwater County	$51,080,441	$52,141,752	$59,067,175	$65,405,792	$79,432,767	$111,367,986
State of Wyoming	$515,799,683	$503,970,199	$551,668,565	$603,951,798	$719,115,277	$799,254,374
USE TAX						
	2002	**2003**	**2004**	**2005**	**2006**	**2007**
Albany County	$1,695,842	$1,616,236	$2,055,773	$1,770,844	$2,931,597	$5,896,312
Carbon County	$3,708,027	$1,277,668	$1,410,657	$4,117,062	$2,454,726	$8,150,488
Fremont County	$1,812,844	$1,334,112	$1,283,588	$1,308,769	$1,729,483	$2,264,064
Natrona County	$4,886,304	$3,190,012	$4,967,802	$4,165,076	$6,357,269	$7,493,952
Sweetwater County	$8,483,763	$8,422,017	$9,220,232	$11,069,021	$14,379,873	$21,407,921
State of Wyoming	$62,491,361	$54,866,020	$58,387,269	$64,326,659	$82,158,509	$113,045,113
LODGING TAX						
	2002	**2003**	**2004**	**2005**	**2006**	**2007**
Albany County	$29,041	$31,590	$44,100	$61,014	$64,837	$62,661
Laramie	$282,262	$282,914	$356,934	$349,187	$414,426	$524,036
Rock River	$739	$588	$314	$490	$416	$223
TOTAL	**$312,042**	**$315,092**	**$401,348**	**$410,691**	**$479,679**	**$586,921**
Carbon County	$52,573	$49,928	$50,634	$38,557	$42,897	$48,184
Baggs	$6,725	$7,167	$7,522	$7,638	$8,959	$8,998
Elk Mountain	$0	$952	$1,401	$1,303	$1,828	$1,888
Encampment	$826	$1,031	$863	$791	$967	$954
Hanna	$697	$356	$428	$207	$401	$0
Medicine Bow	$405	$472	$447	$989	$1,268	$1,504

TABLE 4-14
Sales, Use, and Lodging Tax Collections (Fiscal Year 2002-2007)

Rawlins	$110,370	$116,282	$128,144	$165,741	$215,840	$305,047
Riverside	$863	$965	$880	$1,279	$1,244	$1,515
Saratoga	$32,515	$30,007	$34,665	$33,050	$34,440	$36,993
Sinclair	$7	$0	$0	$0	$0	$2
TOTAL	**$204,980**	**$207,158**	**$224,985**	**$249,555**	**$307,844**	**$405,084**
Fremont County	$22,832	$30,178	$39,530	$42,470	$43,274	$46,193
Dubois	$26,841	$25,007	$26,297	$26,257	$27,126	$30,832
Lander	$42,598	$46,136	$50,136	$52,706	$55,002	$58,079
Shoshoni	$14,916	$2,722	$4,283	$3,964	$2,923	$2,839
Riverton	$81,030	$71,494	$82,890	$82,452	$101,567	$126,793
TOTAL	**$188,217**	**$175,537**	**$203,136**	**$207,848**	**$229,892**	**$264,736**
Natrona County	$9,924	$13,501	$16,494	$18,955	$10,575	$98,071
Bar Nunn	$1,141	$1,428	$1,786	$3,000	$2,740	$2,639
Casper	$435,095	$445,254	$495,972	$515,190	$609,841	$562,380
Edgerton	$2,374	$1,691	$3,312	$3,718	$4,730	$3,812
Evansville	$61,643	$58,035	$59,380	$80,629	$100,098	$181,317
Mills	$171	$200	$989	$1,986	$2,181	$8,027
TOTAL	**$510,348**	**$520,110**	**$577,933**	**$623,478**	**$730,165**	**$856,247**
Sweetwater County	$44,229	$42,437	$46,443	$39,528	$44,028	$58,535
Green River	$24,215	$26,669	$33,193	$34,590	$38,299	$46,786
Rock Springs	$253,932	$253,385	$310,402	$362,543	$465,365	$581,963
Wamsutter	$1,438	$2,334	$3,526	$3,947	$3,517	$3,853
TOTAL	**$323,814**	**$324,825**	**$393,564**	**$440,609**	**$551,210**	**$691,137**
State of Wyoming	$3,939,521	$4,108,475	$4,738,192	$4,960,822	$5,859,863	$6,843,052

Source: Wyoming Department of Revenue, July 2007

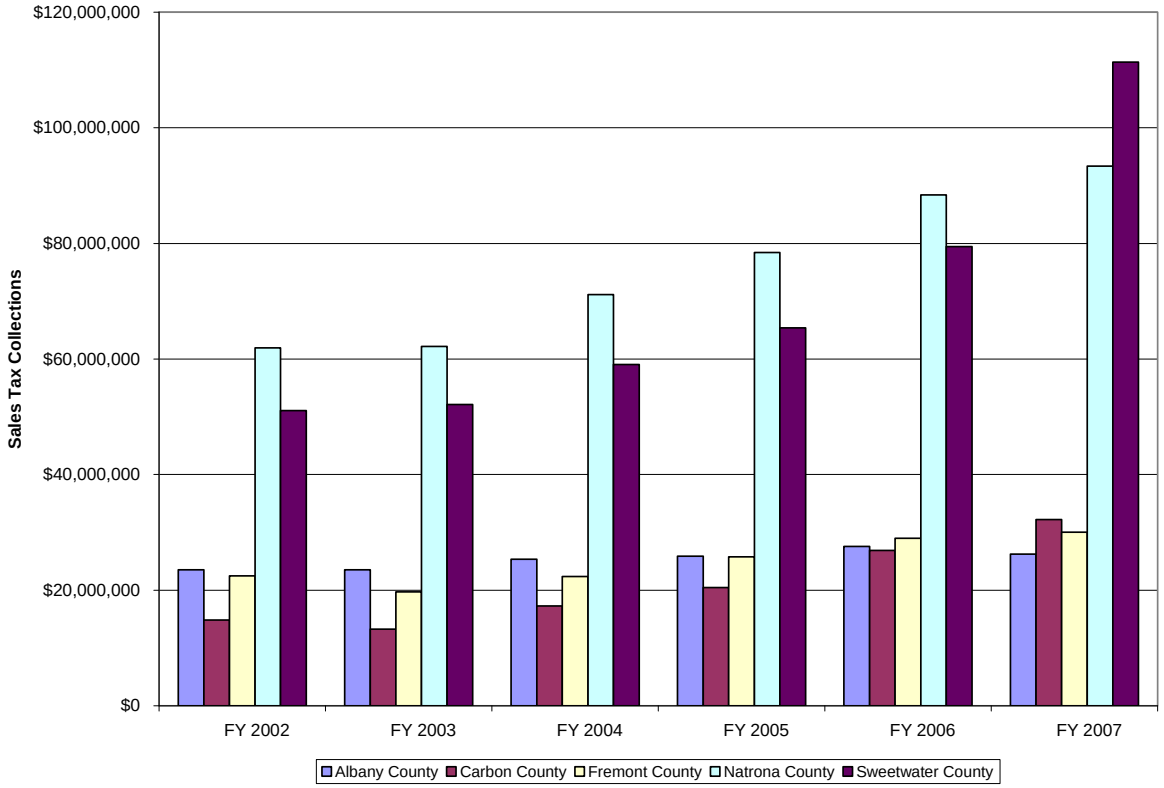

FIGURE 4-19
Sales Tax Collections by County (2002 through 2007)

Use Tax. A state use tax is imposed on purchases made outside a taxing jurisdiction for first time, storage, or other consumption within that jurisdiction thus preventing sales tax avoidance. Use tax is a complement to sales tax. Effective January 1, 1981, the adoption of an optional sales tax required a change in the use tax rate of equal amount. The state-imposed tax rate is 4 percent. State use tax collections are shared between state government and the county of origin on the same distribution basis as sales tax. Use tax collections by year and county are shown in Table 4-14.

Lodging Tax. Cities, towns, and counties may impose an excise tax of up to 4 percent on all sleeping accommodations for guests staying less than 30 days. All tax collections, less state administrative costs, are distributed to the taxing jurisdiction. At least 90 percent of the tax distributions must be used to promote travel and tourism. The tax rates for each of the counties comprising the study area are shown in Table 4-13, and tax collections are shown in Table 4-14.

Governmental Finances. General revenues totaled over $33.4 million for Carbon County in fiscal year (FY) 2001-2002 with the majority (88 percent) derived from local sources as can be seen from Table 4-15. Smaller contributions came from intergovernmental sources (i.e., federal [4 percent of total] and state [8 percent of total]). In the case of Sweetwater County, general revenues totaled over $84 million, of which over 90 percent was derived from local sources. Contributions from intergovernmental sources comprised less than 10 percent: federal (3.5 percent of total) and state (6.1 percent of total).

The largest shares of general expenditures in Carbon County are assigned to the local hospital (46 percent of total general expenditures), followed by education (7 percent of the total), highways (6 percent), and police protection (5 percent of the total) as can be seen from Table 4-15. In Sweetwater County, major expenditure categories are also the local hospital (31 percent of total general expenditures), education (10 percent), and health (8 percent).

TABLE 4-15
General Revenues and Expenditures by County (FY2001-2002)

	Albany County	Carbon County	Fremont County	Natrona County	Sweetwater County
General Revenue	$15,711	$33,409	$20,838	$43,068	$84,146
Intergovernmental	$3,010	$4,106	$9,649	$9,377	$8,129
From Federal Government	$794	$1,405	$2,638	$4,377	$2,958
From State Government	$2,216	$2,701	$7,011	$5,000	$5,171
Own Sources	$12,701	$29,286	$11,110	$33,691	$76,012
Taxes	$11,753	$14,297	$7,532	$25,533	$39,987
General Expenditure	$11,802	$30,883	$21,456	$46,035	$84,640
Capital Outlay	$147	$2,188	$2,849	$9,275	$3,460
Major Functions:					
Education	$1,162	$2,092	$3,699	$3,396	$8,426
Welfare	$261	$61	$762	$999	$634
Hospitals	$0	$14,336	$0	$120	$26,383
Health	$209	$424	$1,189	$1,900	$6,556
Highways	$581	$1,945	$2,489	$3,322	$4,565
Police Protection	$854	$1,425	$2,488	$2,718	$3,164
Correction	$997	$937	$2,607	$3,506	$2,036
Natural Resources and Parks ‘ Recreation	$477	$618	$2,000	$3,559	$3,953
Sewerage ‘ Solid Waste Management	$0	$0	$0	$0	$0
Interest on general debt	$27	$224	$89	$1,234	$7,933
Outstanding Debt	$0	$2,800	$980	$17,229	$122,354
Salaries ‘ Wages	$3,264	$8,725	$6,882	$9,736	$23,641

Note: Dollar amounts are in thousands
Source: http://www.census.gov/prod/2005pubs/gc02x43.pdf

4.3.2.5 Future Economic Conditions

Rule I Section 7(i)(ii)(A) – Economy. A study of the area economy including a description of methodology used. The study may include, but is not limited to, including economic bases and economic trends of the local economy.

Economic Projections. The following description of potential future economic conditions in the state is derived from the report entitled 10 Year Outlook Wyoming Economic and Demographic Forecast 2007 to 2016 prepared by the Economic Analysis Division of the Wyoming Department of Administration and Information in 2007.

Wyoming's economy is largely driven by natural resources, and in 2005, the mining industry contributed approximately one-third of both the state's total earnings growth and job growth. In addition, the multiplier effect associated with the mining industry results in stimuli in many other industries such as wholesale trade, transportation, and professional and business services. The total job growth rate of 4.9 percent in 2006 was the second highest in the nation, and the personal income growth rate of 10.4 percent in 2006 was virtually the highest. The mining industry provides high-paying jobs, and as such, its strong presence in Wyoming means that income growth in the state is always closely associated with mining activity. Housing permits in Wyoming have outpaced the western United States and the United States as a whole since 2003. Residential construction is expected to slow down; however, housing in the state is expected to remain very affordable compared to the national average.

Wyoming's population is aging rapidly and is expected to continue to do so. In 2000, the median age of 36.2 in the state passed the national average of 35.3. By 2010, the expected median age of 39.3 for Wyoming will be 2.3 years older than the United States level, and the size of the older population (age 65 and over) will reach over 81,000 by 2014, compared to today's 61,000.

Although mining jobs are expected to slow to more sustainable levels, the increased demand for the natural resources in the state from national markets will help provide a steady source of mining jobs and revenues for the state. Outside of the mining industry, however, the state's future prospects will be somewhat limited by a job market that fails to attract high-growth job opportunities. Although migration has recently reversed to a positive trend, many younger workers will move to other states with more versatile job opportunities. Wyoming is the least diversified state in the nation in terms of employment distribution across industries in comparison to the nation.

Mining Industry. The mining sector has been the most significant economic and revenue player in Wyoming's recent history. After it experienced a boom in the late 1970s, a bust in the mid-1980s, and a slow and steady decline in the 1990s, the mining sector has demonstrated strong growth since 2000. The 33,000 mining jobs in 1981 were the highest level on record, and tallied 14.7 percent of total Wyoming non-agricultural wage and salary employment. However, by 1999, the number shrank to only 15,500. The employment increased 5.6 percent in 2000 and another 13 percent in 2001, holding up well in 2003 as mining prices rebounded. The number of mining jobs went up again over 10 percent annually in 2004. The energy-driven growth continues, as low industrial diversity ties the state's fortunes to mining extraction, which is dominated by natural gas production recently. This sector is responsible for 40 percent of net payroll gains recently. Multiplier effects are also creating jobs in transportation, distribution, construction, and consumer-related industries, and the state is benefiting from a surge in mineral revenue. The outlook for future revenue and jobs from the state's mining industry looks strong with consistent growth anticipated.

The state benefits from increased mining activity in many ways. First, increased demand for oil, natural gas, and coal means increased mineral production revenue and sales and use tax collections for both state and local governments. In addition, because mining job salaries are over twice as much as the average for all industries, increased demand for mining employment trickles down into the economy through increased per capita income and increased levels of consumer spending. On the other hand, the state's economy and revenue also fluctuate significantly along with the rise and fall of mining prices.

Construction. Nationally, strong real estate and housing industries have been constant throughout the economy's ebbs and flows in recent years. The housing boom's economic contribution has been enormous, accounting for approximately one-fourth of real gross domestic product (GDP) growth over the past 5 years. The direct effects from housing are through construction activity, real estate transactions, and mortgage finance. The multiplier benefits are substantial, such as demand in numerous supplying industries, and the income earned from construction-related industries drives spending elsewhere in the economy. As the fastest growing sector in the 1990s, the construction industry in Wyoming added 7,100 jobs in that decade at an annual average rate of 5.2 percent. Again for 2002, the construction sector remained the strongest industry in the state, expanding by 1.9 percent due to historically low interest rates.

The substantial job growth in the general building and specialty trades subsectors is directly caused by the residential construction boom. From 1992 to 2002, total residential home permits averaged nearly 1,800 units per year, compared to an annual range of 500 to 800 units from 1987 to 1991. However, the number of permits expanded dramatically to 2,877 in 2003 and 3,318 in 2004. The single-family permits nearly doubled from 1,485 houses in 2001 to 2,815 in 2004, and 2,328 permits issued in 2003 broke the record set in 1980. Housing units authorized for the first 6 months of 2005 showed another 14 percent increase over the same period the previous year. While the large amount of new housing construction in the early 1980s was driven by an oil industry boom accompanied by an inflow of migrants, the current housing market in the state is largely driven by price appreciations, much like the national trend. The annual net migration (in-migration less out migration) to Wyoming was over 10,000 in the late 1970s and early 1980s, but only a couple of thousand in recent years. A few local markets in the state are trying to meet additional worker demand due to the booming mining exploration such as in Rock Springs, Pinedale, and Casper. On the other hand, in certain areas, rental markets are getting soft as a result of additional new housing. Many residents have taken advantage of low mortgage rates and moved to new houses, leaving their previous homes for sale or rent. In Laramie County, for instance, the number of residential units for sale in the first quarter of 2005 was more than twice as many as 2003, and the number of vacant units for rent almost tripled during the same period. Consequently, rental rates declined.

Overall, job growth in the construction industry is expected to increase in 2005 after it declined 3.4 percent in the past 2 years, albeit at a slower rate of around 4 percent annually. Total employment in construction will surpass the mining industry again by the end of the forecasting period, and 1,700 new jobs are expected be created during this time span.

Retail Sales. As the third largest sector in Wyoming's economy, the retail trade industry (North American Industry Classification System [NAICS]) experienced fast job growth in the first half of the 1990s, averaging nearly 2 percent each year. However, it has slowed down to only about 1 percent annually since then, largely due to out-migration from the state. After experiencing a 3.3 percent rise in 2000, the industry lost over 400 jobs during the past 3 years. In the near future, employment in this sector is expected to expand at a modest rate of less than 1 percent a year. While the average increase rate for the fiscal years 1991 to 2000 was 7.3 percent, the annual non-auto taxable retail sales were up only 3.1 percent from fiscal year 2001 to fiscal year 2003. However, mostly driven by strong natural gas exploration, expanding housing market, and net migration, the retail sales were robust again. For fiscal year 2004, both the taxable non-auto and auto retail sales recorded significant expansions, at 15.1 and 12.9 percent, respectively. The non-auto retail sales continued the strong pace in fiscal year 2005 and increased another 7.2 percent from the previous year's level. However, seemingly dragged down by the high gasoline prices, the automobile sales in the state almost came to a virtual stall, and only edged up a mere 1.4 percent during the past fiscal year. Much like the nation, the real concern for many retailers in the state is how to continue competing with remote sellers who do not have to charge sales tax.

Services. The economy is continuing its long-term trend of shifting more toward a service oriented than goods-oriented one. Much like the rest of the country, the service industries grew continually in Wyoming, even during the 1980s recession. The upward pace accelerated in the 1990s, at an annual rate of 3.3 percent. Despite the slowdown of the economy, total employment for various service industries still increased 2.5 and 2.2 percent in 2001 and 2002, respectively. Mainly caused by the decrease in food services and administrative services, overall employment increased only 1.6 in 2003 and 2.1 percent in 2004. The service sectors are forecasted to be the fastest growing industry, both in terms of growth rate and total number of new jobs. Business, social assistance, and health services will be the main drivers. Despite the structural difference between the Wyoming and national economies, the growing pace in services sector is similar for both. The service sector industry was and will be the fastest growing sector in the Wyoming economy as it continues to undergo a structural shift from goods-producing to service-producing economy. Wyoming's various service sectors are expected to add 20,330 jobs in the next 10 years.

Tourism. With over $1 billion in direct expenditures and 28,000 jobs, Wyoming's travel and tourism industry is an important part of the overall economy, particularly for the northwest region of the state. The primary attractions for tourists are Yellowstone National Park and the Grand Teton National Park. Each year, millions of people from all over the world visit them. However, tourism itself is not classified as an independent or separate economic sector, but mainly included in accommodation and food services sector. Its economic effect crosses many retail trade and services-related sectors such as gasoline stations, general merchandise stores, arts, entertainment, and recreation services. Unfortunately, most jobs directly connected with tourism are mostly lower skilled and lower paying by nature.

Looking into the future, travel and tourism for Wyoming may not deviate much from the past trend (i.e., an extremely slow increase). However, there are at least a few factors that could work to the advantage of the state's tourism industry. First, the weakened American currency may attract more international tourists. Second, the baby-boom generation (born

between 1946 and 1964) is starting to retire or will retire in the next few years, assuming the elderly population is more interested in natural amenities than the younger generation. Third, the state's rising revenue and budget surplus are creating an opportunity to protect the state's attractiveness and enhance area attractions. However, the jobs created in the tourism industry are mostly seasonal and typically low paying, offering little in the way of long-term growth for the state.

Government. As the largest employment sector for Wyoming, the government jobs sector is one of the mainstays in the state's economy, particularly in the southeast region. It also serves as a big stabilizer to the overall economy. During Wyoming's economic bust period of the 1980s, government employment only experienced a 1-year decline in 1986, while the state's total employment suffered 18 percent contraction from 1981 to 1987.

Because of the nature of a sparsely distributed population, state and local governments have to hire a relatively large number of employees to serve the residents, from public schools, to fire districts, to road maintenance. The proportion of Wyoming's state and local government full-time employees was the highest in the country in 2003, at 869 per 10,000 population, while the national average was 542 employees. Other states with higher state/local government employee rates were also states with big land areas and low population such as Alaska, New Mexico, and Nebraska. The lower proportions of government employment are states with high population density such as Pennsylvania and Florida. Wyoming also ranked the third highest in terms of per capita state and local government expenditures in 2002.

In 2004, the government sector contributed 64,590 jobs, or one-fourth of the total, to Wyoming's economy. However, it was one of the slowest growing industries in the 1990s, but has performed well since 2000. It will remain a consistent and steady source for new jobs in the future. From 1990 to 2000, government in Wyoming created 5,500 jobs for an annual growth rate of 1 percent, compared with the overall growth rate of 1.9 percent for the state as a whole. Nearly all of the new jobs added were in local government, which includes K-12 education and hospitals. State government experienced only a slight increase while federal government recorded a minor decline during the same period. Since 2000, state government jobs increased 3.1 percent annually due to the accelerating revenues over the forecast period, the government sector is expected to add 4,870 new jobs, for a total of 69,460 jobs in 2014. Most of the growth is projected to occur in local government, with slower growth for state government and contraction for federal government.

Future Employment Growth. Over the period 2006 through 2016, nonagricultural employment in the state is forecast to increase by 1.6 percent annually, on average, as shown in Table 4-16. Several industrial sectors are expected to exceed this rate of growth: construction (2.7 percent), wholesale trade (2.3 percent), transportation and warehousing (2.5 percent), professional and business services (2.4 percent), education and health care (3.3 percent), leisure and hospitality (2.4 percent), and other services (1.8 percent). Some of the sectors with the lowest projected growth rates include utilities (0.5 percent), manufacturing (0.6 percent), and government (0.8 percent). As a result of these differing growth rates, the share that each sector contributes to total non-agricultural employment will change as shown in Table 4-16.

TABLE 4-16
Wyoming Non-agricultural Wage and Salary Employment (in thousands): 2006 through 2016

			Change 2006-2016			Share of Total	
	2006	2016	Numeric	Percent	Av. Ann. %	2006	2016
Natural Resources and Mining	26,590	31,610	5,020	18.88%	1.74%	7.77%	7.87%
Utilities	2,300	2,410	110	4.78%	0.47%	0.67%	0.60%
Construction	23,610	30,900	7,290	30.88%	2.73%	6.90%	7.70%
Manufacturing	10,080	10,700	620	6.15%	0.60%	2.94%	2.66%
Wholesale Trade	8,200	10,280	2,080	25.37%	2.29%	2.40%	2.56%
Retail Trade	30,800	35,240	4,440	14.42%	1.36%	9.00%	8.78%
Transportation and Warehousing	11,290	14,470	3,180	28.17%	2.51%	3.30%	3.60%
Information	4,210	4,920	710	16.86%	1.57%	1.23%	1.23%
Financial Activities	11,100	12,690	1,590	14.32%	1.35%	3.24%	3.16%
Professional and Business Services	16,960	21,500	4,540	26.77%	2.40%	4.96%	5.35%
Education and Health Care	22,600	31,310	8,710	38.54%	3.31%	6.60%	7.80%
Leisure and Hospitality	32,520	41,010	8,490	26.11%	2.35%	9.50%	10.21%
Other Services	10,920	13,030	2,110	19.32%	1.78%	3.19%	3.25%
Government	65,550	70,730	5,180	7.90%	0.76%	19.15%	17.62%
Federal	7,330	7,330	0	0.00%	0.00%	2.14%	1.83%
State	15,310	16,090	780	5.09%	0.50%	4.47%	4.01%
Local	42,910	47,310	4,400	10.25%	0.98%	12.54%	11.78%
Total Non-agricultural Employment	342,280	401,530	59,250	17.31%	1.61%		

Source: http://eadiv.state.wy.us/wef/Outlook2007.pdf

Between 2002 and 2006, real personal income in the state of Wyoming increased at an average annual rate of 5.4 percent. During the period 2006 to 2016, real personal income in the state is forecast to increase at an annual rate of 6.4 percent annually, as seen in Table 4-17. The projected rate of growth in the civilian labor force between 2006 and 2016 of 1.3 percent would be slightly lower than the rate experienced between 2002 and 2006 of 1.4 percent.

TABLE 4-17
Wyoming Personal Income, Wage and Salary Earnings, Labor Force, Employment and Unemployment (2002, 2006, 2016)

	2002	2006	2016
Total Personal Income (Then-year $)	$15,463,330	$20,948,050	$34,481,470
Real Personal Income (2000-year $)	$14,995,590	$18,472,030	$34,481,470
Per Capita Personal Income (Then-year $)	$30,991	$40,676	$61,236
Per Capita Personal Income (2000-year $)	$30,053	$35,868	$44,372
Median Household Income (Then-year $)	$39,963	$48,351	$65,626
Wages and Salaries	$7,568,720	$10,497.020	$17,237,250
Civilian Labor Force	269,650	284,690	324,630
Number Employed	258,460	275,620	315,210

TABLE 4-17
Wyoming Personal Income, Wage and Salary Earnings, Labor Force, Employment and Unemployment (2002, 2006, 2016)

	2002	2006	2016
Number Unemployed	11,190	9,070	9,430
Unemployment Rate (%)	4.2	3.2	2.9

Source: http://eadiv.state.wy.us/wef/Outlook2007.pdf

Growth in the construction sector is highly sensitive to both population growth and governmental spending on infrastructure. Population growth in Wyoming is expected to slow in the next decade. Therefore, growth in construction employment is also expected to decline as illustrated by the information presented in Table 4-18. Growth in total construction employment is expected to slow from 5.1 percent, on an average annual basis, between 1990 and 2000 to 1.2 percent between 2000 and 2010.

TABLE 4-18
Construction Employment in Wyoming 1990, 2000, and 2010

	1990	2000	2010 Projected	Change 1990 to 2000	Projected Change 2000 to 2010	Average Annual Change 1990 to 2000	Projected Average Annual Change 2000 to 2010
General Contractors	2,099	4,285	5,242	2,186	957	7.4%	2.0%
Heavy Construction	3,866	5,301	5,408	1,435	107	3.2%	0.2%
Special Trade Contractors	4,815	8,085	9,291	3,270	1,206	5.3%	1.4%
Total Construction	10,779	17,671	19,941	6,892	2,270	5.1%	1.2%

Source: Employment Outlook: 2010, Wyoming DOE, 2003

Projections also indicate that the industry mix in construction will change as the numbers of general contractors and specialty trade contractors are expected to grow more than the construction industry as a whole.

4.3.3 Housing

Rule I Section 7(iv) – Housing. An analysis of housing facilities by type, including a quantitative evaluation of the number of units in the area and a discussion of vacancy rates, costs, and rental rates of the units. The analysis should include geographic location, including a quantitative evaluation of the number of units in the area required by the construction and operation of the proposed industrial facility and a discussion of the effects of the proposed industrial facility on vacancy rates, costs, and rental rates of the units. Specific housing programs proposed by the applicant should be described in detail.

This section addresses six major topics: (1) the composition of the existing housing stock in the counties and incorporated communities within the study area, (2) residential construction trends in the counties, (3) home value and rental housing costs, (4) rental housing vacancies, (5) housing needs, and (6) temporary accommodations.

4.3.3.1 Existing Housing Stock in the Study Area

The study area contained a total of 84,866 housing units (occupied and vacant) at the time of the U.S. Census in 2000, with the largest share (35 percent) of them located in Natrona County. Approximately 87 percent of the units were occupied; the remaining units were vacant. The housing vacancy rate was substantially higher in Carbon County (26 percent) than in other counties of the study area (Albany County and Fremont County [13 percent], Natrona County [10.3 percent], and Sweetwater County [11.4 percent]) as shown in Table 4-19. Of the vacant units in the study area, 40 percent were for seasonal, recreational, or occasional use; 24 percent were for rent; 11 percent were for sale; and 7 percent were rented or sold but not occupied.

Of the occupied housing units in the study area, 68 percent were owner-occupied, and the remaining 32 percent were rental units. The proportion of renter-occupied units is higher in Albany County (49 percent), well above the corresponding values for the state (30 percent) and other counties as shown in Table 4-19.

At the community level, housing vacancy rates were the lowest in the large communities of Laramie (5.2 percent), Rawlins (14.2 percent), Casper (7 percent), Rock Springs (11.7 percent), and Green River (5.1 percent). The highest proportions of rental housing are also found in the larger communities of the study area as can be seen from the information presented in Table 4-19. The community of Wamsutter contained a total of 137 housing units in 2000, of which 34 (25 percent) were vacant. Half the vacant units were for rent.

TABLE 4-19
Housing Stock, Occupancy, and Tenure (2000)

	Occupied			Vacant						
	Total	Owner	Renter	Total	Rent	Sale Only	Rented or Sold, Not Occupied	Seasonal, Recreational, Occasional Use	Migrant Workers	Other
Wyoming	86.5%	70.0%	30.0%	13.5%	20.6%	10.9%	6.2%	44.3%	1.2%	16.8%
Albany County	87.2%	51.3%	48.7%	12.8%	20.8%	6.8%	4.0%	63.1%	0.0%	5.4%
Laramie	94.8%	47.5%	52.5%	5.2%	55.9%	14.5%	8.5%	9.7%	0.0%	11.3%
Rock River	79.8%	75.8%	24.2%	20.2%	12.0%	56.0%	0.0%	8.0%	0.0%	24.0%
Carbon County	73.8%	70.9%	29.1%	26.2%	16.5%	10.0%	3.2%	50.6%	1.5%	18.3%
Baggs	78.0%	78.2%	21.8%	22.0%	27.3%	0.0%	4.5%	20.5%	0.0%	47.7%
Dixon	47.8%	87.5%	12.5%	52.2%	0.0%	0.0%	5.7%	54.3%	0.0%	40.0%
Elk Mountain	59.2%	63.5%	36.5%	40.8%	0.0%	0.0%	31.4%	33.3%	0.0%	35.3%
Grand Encampment	62.1%	79.3%	20.7%	37.9%	7.9%	11.8%	3.1%	55.9%	0.0%	21.3%
Hanna	74.1%	73.0%	27.0%	25.9%	18.5%	43.1%	10.8%	6.2%	0.0%	21.5%
Medicine Bow	70.1%	74.8%	25.2%	29.9%	21.4%	10.7%	0.0%	21.4%	0.0%	46.4%
Rawlins	85.8%	67.6%	32.4%	14.2%	41.8%	17.7%	2.7%	10.5%	5.1%	22.2%
Riverside	63.8%	83.3%	16.7%	36.2%	23.5%	0.0%	0.0%	64.7%	0.0%	11.8%
Saratoga	80.2%	75.8%	24.2%	19.8%	20.3%	7.8%	3.6%	57.8%	0.0%	10.4%
Sinclair	80.5%	81.7%	18.3%	19.5%	12.2%	12.2%	17.1%	17.1%	0.0%	41.5%
Fremont County	87.2%	72.8%	27.2%	12.8%	21.7%	12.1%	7.3%	35.4%	1.0%	22.5%
Dubois	81.0%	66.8%	33.2%	19.0%	15.3%	9.9%	1.8%	51.4%	0.0%	21.6%
Hudson	80.0%	72.7%	27.3%	20.0%	11.4%	18.2%	18.2%	6.8%	0.0%	45.5%
Lander	92.0%	69.8%	30.2%	8.0%	35.7%	32.0%	12.4%	8.3%	0.0%	11.6%
Pavillion	89.9%	79.8%	20.2%	10.1%	30.0%	30.0%	0.0%	0.0%	0.0%	40.0%
Riverton	90.0%	67.8%	32.2%	10.0%	42.3%	10.5%	14.0%	19.0%	2.1%	12.1%
Shoshoni	71.1%	82.4%	17.6%	28.9%	28.3%	4.0%	24.2%	31.3%	0.0%	12.1%

TABLE 4-19
Housing Stock, Occupancy, and Tenure (2000)

	Occupied			Vacant						
	Total	Owner	Renter	Total	Rent	Sale Only	Rented or Sold, Not Occupied	Seasonal, Recreational, Occasional Use	Migrant Workers	Other
Natrona County	89.7%	69.9%	30.1%	10.3%	25.1%	10.9%	10.9%	34.4%	0.7%	18.1%
Bar Nunn	94.9%	91.5%	8.5%	5.1%	29.4%	35.3%	0.0%	0.0%	0.0%	35.3%
Casper	93.0%	67.4%	32.6%	7.0%	40.2%	16.2%	11.9%	11.5%	0.0%	20.2%
Edgerton	54.1%	83.3%	16.7%	45.9%	10.7%	3.6%	8.9%	26.8%	0.0%	50.0%
Evansville	92.8%	56.5%	43.5%	7.2%	28.8%	13.6%	28.8%	0.0%	0.0%	28.8%
Midwest	70.7%	81.5%	18.5%	29.3%	34.3%	9.0%	10.4%	9.0%	0.0%	37.3%
Mills	90.7%	69.3%	30.7%	9.3%	45.8%	14.2%	9.2%	4.2%	0.0%	26.7%
Sweetwater County	88.6%	75.1%	24.9%	11.4%	38.1%	17.3%	5.7%	17.8%	0.5%	20.6%
Bairoil	58.5%	86.8%	13.2%	41.5%	7.4%	14.8%	0.0%	22.2%	0.0%	55.6%
Granger	69.5%	68.4%	31.6%	30.5%	8.0%	0.0%	0.0%	80.0%	0.0%	12.0%
Green River	94.9%	76.1%	23.9%	5.1%	55.6%	17.5%	6.3%	17.0%	0.0%	3.6%
Rock Springs	88.3%	72.3%	27.7%	11.7%	48.4%	21.4%	9.1%	8.3%	0.0%	12.7%
Superior	55.0%	86.0%	14.0%	45.0%	0.0%	15.8%	0.0%	0.0%	0.0%	84.2%
Wamsutter	75.2%	52.4%	47.6%	24.8%	50.0%	35.3%	0.0%	5.9%	0.0%	8.8%

Source: http://factfinder.census.gov

Of the housing units in the counties of the study area, the largest proportions are single family, detached units comprising 66 percent in Carbon County and 59 percent in Sweetwater County. The proportion of the housing stock that is comprised of mobile homes is highest in Sweetwater County (23 percent), followed by Fremont County (20 percent) and Carbon County (19 percent). For the state of Wyoming, the corresponding proportion is 16 percent. The larger communities tend to have relatively low proportions of mobile homes (9 percent for Laramie, 12 percent for Rawlins, and 4 percent for Casper) while a number of the smaller communities have high proportions (Dixon and Wamsutter with 61 percent, Granger with 60 percent, and Baggs with 52 percent). Table 4-20 displays the breakdown of housing units by occupancy and type of structure for the state, counties, and communities of the study area.

TABLE 4-20
Housing Stock by Type of Structure (2000)

	Single-Family Detached	Single-Family Attached	2 Units	3 or 4 Units	5 to 9 Units	10 to 19 Units	20 to 49 Units	50 or More Units	Mobile Home	Boat, RV, Van, etc.
Wyoming	64.9%	2.5%	4.6%	3.0%	3.0%	1.9%	2.2%	1.0%	15.9%	0.4%
Albany County	50.7%	6.7%	7.9%	7.6%	7.6%	3.4%	2.9%	1.5%	13.2%	0.1%
Laramie	46.3%	8.3%	10.0%	9.5%	9.5%	4.2%	3.6%	1.9%	8.7%	0.0%
Rock River	68.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	27.4%	0.0%
Carbon County	66.2%	2.0%	3.2%	2.9%	2.9%	1.1%	2.4%	0.2%	19.1%	1.1%
Baggs	38.0%	2.5%	0.0%	5.0%	5.0%	0.0%	0.0%	0.0%	51.5%	3.0%
Dixon	38.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	61.2%	0.0%
Elk Mountain	87.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.8%	0.0%
Grand Encampment	67.8%	2.7%	1.2%	1.2%	1.2%	0.0%	0.0%	0.0%	25.7%	0.0%
Hanna	69.7%	5.8%	3.0%	1.2%	1.2%	0.0%	0.0%	0.0%	20.0%	0.0%
Medicine Bow	66.3%	2.1%	7.0%	1.1%	1.1%	0.0%	0.0%	0.0%	23.5%	0.0%

TABLE 4-20
Housing Stock by Type of Structure (2000)

	Single-Family Detached	Single-Family Attached	2 Units	3 or 4 Units	5 to 9 Units	10 to 19 Units	20 to 49 Units	50 or More Units	Mobile Home	Boat, RV, Van, etc.
Rawlins	64.7%	2.3%	5.0%	4.6%	4.6%	1.8%	5.0%	0.5%	12.3%	0.9%
Riverside	87.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.8%	0.0%
Saratoga	70.8%	1.5%	3.0%	4.2%	4.2%	2.2%	0.2%	0.0%	15.5%	0.9%
Sinclair	97.1%	1.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	1.0%	0.0%
Fremont County	68.6%	1.7%	1.9%	2.6%	2.3%	0.9%	1.8%	0.3%	19.8%	0.2%
Dubois	62.5%	0.9%	2.9%	4.1%	5.0%	0.0%	0.9%	0.0%	23.8%	0.0%
Hudson	64.5%	1.4%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%	28.2%	0.9%
Lander	65.8%	1.4%	2.9%	4.5%	4.0%	2.5%	2.6%	0.4%	15.8%	0.0%
Pavillion	49.5%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	48.5%	0.0%
Riverton	67.9%	3.8%	3.5%	4.7%	2.8%	1.3%	4.6%	0.7%	10.6%	0.1%
Shoshoni	53.6%	2.0%	2.3%	0.6%	0.6%	0.0%	0.0%	0.0%	40.8%	0.0%
Natrona County	69.0%	1.8%	1.9%	4.6%	2.2%	2.3%	3.0%	2.2%	12.7%	0.3%
Bar Nunn	59.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.8%	0.0%
Casper	73.0%	2.0%	2.4%	5.5%	3.0%	3.2%	4.1%	3.0%	3.7%	0.1%
Edgerton	52.5%	0.0%	0.0%	6.6%	0.0%	0.0%	0.0%	0.0%	28.7%	12.3%
Evansville	46.9%	0.0%	0.0%	6.3%	0.0%	0.0%	0.0%	0.0%	46.8%	0.0%
Midwest	90.0%	0.9%	0.9%	5.7%	0.0%	0.0%	0.0%	0.0%	2.6%	0.0%
Mills	40.3%	3.6%	0.9%	4.4%	0.4%	0.0%	0.0%	0.0%	49.1%	1.3%
Sweetwater County	58.8%	2.6%	3.1%	4.2%	2.7%	1.1%	3.3%	0.6%	23.2%	0.4%
Bairoil	60.0%	0.0%	7.7%	0.0%	0.0%	0.0%	0.0%	0.0%	32.3%	0.0%
Granger	30.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	59.8%	9.8%
Green River	66.5%	0.8%	3.5%	5.4%	4.5%	1.3%	2.6%	0.9%	14.5%	0.0%
Rock Springs	60.5%	4.3%	3.7%	4.7%	2.6%	1.4%	4.8%	0.8%	17.2%	0.0%
Superior	78.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	21.3%	0.0%
Wamsutter	29.2%	1.5%	3.6%	0.7%	0.0%	1.5%	0.0%	0.0%	61.3%	2.2%

Source: http://factfinder.census.gov

Large shares of the housing stock (as of 2000) in the study area were constructed in the 1970s: 28 percent in Carbon County; 31 percent in Fremont and Natrona counties; and 34 percent in Sweetwater County. These proportions are similar to the 27 percent for the state as shown in Table 4-21. The decade of the 1980s contributed the next highest share of the housing stock for the study area counties. Relatively small portions of the housing stock were constructed in the 1990s. Carbon County contains a large share (21 percent) of housing constructed prior to 1940 compared to the state (14 percent) and Sweetwater County (13 percent). More recent building activity is addressed later in this section.

TABLE 4-21
Housing Stock by Age, Number of Bedrooms, and Quality (2000)

	Age of Housing Units							
	Built 1990-2000	**Built 1980-1989**	**Built 1970-1979**	**Built 1960-1969**	**Built 1950-1959**	**Built 1940-1949**	**Built 1939 or Earlier**	**Median Year Structure Built**
Wyoming	13.9%	17.3%	26.7%	10.3%	11.0%	6.9%	13.9%	1973
Albany County	11.3%	14.2%	23.5%	13.9%	12.9%	7.3%	16.9%	1969
Laramie	9.2%	13.6%	22.3%	14.2%	14.0%	8.5%	18.2%	1967
Rock River	1.6%	11.3%	29.8%	8.1%	4.0%	8.9%	36.3%	1961
Carbon County	8.8%	15.4%	28.0%	7.5%	11.5%	8.0%	20.8%	1971
Baggs	12.0%	10.0%	47.0%	9.0%	6.0%	4.5%	11.5%	1974
Dixon	3.0%	3.0%	32.8%	26.9%	0.0%	13.4%	20.9%	1966
Elk Mountain	4.8%	12.0%	40.0%	6.4%	5.6%	4.0%	27.2%	1972
Grand Encampment	10.1%	12.8%	27.2%	10.7%	12.8%	1.2%	25.1%	1970
Hanna	4.0%	27.5%	42.7%	4.8%	2.8%	5.2%	13.0%	1976
Medicine Bow	2.7%	13.4%	29.9%	9.1%	13.4%	11.8%	19.8%	1966
Rawlins	6.5%	9.8%	27.1%	7.8%	15.7%	12.1%	21.1%	1961
Riverside	10.6%	17.0%	21.3%	6.4%	19.1%	0.0%	25.5%	1968
Saratoga	7.8%	19.8%	27.7%	13.7%	9.9%	5.9%	15.2%	1972
Sinclair	1.4%	1.4%	14.8%	0.0%	8.1%	13.8%	60.5%	1939
Fremont County	14.5%	14.3%	30.9%	14.5%	9.9%	6.2%	9.8%	1973
Dubois	21.1%	14.9%	27.4%	15.9%	6.7%	6.0%	8.0%	1975
Hudson	10.9%	10.0%	30.0%	6.8%	8.6%	9.1%	24.5%	1970
Lander	9.4%	9.4%	23.8%	23.9%	11.6%	5.4%	16.5%	1967
Lander	9.4%	9.4%	23.8%	23.9%	11.6%	5.4%	16.5%	1967
Pavillion	21.2%	7.1%	37.4%	10.1%	2.0%	13.1%	9.1%	1974
Riverton	8.6%	11.4%	30.4%	16.4%	16.2%	8.0%	9.0%	1970
Shoshoni	11.7%	14.0%	26.5%	9.9%	12.5%	13.1%	12.2%	1971
Natrona County	6.8%	14.1%	31.4%	11.4%	18.9%	6.3%	11.1%	1971
Bar Nunn	13.7%	31.0%	52.7%	1.8%	0.0%	0.9%	0.0%	1979
Casper	4.5%	13.7%	27.8%	11.9%	22.8%	6.8%	12.5%	1967
Edgerton	8.2%	27.0%	18.0%	11.5%	4.1%	9.8%	21.3%	1972
Evansville	4.5%	10.0%	55.5%	14.5%	9.4%	2.3%	3.8%	1974
Midwest	1.3%	3.1%	5.7%	4.8%	5.2%	11.8%	68.1%	NA
Mills	12.7%	10.3%	31.6%	14.1%	11.9%	10.7%	8.9%	1971
Sweetwater County	13.2%	20.9%	33.9%	7.7%	5.6%	5.6%	13.2%	1975
Bairoil	15.4%	13.8%	18.5%	18.5%	6.2%	15.4%	12.3%	1969
Granger	7.3%	15.9%	51.2%	0.0%	4.9%	7.3%	13.4%	1975
Green River	12.8%	23.5%	44.8%	6.8%	4.3%	2.3%	5.5%	1977
Rock Springs	10.1%	19.7%	27.5%	9.1%	7.2%	8.2%	18.2%	1973
Superior	3.6%	8.3%	21.9%	4.1%	10.1%	16.0%	36.1%	1949
Wamsutter	13.9%	29.9%	45.3%	2.2%	0.0%	5.1%	3.6%	1979

Source: http://factfinder.census.gov

The largest share of housing units contain either two or three bedrooms, and less than 5 percent of housing would be classed as substandard based on a lack of complete plumbing or kitchen facilities (except in the cases of Dixon, Elk Mountain, and Riverside in Carbon County and Superior in Sweetwater County), as can be seen from the information contained in Table 4-22.

TABLE 4-22
Housing Stock by Number of Bedrooms and Quality (2000)

	Number of Bedrooms						Lacking Complete Plumbing Facilities	Lacking Complete Kitchen Facilities
	None	1	2	3	4	5 or More		
Wyoming	2.0%	11.0%	28.3%	36.8%	16.5%	5.5%	1.9%	2.2%
Albany County	3.9%	17.0%	33.6%	29.5%	10.9%	5.1%	2.2%	2.2%
Laramie	4.4%	18.0%	33.4%	27.9%	11.5%	4.9%	0.5%	0.9%
Rock River	0.0%	3.2%	38.7%	46.8%	11.3%	0.0%	0.8%	2.4%
Carbon County	1.6%	13.1%	30.4%	35.9%	14.1%	4.8%	3.8%	4.4%
Baggs	1.0%	11.0%	46.0%	36.0%	3.0%	3.0%	5.0%	4.0%
Dixon	0.0%	23.9%	49.3%	23.9%	3.0%	0.0%	13.4%	7.5%
Elk Mountain	9.6%	12.0%	20.0%	42.4%	14.4%	1.6%	17.6%	19.2%
Grand Encampment	0.0%	13.7%	33.4%	39.1%	10.7%	3.0%	0.6%	1.2%
Hanna	0.4%	7.2%	24.8%	43.5%	15.4%	8.8%	1.0%	1.8%
Medicine Bow	0.0%	7.5%	38.0%	37.4%	11.8%	5.3%	5.3%	5.3%
Rawlins	1.8%	16.6%	28.8%	32.5%	14.9%	5.4%	1.8%	2.4%
Riverside	0.0%	0.0%	51.1%	31.9%	10.6%	6.4%	14.9%	10.6%
Saratoga	1.6%	14.8%	31.5%	39.5%	9.5%	3.0%	0.8%	1.6%
Sinclair	0.0%	5.7%	40.5%	32.4%	18.6%	2.9%	1.0%	2.9%
Fremont County	1.1%	10.9%	29.5%	40.2%	13.5%	4.8%	2.6%	2.5%
Dubois	2.7%	10.6%	47.6%	33.6%	4.3%	1.2%	0.0%	0.0%
Hudson	0.0%	10.5%	55.0%	27.3%	3.2%	4.1%	5.5%	3.6%
Lander	0.7%	11.5%	32.1%	38.5%	13.6%	3.6%	0.5%	0.5%
Pavillion	0.0%	9.1%	47.5%	38.4%	0.0%	5.1%	2.0%	2.0%
Riverton	0.4%	13.0%	28.9%	36.5%	15.5%	5.8%	0.2%	0.5%
Shoshoni	1.5%	14.9%	31.5%	38.2%	11.1%	2.9%	0.6%	0.6%
Natrona County	2.2%	11.2%	26.6%	34.9%	19.3%	5.7%	2.1%	2.2%
Bar Nunn	0.6%	2.1%	14.9%	55.4%	22.6%	4.5%	1.8%	1.8%
Casper	1.8%	12.2%	25.9%	33.3%	20.5%	6.3%	0.6%	0.9%
Edgerton	0.0%	25.4%	35.2%	32.0%	2.5%	4.9%	7.4%	12.3%
Evansville	1.1%	7.5%	35.8%	36.5%	16.8%	2.3%	0.5%	0.5%
Midwest	2.2%	3.9%	64.2%	22.7%	5.7%	1.3%	4.8%	7.0%
Mills	0.3%	11.7%	39.8%	38.3%	8.9%	1.1%	0.0%	0.3%
Sweetwater County	1.0%	9.2%	27.9%	37.2%	17.7%	7.1%	1.3%	1.5%
Bairoil	0.0%	6.2%	24.6%	69.2%	0.0%	0.0%	4.6%	4.6%
Granger	4.9%	15.9%	24.4%	43.9%	11.0%	0.0%	3.7%	3.7%
Green River	0.6%	5.5%	21.9%	37.4%	22.3%	12.3%	0.2%	0.8%
Rock Springs	1.0%	11.3%	32.2%	33.4%	16.9%	5.1%	1.0%	1.1%
Superior	0.0%	8.9%	45.0%	40.2%	5.9%	0.0%	20.1%	18.3%
Wamsutter	0.0%	6.6%	46.0%	35.8%	7.3%	4.4%	5.1%	1.5%

Source: http://factfinder.census.gov

4.3.3.2 Housing Inventories Past and Present

The residential construction industry is highly cyclical in nature and sensitive to the state of the economy and financial conditions. Such cycles are often national and regional in scope, although noticeable differences on a small scale can occur.

The level of housing units authorized for construction in the state of Wyoming in 2006 (3,846 units) was last experienced in 1980 (3,845 units), as can be seen from the information presented in Figure 4-20. Residential construction activity in the state consistently declined from a high point in 1981 (with over 4,000 units permitted) to 1987 when 578 units were authorized for construction. The absolute low point was reached in 1989 when a total of 555 units were authorized for construction. Construction activity picked up with consistent growth between 1989 and 1994 with a total of 2,020 units were authorized for construction in the latter year. Activity remained relatively stable between 1994 and 2002, after which rapid growth occurred, culminating in an annual total of 4,002 units authorized for construction in 2005. Construction activity in 2006 declined slightly from the 2005 level.

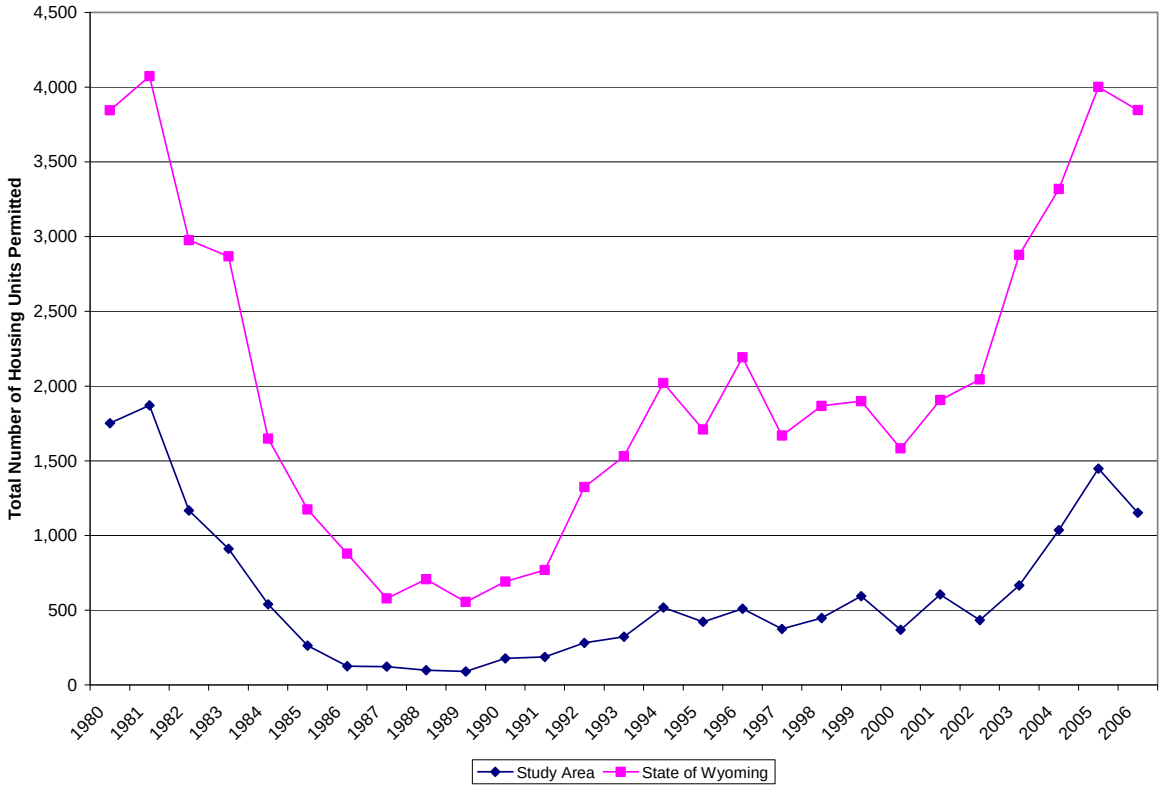

FIGURE 4-20
New Residential Construction for Study Area and State (1980 through 2006)

The pattern of construction activity in the study area generally resembles that of the state described above, but with some differences as evident in Figure 4-21. The increase in activity evident between 1991 and 2000 at the state level is present, but less pronounced. The contribution that residential construction activity in the study area has made to that of the state has varied substantially. In 1980, the study area contributed just over 45 percent of all new residential units authorized for construction in the state. By 1988, this share had declined to 14 percent. The share increased through 2005 when it comprised 36 percent of the state total.

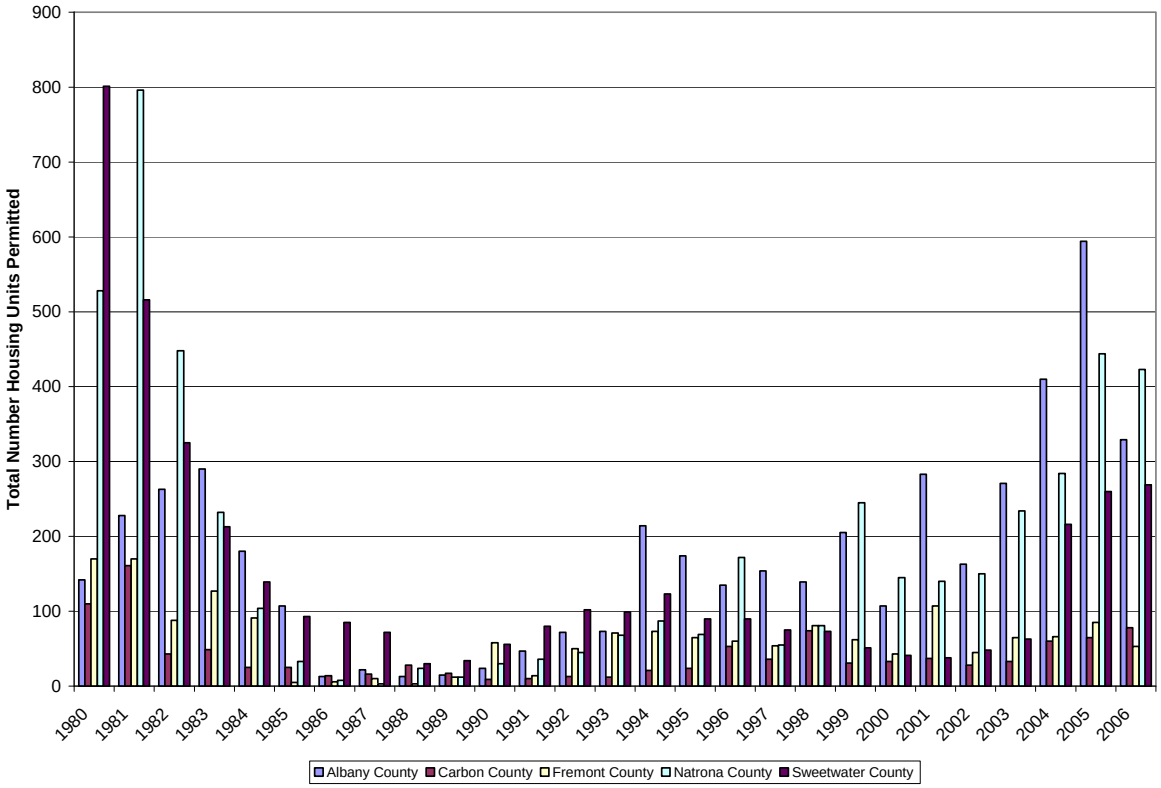

FIGURE 4-21
New Residential Construction by County (1980 through 2006)

On average, three counties (Albany, Natrona, and Sweetwater) have contributed almost equal shares (between 24 and 29 percent) to housing unit starts in the study area over the period 1981 through 2006. These contributions, however, have varied dramatically on an annual basis (e.g., in 1987 and 1988 Sweetwater County accounted for 68 percent and 59 percent, respectively, of all housing unit permits issued in the study area). From 1995 throughout 2006 (with the exception of 1997), Albany County contributed 30 percent or more of all housing units permitted in the study area. The maximum share for Carbon County over the entire time period was 29 percent in 1989, and in 20 of the 26 years, its share was less than 10 percent (Figure 4-21).

Single-family units comprised the majority of housing units constructed in the study area in all but a few years as can be seen from the information presented in Figure 4 22. They comprised between about 52 and 100 percent of all units permitted for construction. Construction of structures containing five or more units in the study area has been concentrated in a few periods: 1980 through 1985; 1987, 1990, 1998 through 2001; and 2004 through 2005.

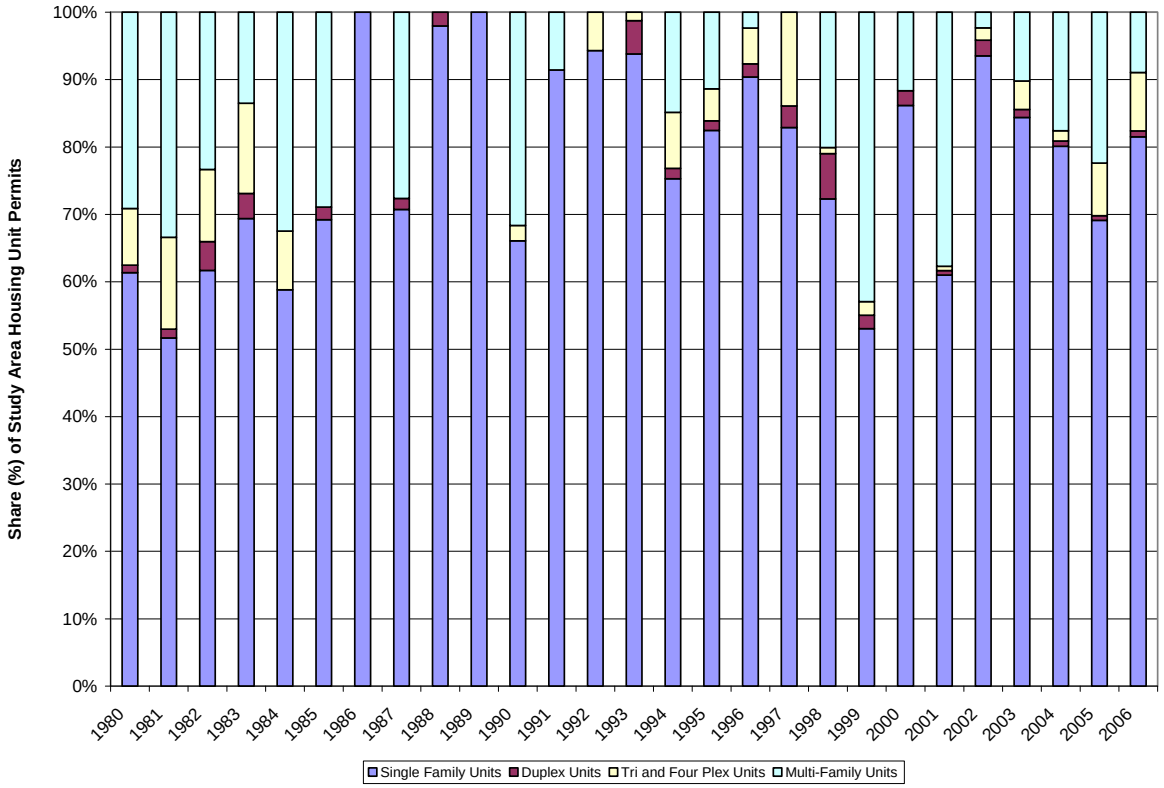

FIGURE 4-22
New Residential Construction by Type of Structure in the Study Area (1980 through 2006)

4.3.3.3 Home Value and Rental Housing Costs

Home Value. Through the 1960s, home values in the state of Wyoming and the counties comprising the study area experienced only modest change as can be seen from Figure 4-23 and Table 4-23. Average annual growth rates (presented in Table 4-21) were as follows: 2.9 percent for the state of Wyoming, 3.6 percent in Albany County, 1.0 percent in Carbon County, 2.7 percent in Fremont County, 1.3 percent in Natrona County, and 2.9 percent in Sweetwater County. The 1970s saw a steep rise in median values from around $12,000 to $19,000 to around $56,000 to $70,000 when average annual changes in median value of 13.9 percent for the state, 17.0 percent in Carbon County, and 15.2 percent in Sweetwater County occurred. Between 1980 and 1990, values experienced little upward movement, and values in Carbon, Fremont, and Natrona counties declined. This was followed by another growth spurt in the 1990s with average annual percentage changes between 4 percent and 5 percent. Robust growth in home values of between 9 and 13 percent annually continued between 2000 and 2006.

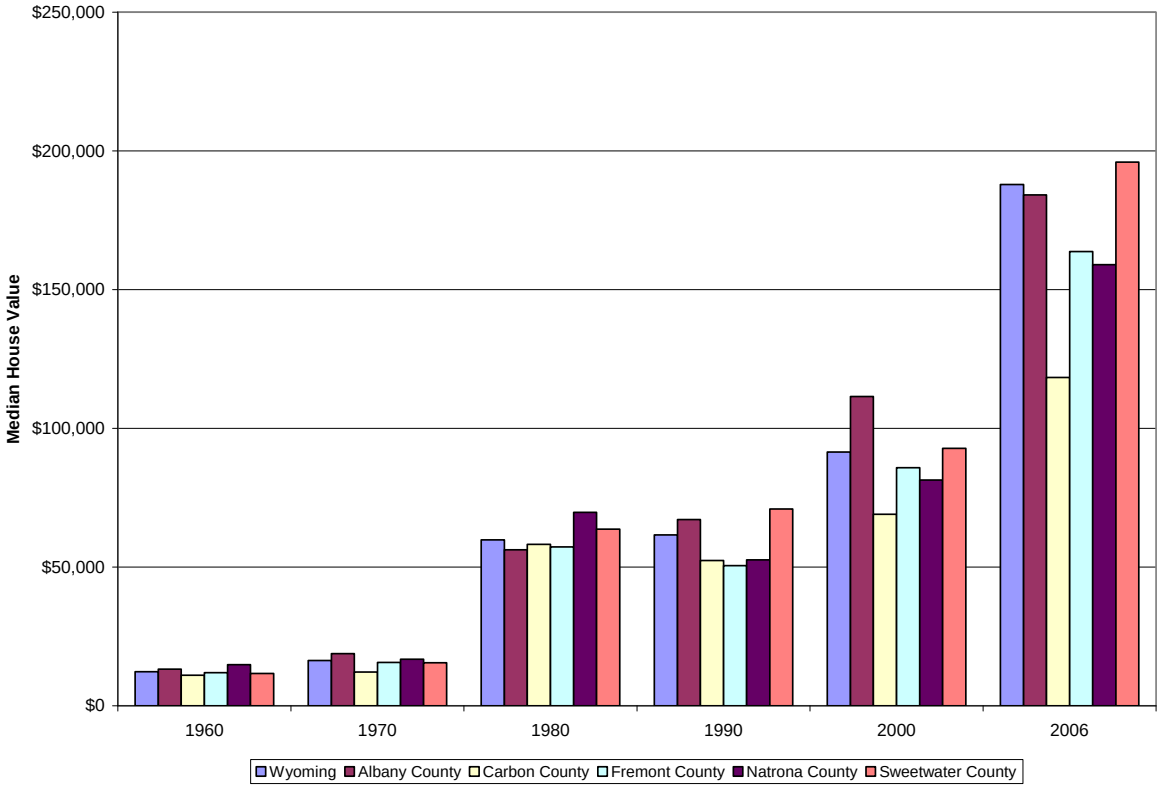

FIGURE 4-23
Median House Value for Counties in the Study Area and State (1960 through 2006)

TABLE 4-23
Average Annual Percentage Change in Home Value (1960 through 2006)

	1960-1970	1970-1980	1980-1990	1990-2000	2000-2006
State of Wyoming	2.9%	13.9%	0.3%	4.0%	12.7%
Albany County	3.6%	11.6%	1.8%	5.2%	8.7%
Carbon County	1.0%	17.0%	-1.1%	2.8%	9.4%
Fremont County	2.7%	13.9%	-1.3%	5.4%	11.4%
Natrona County	1.3%	15.3%	-2.8%	4.5%	11.8%
Sweetwater County	2.9%	15.2%	1.1%	2.7%	13.3%

Sources: http://factfinder.census.gov for 1990 through 200 data and Wyoming Housing Database Partnership, August 2007. *A Profile of Wyoming Demographics, Economics and Housing Final Report Ending June 30, 2007* for 2001-2007 data

Rental Housing Costs. Over the period 1960 through 2006, rent levels have mirrored closely those of home values, as can be seen from the information presented in Table 4-24 and Figure 4-24. A dramatic increase in rents took place in the 1970s with average annual percentage increases of between 8 and 15 percent, followed by low growth and decline in the 1980s. The period from 1990 through 2006 saw robust increases in housing rental prices, especially since 2000.

TABLE 4-24
Average Annual percentage Change in House Rents (1960 through 2006)

	1960-1970	1970-1980	1980-1990	1990-2000	2000-2006
State of Wyoming	0.7%	11.7%	2.1%	5.1%	10.2%
Albany County	2.3%	8.4%	4.6%	4.6%	10.3%
Carbon County	0.3%	13.9%	-0.9%	5.4%	10.7%
Fremont County	0.0%	10.9%	1.4%	5.0%	8.0%
Natrona County	0.5%	14.2%	-1.7%	5.0%	12.2%
Sweetwater County	0.8%	14.6%	0.9%	4.6%	13.6%

Source: http://factfinder.census.gov

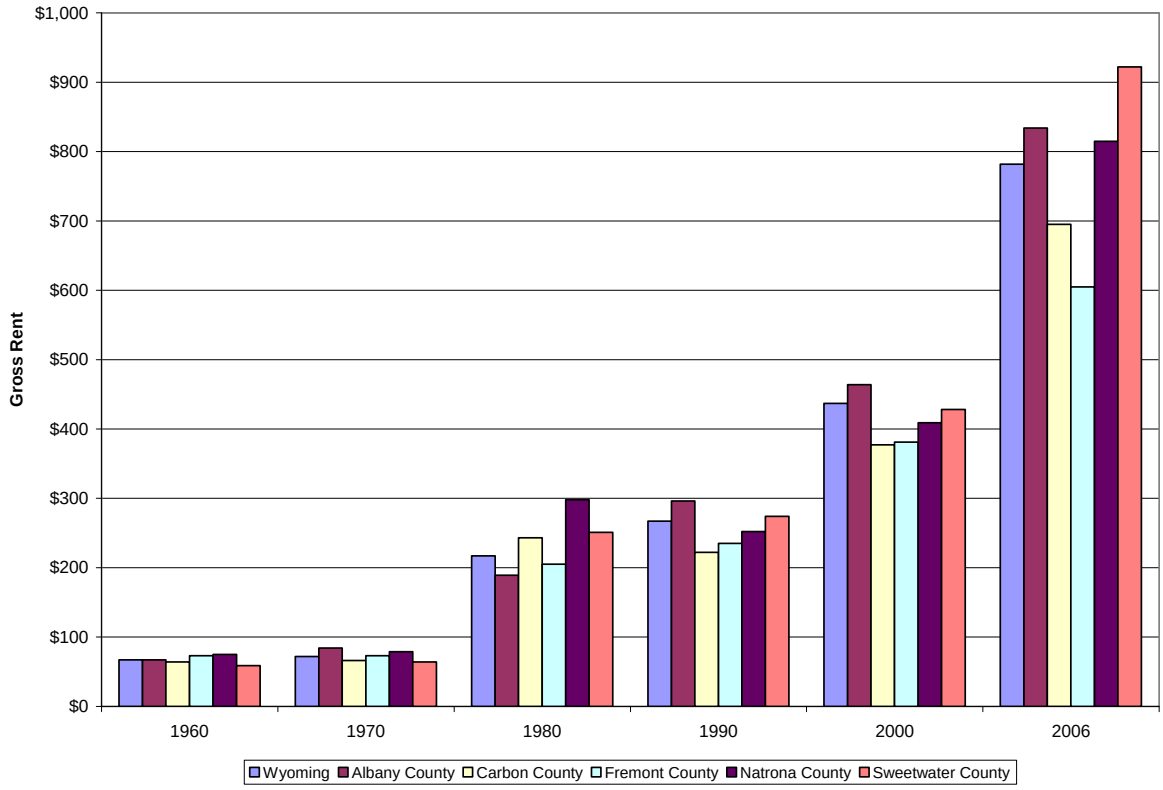

FIGURE 4-24
Gross Rents for Counties in the Study Area and State (1960 through 2006)

A detailed view of changes in house rents, between the first quarter of 2000 and the second quarter of 2007 at the state and county level is presented in Figure 4-25. Rent levels in Carbon and Fremont counties remained well below those of the state. House rents in all counties and the state have experienced steady growth over the time period with accelerated growth since the end of 2005. For example, in Carbon County, house rents

increased by 20 percent between the second quarter of 2000 and the second quarter of 2005 at an average annual rate of 4.7 percent. However, between the second quarter of 2005 and second quarter of 2007 house rents increased by 47 percent at an average annual rate of 21 percent. The respective average annual percentage changes in Sweetwater County were 6.8 and 23 percent, and 4.6 percent and 10.9 percent at the state level.

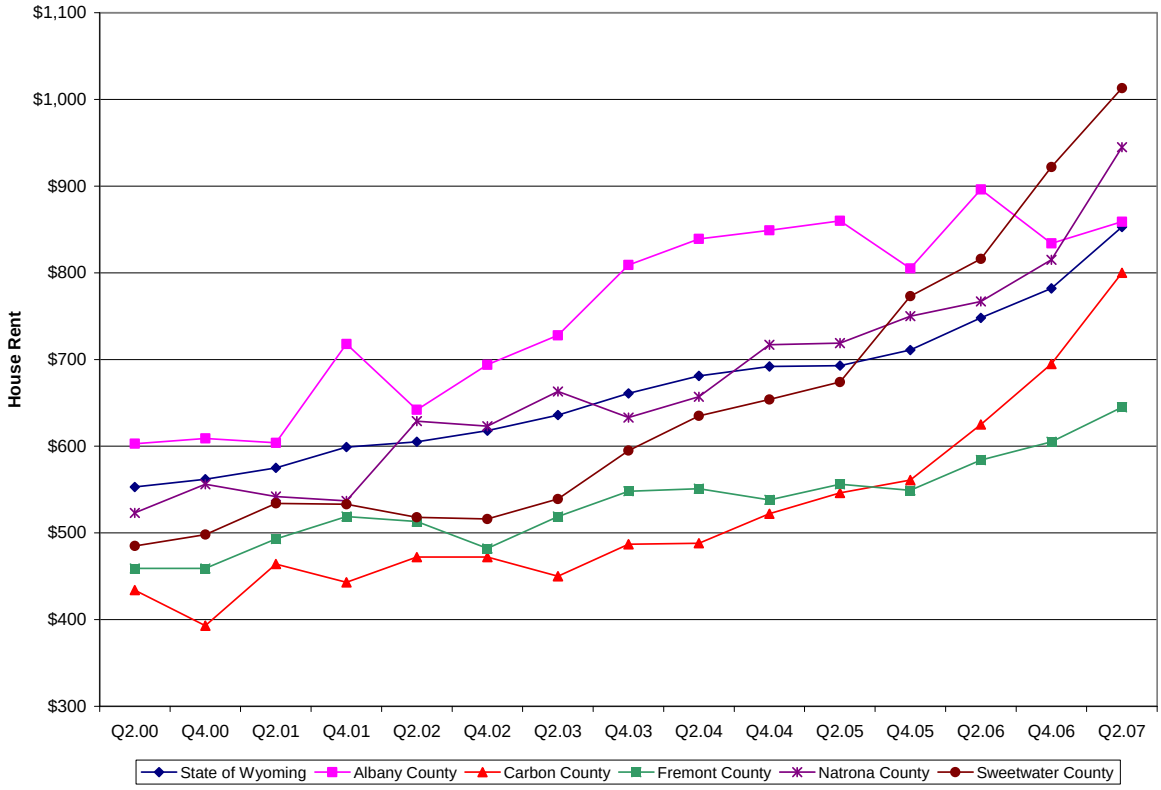

FIGURE 4-25
Monthly House Rent by County and State (2000 - 2007)

Apartment rents show a very similar pattern to that of house rents as illustrated by the information presented in Figure 4-26. Rental levels in Albany County have remained consistently higher than those of the state, but by the end of the period, they had dipped below those in Sweetwater and Carbon counties. Rent levels for apartments in both Carbon and Sweetwater counties have, until recently, remained consistently below those of the state. However, the last 2 years represented by the information exhibit dramatic increases in rent levels of 21 percent annually in Carbon County and 18 percent in Sweetwater County.

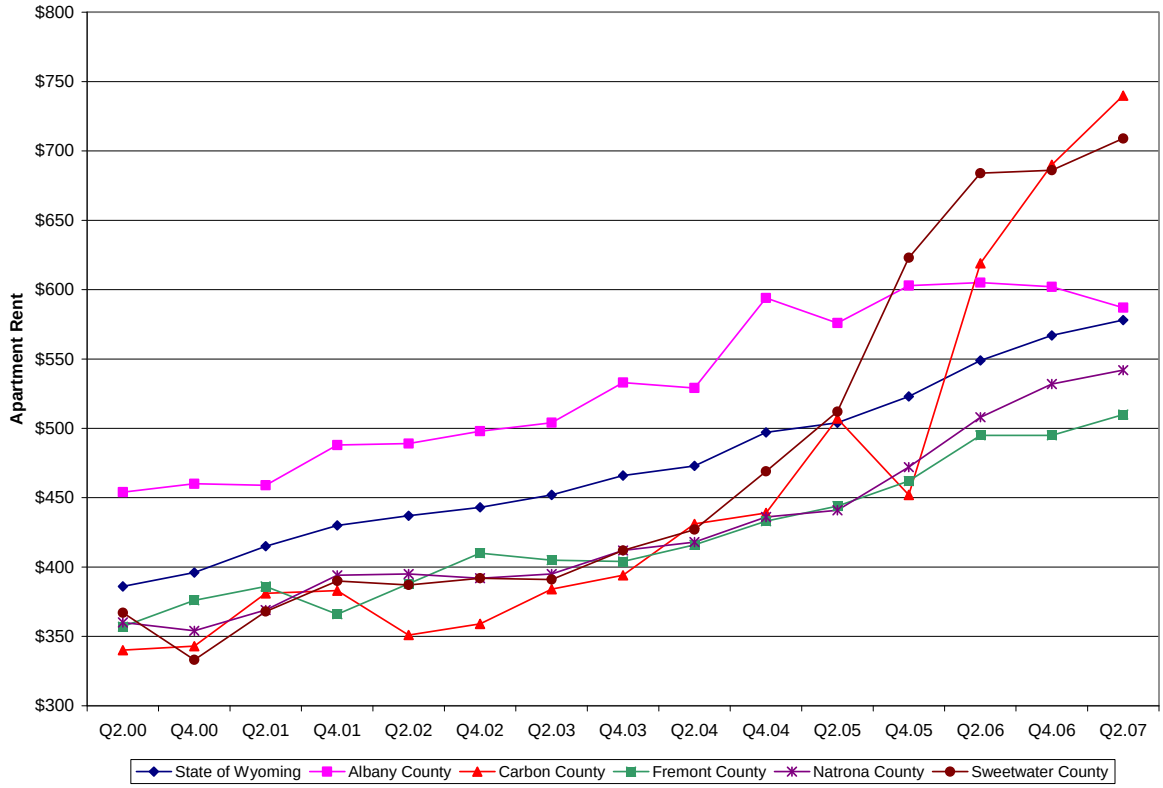

FIGURE 4-26
Monthly Apartment Rent by County and State (2000 - 2007)

Mobile homes (and mobile home lots) provide an alternative form of rental housing, especially to apartments, and their rents are very similar. Rents for mobile home and lots in Carbon, Fremont, and Natrona counties have, for much of the time period represented by the information, remained below those at the state level. Rental prices for mobile homes on lots increased steadily at the state level and in each of the counties of the study area until the beginning of 2007 when a downturn occurred in Albany, Carbon, and Natrona counties and at the state level. Rent levels in Sweetwater County experienced rapid appreciation since the end of 2003 as shown in Figure 4-27. The price trend in Albany County was moderate and consistent until the end of 2003 after which time a general downward trend occurred through the end of the period. Carbon County experienced a somewhat erratic trend early in the period until the end of 2002. This was followed by a period of steady growth through the end of 2005. This was, in turn, followed by a dramatic spike and then a small decline. Rents in Carbon County exhibited a 54 percent increase in 1 year.

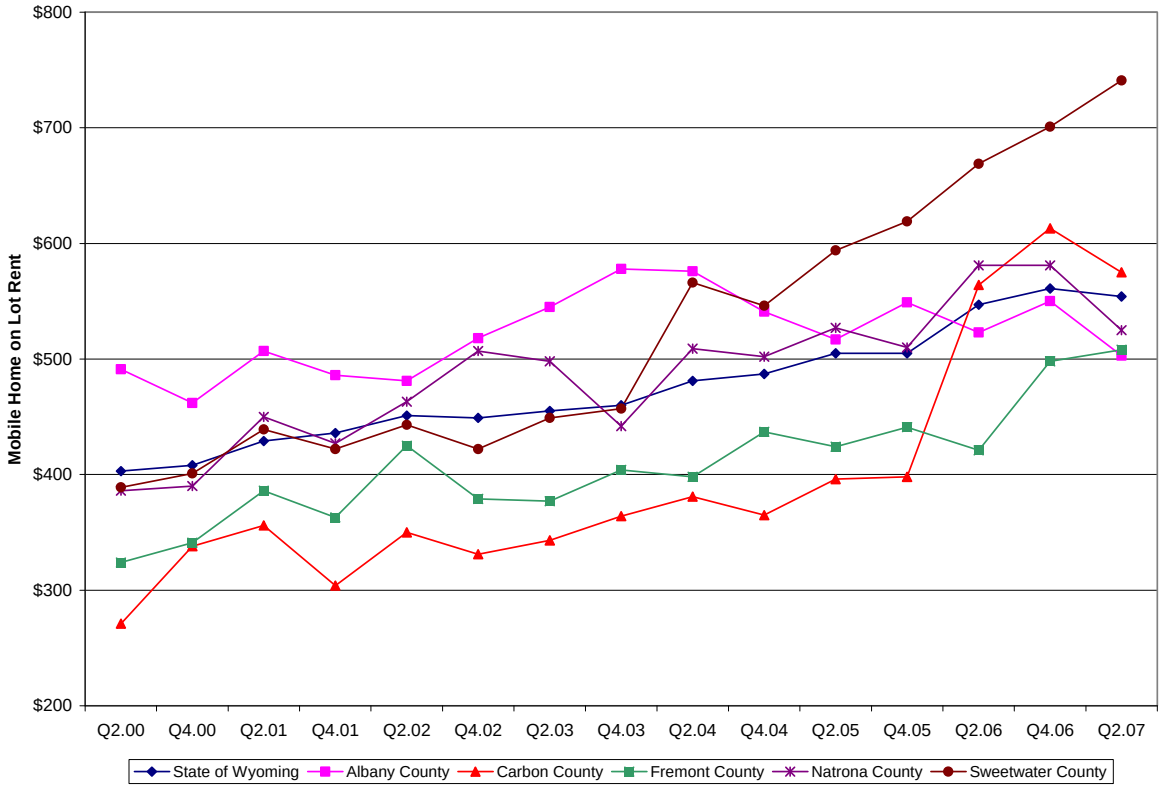

FIGURE 4-27
Monthly Mobile Home on Lot Rent by County and State (2000 - 2007)

Mobile home lot rent levels in Sweetwater County have tracked consistently above and parallel to those at the state level. In the case of Carbon County, mobile home lot rents were significantly below those of the state and Sweetwater County over almost the entire time period. However, during 2006, rent levels more than doubled and surpassed those of the state and all other counties in the study area. These trends in mobile home lot rents are shown in Figure 4-28.

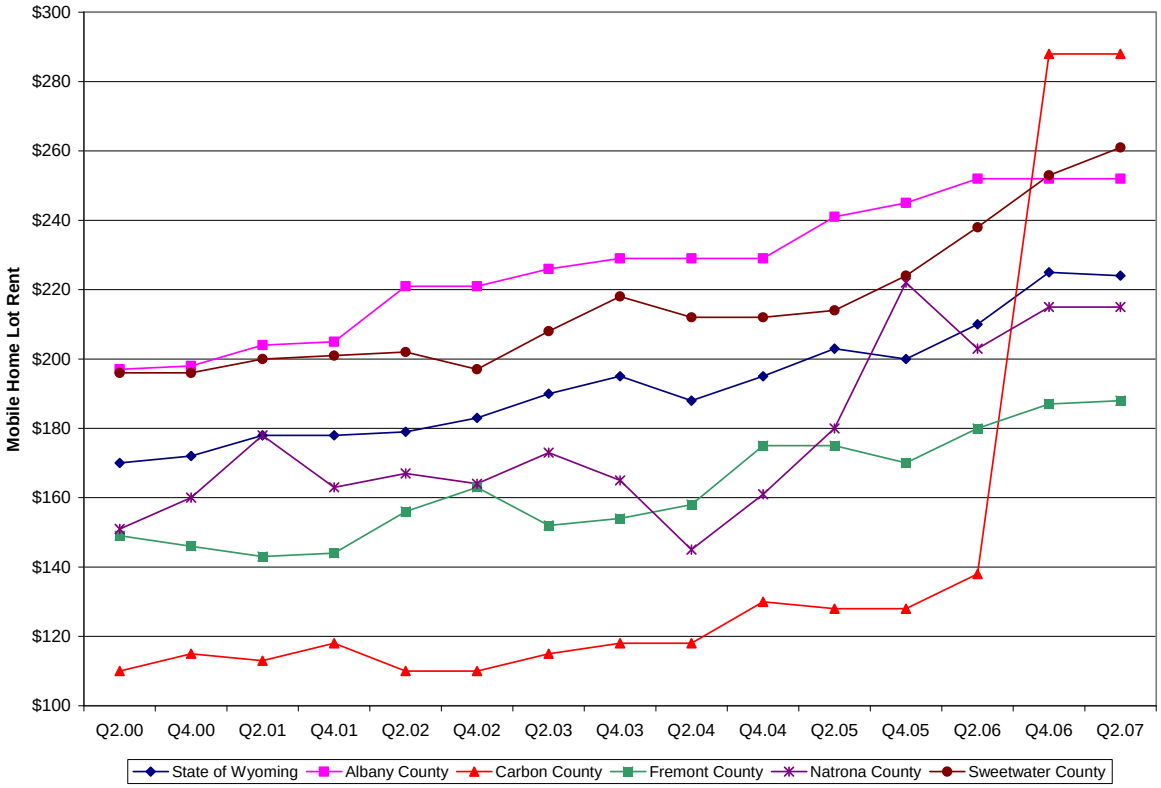

FIGURE 4-28
Monthly Mobile Home Lot Rent by County and State (2000 - 2007)

4.3.3.4 Rental Housing Vacancies

The State of Wyoming (2007 Wyoming Housing Needs Forecast) estimates rental housing vacancy rates on a semi-annual basis (from 2001 to 2007) for each county in the state. Vacancy rates for each of the counties comprising the study area and the state are shown in Table 4-25.

The natural vacancy rate can be thought of as the level of rental vacancies needed to accommodate normal turnover rates and search times for rental units in the marketplace. The natural vacancy rate is always greater than zero because factors such as imperfect information cause tenants to spend time searching for new units and landlords to hold some units off the market for a period of time. The rental housing natural vacancy rate can vary from place to place and over time; however, a commonly referenced level is 5 percent.

As can be seen from the information presented in Table 4-25 and Figure 4-29, vacancy rates in the Carbon County rental housing market were considerably higher than both the state and Sweetwater County between 2001 and 2005. After the latter date, the vacancy rate for Carbon County declined and closely resembled those of other counties and the state. The vacancy rate in Sweetwater County experienced a sharp decline between 2002 and 2003 and remained at extremely low levels through the remainder of the period. The low rates of the past year are indicative of an extremely tight rental housing market in the study area.

TABLE 4-25
Semi-Annual Rental Housing Vacancy Rate (%)

Year/Quarter	Albany County	Carbon County	Fremont County	Natrona County	Sweetwater County	State of Wyoming
2001-1	6.25	5.71	6.62	2.51	8.16	4.21
2001-2	1.16	16.08	5.36	1.89	4.52	4.36
2002-1	5.72	14.98	16.08	3.55	6.13	4.73
2002-2	1.98	9.55	8.45	4.49	4.52	4.62
2003-1	4.46	11.93	3.46	2.72	2.1	3.56
2003-2	2.41	10.96	5.74	3.41	0.93	4.1
2004-1	3.76	8.39	4.55	2.57	0.88	3.81
2004-2	1.81	14.45	2.87	2.82	1.58	4.81
2005-1	2.84	7.59	1.2	2.65	2.36	3.3
2005-2	6.25	3.65	1.92	1.96	2.38	3.51
2006-1	6.84	2.35	2.52	1.57	1.86	2.67
2006-2	4.77	0.98	1.36	1.67	0.63	2.44
2007-1	2.60	0.77	0.83	0.57	1.2	1.45
2007-2	3.07	1.97	1.37	1.07	0.88	1.81

Source: Wyoming Housing Database Partnership, February 2008. A Profile of Wyoming Demographics, Economics and Housing Semiannual Report Ending December 31, 2007

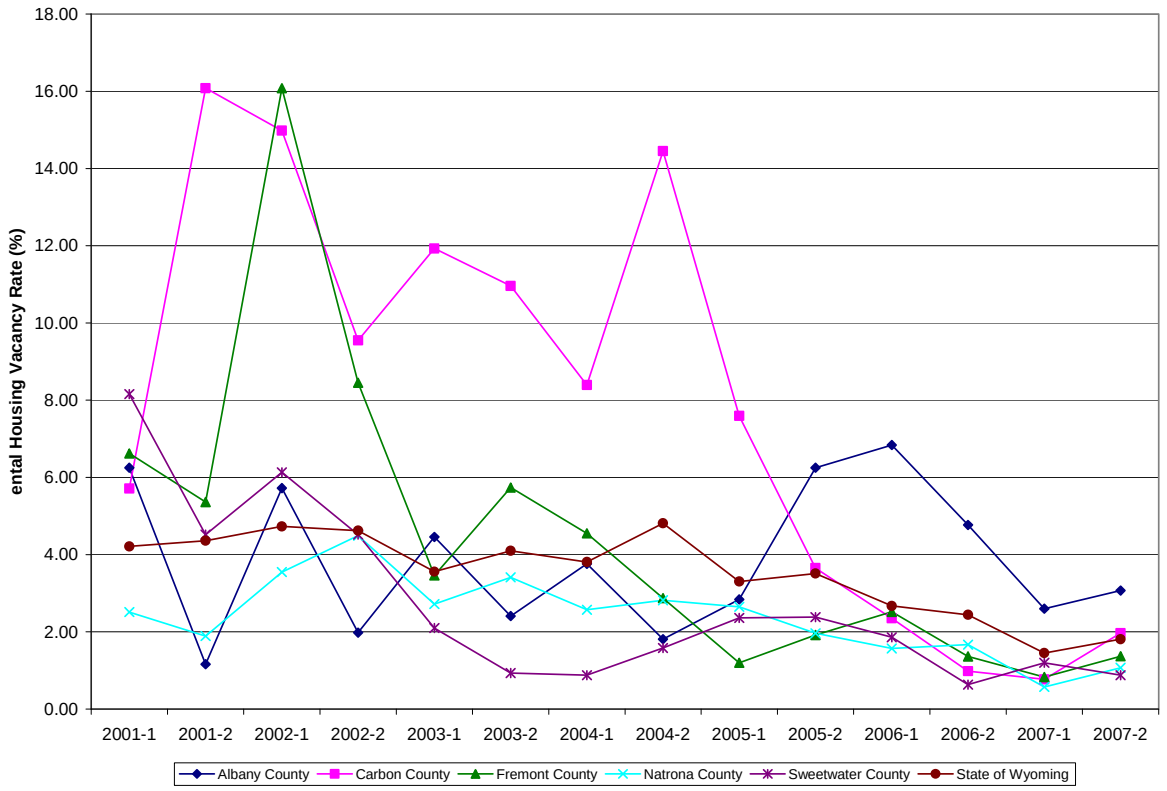

FIGURE 4-29
Rental Housing Vacancy Rate by County (2001 through 2007)

4.3.3.5 Housing Survey of Needs

The Wyoming Housing Database Partnership develops forecasts of the demand for housing within the state (down to the county and community level). The latest forecasts are presented in the December 31, 2007, version of the Wyoming Housing Needs Forecast. Three separate future scenarios are developed moderate growth ending in 2020, strong growth extending to 2030, and very strong growth extending to 2030.

The housing need forecasts are a count of occupied housing units and represent unconstrained demand forecasts. That is, they refer to how the housing market will likely behave if future consumer choices are similar to trends established in the past. The year to year supply of housing is not modeled, but supply is assumed to materialize with sufficient household formation. Household formation, interpreted as housing demand, is a product of several factors, but it is defined here by population growth and household size.

Albany County. The household forecast indicates a total increase of 5,163 households in Albany County, from 13,269 in 2000 to 18,432 in 2030. Homeowners are expected to increase from 6,829 in 2000 to 10,893 by 2030. Renters are anticipated to increase from 6,440 in 2000 to 7,539 in 2030.

Homeownership from the year 2000 to 2030 is expected to increase by 242 households for homeowners with extremely low incomes, 30 percent or less of median family income. Homeownership for those with incomes from 31 to 50 percent of median family income is expected to increase by 282 households, and to increase by 605 for those with 51 to 80 percent of median family income.

Rental demand from the year 2000 to 2030 is expected to increase by 348 households for renters with extremely low incomes, 30 percent or less of median family income. Further, rental demand for those with 31 to 50 percent of median family income is expected to increase by 240 households over the period. Table 4-26 provides details of the household forecast by tenure.

TABLE 4-26
Household Forecast by County by Tenure (2000 to 2030)

	Albany County			Carbon County			Fremont County			Natrona County			Sweetwater County		
Year	Total	Home-owners	Renters	Total	Home-owners	Renters	Total	Home-owners	Renters	Total	Home-owners	Renters	Total	Home-owners	Renters
2000	13,269	6,829	6,440	6,129	4,354	1,775	13,545	9,870	3,675	26,819	18,470	8,079	14,105	10,586	3,519
2005	13,153	7,008	6,145	6,144	4,450	1,694	14,240	10,526	3,714	28,882	20,450	8,431	14,672	11,170	3,502
2010	13,974	7,618	6,357	6,546	4,803	1,743	15,438	11,540	3,898	32,849	23,439	9,410	17,072	13,059	4,013
2015	14,827	8,266	6,561	6,864	5,108	1,757	16,460	12,455	4,005	36,523	26,314	10,210	19,020	14,668	4,352
2020	15,836	9,016	6,821	7,255	5,467	1,787	17,623	13,489	4,134	39,652	28,900	10,753	21,080	16,392	4,688
2025	17,030	9,885	7,145	7,731	5,895	1,836	19,244	14,870	4,373	42,802	31,562	11,240	23,293	18,265	5,029
2030	18,432	10,893	7,539	8,291	6,390	1,901	20,805	16,238	4,567	46,386	34,581	11,804	25,710	20,325	5,385

Source: Wyoming Housing Database Partnership, February 2008. A Profile of Wyoming Demographics, Economics and Housing Semiannual Report Ending December 31, 2007.

Carbon County. The household forecast indicates a total increase of 2,162 households in Carbon County, from 6,129 in 2000 to 8,291 in 2030. Homeowners are expected to increase from 4,354 in 2000 to 6,390 by 2030. Renters are anticipated to increase from 1,775 in 2000 to 1,901 in 2030.

Homeownership from the year 2000 to 2030 is expected to increase by 173 households for homeowners with extremely low incomes, 30 percent or less of median family income. Homeownership for those with incomes from 31 to 50 percent of median family income is expected to increase by 235 households and to increase by 334 for those with 51 to 80 percent of median family income.

Rental demand from the year 2000 to 2030 is expected to increase by 26 households for renters with extremely low incomes, 30 percent or less of median family income. Further, rental demand for those with 31 to 50 percent of median family income is expected to increase by 22 households over the period. Table 4-26 provides details of the household forecast by tenure.

Fremont County. The household forecast indicates a total increase of 7,260 households in Fremont County, from 13,545 in 2000 to 20,805 in 2030. Homeowners are expected to increase from 9,870 in 2000 to 16,238 by 2030. Renters are anticipated to increase from 3,675 in 2000 to 4,567 in 2030.

Homeownership from the year 2000 to 2030 is expected to increase by 627 households for homeowners with extremely low incomes, 30 percent or less of median family income. Homeownership for those with incomes from 31 to 50 percent of median family income is expected to increase by 645 households and to increase by 1,256 for those with 51 to 80 percent of median family income.

Rental demand from the year 2000 to 2030 is expected to increase by 212 households for renters with extremely low incomes, 30 percent or less of median family income. Further, rental demand for those with 31 to 50 percent of median family income is expected to increase by 187 households over the period. Table 4-26 provides details of the household forecast by tenure.

Natrona County. The household forecast indicates a total increase of 19,576 households in Natrona County, from 26,819 in 2000 to 46,386 in 2030. Homeowners are expected to increase from 18,740 in 2000 to 34,581 by 2030. Renters are anticipated to increase from 8,079 in 2000 to 11,804 in 2030.

Homeownership from the year 2000 to 2030 is expected to increase by 888 households for homeowners with extremely low incomes, 30 percent or less of median family income. Homeownership for those with incomes from 31 to 50 percent of median family income is expected to increase by 1,440 households and to increase by 2,433 for those with 51 to 80 percent of median family income.

Rental demand from the year 2000 to 2030 is expected to increase by 686 households for renters with extremely low incomes, 30 percent or less of median family income. Further, rental demand for those with 31 to 50 percent of median family income is expected to increase by 861 households over the period. Table 4-26 provides details of the household forecast by tenure.

Sweetwater County. The household forecast indicates a total increase of 11,605 households in Sweetwater County, from 14,105 in 2000 to 25,710 in 2030. Homeowners are expected to increase from 10,586 in 2000 to 20,325 by 2030. Renters are anticipated to increase from 3,519 in 2000 to 5,385 in 2030.

Homeownership from the year 2000 to 2030 is expected to increase by 580 households for homeowners with extremely low incomes, 30 percent or less of median family income. Homeownership for those with incomes from 31 to 50 percent of median family income is expected to increase by 796 households and to increase by 1,651 for those with 51 to 80 percent of median family income.

Rental demand from the year 2000 to 2030 is expected to increase by 439 households for renters with extremely low incomes, 30 percent or less of median family income. Further, rental demand for those with 31 to 50 percent of median family income is expected to increase by 337 households over the period. Table 4-26 provides details of the household forecast by tenure.

4.3.3.6 Temporary Accommodations

Temporary accommodations, for purposes of this report, are defined as hotel and motel rooms and sites for recreational vehicles (RVs).

Hotels and Motels. Based on information from The State of Wyoming Department of Tourism and Smith Travel Research, a listing of hotels and motels by location and number of rooms in Carbon and Sweetwater counties was compiled. The information is presented in Table 4-27.

TABLE 4-27
Hotel and Motel Rooms by County and Community (2007)

County	Community and Hotel/Motel	No. of Rooms	County	Community and Hotel/Motel	No. of Rooms
STUDY AREA		**3,181**			
CARBON COUNTY	**Baggs**	66	**SWEETWATER COUNTY**	**Green River**	266
	Country Inn Motel and Apartments	14		Coachman Inn	18
	Drifters Inn	52		Flaming Gorge Motel	NA
				Mustang Motel	24
	Encampment	13		Oak Tree Inn	191
	Big Horn Lodge	13		Super 8 Motel	33
				Rock Springs	1,488
	Hanna	10		Best Western Outlaw Inn	101
	Golden Rule Motel	10		Econo Lodge	95
				Hampton Inn	70
	Medicine Bow	50		La Quinta	129
	Historic Virginian Hotel	32		America's Best Value Inn and Suites	150
	Trampas Lodge	18		Budget Host Inn	32
				Cody Motel	39
	Rawlins	1,138		Days Inn	105
	America's Best Value Inn	81		Economy Guest Village	110
	Best Motel	28		Holiday Inn	170
	Best Western Cotton Tree	122		Motel 6	99
	Comfort Inn ' Suites	65		Motel 8	91
	Day Inn	118		Quality Inn	130
	Econolodge	36		Rocky Mountain Motel	10
	Historic Elk Mountain Motel	14		Sands Inn	20
	Holiday Inn Express	72		Springs Motel	23
	Key Motel	31		Super 8 Motel	48
	Quality Inn	131		Wingate Inn	66
	Super 8	47		**Wamsutter**	8
	Travelodge	60		Sagebrush Motel	8
	Oak Tree Inn	63			
	First Choice Inn	48			
	Jade Lodge	26			
	Express Inn	50			
	Microtel	60			
	Ideal Motel	86			
	Saratoga	122			
	Hacienda Motel	32			

TABLE 4-27
Hotel and Motel Rooms by County and Community (2007)

County	Community and Hotel/Motel	No. of Rooms	County	Community and Hotel/Motel	No. of Rooms
	Saratoga Inn	50			
	Riviera Lodge	40			

Sources: http://wyomingtourism.org, Accessed February 18, 2008; and Smith Travel Report (2007).

The inventory of hotel and motel rooms totals almost 3,200 with about 47 percent of all rooms located in facilities in Rock Springs in Sweetwater County and 35 percent in Rawlins. Smaller communities contain few, and usually small, facilities.

Based on information from Smith Travel Research for the period from 2001 to 2007 for an area comprised of Carbon and Albany counties, aggregate hotel and motel vacancy rates are presented in Figure 4-30. The vacancy rate is highly seasonal ranging from highs between 50 and 60 percent in December and January to lows between 10 and 20 percent in June through August. Over the time period represented by the data, the winter vacancy rate has declined, and the spread between winter and summer has narrowed, as can be seen from the information presented in Figure 4-31.

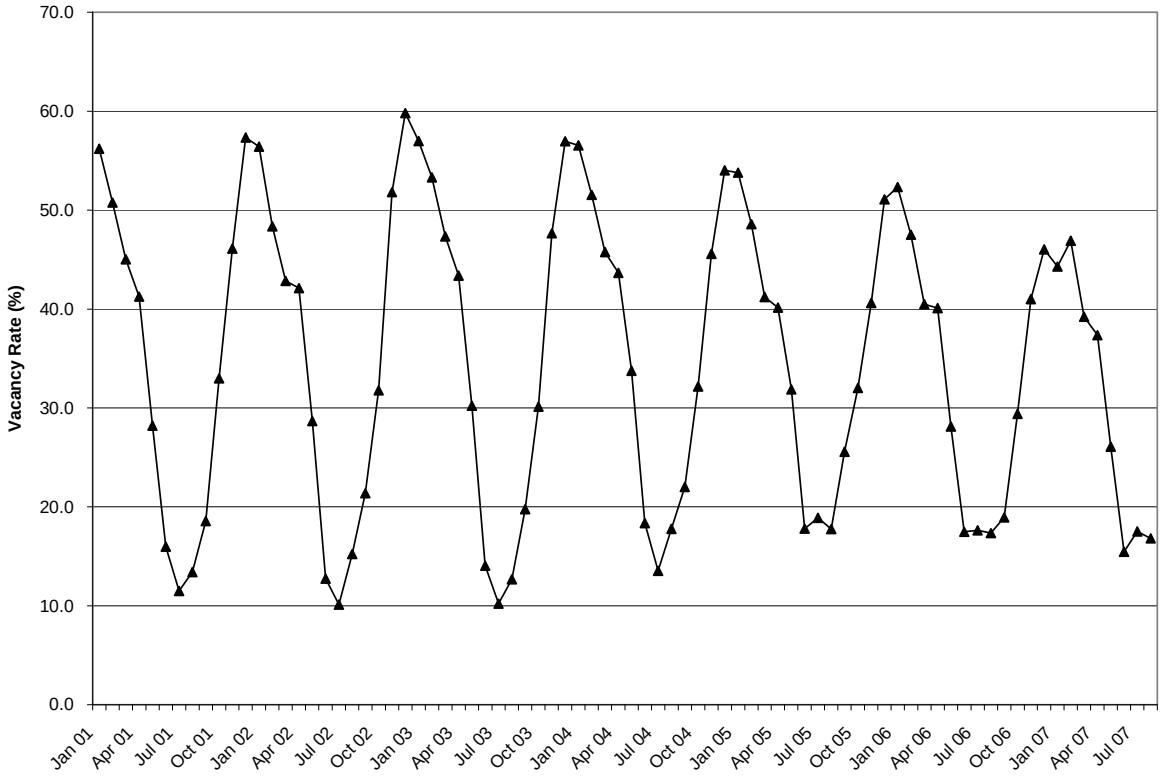

FIGURE 4-30
Hotel-Motel Vacancy Rate in the Study Area (2001 through 2007)

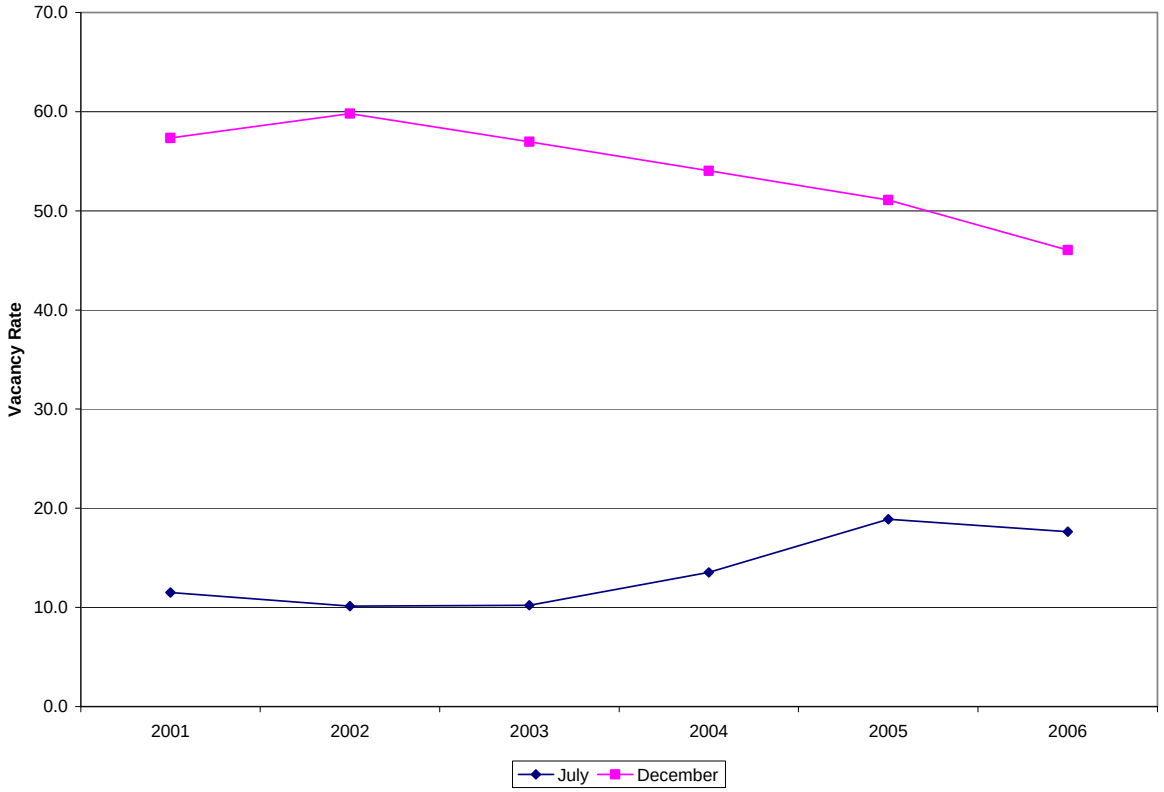

FIGURE 4-31
Hotel-Motel Vacancy Rate in the Study Area for July and December (2001 through 2006)

The average daily room rate fluctuates depending on the month as can be seen from the information presented in Figure 4-32. Room rates generally vary little from January through May and then gradually increase, peaking in July and August, and decrease throughout the remainder of the year. The peak summer months are associated with increased tourism and travel.

Average daily room rates in January and July have increased annually between 2001 and 2007 (with the exception of 2004) as can be seen from the information presented in Figure 4-32 and Table 4-28. For the peak occupancy month of July, rates have increased by about 1.5 percent each year. For one of the highest vacancy rate months (January) annual increases have been considerably higher registering a rise of over 12 percent between 2006 and 2007.

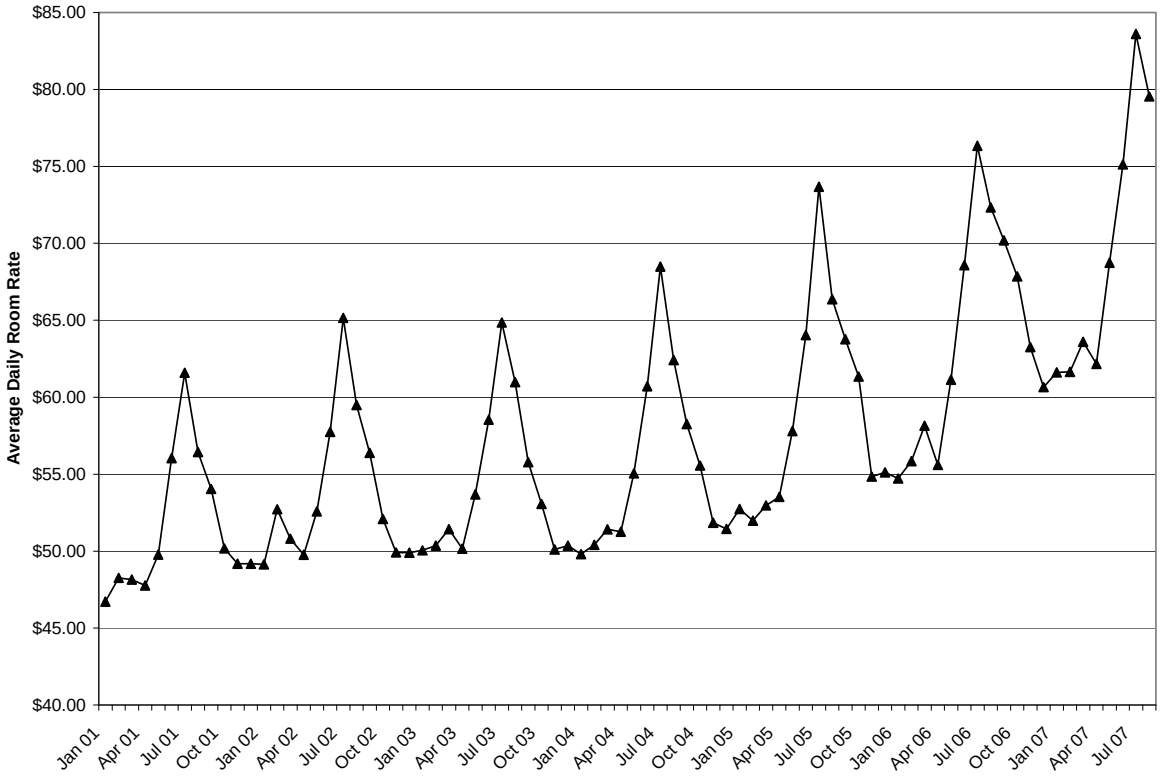

FIGURE 4-32
Hotel-Motel Average Daily Room Rate in the Study Area (2001 through 2007)

TABLE 4-28
Average Daily Hotel Room Rate in January and July (2001-2007)

	January		July	
Year	**Average Cost ($)**	**Percent Change Over Previous Year**	**Average Cost ($)**	**Percent Change Over Previous Year**
2001	$46.72	Not Applicable	$61.60	Not Applicable
2002	$49.14	5.19%	$65.16	1.72%
2003	$50.05	1.84%	$64.85	1.53%
2004	$49.80	-0.50%	$68.49	1.63%
2005	$52.74	5.90%	$73.67	1.57%
2006	$54.72	3.76%	$76.34	1.41%
2007	$61.62	12.61%	$83.61	1.43%

Source: Smith Travel Research

Recreational Vehicle Sites. Many RV sites in the region provide accommodation for visits with durations of weeks or months. Table 4-29 displays the number of RV site hookups for year-round camping areas within Carbon and Sweetwater counties. The greatest concentration of sites is in Rawlins in Carbon County followed by Rock Springs in Sweetwater County.

TABLE 4-29
Recreational Vehicle Sites by County (2007)

	No. of Sites
STUDY AREA	388
Carbon County	244
Rawlins	219
Saratoga	25
Sweetwater County	190
Green River	78
Rock Springs	112

Source: http://www.wyomingtourism.org/

4.3.4 Education

Rule I Section 7(vi)(H) – Education Facilities. Educational facilities, including an analysis based upon enrollment per grade, physical facilities and their capacities, and other relevant factors with an assessment of the effect that the new population will have on programs and facilities.

The major topics addressed in this section are location and characteristics of educational facilities, current and historical school enrollment, student-teacher ratios, and capital improvement and expansion plans.

4.3.4.1 Location and Characteristics of Educational Facilities

The five-county study area contains the following 14 school districts: Albany County School District 1; Carbon County School District 1; Carbon County School District 2; Fremont County School District 1; Fremont County School District 2; Fremont County School District 6; Fremont County School District 14; Fremont County School District 21; Fremont County School District 25; Fremont County School District 25; Fremont County School District 38; Natrona County School District 1; Sweetwater County School District 1; and Sweetwater County School District 2.

These 14 school districts, the service areas of which are illustrated in Figure 4-33, operate a total of 127 educational facilities categorized as follows: 79 elementary schools, 21 junior high/middle schools, 25 high schools, and two comprehensive kindergarten through 12th grade schools. Natrona County District 1 is the largest district, with 34 educational facilities followed by Albany County District 1 with 18 facilities, and Sweetwater County District 1 with 14 facilities. Table 4-30 presents information concerning the type and number of schools by district and other selected district-wide characteristics.

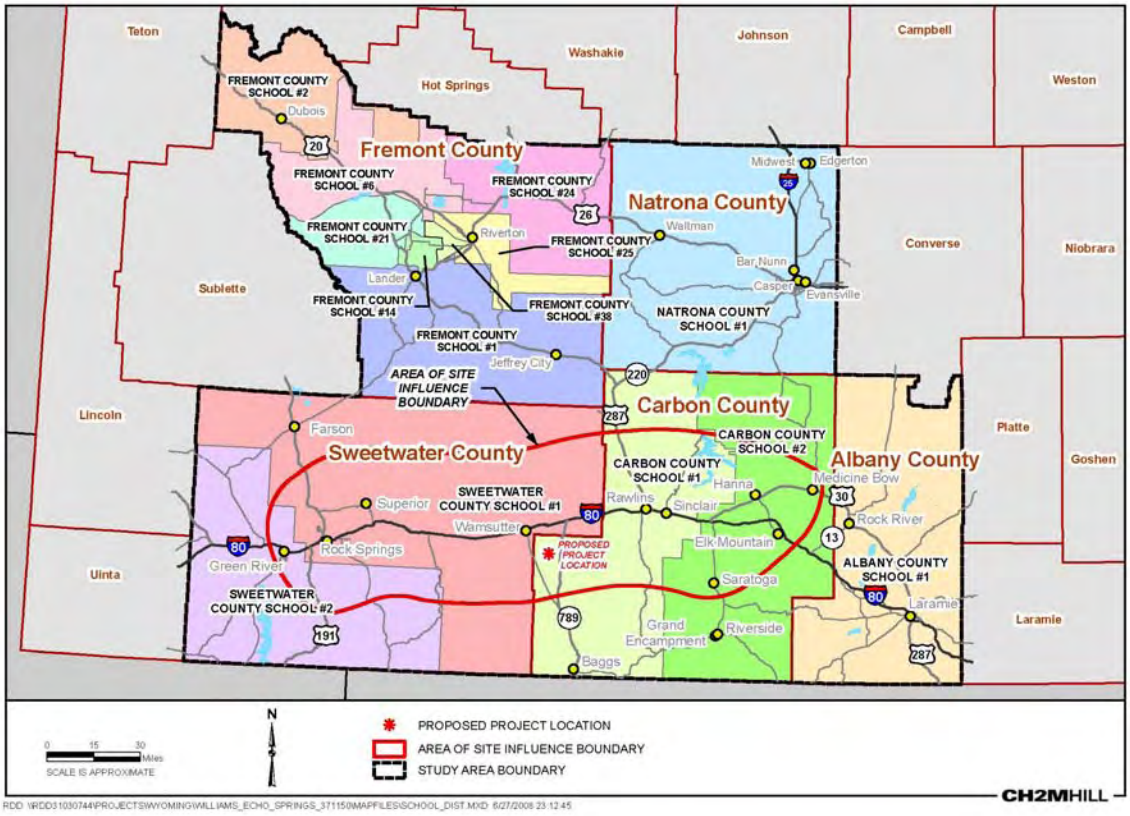

FIGURE 4-33
Public School Districts in the Study Area

Revenues per student vary by school district with four districts in Fremont County (Districts 14, 21, 24, and 38) reporting the highest levels: all in excess of $27,500 per student. The lowest levels are reported for Fremont County District 25, Sweetwater County District 1 and Albany County District 1: all with about $11,500 per student. The contribution to total revenues from federal, state, and local sources for each of the school districts varies. In general, federal revenues comprise small, if any, shares for most school districts. There are exceptions, however: Fremont County Districts 14, 21 and 38 each derive about 30 percent or more of their revenues from federal sources. State sources contribute the majority of revenues to the following districts: Albany County District 1; Carbon County District 2; Fremont County Districts 1, 2, 14, 21, 25 and 38; and Natrona County District 1. Revenues from local and county sources together comprise the majority of revenues for Carbon County District 1, Fremont County Districts 6 and 24; and Sweetwater County Districts 1 and 2. Local revenue sources are comprised mainly of property tax revenues and special impact aid funds.

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TABLE 4-30
Selected Characteristics of School Districts in the Study Area

	Albany District #1	Carbon District #1	Carbon District #2	Fremont District #1	Fremont District #2	Fremont District #6	Fremont District #14	Fremont District #21	Fremont District #24	Fremont District #25	Fremont District #38	Natrona District #1	Sweetwater District #1	Sweetwater District #2
Enrollment	3,491	1,753	662	1,761	235	367	529	360	299	2,473	336	11,444	2,551	3,491
Free and Reduced Eligibility (%)	24.23%	28.12%	41.69%	30.61%	27.24%	36.51%	87.33%	80.27%	35.11%	36.43%	94.65%	16.77%	31.16%	23.81%
Number of Schools:														
Total	18	9	11	8	3	3	3	3	3	6	2	34	14	10
Elementary	13	5	5	5	1	2	1	1	1	4	1	25	8	7
Junior High/Middle	2	1	3	1	1	0	1	1	1	1	0	5	3	1
High	3	2	3	2	1	1	1	1	1	1	1	3	3	2
Comprehensive K-12	0	1	0	0	0	0	0	0	0	0	0	1	0	0
Staff (full-time equivalent)														
Total	652.14	303.13	171.08	306.57	51.39	86.09	166.27	114.81	70.76	402.35	109.14	1940.41	732.83	432.32
Teachers	302.69	134.73	77.05	115.25	19.00	30.17	63.75	42.81	28.48	162.70	45.85	823.22	292.81	173.90
Student Instructional Support (certified)	55.57	33.25	10.60	33.48	4.00	10.10	17.98	6.74	2.38	38.30	5.03	174.74	77.82	31.19
Staff Instructional Support (certified)	19.03	8.00	6.00	10.98	1.00	1.00	5.75	3.47	2.86	8.50	4.50	63.53	14.00	13.50
Administrators	21.52	14.51	7.54	11.00	4.00	8.00	7.00	5.49	5.50	15.00	4.50	74.88	27.50	16.50
Instruction ‘ Instructional Support (classified)	120.82	47.43	18.11	53.37	9.75	14.30	27.79	26.75	11.81	89.45	20.02	392.98	118.58	71.00
Other General Support (classified)	132.51	65.21	51.78	82.49	13.64	22.52	44.00	29.55	19.73	88.40	29.24	411.06	202.12	126.23
Teacher as % of Total Staff	46.4%	44.4%	45.0%	37.6%	37.0%	35.0%	38.3%	37.3%	40.2%	40.4%	42.0%	42.4%	40.0%	40.2%
Revenue Source (%)														
Local	22.95%	79.01%	18.74%	25.28%	33.14%	68.31%	1.96%	7.67%	57.20%	18.25%	5.83%	23.40%	79.92%	62.81%
County	6.78%	21.47%	15.71%	9.42%	5.98%	7.06%	4.74%	4.07%	3.71%	10.52%	4.37%	6.20%	20.58%	19.97%
State	70.28%	-0.47%	65.55%	65.30%	60.87%	22.68%	53.25%	49.70%	39.09%	71.24%	60.61%	70.39%	-0.63%	17.04%
Federal	0.00%	0.00%	0.00%	0.00%	0.00%	1.94%	40.05%	38.56%	0.00%	0.00%	29.19%	0.00%	0.13%	0.18%
Revenue per Student (ADM)	$11,729	$12,823	$19,416	$12,782	$19,663	$16,554	$27,799	$28,938	$33,471	$11,369	$27,688	$11,742	$11,405	$12,257

Source: Wyoming Department of Education. Accessed May 2008 https://wdesecure.k12.wy.us/pls/warehouse/wde.district_profile.menu and http://www.k12.wy.us/statistics/stat2.aspx

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4.3.4.2 Student Enrollment

Student enrollment as of October 1, 2007, totaled 29,752 in the study area, as shown in Table 4-30. Natrona County had the highest enrollment with 11,604 students, followed by Sweetwater County with 7,341 students, Fremont County with 6,280 students, Albany County with 3,507 students and Carbon County with 2,484 students.

During the period 1991 through 2007, combined enrollment in the 14 school districts declined by 7,187 students, or 18.7 percent, as can be seen from the information presented in Table 4-30 and Figure 4-34. The greatest numeric decline of 1,414 students, which was also one of the lowest percentage decreases of 10.9 percent, occurred in Natrona County School District as can be seen from Table 4-30. The greatest percentage decline took place in Carbon County School District 2 (44.7 percent), followed by Sweetwater County District 2 (34.4 percent).

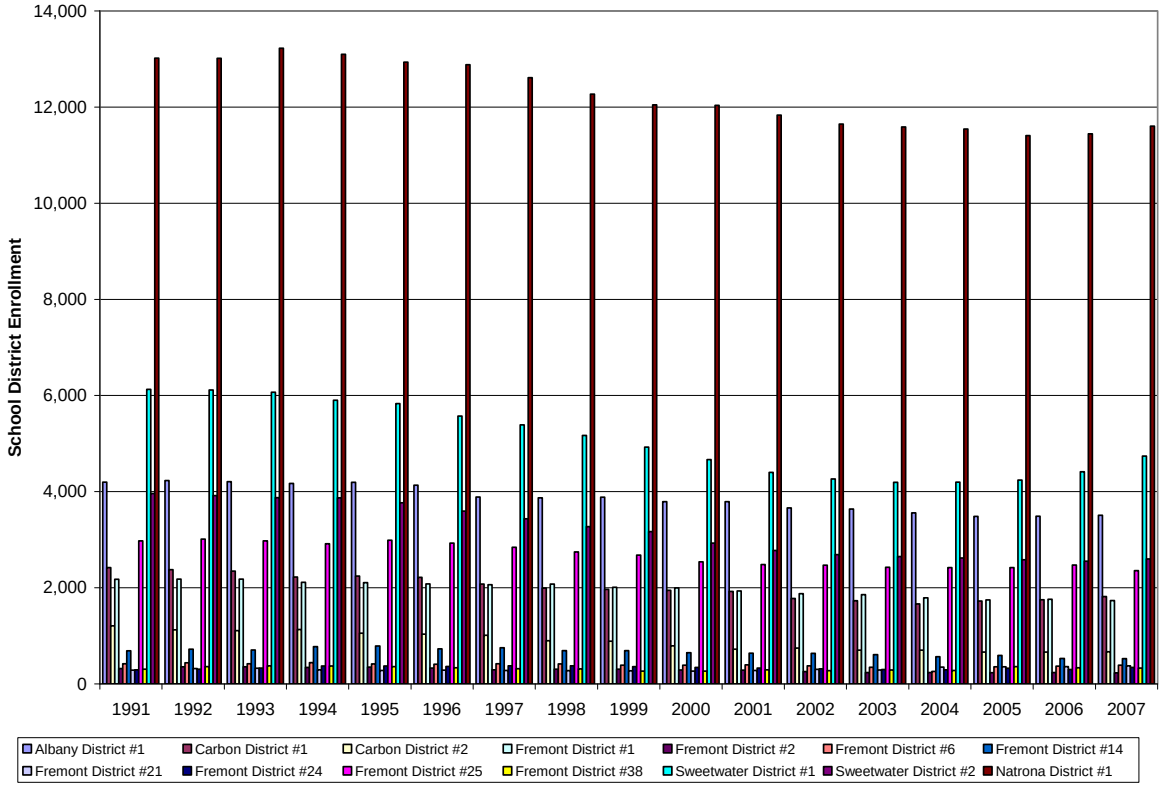

FIGURE 4-34
Public School Enrollment (1991-207)

4.3.4.3 Student-Teacher Ratios

A commonly used measure of overall school quality is the student-teacher ratio (i.e., the ratio of total student enrollment in a school, school district, or other unit to the number of full-time equivalent [FTE] certified teachers). This ratio provides a means of comparing different educational units such as school districts to a state or national parameter. The approach taken here is to document trends in the student-teacher ratio for each of the school

districts in the study area and compare their behavior to the respective values for the state as a whole and to the nation.

In 2006, the student/teacher ratio varied across the 14 school districts from 7.5 (Fremont County District 38) to 15.1 (Sweetwater County District1) while the value for Wyoming was 13.1 and 15.7 for the nation. Values for all school districts in the study area for the years 2000 through 2006 have been below the national average value and often below the average value for the state as can be seen from the information presented in Table 4-31 and Figure 4-35.

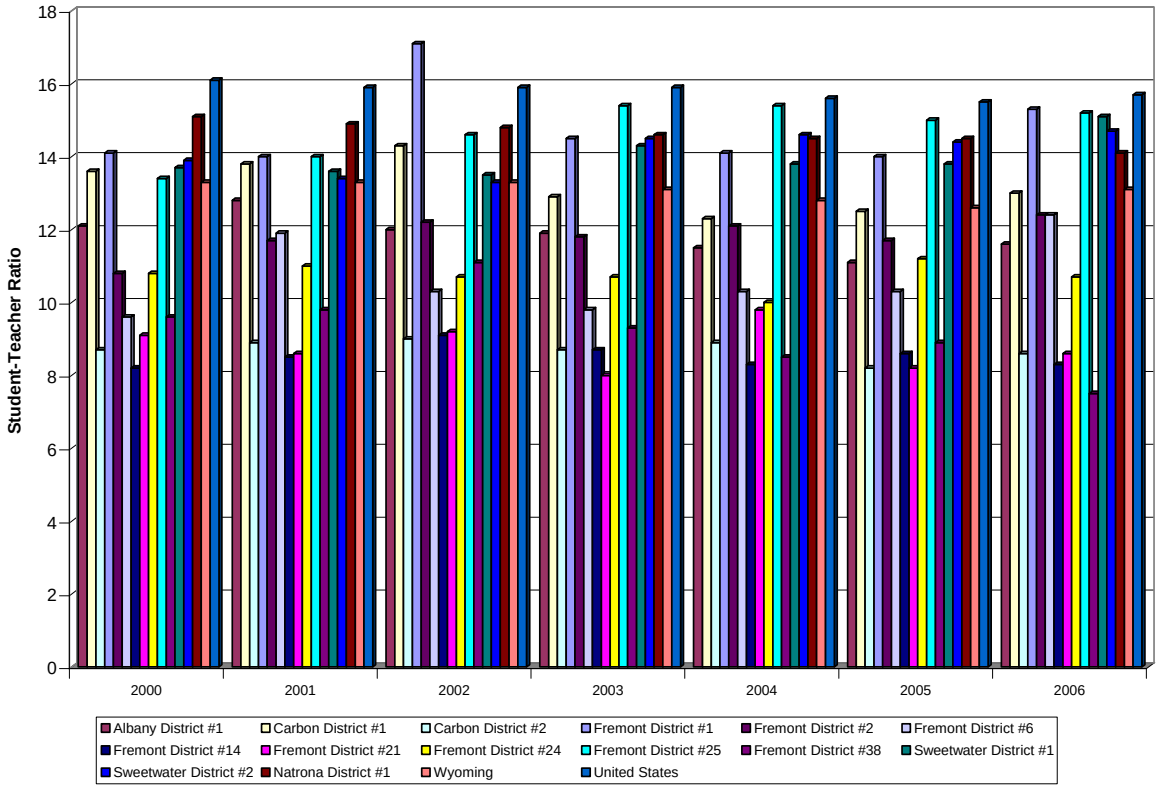

FIGURE 4-35
Student-Teacher Ratio by School District, State, and Nation (1996-2006)

4.3.4.4 Capital Improvement and Expansion Plans

To assess future needs anticipated as a result of baseline population growth in the study area, local Capital Improvement Plans (CIPs) for school expansions were reviewed. The projects contained in these CIPs are designed to address the requirements of anticipated baseline growth and changing demographic conditions in the school districts as well as periodic maintenance and repair of existing facilities and infrastructure.

TABLE 4-31
Historic Student-Teacher Ratios (2000-2006)

Year	Albany District #1	Carbon District #1	Carbon District #2	Fremont District #1	Fremont District #2	Fremont District #6	Fremont District #14	Fremont District #21	Fremont District #24	Fremont District #25	Fremont District #38	Natrona District #1	Sweetwater District #1	Sweetwater District #2	Wyoming	United States
2006	11.6	13	8.6	15.3	12.4	12.4	8.3	8.6	10.7	15.2	7.5	14.1	15.1	14.7	13.1	15.7
2005	11.1	12.5	8.2	14	11.7	10.3	8.6	8.2	11.2	15	8.9	14.5	13.8	14.4	12.6	15.5
2004	11.5	12.3	8.9	14.1	12.1	10.3	8.3	9.8	10	15.4	8.5	14.5	13.8	14.6	12.8	15.6
2003	11.9	12.9	8.7	14.5	11.8	9.8	8.7	8	10.7	15.4	9.3	14.6	14.3	14.5	13.1	15.9
2002	12	14.3	9	17.1	12.2	10.3	9.1	9.2	10.7	14.6	11.1	14.8	13.5	13.3	13.3	15.9
2001	12.8	13.8	8.9	14	11.7	11.9	8.5	8.6	11	14	9.8	14.9	13.6	13.4	13.3	15.9
2000	12.1	13.6	8.7	14.1	10.8	9.6	8.2	9.1	10.8	13.4	9.6	15.1	13.7	13.9	13.3	16.1

Source: Wyoming Department of Educationhttp://www.k12.wy.us/statistics/stat2/2006_staff_summary_by_job.pdf. Accessed April 2008

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4.3.5 Public Safety

Rule I Section 7(vi)(E) – Police and Fire. Public facilities and services availability and needs, which may include, but are not limited to existing police and fire protection facilities including specific new demands or increases in service levels created by the proposed industrial facility.

This section addresses the availability of fire protection and law enforcement services and crime levels in the counties comprising the study area.

4.3.5.1 Fire and Police Services

The five-county study area has a total of 57 fire stations operated by 36 fire departments, the majority of which are staffed on a volunteer basis. Table 4-32 lists the fire departments and selected characteristics describing each department. The largest departments are Albany County Rural Fire District 1 and the Carbon County Fire Department.

TABLE 4-32
Fire Departments in the Study Area

Name	No. Stations	No. Firefighters		
		Career	Paid per Call	Volunteer
Study Area Total	**57**	**176**	**212**	**689**
Albany County Total	**6**	**80**	**0**	**164**
Albany County Rural Fire District 1	1	41	0	140
Laramie Fire Department	2	39	0	0
Centennial Valley Volunteer Fire Department	1	0	0	14
Rock River Volunteer Fire Department	1	NA	NA	NA
Vedauwoo Volunteer Fire Department	1	0	0	10
Carbon Total	**23**	**9**	**140**	**163**
Baggs Volunteer Fire Department	1	0	4	1
Carbon County Fire Department	11	0	130	0
Elk Mountain Volunteer Fire Department	1	0	0	14
Encampment/Riverside Volunteer Fire Department	1	0	0	23
Hanna Fire Department And Emergency Medical Services	1	1	0	12
Medicine Bow Volunteer Fire Department	1	0	6	7
Rawlins Fire Department	2	8	0	18
Sinclair Volunteer Fire Department	1	0	0	7
Sinclair Refinery Volunteer Fire Department	1	0	0	35
Ryan Park Fire Department	1	0	0	14
Saratoga Volunteer Fire Department	2	0	0	32
Freemont County Total	**4**	**1**	**0**	**101**
Jeffrey City Volunteer Fire Department	1	0	0	14
Riverton Fire Department	2	0	0	47
Lander Volunteer Fire Department	1	1	0	40
Natrona County Total	**10**	**87**	**0**	**114**
Bar Nunn Fire Department	1	0	0	17
Casper Fire Department	5	73	0	0
Casper Mountain Fire Department	1	0	0	35

TABLE 4-32
Fire Departments in the Study Area

Name	No. Stations	No. Firefighters		
		Career	Paid per Call	Volunteer
Evansville Emergency Service	1	0	0	28
Mills Volunteer Fire Department	1	0	0	24
Natrona County Fire Protection District	1	14	0	10
Sweetwater County Total	**14**	**43**	**72**	**147**
Bairoil Fire Department	1	0	0	8
Eden – Farson Fire Control District, Training Unit	1	0	0	15
FMC Fire Brigade	1	1	0	44
General Chemical Corp Emergency Response Team	1	0	0	15
Granger Volunteer Fire Department	1	0	0	12
Green River Fire Department	2	2	28	28
Rock Springs Fire Department	3	35	0	0
Superior Volunteer Fire ‘ EMS	1	0	0	13
Sweetwater County Fire Department	1	2	14	0
Sweetwater County Fire District #1	1	3	30	0
Wamsutter Volunteer Fire Department	1	0	0	12

Sources: Firedepartments.net Accessed June 27, 2008. Wyoming Geographic Information System (GIS) data, 2005; Wyoming Department of Revenue Map ‘ GIS Data Index, 3-2-2007, Fire Districts; Firefightingnews.com; http://www.50states.com/wyoming/fire_departments.htm?show=G

Law enforcement in the study area is provided by the state (highway patrol), counties (Sheriff’s departments), and municipalities (police departments) from a number of locations throughout the counties, as shown in Table 4-33.

TABLE 4-33
Police Stations in the Study Area

Name	Address	City	County
Wyoming Highway Patrol	P.O. Box 1005 Laramie, WY 82073	Laramie	Albany
Albany County Sheriff’s Office	525 Grand Avenue Courthouse 101 Laramie, WY 82070	Laramie	Albany
Laramie Police Department	406 Ivinson Avenue Laramie, Wyoming 82070	Laramie	Albany
Wyoming Highway Patrol	P.O. Box 1040 Rawlins, WY 82301	Rawlins	Carbon
Wyoming Highway Patrol	P.O. Box Drawer 40 Elk Mountain, WY 82324	Elk Mountain	Carbon
Carbon County Sheriff’s Office	P.O. Box 190 Rawlins, WY 82301	Rawlins	Carbon
Baggs Police Department	P.O. Box 190 Baggs, WY 82321-0190	Baggs	Carbon
Hanna Marshal’s Office	P.O. Box 309 301 South Adams Street	Hanna	Carbon

TABLE 4-33
Police Stations in the Study Area

Name	Address	City	County
	Hanna, Wyoming 82327		
Rawlins Police Department	215 5th Street Rawlins, WY 82301	Rawlins	Carbon
Saratoga Police Department	301 SW River Saratoga, WY 82331	Saratoga	Carbon
Sinclair Police Department	PO Box 247 300 East Lincoln Avenue Sinclair, WY 82334	Sinclair	Carbon
Mills Police Department	704 Fourth Street Mills, WY 82644	Mills	Natrona
Midwest Police Department	531 Peake Street Midwest, WY 82643	Midwest	Natrona
Bairoil Police Department	507 Antelope Dr	Bairoil	Sweetwater
Green River Police Department	50 E 2nd North St	Green River	Sweetwater
Police Department	235 Mccormick St.	Wamsutter	Sweetwater
Rock Springs Police Department	221 C St.	Rock Springs	Sweetwater

Source: http://50states.com/wyoming/police_departments.htm, http://www.50states.com/wyoming/fire_departments.htm

As can be seen from the information presented in Table 4-34, the majority of law enforcement officers are located in the larger communities of Laramie, Rawlins, Casper, and Rock Springs. The City of Laramie and City of Casper have the lowest LOS ratio (1.9 and 1.6 officers per 1,000 residents, respectively) in the study area and some of highest number of index crimes per officer (20 and 32 per officer, respectively). The City of Rawlins has an LOS ratio of 2.7 officers per 1,000 population with 18.7 index crimes per officer while the respective values for Rock Springs are 2.3 and 24.

TABLE 4-34
Law Enforcement Personnel (2007)

County/Agency	Employees			Officers per 1,000 Population	Index Crimes per Officer
	Officers	Civilian	Total		
Albany County	85	47	132	2.8	12.4
Albany County Sheriff	18	6	24	3.7	4.3
Laramie	49	30	79	1.9	17.3
University of Wyoming	18	11	29		7.3
Carbon County	**49**	**30**	**79**	**3.2**	**10.6**
Carbon County Sheriff	17	9	26	4.4	3.1
Baggs	2		2	5.4	2.0
Hanna	2	3	5	2.3	3.0
Rawlins	23	13	36	2.7	18.7
Saratoga	5	5	10	2.9	4.6

TABLE 4-34
Law Enforcement Personnel (2007)

County/Agency	Employees			Officers per 1,000 Population	Index Crimes per Officer
	Officers	Civilian	Total		
Fremont County	**79**	**18**	**97**	**2.1**	**10.7**
Fremont County Sheriff	32	4	36	1.5	5.3
Lander	20	1	21	2.8	11.4
Riverton	27	13	40	2.8	16.6
Natrona County	**151**	**31**	**182**	**2.1**	**22.2**
Natrona County Sheriff	45	11	56	3.2	8.6
City of Casper	86	16	102	1.6	31.9
Town of Evansville	9	2	11	3.9	10.3
Town of Mills	11	2	13	2.8	10.7
Sweetwater County	**141**	**63**	**204**	**3.6**	**11.2**
Sweetwater County Sheriff	67	33	100	8.5	3
Green River	30	10	40	8	12.9
Rock Springs	44	20	64	2.3	22.4

Source: Crime in Wyoming, Annual Report, State of Wyoming Office of Attorney General, 2007

4.3.5.2 Crime

Reported crimes (i.e., crimes known to law enforcement) are categorized into the more serious Part 1 crimes and less serious Part 2 crimes. Part 1 crimes (also referred to as index crimes) are further subdivided into crimes against persons (murder, forcible rape, robbery, and aggravated assault) and crimes against property (burglary, larceny, and motor vehicle theft).

Between 1999 and 2007, the number of reported index crime offenses in Carbon County rose gradually between 1999 and 2004 and then declined through 2007 as can be seen from the information presented in Table 4-35 and Figure 4-36. The number in Sweetwater County oscillated up and down between 1999 and 2005 and then declined through 2007. As expected, the number of reported crimes is directly related to the number of residents and, thus, most crimes occur in the larger communities. This is evident from the information in Table 4-35.

TABLE 4-35
Number of Reported Index (Part 1) Crimes by County (1999 through 2007)

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Index Crimes									
State of Wyoming	16,496	16,200	17,297	17,641	17,614	17,703	16,978	16,241	16,083
Albany County	1,102	1,045	1,426	1,295	1,333	1,274	1,098	1,102	1,056
Sheriff	110	86	109	100	112	111	82	66	78
Laramie	811	822	1,120	1,018	999	1,017	850	875	846
University of Wyoming	181	137	197	177	222	146	166	161	132
Carbon County	438	509	519	581	578	625	624	550	517
Sheriff	53	66	57	70	71	61	86	42	53
Baggs	10	7	7	7	5	13	2	11	4
Hanna	11	28	20	27	17	11	8	8	6
Rawlins	331	318	379	402	408	475	456	439	431
Saratoga	33	90	56	75	77	65	72	50	23
Fremont County	1,245	1,068	1,152	1,108	1,067	1,008	1,111	857	845
Sheriff	277	270	284	339	294	266	258	192	168
Lander	443	296	334	297	252	213	281	247	228
Riverton	525	502	534	472	521	529	572	418	449
Natrona County	2,715	2,742	2,965	3,365	3,678	3,485	3,478	3,355	3,347
Sheriff	268	305	365	413	504	359	358	432	389
Casper	2,170	2,182	2,318	2,725	2,894	2,816	2,834	2,711	2,747
Evansville	106	158	143	114	117	148	145	113	93
Mills	171	97	139	113	163	162	141	99	118
Sweetwater County	1,846	1,802	1,551	1,587	1,506	1,947	1,648	1,657	1,574
Sheriff	234	223	218	285	267	321	308	260	202
Green River	453	451	370	393	412	501	430	461	386
Rock Springs	1,159	1,128	963	909	827	1,125	910	936	986
Violent Crimes									
State of Wyoming	1,109	1,309	1,257	1,329	1,280	1,130	1,137	1,201	1,234

TABLE 4-35
Number of Reported Index (Part 1) Crimes by County (1999 through 2007)

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Albany County	85	94	119	189	60	35	30	37	23
Sheriff	17	18	16	42	9	8	4	6	5
Laramie	64	75	101	146	51	27	26	31	18
University of Wyoming	4	1	2	1	0	0	0	0	0
Carbon County	20	65	49	75	55	61	52	56	61
Sheriff	2	7	1	6	4	6	3	1	5
Baggs	0	1	1	0	3	5	0	0	1
Hanna	6	5	6	17	6	1	2	6	0
Rawlins	7	19	27	32	28	39	34	40	54
Saratoga	5	33	14	20	14	10	13	9	1
Fremont County	71	71	77	82	93	53	61	63	64
Sheriff	25	23	27	38	41	16	16	9	17
Lander	23	16	17	16	10	1	15	16	15
Riverton	23	32	33	28	42	36	30	38	32
Natrona County	191	233	198	181	156	131	163	168	174
Sheriff	24	20	16	19	12	8	16	15	9
Casper	145	173	156	148	125	108	135	130	152
Evansville	12	31	17	7	10	8	3	5	4
Mills	10	9	9	7	9	7	9	18	9
Sweetwater County	114	133	116	103	180	226	163	233	238
Sheriff	10	13	10	24	16	15	19	22	25
Green River	18	14	20	13	38	43	34	75	78
Rock Springs	86	106	86	66	126	168	110	136	135

TABLE 4-35
Number of Reported Index (Part 1) Crimes by County (1999 through 2007)

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Property Crimes									
State of Wyoming	15,387	14,891	16,040	16,312	16,334	16,573	15,841	15,040	14,849
Albany County	1,017	951	1,307	1,106	1,273	1,239	1,068	1,065	1,033
Sheriff	93	68	93	58	103	103	78	60	73
Laramie	747	747	1,019	872	948	990	824	844	828
University of Wyoming	177	136	195	176	222	146	166	161	132
Carbon County	418	444	470	506	523	564	572	494	456
Sheriff	51	59	56	64	67	55	83	41	48
Baggs	10	6	6	7	2	8	2	11	3
Hanna	5	23	14	10	11	10	6	2	6
Rawlins	324	299	352	370	380	436	422	399	377
Saratoga	28	57	42	55	63	55	59	41	22
Fremont County	1,174	997	1,075	1,026	974	955	1,050	794	781
Sheriff	252	247	257	301	253	250	242	183	151
Lander	420	280	317	281	242	212	266	231	213
Riverton	502	470	501	444	479	493	542	380	417
Natrona County	2,524	2,509	2,767	3,184	3,522	3,354	3,315	3,187	3,173
Sheriff	244	285	349	394	492	351	342	417	380
Casper	2,025	2,009	2,162	2,577	2,769	2,708	2,699	2,581	2,595
Evansville	94	127	126	107	107	140	142	108	89
Mills	161	88	130	106	154	155	132	81	109
Sweetwater County	1,732	1,669	1,435	1,484	1,326	1,721	1,485	1,424	1,336
Sheriff	224	210	208	261	251	306	289	238	177
Green River	435	437	350	380	374	458	396	386	308
Rock Springs	1,073	1,022	877	843	701	957	800	800	851

Source: Crime in Wyoming, Annual Report, State of Wyoming Office of Attorney General, 1999 through 2007

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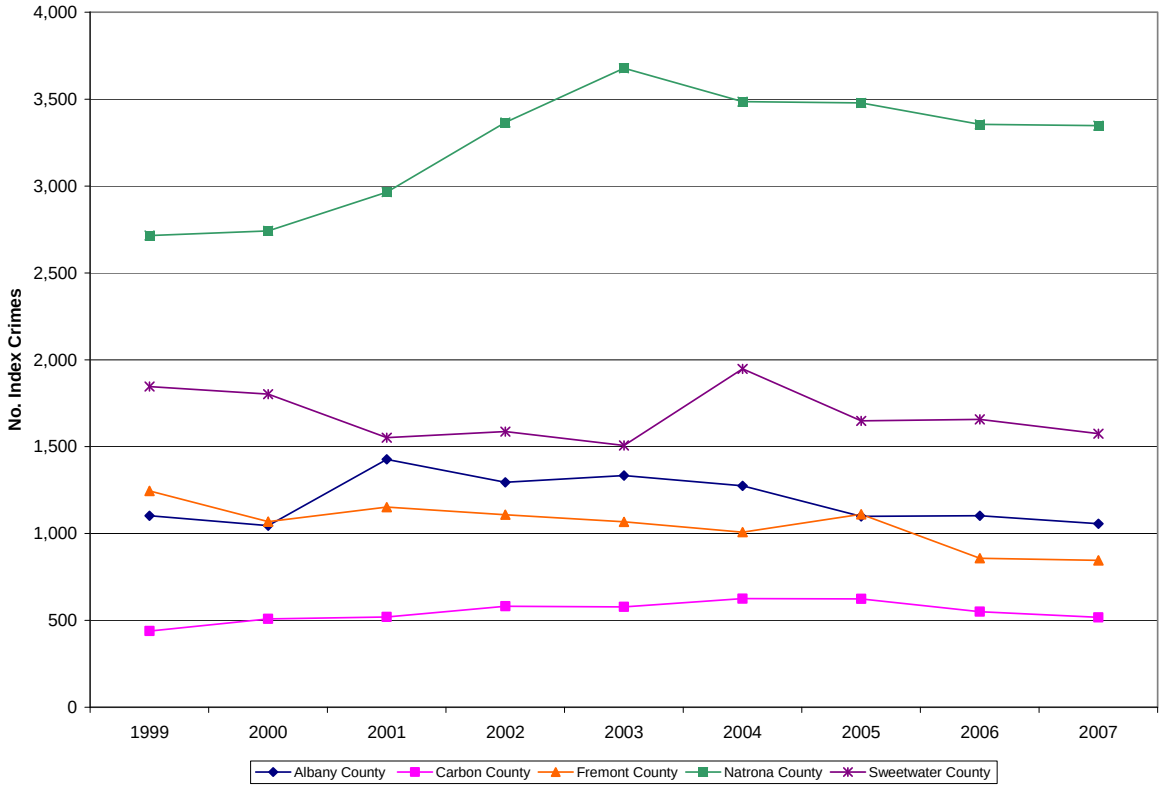

FIGURE 4-36
Number of Index Crimes by County (1999 through 2007)

To facilitate comparison between reporting areas with differing characteristics such as number of residents, crime rates are also reported here as the number of crimes per 10,000 residents and are presented in Table 4-36 and Figure 4-37. Index crime rates in Carbon County increased steadily through 2004 before trending down. Rates in Sweetwater County declined between 1999 and 2003, spiked noticeably in 2004, and declined again through 2007. Index crimes are comprised of crimes against persons (relatively few in number) and crimes against property (relatively large in number). For example, of the 335 index crimes per 10,000 population in Carbon County in 2007, all but about 40 were attributable to crimes against property. Thus, as can be seen from the information presented in Figure 4-38, the property crime rates in each of the counties exhibit the pattern for index crime rates.

From 1999 through 2007, the violent crime rate in Carbon County has fluctuated between about 14 and 52 crimes per 10,000 population as shown in Figure 4-39. The range for Sweetwater County was 29 to 61 crimes per 10,000.

TABLE 4-36
Crime Rates by County (1999 through 2007)

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Index Crimes									
State of Wyoming	347.22	332.62	355.79	360.07	359.10	358.06	335.81	317.67	309.85
Albany County	378.30	326.42	445.43	412.55	423.44	395.37	346.97	352.80	347.07
Sheriff	274.52	178.79	226.61	212.04	236.79	222.76	162.06	134.86	158.47
Laramie	322.81	302.16	411.70	381.65	373.46	373.35	319.73	332.17	331.71
University of Wyoming	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Carbon County	300.08	344.55	351.32	399.45	391.71	427.79	406.41	354.77	335.19
Sheriff	191.40	200.73	173.36	256.50	239.06	212.03	230.69	110.99	135.69
Baggs	401.61	201.15	201.15	203.49	145.77	359.12	56.18	307.26	108.11
Hanna	108.70	320.73	229.10	312.86	197.44	124.58	91.85	91.64	70.18
Rawlins	378.29	372.45	443.90	451.53	459.46	542.49	525.35	501.43	502.80
Saratoga	181.72	521.44	324.45	439.62	452.41	375.29	418.85	288.52	133.64
Fremont County	348.51	301.72	325.45	306.84	294.10	277.74	304.32	232.25	224.20
Sheriff	152.09	140.48	147.76	171.26	147.83	133.37	128.09	94.17	80.66
Lander	597.84	431.05	486.38	428.82	362.17	307.09	405.72	354.12	322.67
Riverton	519.75	539.21	573.58	502.66	552.26	562.05	605.93	438.34	458.40
Natrona County	433.30	415.73	449.54	504.59	548.74	508.65	501.25	475.33	467.43
Sheriff	258.86	266.00	318.33	351.97	427.37	297.31	282.85	332.82	279.39
Casper	448.06	439.53	466.92	544.27	575.11	550.37	550.08	518.18	523.90
Evansville	691.91	700.67	634.15	501.32	511.81	630.06	625.27	480.03	400.69
Mills	730.15	374.37	536.47	432.45	620.72	553.85	487.72	337.88	403.28
Sweetwater County	475.85	488.81	420.72	436.38	415.93	525.11	434.10	431.50	400.51
Sheriff	369.14	351.24	343.36	432.34	406.83	470.61	425.12	346.67	255.34
Green River	347.10	381.94	313.35	341.12	359.17	429.56	362.23	386.78	322.82
Rock Springs	597.30	602.95	514.75	497.97	455.05	605.03	482.81	493.10	507.41
Violent Crimes									
State of Wyoming	23.34	26.88	25.86	27.13	26.10	22.86	22.49	23.49	23.77
Albany County	29.18	29.36	37.17	60.21	19.06	10.86	9.48	11.85	7.56
Sheriff	42.43	37.42	33.26	89.06	19.03	16.05	7.91	12.26	10.16
Laramie	25.47	27.57	37.13	54.73	19.07	9.91	9.78	11.77	7.06
University of Wyoming	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Carbon County	13.70	44.00	33.17	51.56	37.27	41.75	33.87	36.12	39.55
Sheriff	7.22	21.29	3.04	21.99	13.47	20.86	8.05	2.64	12.80
Baggs	0.00	28.74	28.74	0.00	87.46	138.12	0.00	0.00	27.03

TABLE 4-36
Crime Rates by County (1999 through 2007)

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Hanna	59.29	57.27	68.73	196.99	69.69	11.33	22.96	68.73	0.00
Rawlins	8.00	22.25	31.62	35.94	31.53	44.54	39.17	45.69	63.00
Saratoga	27.53	191.19	81.11	117.23	82.26	57.74	75.63	51.93	5.81
Fremont County	19.87	20.06	21.75	22.71	25.63	14.60	16.71	17.07	16.98
Sheriff	13.73	11.97	14.05	19.20	20.62	8.02	7.94	4.41	8.16
Lander	31.04	23.30	24.76	23.10	14.37	1.44	21.66	22.94	21.23
Riverton	22.77	34.37	35.45	29.82	44.52	38.25	31.78	39.85	32.67
Natrona County	30.48	35.33	30.02	27.14	23.27	19.12	23.49	23.80	24.30
Sheriff	23.18	17.44	13.95	16.19	10.18	6.63	12.64	11.56	6.46
Casper	29.94	34.85	31.42	29.56	24.84	21.11	26.20	24.85	28.99
Evansville	78.33	137.47	75.39	30.78	43.74	34.06	12.94	21.24	17.23
Mills	42.70	34.74	34.74	26.79	34.27	23.93	31.13	61.43	30.76
Sweetwater County	29.39	36.08	31.47	28.32	49.71	60.95	42.94	60.68	60.56
Sheriff	15.78	20.48	15.75	36.41	24.38	21.99	26.22	29.33	31.60
Green River	13.79	11.86	16.94	11.28	33.13	36.87	28.64	62.92	65.23
Rock Springs	44.32	56.66	45.97	36.16	69.33	90.35	58.36	71.65	69.47
Property Crimes									
State of Wyoming	323.88	305.75	329.93	332.94	333.00	335.20	313.32	294.18	286.07
Albany County	349.12	297.06	408.26	352.34	404.38	384.51	337.49	340.95	339.51
Sheriff	232.09	141.37	193.35	122.99	217.76	206.70	154.15	122.60	148.31
Laramie	297.34	274.59	374.58	326.91	354.39	363.44	309.95	320.40	324.65
University of Wyoming	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Carbon County	286.38	300.55	318.15	347.89	354.43	386.04	372.54	318.65	295.64
Sheriff	184.18	179.44	170.32	234.52	225.59	191.17	222.64	108.35	122.89
Baggs	401.61	172.41	172.41	203.49	58.31	220.99	56.18	307.26	81.08
Hanna	49.41	263.46	160.37	115.87	127.76	113.25	68.89	22.91	70.18
Rawlins	370.29	350.20	412.27	415.59	427.93	497.94	486.18	455.74	439.80
Saratoga	154.19	330.24	243.34	322.39	370.15	317.55	343.22	236.58	127.83
Fremont County	328.63	281.66	303.70	284.13	268.47	263.14	287.61	215.18	207.22
Sheriff	138.36	128.51	133.71	152.07	127.21	125.34	120.15	89.75	72.50
Lander	566.80	407.75	461.63	405.72	347.80	305.65	384.06	331.18	301.44
Riverton	496.98	504.83	538.13	472.84	507.74	523.80	574.15	398.49	425.73

TABLE 4-36
Crime Rates by County (1999 through 2007)

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Natrona County	402.82	380.41	419.52	477.45	525.47	489.53	477.76	451.53	443.13
Sheriff	235.68	248.56	304.38	335.78	417.20	290.68	270.21	321.26	272.93
Casper	418.12	404.68	435.50	514.71	550.27	529.26	101.90	493.33	494.91
Evansville	613.58	563.19	558.76	470.54	468.07	596.00	612.33	458.79	383.46
Mills	687.45	339.64	501.74	405.66	586.44	529.91	456.59	276.45	372.52
Sweetwater County	446.46	452.73	389.26	408.06	366.22	464.16	391.16	370.82	339.95
Sheriff	353.37	330.76	327.61	395.93	382.45	448.61	398.90	317.33	223.74
Green River	333.31	370.09	296.41	329.83	326.04	392.69	333.59	323.85	257.59
Rock Springs	552.98	546.29	468.78	461.82	385.72	514.68	424.45	421.45	437.94

Source: Crime in Wyoming, Annual Report, State of Wyoming Office of Attorney General, 1999 through 2007

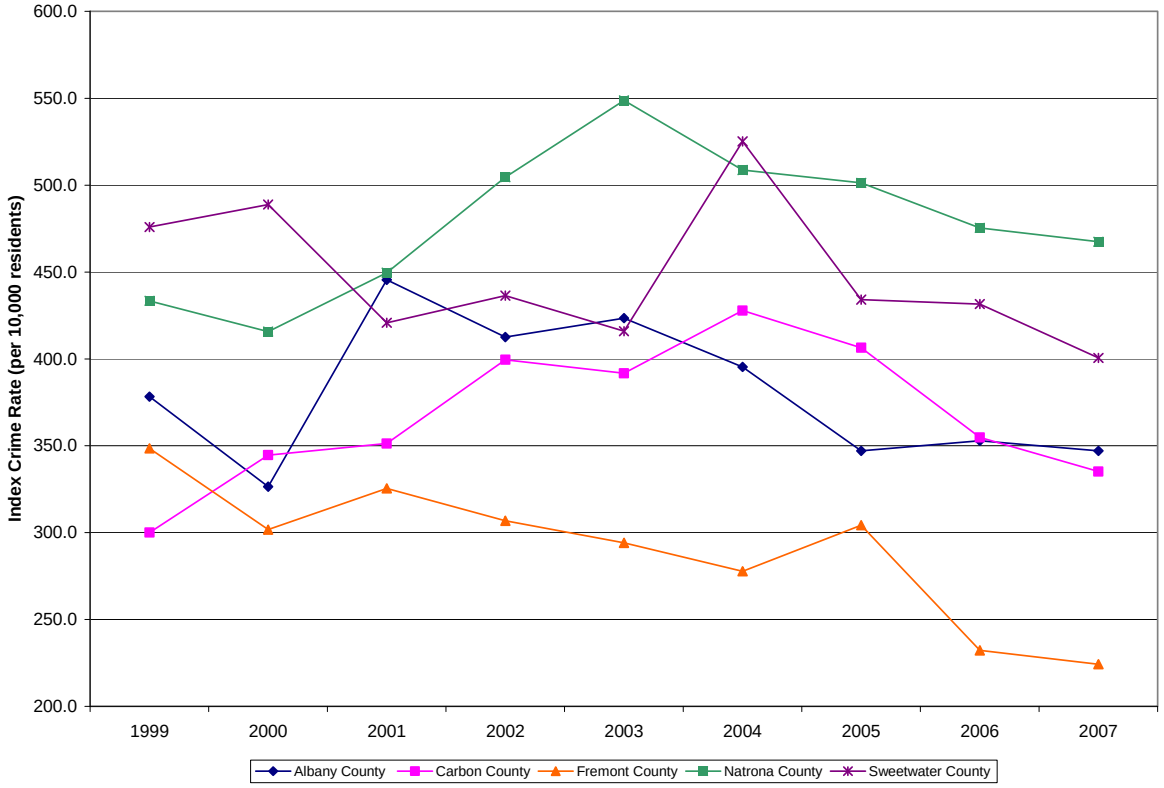

FIGURE 4-37
Index Crime Rate by County and State of Wyoming (1999 through 2007)

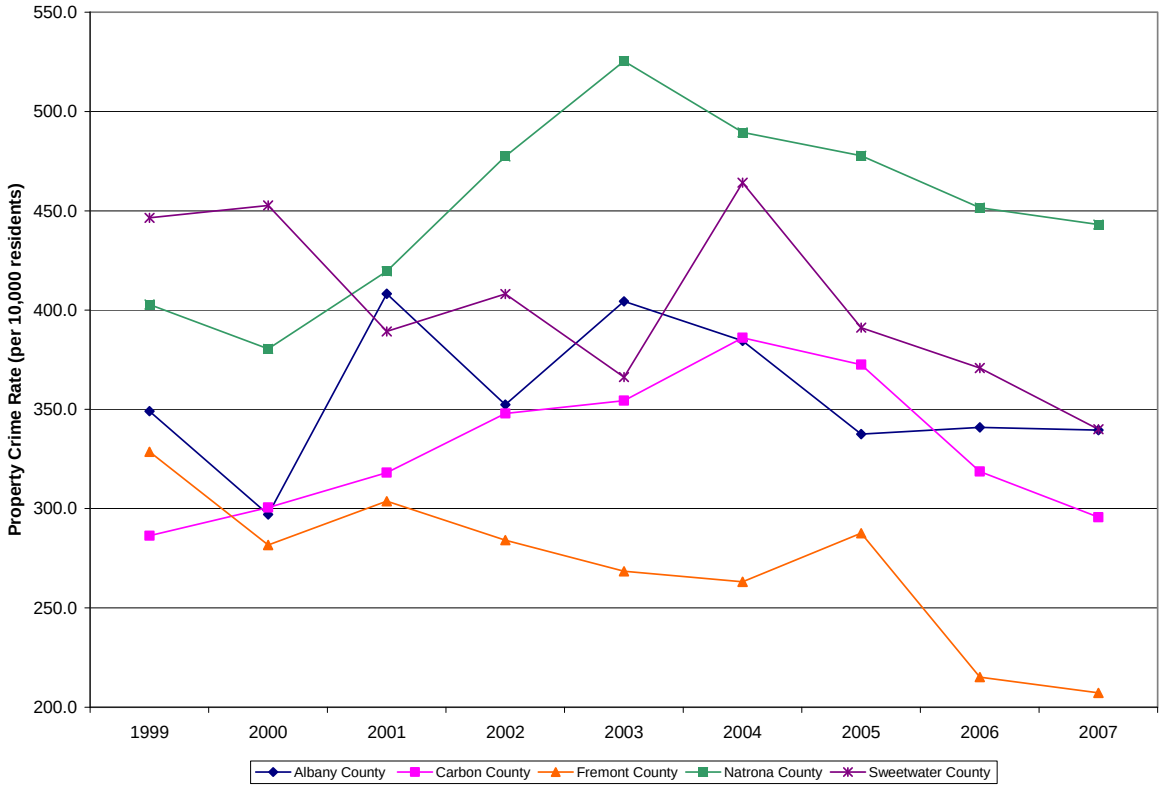

FIGURE 4-38
Property Crime Rate by County (1999 through 2007)

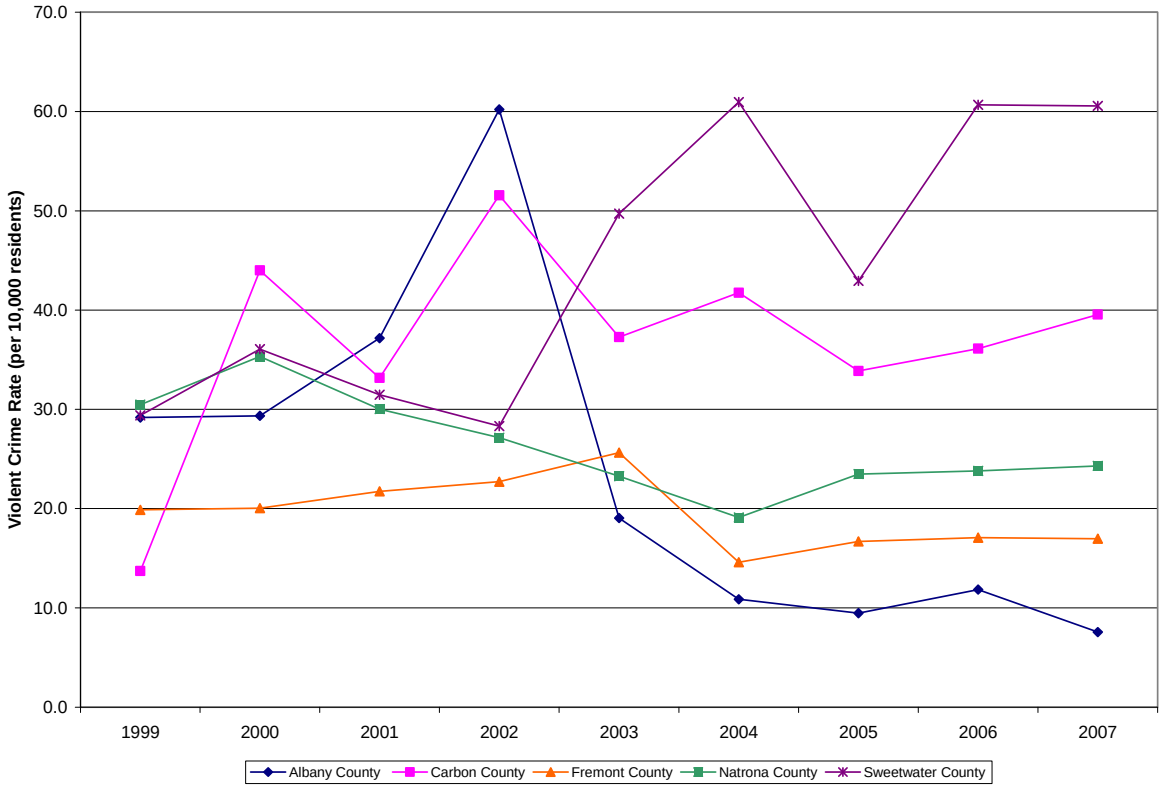

FIGURE 4-39
Violent Crime Rate by County (1999 through 2007)

Although Part 2 crimes are considered less serious in nature, they are significantly more numerous and often of an anti-social nature with the majority related to alcohol and drug abuse. Part 2 crimes are classified into the following groups: manslaughter by negligence; arson; other assault; forgery and counterfeiting; fraud; embezzlement; buying, receiving or possessing stolen property; vandalism; carrying or possessing weapons; prostitution and commercial vice; sex offenses (except rape and prostitution); drug abuse – sale and manufacture; drug abuse – possession; gambling; offenses against family and children; driving under the influence; liquor laws; drunkenness; disorderly conduct; vagrancy; and all other (except traffic).

In 2007, of all arrests made in Carbon County, 6 percent were associated with Part 1 offenses while 94 percent were for Part 2 offenses. Of the Part 1 crime arrests, 64 percent were for crimes against property and the remaining 36 percent were crimes against persons. Drug- and alcohol-related arrests comprised 46 percent of Part 2 arrests. With regard to Sweetwater County, of all arrests made in 2007, 11 percent were for Part 1 offenses while 89 percent were for Part 2 offenses. Of the Part 1 crime arrests, 67 percent were for crimes against property and the remaining 33 percent were crimes against persons. Drug- and alcohol-related arrests comprised 58 percent of Part 2 arrests. Arrest rates (per 1,000 population) for Part 1, Part 2, and drug- and alcohol-related offenses for all reporting authorities in the study area for the period 2001 through 2007 are shown in Table 4-37.

TABLE 4-37
Part 1, Part 2, and Drug- and Alcohol-Related Offense Arrest Rates (2001-2007)

PART 1 OFFENSE ARREST RATE (per 1,000 population)

	2007	2006	2005	2004	2003	2002	2001
Albany County Total	3.6	2.4	4.0	3.5	4.0	3.5	3.8
Albany County Sheriff	2.4	0.8	4.0	2.8	2.3	0.6	4.6
Laramie	3.3	2.4	3.8	3.4	4.0	3.7	3.4
Carbon County Total	6.1	6.6	7.0	5.7	6.2	8.5	4.4
Carbon County Sheriff	3.6	4.2	3.0	3.1	4.0	14.7	1.8
Baggs	2.7	2.8	0.0	2.8	5.8	2.9	2.9
Hanna	1.2	3.4	2.3	3.4	9.3	2.3	1.1
Rawlins	8.4	9.0	10.5	7.5	7.1	7.5	5.2
Saratoga	3.5	1.7	1.7	2.9	4.1	8.2	7.5
Fremont County	4.3	3.1	5.8	3.9	3.9	4.0	3.8
Fremont County Sheriff	1.9	1.0	1.2	1.4	1.9	1.4	1.8
Lander	3.8	3.2	8.1	4.2	4.0	5.6	3.9
Riverton	9.8	7.7	13.7	9.0	7.9	8.4	7.6
Natrona County	5.3	3.9	5.1	4.9	5.9	5.7	4.5
Natrona County Sheriff	1.5	1.9	2.8	2.7	2.2	4.3	2.3
Casper	6.6	4.5	5.9	5.5	6.9	6.0	4.8
Mills	2.1	1.7	1.4	1.0	3.0	2.7	3.9
Evansville	3.4	3.8	4.7	7.7	5.7	8.8	8.9
Sweetwater County	8.4	6.2	6.5	8.4	6.1	5.8	4.5
Sweetwater County Sheriff	3.2	3.3	2.6	5.7	5.6	3.5	3.2
Green River	8.5	7.3	6.6	9.3	6.4	5.6	5.2
Rock Springs	10.4	6.6	7.9	8.8	6.2	6.8	4.5

TABLE 4-37
Part 1, Part 2, and Drug- and Alcohol-Related Offense Arrest Rates (2001-2007)

PART 2 OFFENSE ARREST RATE (per 1,000 population)

	2007	2006	2005	2004	2003	2002	2001
Albany County Total	50.5	56.1	57.4	52.0	52.0	52.8	45.6
Albany County Sheriff	35.4	35.3	27.1	22.1	18.0	30.1	66.7
Laramie	45.1	51.3	53.9	48.8	46.8	50.2	34.4
Carbon County Total	97.5	100.1	84.7	71.7	64.5	76.5	68.1
Carbon County Sheriff	127.5	109.9	116.1	117.8	134.0	118.4	103.1
Baggs	2.7	22.3	16.9	19.3	2.9	5.8	14.4
Hanna	0.0	12.6	9.2	0.0	2.3	12.7	9.2
Rawlins	116.3	126.1	96.9	76.6	59.1	81.1	66.9
Saratoga	4.6	7.5	7.6	17.3	15.3	31.7	48.1
Fremont County	49.5	52.5	54.6	53.6	42.0	47.7	42.5
Fremont County Sheriff	29.8	29.4	29.5	33.8	31.1	28.2	29.7
Lander	54.2	52.6	63.5	67.9	28.2	82.9	49.5
Riverton	88.1	101.9	101.6	85.1	75.4	63.0	63.8
Natrona County	80.4	77.9	79.7	81.0	74.9	65.9	76.6
Natrona County Sheriff	101.8	118.0	148.0	142.2	128.0	130.0	141.5
Casper	67.7	66.6	55.9	59.1	54.2	44.5	53.6
Mills	210.2	108.9	164.3	165.5	172.5	111.4	113.5
Evansville	73.7	69.7	129.8	138.4	144.8	153.9	209.3
Sweetwater County	70.7	67.2	65.6	50.0	52.9	45.2	46.2
Sweetwater County Sheriff	71.3	95.2	69.3	41.9	58.4	64.3	51.2
Green River	28.7	26.1	27.6	20.2	15.3	16.1	16.3
Rock Springs	96.2	82.0	88.0	71.6	74.6	56.6	63.4

TABLE 4-37
Part 1, Part 2, and Drug- and Alcohol-Related Offense Arrest Rates (2001-2007)

DRUG AND ALCOHOL-RELATED ARREST RATE (per 1,000 population)

	2007	2006	2005	2004	2003	2002	2001
Albany County Total	33.7	38.9	42.2	36.6	34.8	33.2	26.0
Albany County Sheriff	9.5	8.0	9.1	6.2	4.2	8.3	16.2
Laramie	30.4	36.5	39.7	34.4	29.5	31.2	20.5
Carbon County Total	44.9	41.9	36.0	31.4	31.2	38.7	37.0
Carbon County Sheriff	34.8	30.7	26.0	33.7	36.0	34.1	41.7
Baggs	0.0	22.3	11.2	13.8	0.0	2.9	0.0
Hanna	0.0	2.3	3.4	0.0	1.2	7.0	3.4
Rawlins	64.6	58.6	50.6	37.9	37.2	46.2	40.6
Saratoga	1.2	6.3	5.8	14.4	13.5	30.5	34.8
Fremont County	31.4	32.7	33.2	31.2	25.2	28.4	26.6
Fremont County Sheriff	19.0	18.6	15.6	18.8	17.2	15.1	16.5
Lander	34.5	38.9	49.4	43.7	18.7	51.1	32.3
Riverton	55.3	58.3	58.8	48.1	46.7	39.6	43.4
Natrona County	33.9	30.7	26.0	29.3	27.4	23.2	32.1
Natrona County Sheriff	25.1	26.0	29.5	29.2	22.4	24.2	33.0
Casper	32.7	30.4	23.3	26.9	25.3	20.3	27.2
Mills	88.9	57.0	38.7	51.6	62.1	34.8	43.6
Evansville	42.7	30.6	50.9	56.6	59.9	68.6	122.4
Sweetwater County	40.9	39.6	41.6	29.2	26.9	21.6	24.7
Sweetwater County Sheriff	38.0	44.4	32.4	20.2	22.2	21.2	15.9
Green River	21.2	18.3	21.2	12.9	11.0	11.7	12.4
Rock Springs	54.1	51.2	57.9	42.6	38.6	28.0	35.5

Source: Crime in Wyoming, Annual Report, State of Wyoming Office of Attorney General, 2000 through 2007

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The manner in which arrest rates for Part 2 offenses have varied over the period 2001 through 2007 can be seen from the information presented in Figure 4-40. Arrest rates for Part 2 offenses are noticeably higher in the jurisdictions of the Carbon County Sheriff and Natrona County Sheriff and in the towns of Mills and Evansville in Natrona County. The proportion of the arrest rates attributable to drug- and alcohol-related crime arrests is evident from the information presented in Figure 4-41.

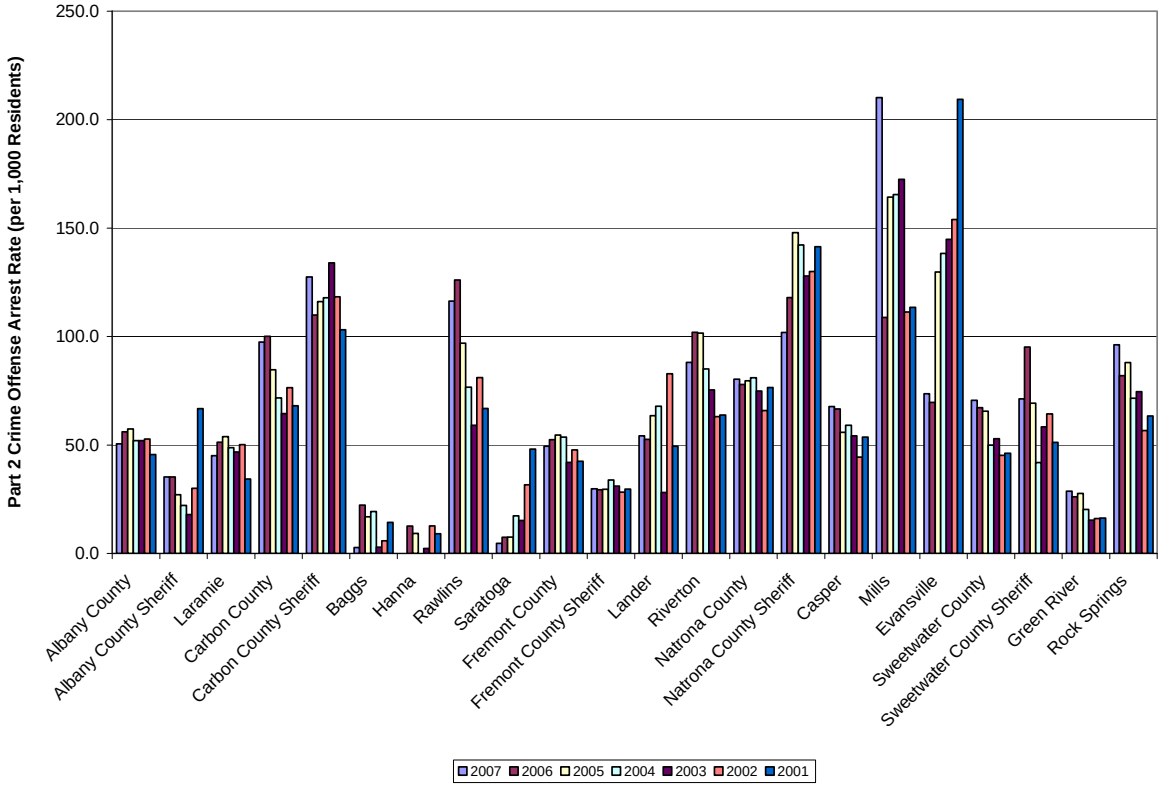

FIGURE 4-40
Part 2 Crime Offense Arrest Rate (2001 through 2007)

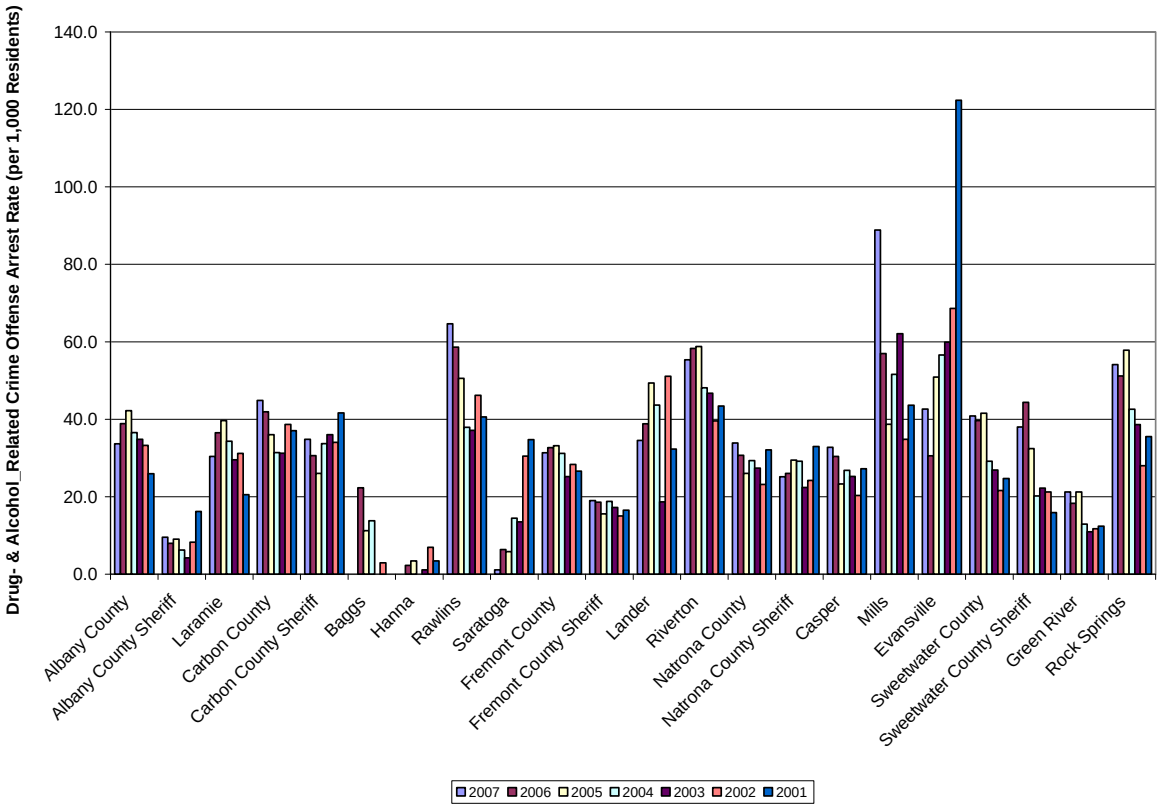

FIGURE 4-41
Drug- and Alcohol-Related Crime Offense Arrest Rate (2001 through 2007)

4.3.6 Health Care

Rule I Section 7(vi)(E) – Health Care Facilities. Public facilities and services availability and needs, which may include, but are not limited to: An analysis of health and hospital care facilities and services.

This section discusses the location and characteristics of health care facilities in the two county study area, including the number and type of facilities, staffing levels, LOS measures, availability of emergency medical service, and the health needs of the existing population.

4.3.6.1 Location and Characteristics of Health Care Facilities

There are six hospitals in the study area as illustrated in Figure 4-42. They are Ivinson Memorial Hospital in Laramie; Memorial Hospital of Carbon County in Rawlins; Lander Valley Medical Center in Lander, Fremont County; Riverton Memorial Hospital in Riverton, Fremont County; Wyoming Medical Center in Casper, Natrona County; and Memorial Hospital of Sweetwater County in Rock Springs. Wyoming Medical Center is the largest of the six facilities and performs considerably more inpatient surgeries and experiences more emergency room visits than other hospitals as can be seen from the information presented in

Table 4 38. The role of the smaller hospitals in the study area as providers of outpatient and emergency room services can be seen from an inspection of the LOS values presented in Table 4-38.

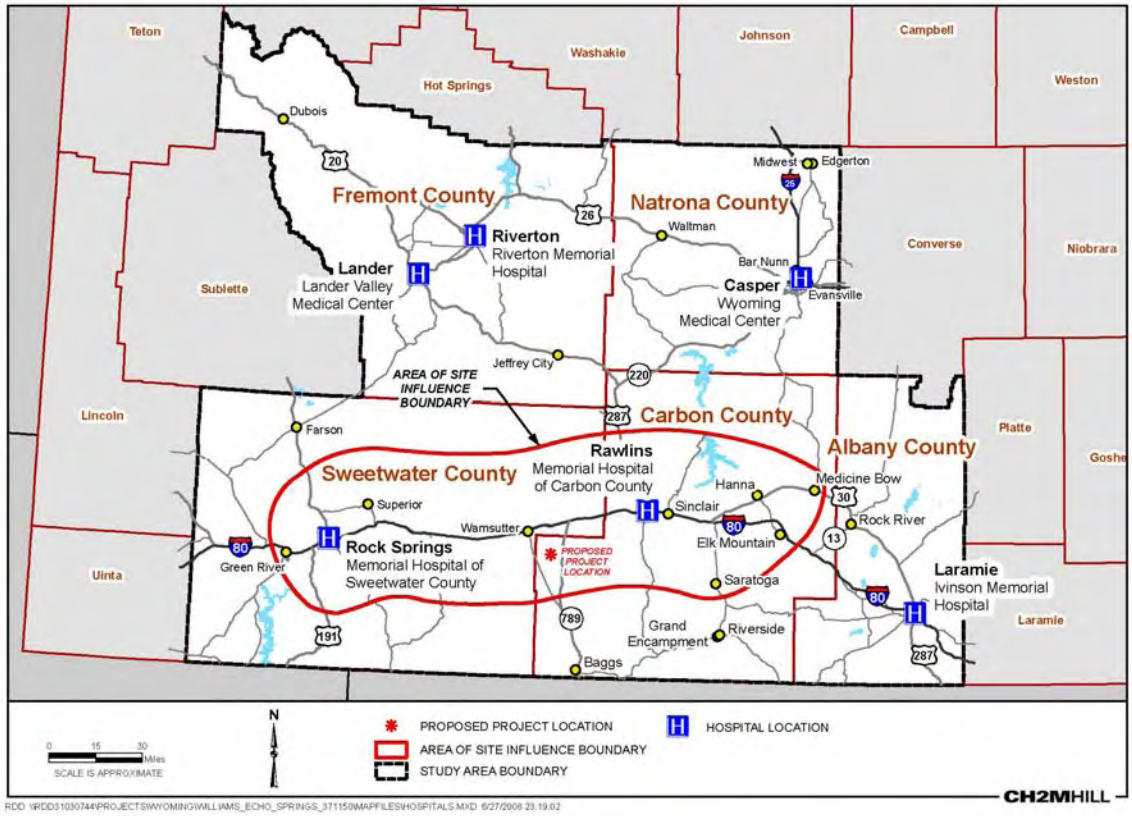

FIGURE 4-42
Location of Hospitals in the Study Area

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TABLE 4-38
General Hospitals in the Study Area: Selected Statistics

	Ivinson Memorial Hospital (Albany County)	Memorial Hospital of Carbon County (Carbon County)	Lander Valley Medical Center (Fremont County)	Riverton Memorial Hospital (Fremont County)	Wyoming Medical Center (Natrona County)	Memorial Hospital of Sweetwater County (Sweetwater County)
Number of Beds	99	45	89	49	205	99
Admissions	2,816	1,568	2,793	1,845	9,515	2,349
Inpatient Surgeries	441	31	843	534	3,229	593
Outpatient Visits	44,855	25,574	34,140	31,296	71,029	90,445
Outpatient Surgeries	2,658	528	1,683	1,509	2,067	1,581
Emergency Room Visits	13,876	6,899	9,139	9,273	34,045	21,660
Births	445	117	337	246	1,022	558
Full-time Registered Nurses	117	34	64	40	254	54
Part-time Registered Nurses	4	9	23	4	106	17
Full-time Licensed Practical Nurses	3	2	3	1	1	4
Part-time Licensed Practical Nurses	3	5	1	0	0	4
Total Full-time Faculty Personnel	405	165	188	137	898	326
Total Part-time Faculty Personnel	157	31	49	23	307	49
Level of Service Ratios (per 10,000 residents)						
	Albany County	**Carbon County**	**Fremont County**	**Natrona County**	**Sweetwater County**	
Number of Beds	31	29	37	29	25	
Admissions	874	1,013	1,237	1,326	598	
Inpatient Surgeries	137	20	367	450	151	
Outpatient Visits	13,918	16,514	17,459	9,900	23,011	
Outpatient Surgeries	825	341	852	288	402	
Emergency Room Visits	4,306	4,455	4,913	4,745	5,511	
Births	138	76	156	142	142	
Full-time Registered Nurses	36	22	28	35	14	
Part-time Registered Nurses	1	6	7	15	4	
Full-time Licensed Practical Nurses	1	1	1	0	1	
Part-time Licensed Practical Nurses	1	3	0	0	1	
Total Full-time Faculty Personnel	126	107	87	125	83	
Total Part-time Faculty Personnel	49	20	19	43	12	

Sources:

http://health.usnews.com/directories/hospital-directory - Accessed May, 2008
http://eadiv.state.wy.us/pop/wyc'sc20.htm

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The number of health care professionals in each of the counties, the study area, and the state are shown in upper section of Table 4-39 with LOS values displayed in the lower section and in Figure 4-43. The LOS values for physicians in Natrona and Fremont counties exceed that for the state of Wyoming, while the values for Carbon and Sweetwater counties are considerably lower, implying a lower quality of service. The LOS values for registered nurses in all counties of the study area are lower than the corresponding state value.

TABLE 4-39
Health Care Professionals in the Study Area (2006)

	Physician	Physician Assistant	Registered Nurse	Licensed Practical Nurse	Certified Nurse Assistant	Dentist	Pharmacist
Albany	59	4	319	32	220	12	30
Carbon	13	7	112	43	116	7	8
Fremont County	78	11	380	54	372	16	23
Natrona County	167	31	840	99	699	36	72
Sweetwater County	39	11	224	66	196	18	23
Study Area	356	64	1,875	294	1,603	89	156
Wyoming	996	146	7,306	1,260	4,510	254	403
Level of Service Ratios (per 100,000 residents in 2007)							
Albany	183	12	990	99	683	37	93
Carbon	84	45	723	278	749	45	52
Fremont County	208	29	1,013	144	993	43	61
Natrona County	232	43	1,171	138	974	50	100
Sweetwater County	99	28	570	168	499	46	59
Study Area	181	33	955	150	817	45	80
Wyoming	194	28	1,397	241	863	49	78

Sources:
Wyoming Healthcare Commission, Statistical Handbook 2006, http://hptc.unmc.edu/wy/handbook.html;
State Board of Nursing, Report Title 2, 2007; and
2006 Population: http://eadiv.state.wy.us/pop/co-07est.htm

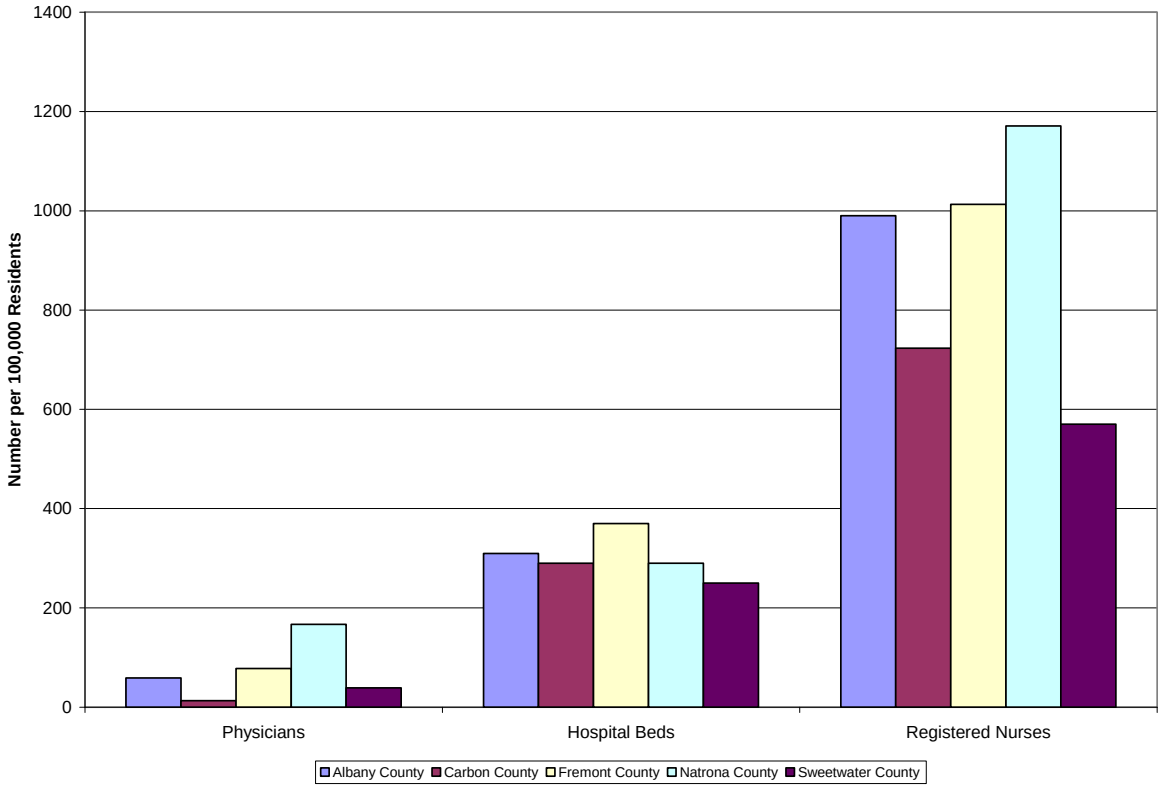

FIGURE 4-43
Level of Service Ratios for Health Care Professionals

The study area contained 1,414 certified emergency medical service (EMS) providers, 328 certified ambulance attendants, and 51 ambulances, as can be seen from the information presented in Table 4-40 for the year 2002. Carbon and Sweetwater counties had the highest certified ambulance attendant LOS value of the study area counties.

TABLE 4-40
Emergency Medical Services by County

	Albany County	Carbon County	Fremont County	Natrona County	Sweetwater County
Certified EMS Providers	125	137	214	433	505
Certified Ambulance Attendants	51	41	83	58	95
Per 1,000 residents	1.7	2.7	2.3	0.9	2.6
Square Mile per Attendant	78.6	194	112	93	111
Number of Service Providers	3	4	7	4	5
Number of Ambulances (vehicles)	6	9	14	9	13
Ambulance Runs	1,981	1,482	4,047	5,362	3,292

Source: Wyoming Department of Health. 2002. Wyoming Emergency Medical Services System Quick Stats

4.3.6.2 Health Needs of the Existing Population

This section discusses a report prepared for the Wyoming Healthcare Commission in 2007 entitled Status and Future of Health Care Delivery in Rural Wyoming. Wyoming is undergoing significant changes in population. Some areas of the state are experiencing extraordinary growth, while others are in decline. Like many predominantly rural states, Wyoming is seeing a dramatic increase in the number of persons aged 65 and over. However, Wyoming is also experiencing substantial growth in the working-age population that supports the growth in extraction of natural resources. The two population shifts will put different pressures on the health care system. The increase in persons aged 65 and older will create more demand for geriatric care and care management of patients with multiple chronic conditions associated with the elderly. The increase of working-age persons will increase demand for dental services, preventive services, and primary care services associated with young families.

Wyoming has an adequate array of facilities offering inpatient services, hospitals, and skilled nursing facilities (nursing homes). Despite the availability of these institutional services and the presence of qualified clinical personnel, many Wyoming residents who could be served in Wyoming are using health services in Colorado and Nebraska.

The key findings of the analysis contained in the report are as follows:

- The demographic shift of the aging population will increase an already growing demand for health care professionals. Recruitment and retention should be priorities at all levels, from local to state, including public and private entities.
- To decrease the number of health care professionals who leave Wyoming, the state should support and encourage increased participation in programs with proven success.
- Stakeholders in Wyoming health care delivery recommended a step-wise strategy of integrating services in local communities and then building regional systems.
- Stakeholders believe there is no pattern of sustained leadership in health care in Wyoming, but there are potential sources of leadership that can be explored.
- Community members expressed concern about continuous population growth combined with the number of providers reaching retirement, and stressed the importance of recruitment and retention efforts.
- Respondents identified services for the elderly as a current or future need, particularly assisted living.
- Considering the combined effect of the direct and indirect impacts on Wyoming's economy, health care accounts for 10.3 percent of the state's total employment, 10.5 percent of the state's total income, and 8.2 percent of the state's total output.
- The estimated total lost revenue for Wyoming hospitals due to inpatient out-migration to Colorado, Utah, and Nebraska was $101.3 million in 2003. As a result, an estimated $32.5 million less was spent in other economic sectors of Wyoming communities in the same year.

- Other states have formal or informal networks of providers to coordinate care. Examples of strong comprehensive networks across providers are the Alaska Federal Health Care Access Network and the Nebraska Rural Comprehensive Care Network.
- State health agencies use advisory groups to provide technical assistance and formulate recommendations. The Health Policy Commission in New Mexico, for example, is an independent commission monitoring the health status and health care services in the state.

4.3.7 Municipal Services

Rule I Section 7(vi)(F) - Public facilities and services availability and needs, which may include, but are not limited to human service facilities, programs, and personnel, including an analysis of the capacity to meet current demands and a description of problems, needs, and costs of increasing service levels.

This section describes the location and characteristics of the following five primary municipal services provided to residents of the two-county study area:

- Electricity
- Natural gas
- Water
- Wastewater treatment
- Waste disposal

4.3.7.1 Electricity and Natural Gas

There are eight primary suppliers of electricity and six of natural gas in the five county study area, as shown in Table 4-41.

TABLE 4-41
Electric and Gas Utility Company Service Areas

Company	Counties Served
Electricity	
Carbon Power and Light	Albany County, Carbon County
High Plains Power	Carbon County, Natrona County, Fremont County
High West Energy	Albany County
Rocky Mountain Power	Albany County, Carbon County, Fremont County, Sweetwater County, Natrona County
Wheatland REA	Albany County
Yampa Valley Electric	Carbon County
Niobrara Electric	Sweetwater County
Bridger Valley EA	Sweetwater County
Gas	
Town of Walden	Albany County
Source Gas	Albany County, Carbon County
Kinder Morgan	Natrona County
Northern Gas of Wyoming	Natrona County
Source Gas	Fremont County, Sweetwater County
Questar Gas Co.	Sweetwater County

Sources: http://psc.state.wy.us/ Accessed June 27, 2008. Wyoming Public Service Commission. Wyoming Gas Utilities Certified Areas. March 2003; http://psc.state.wy.us/htdocs/certterr.htm

4.3.7.2 Water

The study area contains 81 community water purveyors. Freemont County has the highest number of community water purveyors with 23 followed closely by Natrona and Sweetwater counties with 21 and 18, respectively, as shown in Table 4-42. Albany County (nine) and Carbon County (10) have the fewest number of systems. The majority are small community water systems serving a small number of residents. The largest system is located in Albany County in the City of Laramie serving 28,000 residents with a use of 6 million gallons per day (gpd).

TABLE 4-42
Community Water Systems in the Study Area

Water System Name	Population Served (1)	Primary Water Source Type	Total Maximum Capacity (gpm) (2)	Average Day Use (gpd) (2)	Peak Day Use (gpd) (2)
Albany County					
Antelope Ridge Home Owners Association	50	Groundwater	NA	NA	NA
Centennial Water and Sewer	150	Groundwater	107	17,000	30,000
Country Meadow Estates	375	Groundwater	NA	NA	NA
City of Laramie	28,000	Surface water	11,000	6,000,000	15,750,000
Nine Mile Water and Sanitation District	198	Purchased surface water	NA	NA	NA
Town of Rock River	235	Surface water	350	21,268	NA
Seven Mile Water ‘ Sewer District	90	Purchased surface water	NA	NA	NA
South Laramie Water ‘Sewer District	550	Purchased surface water	NA	NA	NA
Wyoming Technical Institute	560	Groundwater	NA	NA	NA
Carbon County					
Town of Baggs	490	Groundwater	200	93,000	150,000
Town of Dixon Water System	78	Groundwater	220	20,912	26,849
Town of Elk Mountain	186	Groundwater	250	32,877	60,000
Town of Encampment	490	Surface water	300	141,279	332,220
Town of Hanna	950	Surface water	1,000,000	500,000	800,000
Town of Medicine Bow	270	Groundwater	620	91,600	129,500
City of Rawlins Water Supply	9,006	Surface water	7,017	1,867,000	4,127,000
Town of Saratoga	2,000	Surface water	1,250	500,000	1,200,000
Sierra Madre JPB	180	Groundwater	263	29,254	99,000
Town of Sinclair	423	Purchased surface water	1,388	2,000,000	2,000,000

TABLE 4-42
Community Water Systems in the Study Area

Water System Name	Population Served (1)	Primary Water Source Type	Total Maximum Capacity (gpm) (2)	Average Day Use (gpd) (2)	Peak Day Use (gpd) (2)
Fremont County					
B'K Mobile Home Park	95	Groundwater	NA	NA	NA
Cozy Mobile Home Park	115	Groundwater	NA	NA	NA
Town of Dubois Water System	1,067	Groundwater	930	200,000	466,000
Fairview Water and Sewer District	31	Groundwater	400	17,000	43,500
First Fike Subdivision	150	Groundwater	NA	NA	NA
Gardens North Homeowners Subdivision	250	Groundwater	124	34,000	40,000
Town of Hudson	450	Groundwater Under Influence of Surface Water	300	125,000	250,000
Jeffrey City Water and Sewer District	40	Groundwater	NA	NA	NA
Juniper Park Water Association	36	Groundwater	NA	NA	NA
City of Lander	6,800	Surface Water	NA	2,000,000	6,000,000
Monroe Ave MHP	100	Groundwater	100	NA	NA
Mountain View Acres	165	Groundwater	NA	NA	NA
North Riverton Water and Sewer District	120	Groundwater	33		
Town of Pavillion	150	Groundwater	25	24,518	30,000
Raintree Estates	75	Groundwater	25	5,500	6,200
Redd Fox Park Homeowners Association	50	Purchased Surface Water	NA	NA	NA
City of Riverton	9900	Surface Water	5400	2,600,000	3,500,000
Second Fike Subdivision	34	Groundwater	NA	NA	NA
Town of Shoshoni	635	Groundwater	880	220,643	425,498
Spencer Home Sites	40	Groundwater	NA	NA	NA
Sunnyside Mobile Home Park	25	Groundwater	NA	NA	NA
Sunridge Estates	220	Groundwater	120,000	NA	NA
Warm Springs Water District	55	Groundwater	245	11,500	21,500
Natrona County					
Air Base Acres	250	Purchased surface water	NA	10,000	13,000
Alcova Dam Trailer Park	45	Groundwater	NA	NA	NA
Broken Wrench LLC	50	Groundwater	NA	NA	NA
Casper Board of Pub Utilities	54,500	Purchased surface water	36,111	9,200,000	28,000,000

TABLE 4-42
Community Water Systems in the Study Area

Water System Name	Population Served (1)	Primary Water Source Type	Total Maximum Capacity (gpm) (2)	Average Day Use (gpd) (2)	Peak Day Use (gpd) (2)
Central WY Reg Water Sys JPB	25	Groundwater under influence of surface water	NA	NA	NA
Countryside Court	125	Groundwater	NA	NA	NA
Town of Edgerton	169	Purchased surface water	350	13,000	50,000
Town of Evansville	2,200	Surface water	NA	NA	NA
Lakeview Improvement ‘ Service District	45	Purchased surface water	NA	NA	NA
Town of Midwest	408	Purchased surface water	350	90,000	200,000
Town of Mills	3,200	Surface water	3,600	861,750	2,500,000
Natrona County Int’l Airport	312	Purchased surface water	NA	NA	NA
Pioneer Water and Sewer District	450	Purchased surface water	NA	95,000	154,000
Pleasant View Water Company	130	Purchased surface water	NA	NA	NA
Poison Spider Improvement ‘ Services Distr.	100	Purchased surface water	NA	NA	NA
Riverside Trailer Court	155	Groundwater	NA	NA	NA
Sandy Lake Estates- ISD	150	Purchased surface water	NA	NA	NA
South Riverside Acres Water Impr Dist	50	Groundwater	40	7,272	NA
Thirty-Three Mile Road I ‘ SD	150	Purchased surface water	NA	NA	NA
Vista West Water Company	1,600	Purchased surface water	NA	NA	NA
Wardwell Water ‘ Sewer Dist.	2,100	Purchased surface water	NA	300,000	416,666
Sweetwater County					
Town of Bairoil	150	Groundwater	690	56,250	150,000
Clearview Improvement Service	400	Purchased Surface Water	NA	71,466	86,166
ESS/BP Man Camp	400	Groundwater	NA	NA	NA
Town of Granger	160	Surface Water	700	50,000	100,000
City of Green River	11,900	Purchased Surface Water	3,472	2,000,000	5,000,000
Horizon Mobile Home Park, LLC	260	Purchased Surface Water	NA	NA	NA
Jamestown-Rio Vista W ‘ Sewer	600	Surface Water	NA	NA	NA

TABLE 4-42
Community Water Systems in the Study Area

Water System Name	Population Served (1)	Primary Water Source Type	Total Maximum Capacity (gpm) (2)	Average Day Use (gpd) (2)	Peak Day Use (gpd) (2)
Little America Hotels ‘ Resorts, Inc – WY	2000	Surface Water	NA	NA	NA
Pioneer Mobile Home Park	1500	Purchased Surface Water	N/A	NA	NA
Point of Rocks Mercantile	100	Groundwater	NA	NA	NA
City of Rock Springs	19,050	Purchased Surface Water	NA	5,300,000	10,500,000
Rock Springs/Green River JP	25	Surface Water	NA	NA	NA
Sandy Crossings, LLC	80	Groundwater	NA	NA	NA
Skyline Village Mobile Home Park	900	Purchased Surface Water	NA	NA	NA
Town of Superior	250	Groundwater	360	40,000	90,000
Ten Mile Water ‘ Sewer District	250	Purchased Surface Water	NA	NA	NA
Town of Wamsutter	330	Groundwater	217	150,000	270,000
White Mt. Water ‘ Sewer District	3000	Purchased Surface Water	2,000,000	296,000	320,000

Source: (1) EPA Enviromapper. http://www.epa.gov/enviro/ Accessed June 25, 2008.
(2)State of Wyoming, Wyoming Water Development Commission, 2007 Water System Survey Report
Note: gpm is gallons per minute; gpd is gallons per day.

4.3.7.3 Wastewater

The study area contains 60 wastewater treatment facilities located, for the most part, in the larger communities as shown in Table 4-43. The facilities range from small wastewater lagoon systems to the complex treatment facility in Laramie.

TABLE 4-43
Wastewater Treatment Facilities Within the Study Area

County	Facility Name
Albany County	
	County Meadows Estates, Laramie WWTF
	Laramie Country Club WWTF
	Laramie Wastewater Treatment Plant
	Rock River Wastewater Lagoon
	Wade’s Mobile Manor WWTF
Carbon County	
	Baggs Wastewater Lagoons
	Dixon Wastewater Lagoon
	Encampment Wastewater Lagoon
	Hanna Wastewater Lagoon System
	Medicine Bow Wastewater Lagoon

TABLE 4-43
Wastewater Treatment Facilities Within the Study Area

County	Facility Name
	Rawlins Wastewater Lagoon
	Riverside Wastewater Lagoon
	Sinclair Wastewater Lagoon
Freemont County	
	B'K Mobile Home Park
	Cozy Mobile me Park
	Town of Dubois Water System
	Fairview Water ' Sewer District
	First Fike Subdivision
	Gardens North HOA
	Town of Hudson
	Jeffrey City Water and Sewer District
	Juniper Park Water Assoc.
	City of Lander
	Monroe Avenue Mobile Home Park
	Mountain View Acres
	North Riverton Water ' Sewer District
	Town of Pavillion
	Raintree Estates
	Redd Fox Park HOA
	City of Riverton
	Second Fike Subdivision
	Town of Shoshoni
	Spenser Homesites
	Sunnyside Mobile Home Park
	Sunridge Estates
	Warm Springs Water District
Natrona County	
	Camp Sacajawea
	City of Casper
	Edgerton Wastewater Lagoon
	Midwest Wastewater Lagoon
	Sam Hobbs Regional Wastewater Facility
	Tribal A Tensleep Battery #1
Sweetwater County	
	Town of Bairoil
	Clearview Improvement Service
	ESS/BP Man Camp
	Town of Granger
	City of Green River
	Horizon Mobile Home Park
	Jamestown-Rio Vista Water and Sewer District
	Little America Hotels and Resorts, Inc.
	Pioneer Mobile Home Park

TABLE 4-43
Wastewater Treatment Facilities Within the Study Area

County	Facility Name
	Point of Rocks Mercantile
	City of Rock Springs
	Rock Springs/Green River Joint Powers Authority
	Sand Crossing
	Skyline Village Mobile Home Park
	Town of Superior
	Ten Mile Water ‘ Sewer District
	Town of Wamsutter
	White Mountain Water ‘ Sewer District

Source: U.S. Environmental Protection Agency. Quick Start http://www.epa.gov/enviro/index.html. Accessed June 20, 2008

4.3.7.4 Non-Hazardous Waste Disposal

Table 4-44 lists the types of non-hazardous waste disposal facilities in the study area and their status (active or proposed). Facility types include industrial landfills; solid waste treatment, storage, and disposal (SWTSD) facilities; and Type I and Type II municipal waste facilities.

TABLE 4-44
Waste Disposal Facilities Within the Study Area

Facility Name	Facility Type	Facility Status
Albany County		
Laramie Landfill	Type I Municipal	Active
Rock River #2	Type II Municipal	Active
Ark Recycling Services	SWTSD	Active
Western Research Institute	SWTSD	Active
Mountain Cement Ind. #2 (Kiln Dust)	Industrial Landfill	Proposed
CIG – Laramie Compressor Station	SWTSD	Proposed
Carbon County		
Baggs SWDD	Type I Municipal	Active
Rawlins	Type I Municipal	Active
Hanna	Type II Municipal	Active
Saratoga	Type II Municipal	Active
Sinclair Oil Corp.	Industrial Landfill	Active
Sinclair Oil Corp.	Industrial Landfill	Active
Echo Springs	SWTSD	Active
Sinclair Oil Corp.	SWTSD	Active
Fremont County		
UMETCO Minerals Corp	Industrial Landfill	Active
United Parcel Service	Industrial Landfill	Active
US Energy/Crested Corp – McIntosh South	SWTSD	Active
US Energy/Crested Corp – Owl Hills Mine Ex	SWTSD	Active
US Energy/Crested Corp – Reserve Mine Facility	SWTSD	Active

TABLE 4-44
Waste Disposal Facilities Within the Study Area

Facility Name	Facility Type	Facility Status
US Energy/Crested Corp – Seismic Mine Facility	SWTSD	Active
US Energy/Crested Corp – Sun Herald Mine	SWTSD	Active
US Energy/Crested Corp – Whisky Peak Mine	SWTSD	Active
US Energy/Crested Corp – Congo Incline Min	SWTSD	Active
US Energy/Crested Corp – Congo Pit Facility	SWTSD	Active
US Energy/Crested Corp – Golden Goose I	SWTSD	Active
US Energy/Crested Corp – McIntosh Northeast	SWTSD	Active
US Energy/Crested Corp – Ravine Mine Facility	SWTSD	Active
US Energy/Crested Corp – Sheep Mtn I Facility	SWTSD	Active
US Energy/Crested Corp – Sheep Mtn II Fac	SWTSD	Active
US West BRI Fleet Services – Riverton	Type I Municipal	Active
US West Communications – Lander	Type I Municipal	Active
UTEMCO Minerals Corporation	Type I Municipal	Active
Valley Motor Supply – Riverton	Type I Municipal	Active
Wal-Mart	Type I Municipal	Active
WBI Pavillion Compressor Station	Type II Municipal	Active
Weatherford Enterra, Inc.	Type II Municipal	Active
West Main Conoco	Type II Municipal	Active
Western Company of North America	Type II Municipal	Active
Western Nuclear – Jeffrey City Acid Plt	Type II Municipal	Active
Western Nuclear – Jeffrey City Truck Shop	Type II Municipal	Active
Western Wyoming Oil	Type II Municipal	Active
Wind River Indian Reservation	Type II Municipal	Active
Wind River Reservation Irrigation	Type II Municipal	Active
Natrona County		
Land Treatment Facility, Casper	Industrial Landfill	Active
Naval Petroleum Reserve Ind. #2	Industrial Landfill	Active
Baler/Transfer Facility	SWTSD	Active
Black Hills Trucking-Casper Terminal	SWTSD	Active
Mobile Concrete	SWTSD	Active
Robinson Contracting – UST	SWTSD	Active
True Drilling	SWTSD	Active
Wyoming Tire, Inc.	SWTSD	Active
PCS Treatment Facility-Casper	SWTSD	Proposed
Used Oil Storage Facility	SWTSD	Proposed
Casper Balefill	Type I Municipal	Active
Central Wyoming Regional Landfill	Type I Municipal	Proposed
Midwest-Edgerton #2	Type II Municipal	Active
Sweetwater County		
Energy Coating Company	Industrial Landfill	Active

TABLE 4-44
Waste Disposal Facilities Within the Study Area

Facility Name	Facility Type	Facility Status
AMF Rock Springs Inspection Div	SWTSD	Active
Amoco – Frewen #1 (20.023)	SWTSD	Active
Amoco – Granger Station	SWTSD	Active
Amoco Pipeline – Wamsutter	SWTSD	Active
Amoco Pipeline Granger Station	SWTSD	Active
Amoco Production and Exploration	SWTSD	Active
Amoco Production Co. – Baroil (65.079)	SWTSD	Active
Amoco Production Co. – Granger	SWTSD	Active
Anadarko Brady Plant	SWTSD	Active
Anadarko Petroleum-Brady Gas Plant-Pit Closure (20.680)	SWTSD	Active
Anderson C ‘ Son Trucking	SWTSD	Active
Armor Shield (52.073)	SWTSD	Active
At Your Service	SWTSD	Active
Duke Energy Field Services, Emigrant Trail (51.026)	SWTSD	Active
Wamsutter #2 (10.681)	SWTSD	Proposed
AT’T Bitter Creek	Type I Municipal	Active
AT’T Creston	Type I Municipal	Active
AT’T Green River (3.5 M SW)	Type I Municipal	Active
AT’T Green River (9 M SW)	Type I Municipal	Active
AT’T Rock Springs	Type I Municipal	Active
Table Rock Unit (20.630)	Type I Municipal	Active
Tri-State Oil Reclaimers (Rock Springs) (50.811)	Type I Municipal	Proposed
Auto Pro	Type II Municipal	Active
Bairoil #1 (10.014)	Type II Municipal	Active
Bairoil #2 – Transfer Station (10.015)	Type II Municipal	Active
Bairoil LTF – Formerly Amoco (20.005)	Type II Municipal	Active
Baker Oil Tools Inc – Rock Springs	Type II Municipal	Active
Baker Petrolite – Thermopolis	Type II Municipal	Active
BCCK Pretty Water Gas Plant	Type II Municipal	Active
Bill Anselmi Inc	Type II Municipal	Active
Green River (old) (10.256)	Type II Municipal	Active

Source: State of Wyoming, Department of Environmental Quality, 2008. http://deq.state.wy.us/shwd/database.asp

Sweetwater County has the most waste disposal facilities (32) followed by Freemont County with a total of 29 facilities. The predominant types of waste disposal facility in the study area are SWTSD facilities (41) followed by the Type I and Type II municipal waste facilities (39).

Community size and activities, such as construction, influence both the quantity and composition of solid waste. As seen from the information in Table 4-45, Natrona County generates the greatest quantity of solid waste at 80,815 tons annually but has the second highest per capita generation of 6.7 pounds per person per day.

TABLE 4-45
Solid Waste Generation by County

County/Area	Tons per Year	Pounds per Person per Day	Percent of State Total
Albany County	24,717	4.4	4.1
Carbon County	15,058	5.4	2.5
Fremont County	36,354	5.5	6
Natrona County	80,815	6.7	11.8
Sweetwater County	53,433	7.7	9

Source: Wyoming Business Council, 2007 http://www.wyomingbusiness.org/business/energy.aspx Accessed June 27, 2008
* Based on 2000 population

4.3.8 Transportation Facilities

Rule I Section 7(i)(v) – Transportation. An analysis of transportation facilities containing discussion of roads (surface, type) and railroads (if applicable). An analysis of effects on transportation facilities including effects on service levels of roads, haul routes for materials and supplies, increased rail traffic at grade crossings, and intersection of new access roads with existing roads.

This section identifies major transportation facilities in the study area and their utilization levels and provides a review of transportation plans that identify planned improvements.

4.3.8.1 Identification of Major Facilities

Figure 4-44 shows the major road transportation corridors within the study area. I-80 extends east-west through Albany, Carbon, and Sweetwater counties, comprises the long axis of the area of site influence, and provides excellent access to communities east and west of the Project site. US Highway 287 transits the study area in a northwest-to-southeast direction from Rawlins through Fremont County. Table 4-46 details the major roads and highways in each of the counties of the study area and their general direction.

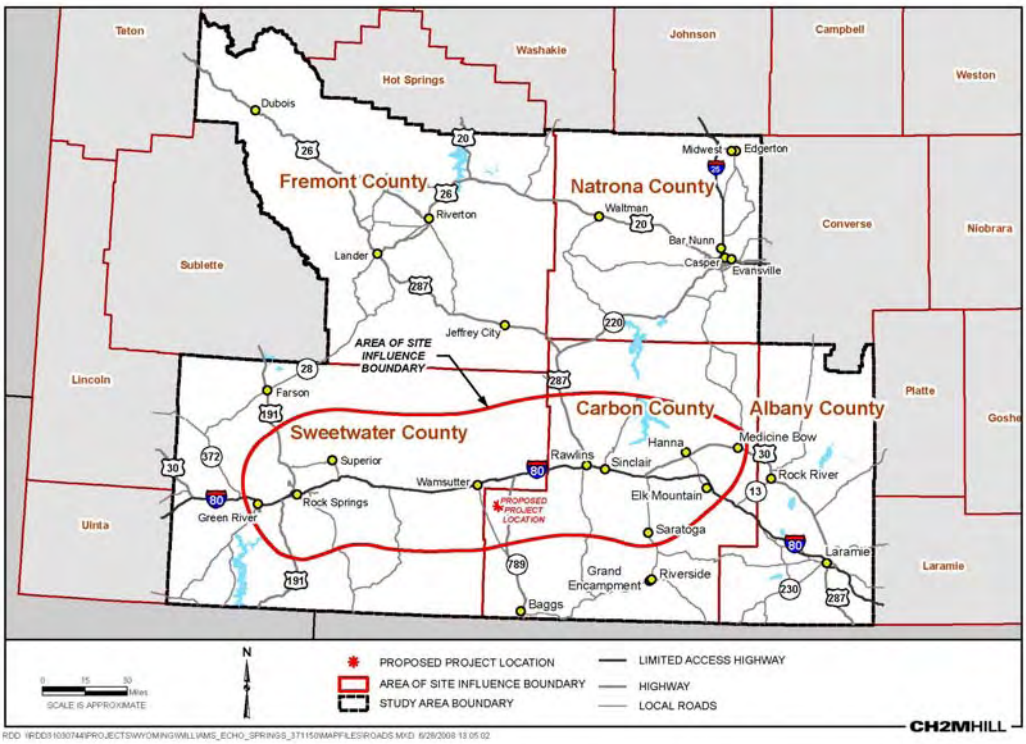

FIGURE 4-44
Major Roads and Highways in the Study Area

TABLE 4-46
Road Systems within the Study Area

County	Road	Type	General Direction
Albany	US 287	US Highway	North-South
Albany	US 30	US Highway	East-West
Albany	SH 130 and 230	State Highway	East-West
Albany	I-80	Interstate	East-West
Albany	US 30 ‘ 287	US Highway	East-West
Carbon	I-80	Interstate	East-West
Carbon	US 287 ‘ SH 789	US ‘ State Highways	North-South
Carbon	I-80	Interstate	East-West
Carbon	SH 220	State Highway	East-West
Carbon	US 287 ‘ SH 789	US ‘ State Highways	North-South
Carbon	US 287 ‘ SH 789	US ‘ State Highways	North-South
Fremont	US 26 ‘ 287	US Highways	Northwest-Southeast
Fremont	US 26	US Highway	Northeast-Southwest
Natrona	I-25	Interstate	North-South
Natrona	US 87	US Highway	East-West
Natrona	SH 255	State Highway	East-West

TABLE 4-46
Road Systems within the Study Area

County	Road	Type	General Direction
Natrona	US 20 and 26 Bus.	US Highway	East-West
Natrona	I-25	Interstate	North-South
Natrona	US 20 ‘ 26	US Highway	East-West
Natrona	SH 220	State Highway	North-South
Natrona	SH 487	State Highway	East-West
Natrona	SH 220	State Highway	North-South
Natrona	I-25	Interstate	North-South
Sweetwater	I-80	Interstate	East-West
Sweetwater	US 191	US Highway	North-South

Source: http://dot.state.wy.us

Traffic counts are recorded at a number of locations throughout the state; those that fall within the two-county study area are shown on Figure 4-45. The highest traffic volumes are on I-80 as it traverses Albany, Carbon, and Sweetwater counties, as can be seen in Table 4-47. The highest proportion of trucks (measuring over 50 percent in places) is also recorded on I-80. Other highways with sizeable proportions of truck traffic include US Highway 287 in Albany and Carbon counties, State Highway (SH) 220 in Natrona County, and SH 28 in Sweetwater County.

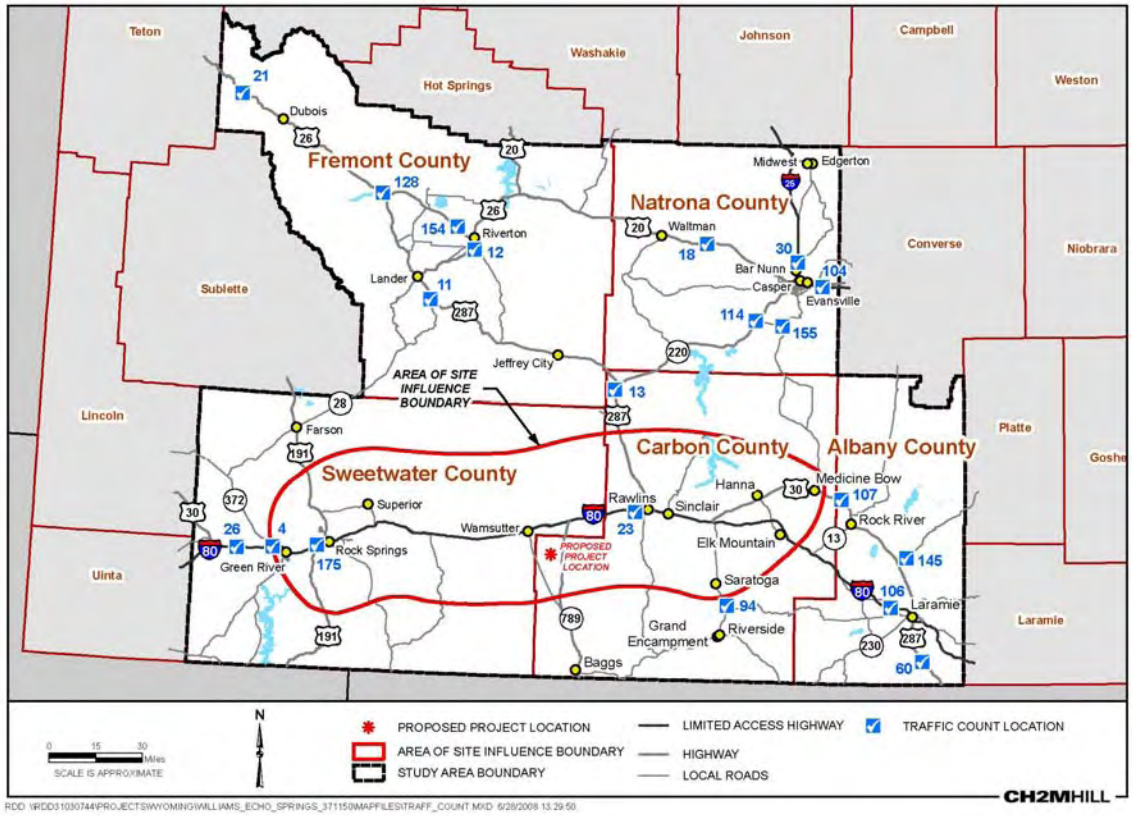

FIGURE 4-45
Traffic Count Station Numbers in the Study Area

TABLE 4-47
Average Annual Daily Traffic (AADT) and Percent Truck Traffic, by Day and Highway

Station No.	Location	Highway	County	Average Annual Daily Traffic (AADT)							Percent Truck Traffic
				Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
60S	Tie Siding South	US 287	Albany	3,521	2,908	2,553	2,707	2,905	3,767	3,760	15-20%
106	Laramie West	Interstate 80	Albany	11,761	9,122	9,466	11,144	10,758	11,359	11,908	50-55%
107	Medicine Bow East	US 30	Albany	759	585	523	542	583	843	752	10%
145E	Bosler Junction	US 34	Albany	622	442	387	395	443	661	609	5-10%
145N	Bosler Junction	US 30	Albany	957	845	795	826	848	1,139	979	10%
145S	Bosler Junction	US 30	Albany	1,403	1,136	1,054	1,076	1,143	1,596	1,425	10%
13NE	Muddy Gap Junction	SH 220	Carbon	1,745	1,663	1,711	1,901	1,840	2,020	1,863	25-30%
13NW	Muddy Gap Junction	US 287	Carbon	930	835	763	790	834	1,061	847	10-15%
13SW	Muddy Gap Junction	US 287	Carbon	2,340	2,137	2,132	2,318	2,306	2,629	2,342	20-25%
23	Rawlins West	Interstate 80	Carbon	12,836	10,791	11,397	13,183	12,771	12,870	12,721	50-55%
94E	Saratoga Junction	SH 130	Carbon	517	418	386	388	399	484	552	0-5%
94N	Saratoga Junction	SH 130	Carbon	1,184	1,279	1,242	1,270	1,276	1,452	1,346	0-5%
94S	Saratoga Junction	SH 70	Carbon	901	1,041	1,022	1,045	1,056	1,185	1,036	0-5%
18	Powder River East	US 20/26	Natrona	2,362	2,325	2,254	2,276	2,435	2,938	2,425	10-15%
30	Casper North	Interstate 25/US 87	Natrona	4,917	5,103	5,026	5,176	5,406	6,120	5,073	15-20%
104	Casper East	US 20/26	Natrona	1,866	2,606	2,670	2,670	2,670	2,830	2,316	0-5%
114NE	Goose Egg Southwest	SH 220	Natrona	3,798	3,210	3,076	3,235	3,266	3,897	3,976	20-25%
114SE	Goose Egg Southwest	SH 487	Natrona	814	631	578	571	641	946	824	5-10%

TABLE 4-47
Average Annual Daily Traffic (AADT) and Percent Truck Traffic, by Day and Highway

Station No.	Location	Highway	County	Average Annual Daily Traffic (AADT)							Percent Truck Traffic
				Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
114SW	Goose Egg Southwest	SH 220	Natrona	3,185	2,631	2,608	2,778	2,758	3,178	3,332	20-25%
155	Shirley Basin North	SH 487	Natrona	783	571	517	519	576	855	781	5-10%
11E	Lander South	US 287	Fremont	706	703	664	680	686	812	709	5-10%
11N	Lander South	US 287	Fremont	2,122	2,161	2,082	2,094	2,145	2,474	2,126	10-15%
11S	Lander South	SH 28	Fremont	1,570	1,651	1,611	1,605	1,638	1,883	1,582	15-20%
21	Dubois West	US 287	Fremont	1,661	1,757	1,721	1,772	1,773	2,026	1,734	0-5%
121E	Riverton Main Street	US 26	Fremont	5,756	9,387	9,798	9,810	9,928	9,965	7,060	0-5%
121N	Riverton College View	City Street	Fremont	993	2,844	3,045	2,957	3,017	2,778	1,361	0-5%
128E	Diversion Dam Junction	US 26	Fremont	886	831	792	810	868	1,049	886	5-10%
128S	Diversion Dam Junction	US 287	Fremont	483	482	455	474	485	563	490	0-5%
128W	Diversion Dam Junction	US 26	Fremont	1,236	1,165	1,095	1,131	1,200	1,442	1,248	0-5%
154	Riverton West	US 26	Fremont	2,776	3,768	3,842	3,844	3,912	4,214	3,343	0-5%
4	Green River West	Interstate 80	Sweetwater	13,770	13,045	13,888	15,725	15,304	15,321	14,322	40-45%
26	Little America East	Interstate 80	Sweetwater	12,891	11,142	11,844	13,557	13,298	13,355	13,261	50-55%
162	Farson West	SH28	Sweetwater	401	470	474	473	483	520	383	35-40%
175	Rock Springs West	Interstate 80	Sweetwater	17,556	19,271	19,997	21,905	21,498	24,875	19,437	30-35%

Source: http://dot.state.wy.us

Figure 4-46 shows the location of rail infrastructure and freight volumes carried by the major lines. Within the study area, the major lines are operated and maintained by the Union Pacific Railroad and Burlington Northern Railroad. Union Pacific's transcontinental main line across southern Wyoming, including Sweetwater County, hosts as many as 65 trains a day. Crew change terminals and switching yards and related facilities are maintained at Cheyenne, Rawlins, and Green River. One of Wyoming's major natural resources, soda ash, is mined in the Green River area. Union Pacific moves the soda ash, which is used for making glass, paint, and other products, to domestic markets and export terminals throughout the United States. A branch lines traverses Sweetwater County as shown in Figure 4-46. A main line of the Burlington Northern Railroad from Denver (Colorado) passes through Natrona and Fremont counties.

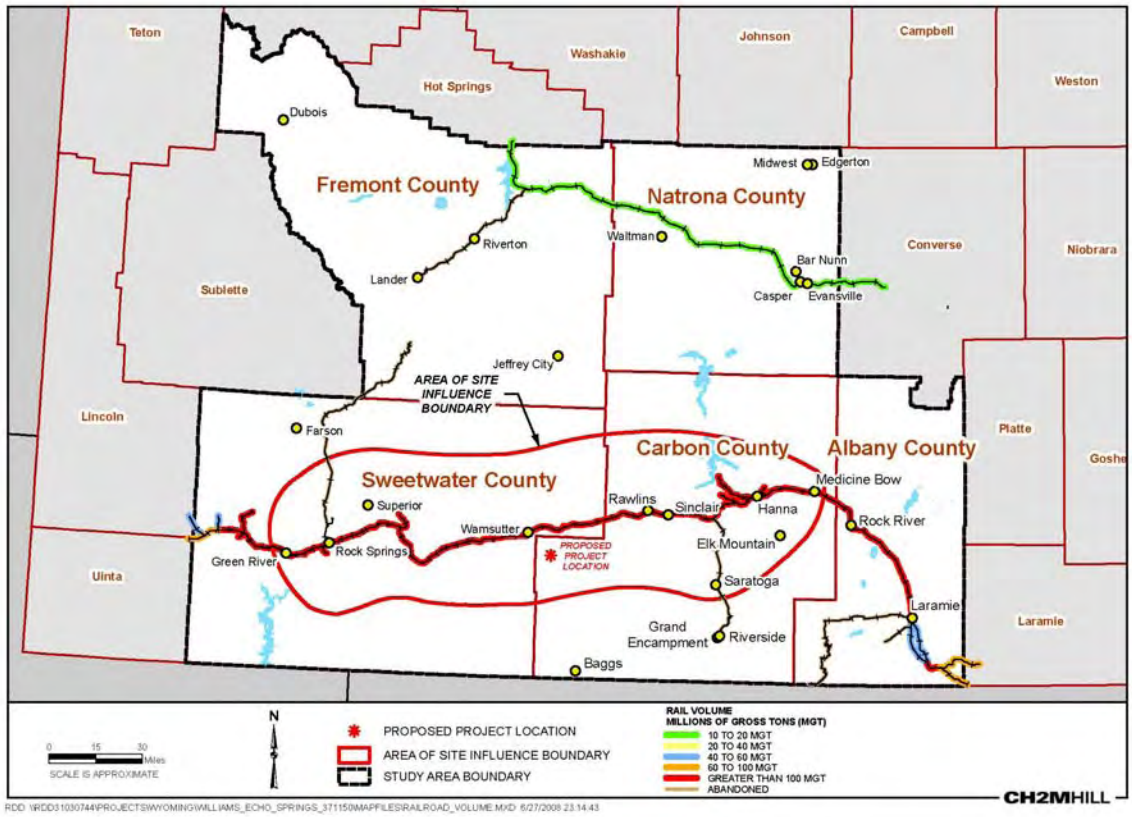

FIGURE 4-46
Rail Volume in the Study Area

4.3.8.2. Review of Transportation Plans to Identify Planned Improvements

Wyoming Department of Transportation (WYDOT) provides most of the transportation planning for the counties within the study area. Activities primarily consist of widening, resurfacing, grading, paving, and bridge repair or replacement.

4.3.8.3 Adjacent Roadway Facilities

The Echo Springs TXP 4 Expansion Project is located off of a dirt road; approximately 7 miles south of I-80 and 4 miles west of WYO 789. This dirt road (hereafter referred to as Williams Road) will serve as the access road to the Project site for trucks and a majority of the personnel vehicles. Crooks Gap Road in Sweetwater County and Williams Road are expected to be used by construction workers staying in Wamsutter and approaching the facility from the west. Williams Road is a two-lane road that tees into WYO 789 on the west. The access route to WYO 789 is I-80. WYO 789 has a Minor Arterial Road classification. No programmed improvements were identified in the Wyoming 2008 State Transportation Improvement Program (STIP) for WYO 789.

4.3.8.4 Potentially Affected Roads and Highways

WYO 789 may be affected by the Project. Personnel traffic from all of the towns except Baggs and Wamsutter will use I-80 to access WYO 789. Personnel traffic from Baggs will use WYO 789 to access the site. Construction truck traffic will use I-80 to access WYO 789. Although I-80 will be used during Project construction, it is not expected to be affected permanently by the Project. I-80 through Wyoming is a major freight route for trucks traveling between Chicago and San Francisco. Nearly half of its volume is semi-trucks, so the road is maintained to accommodate heavy vehicular loads.

During Project construction, roads and highways may be impacted by vehicles hauling materials to and from the site. Contractors will comply with existing federal, state, and county requirements and restrictions to protect the road network and the traveling public. In addition, load limits will be observed at all times to prevent damage to existing paved road surfaces. If necessary, arrangements to transport oversized loads will be coordinated with and approved by WYDOT.

Personnel Access Routes. It is expected that there will be approximately 175 personnel working at the site during the peak construction months of April and May 2010. These personnel are expected to live in various locations and use the following access routes:

- I-80 to WYO 789 – Elk Mountain, Encampment, Hanna, Medicine Bow, Rawlins, Saratoga, Sinclair, Green River, Rock Springs, Superior (168 personnel)
- WYO 789 – Baggs (one personnel)
- Sweetwater County Roads – Wamsutter (six personnel)

It is possible that new hotels will be constructed in Wamsutter resulting in a shift of employees staying in Rawlins and other areas.

Once construction is complete, the gas plant expansion operations will require seven daily personnel. Like the construction period, the site will be accessed from the WYO 789/ Williams Road intersection. It is assumed that all operations personnel live in Rawlins and will drive their own vehicles to the Project site; they will not leave and re-access the site during the middle of the day. It is assumed that all seven personnel will be using I-80 to WYO 789 access route. The personal access routes were based on existing hotel data and the fact the all existing Echo Springs employees currently live in Rawlins.

Truck Access Routes. It is expected that the needed construction materials and plant equipment will be trucked to the site. Once the construction period is over, a minimal amount of light truck traffic is all that is expected to access the site for routine deliveries. Heavy trucks are not expected to routinely access the site during the operations period. All trucks are expected to use I-80 to WYO 789 to access the site.

4.4 Socioeconomic Impact Analysis

The socioeconomic impact analysis evaluates the benefits and impacts of the Project to social and economic resources in the study area and the more restrictive area of site influence. Benefits include those derived from increased tax revenue, direct employment opportunities, and indirect and induced employment benefits.

The analysis of impacts includes effects on the following resources:

- Housing
- Public safety and security
- Health resources
- Municipal services
- Ad valorem and sales and use taxes
- Transportation systems

4.4.1 Construction Workforce Estimate

Most of the potential impacts to socioeconomic resources are directly and indirectly attributable to the influx of non-local workers and expenditures made in the local economy for equipment, materials, and services necessary for implementation of the Project. The estimated number of construction workers by month and calendar quarter is shown in Figure 4-47. Williams anticipates that the onsite construction workforce will vary from less than 100 during the early and late months of the Project schedule to a high of over 150 workers during the peak of construction activities between December 2009 and July 2010. The construction phase of the Project is expected to last approximately 25 months. Much of the foundation work will be concentrated in the second half of 2009 with piping and instrumentation and electrical tasks concentrated throughout 2010. During 2009, the onsite construction workforce will increase from 15 to 160 workers. This approximate number of onsite workers will be maintained through July 2010, after which it would gradually decline through the projected end of construction in March 2011. Table 4-48 illustrates the number of onsite workers broken down by activity.

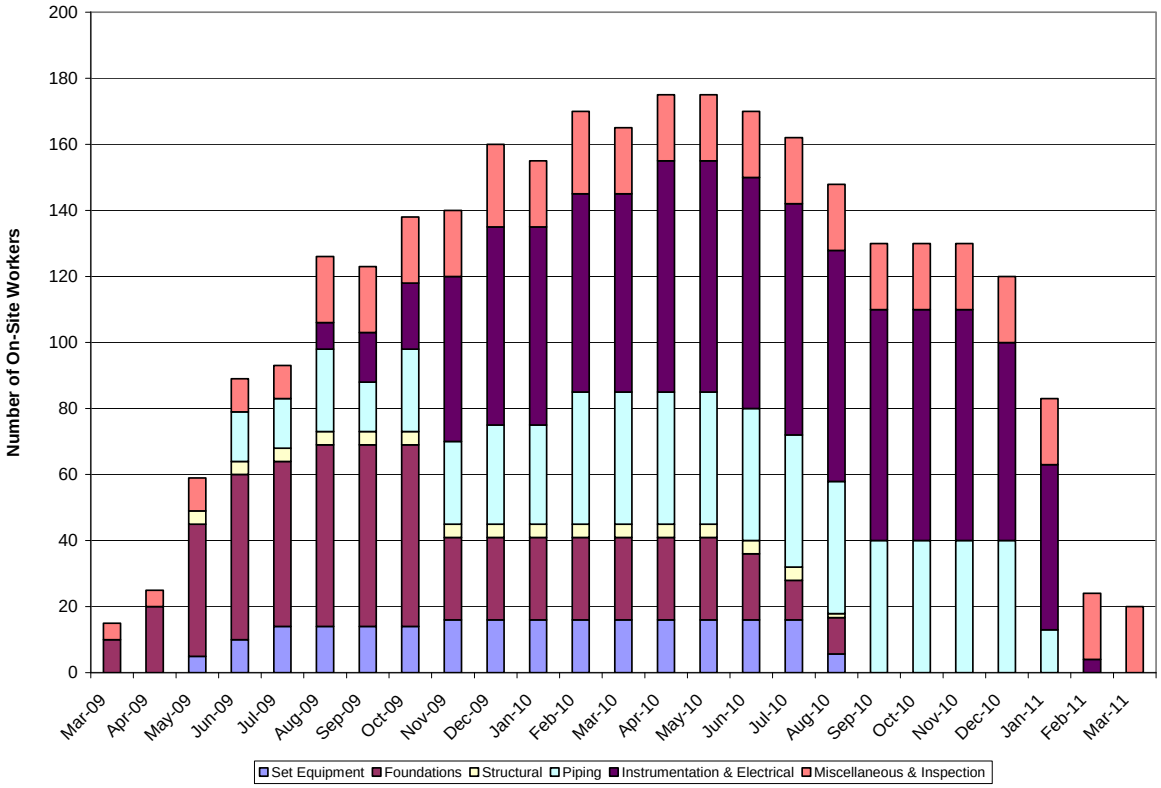

FIGURE 4-47
Construction Phase Onsite Workforce (by Month and Type of Activity)

TABLE 4-48
Williams – Echo Springs Onsite Construction Workforce Personnel Breakdown

Month	Set Equipment	Foundations	Structural	Piping	Instrumentation and Electrical	Miscellaneous and Inspection	Grand Total
Mar-09	0	10	0	0	0	5	15
Apr-09	0	20	0	0	0	5	25
May-09	5	40	4	0	0	10	59
Jun-09	10	50	4	15	0	10	89
Jul-09	14	50	4	15	0	10	93
Aug-09	14	55	4	25	8	20	126
Sep-09	14	55	4	15	15	20	123
Oct-09	14	55	4	25	20	20	138
Nov-09	16	25	4	25	50	20	140
Dec-09	16	25	4	30	60	25	160
Jan-10	16	25	4	30	60	20	155
Feb-10	16	25	4	40	60	25	170
Mar-10	16	25	4	40	60	20	165
Apr-10	16	25	4	40	70	20	175
May-10	16	25	4	40	70	20	175
Jun-10	16	20	4	40	70	20	170
Jul-10	16	12	4	40	70	20	162
Aug-10	6	11	1	40	70	20	148
Sep-10	0	0	0	40	70	20	130
Oct-10	0	0	0	40	70	20	130
Nov-10	0	0	0	40	70	20	130
Dec-10	0	0	0	40	60	20	120
Jan-11	0	0	0	13	50	20	83
Feb-11	0	0	0	0	4	20	24
Mar-11	0	0	0	0	0	20	20

Source: Williams, 2008

Because of the specialized nature of the construction activities and the shortage of skilled crafts persons with appropriate skills in the general study area, Williams anticipates that virtually all workers will originate outside the immediate counties. Because it is anticipated that the vast majority of non-local workers will relocate without families, Williams has undertaken a survey of available hotels, motels, and RV parks within a reasonable daily commute distance from the Project site. The results of this survey are reported in Section 4.4.3.3.

4.4.2 Impact Analysis for Planning Model

A widely used approach for estimating the secondary effects of a project is through economic input-output (I-O) models, and one such recognized model is Impact Analysis for Planning (IMPLAN). IMPLAN is a computer software model that consists of procedures for estimating local I-O models and associated databases. IMPLAN was originally developed by the U.S. Forest Service in cooperation with the Federal Emergency Management Agency (FEMA) and the U.S. Department of the Interior's BLM to assist in land and resource management planning.

4.4.2.1 Regional Economic Analysis

Regional economics encompasses is the study of the economy of a small region, and I-O analysis estimates the dollar value of change in regional economic activity associated with economic linkages and leakages. An I-O analysis can also be viewed as a technique for tracking resources and products within an economy. The economic system, consisting of producers and consumers, is divided into various sectors that are defined in terms of the resources they require as inputs and what they produce as outputs. The quantities of input and output for a given time period, usually expressed in monetary terms, are entered into an I-O matrix to enable one to analyze what happens within and across various sectors of an economy where growth and decline take place, as well as what effects various policies may have.

A number of regional economic analysis modeling systems (consisting of data and analytical software) are available for use in regional economic analysis. They include Regional Economic Models Inc. (REMI), Regional Industrial Multiplier System II (RIMS II), and IMPLAN. These modeling systems all contain computer databases used to create I-O models for any combination of United States counties. For this Project, IMPLAN was used to estimate the indirect and induced impacts associated with the Project.

The IMPLAN package includes: (1) estimates of final demands and final payments for counties developed from government data, (2) a national average matrix of technical coefficients, (3) mathematical tools that help the user build the I-O model, and (4) tools that allow the user to change data, conduct impact analysis, and generate reports.

4.4.2.2 Regional Economic Model

The region of influence (ROI), defined for this IMPLAN model, is synonymous with the study area (i.e., Albany, Carbon, Fremont, Natrona, and Sweetwater counties, Wyoming). Thus, an IMPLAN I-O model was built for the region comprising these five counties and was used to evaluate the regional economic impacts resulting from the construction and operation of the Project. Because the data in IMPLAN are for 2004 and the input estimates are in 2008 dollars, the model results were adjusted to reflect output in 2008. Thus, all estimates reported in this analysis are in 2008 dollars.

4.4.2.3 Regional Economic Model Construction and Operation Impacts

In addition to providing a stimulus in the form of expenditures on materials and supplies (referred to as procurements), the proposed Project would employ construction workers. These construction workers are expected to spend a fraction of their income (referred to as personal consumption expenditures [PCE]) in the counties of the ROI, thus stimulating

additional output in the various sectors that provide consumer goods and services. As a result of both Project procurements and PCE of construction workers, the proposed Project is expected to result in a temporary increase in employment and income within the ROI during the multi-year construction period. Construction impacts are reported for each separate year.

A number of assumptions are used in the IMPLAN I-O model. Expenditures made in the local economy by temporarily re-locating construction workers would be mainly for the following goods and services: lodging, meals and incidental expenses, entertainment and recreation, and transportation. Per diem amounts for lodging and meals and incidental expenses are those allowed under federal contracts: $78 and $49, respectively. Daily expenditures for recreation and entertainment are assumed to be $50.00 and the average round-trip daily commute is estimated to be 128 miles. This is a weighted average based on an estimated allocation of workers to surrounding places of temporary residence: 35 percent of workers commuting from the Rawlins area, 33 percent from the Rock Springs area, 18 percent from the Green River area, and less than 4 percent from each of number of smaller communities (Wamsutter, Saratoga, Baggs, and Sinclair). Fuel consumption is assumed to be 15 miles per gallon (mpg) with a fuel price of $3.50 per gallon.

4.4.2.4 Direct Benefits

It is anticipated that the Project would employ about 100 FTE workers during 2009, 190 FTE during 2010, and 12 FTE during 2011. During the operations phase of the Project, seven jobs would be associated directly with the upgrades made to the facility.

4.4.2.5 Secondary Benefits

Construction of the Project would result in secondary economic impacts (indirect and induced) within the five-county study area. The Project is expected to result in annual indirect and induced employment of 18 jobs in 2009; nine jobs in 2010; and two jobs in 2011. These additional jobs result from Project-related procurements in the study area as well as non-local construction workers PCE, the latter mostly on accommodations, food services, recreation, and transportation. A summary of IMPLAN model output values is shown in Table 4-49.

TABLE 4-49
IMPLAN Model Output Values

Construction Phase:	2009	2010	2011
Employment (FTE):			
Direct	100	190	12
Indirect	9	8	0
Induced	9	1	2
TOTAL	118	199	14

Source: CH2M HILL, 2008

Following completion of the Project, it is anticipated that annual operations and maintenance of the newly installed equipment would require seven new positions. It is

likely that these positions would be filled by local workers already resident in the study area. Virtually no expenditures for materials would be sourced locally. Secondary employment effects would, thus, be attributable to two induced jobs, giving a total employment effect of nine jobs within the study area during operations.

4.4.2.6 Wage and Benefits for Construction and Operations

The Research and Planning section of the Wyoming Department of Employment, in cooperation with the federal Bureau of Labor Statistics (BLS), conducts an Occupational Employment Statistics (OES) Wage Survey that estimates occupational employment and wages. Data obtained from polled establishments are used to estimate occupational employment and wage rates for Unemployment Insurance (UI) covered wage and salary jobs in non-farm establishments. Wages for the OES Wage Survey include base pay rates, cost-of-living allowances, guaranteed pay, hazard pay, incentive pay, commissions, piece rates and production bonuses, length-of-service allowances, on-call pay, and portal-to-portal pay. The hourly wage estimates are calculated using a year-round, full-time figure of 2,080 hours per year (52 weeks times 40 hours).

4.4.2.7 Employee Wage Estimates

Rule I Section 7(h)(ii) – Annual Payroll. Estimates shall be provided of the number of employees needed to complete the construction and operation of the facility by the applicant, its contractors, and subcontractors and shall include annual payroll.

Based on information compiled in the 2005 Wyoming Wage and Benefit Summary (Wyoming Department of Employment, 2006), hourly wages are presented for skilled labor categories that are expected to be present throughout the construction phase. Table 4-50 provides a breakdown of these hourly wages.

TABLE 4-50
Average Hourly Wages per Occupation Classification (in $US) Based on 2005 Occupational Employment Statistics Data

Occupation Classification	Mean Wage	Mean of Lower 1/3	Mean of Upper 2/3	25th percen tile	50th percen tile (median)	75th percen tile
Crane and Tower Operators	19.37	15.02	21.54	16.45	18.90	21.07
Excavating and Loading Machine and Dragline Operators	19.07	13.98	21.62	15.05	17.45	24.21
Industrial Truck and Tractor Operators	16.94	11.20	19.81	11.96	14.34	23.52
Cement Masons	13.51	10.14	15.20	11.37	13.94	15.84
Electricians	21.20	15.50	23.78	16.93	20.59	25.15
Operating Engineers and other Construction Equipment Operators	18.17	13.15	20.69	14.14	16.96	22.48
Structural Iron and Steel Workers	13.12	11.34	14.01	11.35	12.34	13.34
Mining and Geological Engineers	31.99	23.12	36.43	25.79	33.03	38.84
Construction Laborers	12.02	9.68	13.19	10.00	11.40	13.22

TABLE 4-50
Average Hourly Wages per Occupation Classification (in $US) Based on 2005 Occupational Employment Statistics Data

Occupation Classification	Mean Wage	Mean of Lower 1/3	Mean of Upper 2/3	25th percen tile	50th percen tile (median)	75th percen tile
Crane and Tower Operators	19.37	15.02	21.54	16.45	18.90	21.07
1st Line Supervisors/Managers of Construction Trades and Extraction Workers	26.22	17.24	30.71	19.07	23.98	31.95
Industrial Machinery Mechanics	20.57	13.87	23.92	15.73	19.60	24.74

Source: Wyoming Department of Employment, 2006

A review of Table 4-50 shows that mean wages for the construction occupations in 2005 dollars ranged from a low of $12.02 per hour for construction laborers to a high of $31.99 for geological engineers. If the 2005 mean wages are applied over a 2,080-hour work year, annual salaries without benefits would range from $25,002 to $66,539. It is important to note that hourly wage and benefit costs showed considerable variation across Wyoming industries and geographies in 2005. Therefore, these hourly labor wages are solely depicted to show what type of data were included in the 2005 report and to prepare an estimate of salary for a full year of employment.

4.4.2.8 Project Employee Benefits Estimates

Rule I Section 7(h)(iii) – Expected Benefits. Estimates shall be provided of the number of employees needed to complete the construction and operation of the facility by the applicant, its contractors, and subcontractors and shall include expected benefits, if any, to be provided including housing allowance, transportation allowances, and per diem allowances.

Table 4-51 provides a statewide analysis of relationships of compensation components for all industries as well as separately for the construction sector and trade, transportation, and utilities sector in the state.

TABLE 4-51
Percentage of Full- and Part-Time Wyoming Employees Offered Selected Benefits by Industry, 2005

	All Industries		Construction		Trade, Transportation, and Utilities	
	Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees
Child Care	5.7	0.4	4.9	0.0	4.0	0.0
Dental Plan	67.8	9.4	42.9	5.8	68.0	0.5
Dependent Health Insurance	74.4	9.6	56.1	6.0	75.7	0.5
Short-Term Disability	30.8	1.8	16.9	5.8	24.7	0.5
Educational/Tuition Assistance	46.6	24.7	17.8	5.9	38.6	14.7
Flexible Spending	45.5	17.7	15.9	1.5	40.4	11.1

TABLE 4-51
Percentage of Full- and Part-Time Wyoming Employees Offered Selected Benefits by Industry, 2005

	All Industries		Construction		Trade, Transportation, and Utilities	
	Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees	Full-Time Employees	Part-Time Employees
Account						
Health Insurance	78.0	11.3	60.6	8.0	79.2	0.9
Hiring Bonus	19.9	5.4	6.1	1.3	27.4	10.8
Life Insurance	66.8	8.1	42.1	6.2	68.5	1.9
Long-Term Disability	45.1	5.7	12.6	0.1	32.2	0.1
Paid Holidays	80.6	25.7	55.4	5.2	83.7	20.2
Paid Personal Leave	33.3	10.2	20.1	1.0	28.9	2.6
Paid Sick Leave	51.7	19.7	22.8	0.0	48.6	2.9
Paid Vacation	74.8	21.3	65.5	10.3	76.5	9.7
Retirement Plan	75.2	28.3	54.7	9.9	70.5	6.0
Operate in Shifts	44.8	44.6	4.0	0.7	40.9	39.8
Shift Differentials	45.8	23.0	34.1	0.0	67.3	49.3
Vision Plan	39.3	4.4	19.6	0.0	43.1	0.1

Source: Wyoming Department of Employment, 2006

According to the Wyoming Department of Employment benefits analysis, 88.5 percent of total compensation in 2005 was wages and salaries followed by insurance contributions (7.5 percent) and retirement plans (4.0 percent). The estimate of employee benefits during both construction and operation is approximately 25 percent of paid salary or hourly wage. Based on a review of Table 4-51, benefits paid to employees are expected to vary by contractor/subcontractor and status of full-time versus part-time positions.

4.4.3 Housing Impact Analysis

Rule I Section 7(iv) – Housing. An analysis of housing facilities by type, including a quantitative evaluation of the number of units in the area and a discussion of vacancy rates, costs, and rental rates of the units. The analysis should include geographic location, including a quantitative evaluation of the number of units in the area required by the construction and operation of the proposed industrial facility and a discussion of the effects of the proposed industrial facility on vacancy rates, costs, and rental rates of the units. Specific housing programs proposed by the applicant should be described in detail.

The construction phase of the Project would span a 21- to 25-month period. For purposes of this housing analysis, it is assumed that all workers would be non-local and originate outside the study area.

4.4.3.1 Construction Workforce Housing Plan

Rule I Section 7(xiii)(F) - Housing. Preliminary evaluations of or plans and proposals for alleviating social or economic environmental impacts upon local government or any special districts which may result from the proposed facility, which evaluations, plans and proposals shall cover housing.

Wamsutter LLC is committed to developing housing plan options for the Project's temporary construction workforce during the period of construction from March 2009 until March 2011. Due to the relatively small non-local workforce and short duration of the Project, the Wamsutter LLC has focused its efforts on a "room-availability" analysis involving hotels and motels in the Rawlins and Wamsutter areas. Hotels and motels provided Wamsutter LLC with non-binding letters indicating their forecast of available rooms. This analysis found that a sufficient number of rooms will be available to the Project's construction workforce.

Number of Units Required. It is estimated that a total of 175 single non-local construction workers would relocate to the area of site influence during the peak employment months of April and May 2010. Because of the relatively short duration of the construction period (21 to 25 months), it is assumed that these non-local workers would not be accompanied by family members. Thus, the total number of temporary residents in the area of site influence in the peak construction month would total 175 persons. It is assumed that all workers would secure temporary housing accommodations for the duration of their involvement in the Project.

It is assumed that half of the non-local workers would share accommodations (hotel/motel room, apartment, mobile home, or single-family rental house) with the remaining half occupying units singly. Thus, the aggregate demand by non-local workers would total 130 units of accommodation.

Housing Options and Commitments by Location and Type. To accomplish a successful and implementable housing plan, Wamsutter LLC and their Contractor (OPD) have conducted an extensive hotel/motel analysis of the region. Availability was determined by contacting hotel/motel proprietors in the Rawlins area and compiling a listing of hotel/motels and available accommodations. Refer to Table 4-52 for the locations and number of rooms identified. These hotels and motels provided Wamsutter LLC with non-binding letters indicating their forecast of available rooms (see Table 4-53 and Appendix B).

TABLE 4-52
Wamsutter LLC TXP4 Housing Plan Depicting Housing Options and Commitments by Location and Type

Housing Option	Name	Location	Units	Bed/Bedroom Count	Room Availability (Maximum # of Accommodations)
Motel	America's Best Value Inn	Rawlins	40	1 or 2	40 (80)
Motel	Key Motel	Rawlins	32	1	32
Motel	Travelodge	Rawlins	45	1	45
Motel	EconoLodge	Rawlins	25	1	25
Motel	Microtel	Rawlins	59	1	15

TABLE 4-52
Wamsutter LLC TXP4 Housing Plan Depicting Housing Options and Commitments by Location and Type

Housing Option	Name	Location	Units	Bed/Bedroom Count	Room Availability (Maximum # of Accommodations)
	Inns and Suites				
Motel	Holiday Inn Express	Rawlins	72	1	15
Motel	Microtel Inns and Suites	Wamsutter	59	1	20
		Total	332		192 (272)

Source: Optimized Process Designs, 2008.

4.4.3.2 Effects on Vacancies of Local Motel/Hotels and Recreational Vehicle Parks

The supply of temporary accommodations can include hotel and motel rooms, apartments, single-family rental housing units, mobile homes, and RV sites. Taking a conservative approach to estimating the potential supply of available temporary accommodations in the study area, a vacancy rate of 10 percent is assumed for hotel/motel rooms and RV sites. As shown in Table 4-53, it is estimated that there would be about 300 vacant hotel/motel rooms available in the nearby communities of Rawlins, Saratoga, Green River, and Rock Springs in addition to about 40 RV sites for a total of about 340 temporary accommodation units. Using temporary housing options close to the construction site, the potential supply of 340 temporary accommodation units would be adequate to fulfill the demand for 130 units of accommodation for the non-local workforce (see Section 4.4.3.1). Should the planned development of additional hotel/motel rooms in Wamsutter (the closest community to the Project site) materialize; the need for temporary accommodations at the communities listed below would likely decline.

TABLE 4-53
Potentially Available Hotel and RV Accommodations

City	County	No. of RV Sites	No. Available RV Sites	No. of Hotel Rooms	No. Available Hotel Rooms
Rawlins	Carbon	219	22	1,138	114
Saratoga	Carbon	25	3	122	12
Green River	Sweetwater	78	8	266	27
Rock Springs	Sweetwater	112	11	1,488	149
TOTAL		**434**	**44**	**3,014**	**302**

Source: CH2M HILL, 2008

4.4.3.3 Effects on Apartments and Rental Home Vacancy Rates

The permanent rental housing natural vacancy rate can vary from place to place and over time; however, a commonly referenced level is 5 percent. The natural vacancy rate can be thought of as the level of rental vacancies needed to accommodate normal turnover rates

and search times for rental units in the market. The natural vacancy rate is always greater than zero because factors, such as imperfect information, cause tenants to spend time searching for new units and landlords to hold some units off the market for a period of time.

As of June 2007, rental housing vacancy rates in the study area counties were less than the natural vacancy rate: 3.1 percent in Albany County, 2.0 percent in Carbon County, 1.4 percent in Fremont County, 0.9 percent in Natrona County, and 1.8 percent in Sweetwater County. It is possible that some of the non-local workers would find accommodations in permanent housing units (i.e., apartments and single-family houses). However, given the extremely low vacancy rates, the demand for housing would most likely be met by temporary accommodations.

Specifically for this report, inquiries were made to all 20 major hotels and motels in the Rawlins area regarding room rates and availability as well as three major RV parks regarding the availability of sites. Eight hotels/motels and two RV parks responded and quoted rates they could offer to Project workers and the potential number of available rooms. A listing of the entities contacted and those responding is provided in Table 4-54. Appendix B contains copies of the correspondence.

TABLE 4-54
Hotels, Motels, and RV Parks Contacted and Responses

Facility	No. of Rooms	Response Received
Hotel/Motel		
America's Best Value Inn	81	Yes
Best Western Cotton Tree Inn	122	No
Budget Inn	86	No
Comfort Inn	65	Yes
Days Inn	118	No
Econo Lodge	36	Yes
Express Inn	50	No
First Choice Inn	48	No
Holiday Inn Express	72	Yes
Jade Lodge	24	Yes
Key Motel	32	Yes
LaBella Motel		No
Microtel Inn	60	Yes
Motel 7		No
Oak Tree Inn	63	No
Quality Inn	131	No
Super Motel	47	No
Sunset Motel		No

TABLE 4-54
Hotels, Motels, and RV Parks Contacted and Responses

Facility	No. of Rooms	Response Received
The Best Motel	28	No
Travelodge	60	Yes
RV Park		
KOA Campground		Yes
RV World Campground		No
Western Hills Campground		Yes

Source: Williams, 2008

4.4.4 Public Safety (Law Enforcement and Fire Services)

Based on county-specific LOS ratios of between 2.1 and 3.6 full-time law enforcement officers per 1,000 residents, the addition of 175 persons to the study area at the peak month would have a negligible effect on the level of service provided by existing law enforcement personnel. The number of reported index (Part 1) crimes could increase by between four and eight during 2010 and the number of additional arrests for Part 1 offenses could increase by about one.

Part 2 offenses are much more prevalent than Part 1 offenses and are generally considered to be of an anti-social nature. The number of additional arrests for these types of crimes could number between 75 and 95 in 2010.

An influx during the peak construction month of 175 temporary residents would have a negligible effect on the existing level of service provided by fire protection agencies.

4.4.5 Health Care

The counties of the study area have LOS values of between 84 and 232 physicians per 100,000 residents, and the potential addition of 175 temporary residents would have a negligible effect on physician service levels. For the purposes of this analysis, an estimate for the year-round construction workforce FTE of about 190 could be responsible for between 80 and 105 emergency room visits annually. This potential increase would have a negligible effect on the hospitals in the study area, which registered between 6,900 and 34,000 emergency room visits annually.

4.4.6 Municipal Services

It is expected that in-migrating construction workers would reside in hotel/motels and RVs located at established sites as well as in existing rental housing in the area of site influence. The addition of a maximum of 175 peak-month residents could increase the demand for municipal services such as water, wastewater, and solid waste. However, such a modest increase in population for this short duration would have negligible effects on the provision of these services.

4.4.6.1 Solid Waste

Any quantities of waste materials generated by activities at the Project site will be disposed of in an appropriate manner at appropriate disposal sites. It is expected that all additional waste materials will be disposed of as currently: at a permitted landfill in Rock Springs in Sweetwater County.

The Sweetwater County Landfill was contact to verify that the solid waste from the Echo Springs Gas Plant TXP4 Expansion Project would not cause any issues due to capacity of the landfill. Mr. Herman (with the Sweetwater County Landfill) stated that the estimated volume of 5-10 cubic yards of construction debris per week for approximately 2 years would not be a problem. Mr. Herman said the expected life of the existing facility is 40 years and they have an additional 300 acres that will be utilized after the current landfill capacity is reached at or near the 40 year life of the current facility. The County is also in the process of planning for development of an Integrated Solid Waste Plan with the goal of the Sweetwater County Solid Waste Disposal District becoming a regional facility to accommodate this type of development activity in the future.

The location of the Sweetwater County Landfill is on State Highway 191, approximately 2.5 miles south of Interstate 80 at Exit 99. The nearest city is Rock Springs, Wyoming, located approximately 3.5 miles northwest of the landfill.

4.4.6.2 Hazardous Wastes

Any potentially hazardous wastes associated with construction and operation of the facility will be disposed of at appropriate, licensed facilities. Any hazardous materials will be used in a manner that is protective of human health and the environment and will comply with all applicable local, state, and federal environmental laws and regulations. Accidental releases of hazardous materials (e.g., vehicle fuel during construction) will be prevented or minimized through proper containment of these substances during use and transportation to the site. Any oily waste, rags, or dirty or hazardous solid waste will be collected in sealable drums and removed for recycling or disposal by a licensed contractor.

In the unlikely event of an accidental hazardous materials release, any spill or release will be cleaned up and the contaminated soil or other materials disposed of and treated according to applicable regulations and facility Standard Operating Procedures. Spill kits, containing items such as absorbent pads, will be located on equipment and in temporary storage facilities onsite to respond to accidental spills, if any were to occur. Employees handling hazardous materials will be instructed in the proper handling and storage of these materials as well as where spill kits are located.

4.4.6.3 Non-Hazardous Waste Materials

Solid waste materials (e.g., excess construction materials) will be generated during construction. Construction wastes primarily will consist of concrete waste, wood waste from wood forms, and scrap metal steel. Some additional wastes could include erosion control materials, such as straw bales and silt fencing, and packaging materials for equipment. When feasible, these wastes generated during construction will be recycled. Steel scrap will be separated and recycled to the extent feasible. Wood from concrete forms will be reused when possible and then recycled.

Portable toilets will be provided for onsite sewage handling during construction and will be pumped and cleaned regularly by the construction contractor. No other wastewater will be generated during construction.

4.4.7 Transportation

In order to assess the potential traffic impacts associated with the proposed Project, existing and future traffic conditions were analyzed both with and without the Project for three time periods: current, during construction, and during operations. The Institute of Transportation Engineers' Trip Generation Manual, the Federal Highway Administration's Highway Capacity Manual, and the WYDOT planning department were used as resources for this analysis.

The operating conditions, or LOS, provided by WYO 789 and its intersection with Williams Road were assessed using Highway Capacity Manual two-lane highway and un-signalized intersection methodologies. LOS is a term used to qualitatively describe operating conditions in a traffic stream and motorists' perceptions of those conditions. Six LOS classifications are given a letter designation from A to F with A representing the best operating conditions and F the worst. LOS D is typically considered desirable for peak-hour operations.

For two-lane highways, LOS is defined in terms of average travel speed and percent time spent following another vehicle. For un-signalized intersections, LOS is defined in terms of average delay per vehicle for the stop-controlled movements. The method incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side street stop-controlled intersections, delay is typically represented in seconds for each movement from the minor approaches and the left turns from the major street.

4.4.7.1 Existing Peak-Hour Levels of Service

Traffic volumes and roadway/intersection geometries are inputs to the analysis methodologies. WYDOT provided 2007 and 2017 annual average daily traffic (AADT) volumes and the number of trucks for WYO 789. An annual growth factor and truck percentage were calculated from these two volumes and applied to the 2007 volumes to determine the 2008 volumes for the existing conditions analysis. The directional distribution on the highway is assumed to be a 60/40 split per the Highway Capacity Manual default value. The peak hour is estimated to be 10 percent of the daily volume for WYO 789. Based on this assumption, the peak-hour volume on the highway will be the same for both the morning and evening peak hour. Therefore, 1 peak hour is analyzed for the highway operations.

The peak-hour, turn-movement volumes at the WYO 789 – Williams Road intersection were estimated based on several assumptions. Due to limited information, the analysis assumed an average daily traffic volume of 100 vehicles on Williams Road based on a count for Carbon County Road 1 (CCR1) near Medicine Bow. The distribution from Williams Road to WYO 789 is assumed to be 80 percent to the north and 20 percent to the south. The truck percentage is assumed to be 28 percent to match the WYO 789 data provided by WYDOT. With the assumption of an equal directional distribution in the peak hours, the turning movement volumes to and from Williams Road are the same in each peak hour. Due to the nature of the land uses this road serves, it is assumed that its background volume

will not grow over time. These assumptions result in similar morning and evening peak-hour, turn-movement volumes at the intersection.

Table 4-55 shows the existing highway and intersection volumes and corresponding LOS. The intersection LOS is shown for both morning and evening peak hours.

TABLE 4-55
Existing Peak-Hour Operating Conditions (Year 2008)

Transportation Facility	Average Daily Volume	Peak-Hour Volume	Percent Trucks	Peak-Hour LOS
Highway				
WYO 789	1450	145	28	A
Intersection				
WYO 789 and Williams Road				
Northbound Left	N/A	2/2	0	A/A
Eastbound Left	N/A	8/8	28	A/A

Source: CH2M HILL, 2008
N/A = Not Applicable

The facilities operate at very desirable levels of service during the peak hours. On the highways, the average travel speed is relatively high, and the percent time spent following another vehicle is correspondingly low. At the intersections, the left-turning movements experience an average delay of 10 seconds or less per vehicle. Hence, there were no roadways or intersections identified in the vicinity of the Project that are presently over capacity.

4.4.7.2 Construction Period Peak-Hour Levels of Service

The potentially affected highway and intersection were analyzed with and without the Project to determine impacts to the facilities due to construction of the Project. The peak construction period will occur in the year 2010, so the analysis year is 2010.

Background Analysis. The highway volume was grown by the same annual growth rate as used previously to obtain 2010 background volumes. Due to the nature of the land uses served by Williams Road, the volume not related to the Project is assumed to remain the same as the 2008 volume for this intersection. Likewise, the analysis assumes the truck percentage does not change. Table 4-56 shows the 2010 background highway and intersection left-turn volumes and corresponding LOS. The intersection LOS is shown for both morning and evening peak hours.

TABLE 4-56
Construction Period Peak-Hour Background Operating Conditions (Year 2010)

Transportation Facility	Average Daily Volume	Peak-Hour Volume	Percent Trucks	Peak-Hour LOS
Highway				
WYO 789	1590	160	28	A
Intersection				
WYO 789 and Williams Road				
Northbound Left	N/A	2/2	0	A/A
Eastbound Left	N/A	8/8	28	A/A

Source: CH2M HILL, 2008
N/A = Not Applicable

The facilities operate at very desirable levels of service during the peak hours. On the highways, the average travel speed is relatively high, and the percent time spent following another vehicle is correspondingly low. At the intersection, the left-turning movements experience an average delay of 10 seconds or less per vehicle. The volumes and operations are similar to the existing condition because the background volume growth is minimal over this 2-year period.

Total Analysis. Adding the site-generated traffic to the background traffic yields the volumes for the analysis of the Project construction period. The trip generation and distribution process used the following assumptions to calculate the additional highway and turn movement volumes due to the Project during the construction phase:

- Construction will occur in one shift during the day.
- All personnel arrive in the morning peak hour and depart in the evening peak hour.
- Personnel will not leave the site during the middle of the day.
- The average vehicle occupancy is 1.3 persons per vehicle.
- All truck trips access the site from the north on WYO 789.

These assumptions result in the estimation of an additional 129 cars traveling to and from the Project site on WYO 789 from the north and through the WYO 789 – Williams Road intersection during each of the peak hours. In addition, two trucks would use WYO 789 from the north and its intersection with Williams Road to access the Project site in each peak hour. From the south, one additional car will travel to and from the Project site on WYO 789 and its intersection with Williams Road during the peak hours.

Table 4-57 shows the 2010 total highway and intersection left-turn volumes and corresponding LOS for the construction period. The WYO 789 truck percentage decreases because most of the additional construction-generated volume on WYO 789 is comprised of cars. Two truck percentages are shown for the turn movements in which the percent varies between the morning and evening peak hours due to construction-generated traffic. The intersection LOS is shown for both morning and evening peak hours.

TABLE 4-57
Construction Period Peak-Hour Total Operating Conditions (Year 2010)

Transportation Facility	Average Daily Volume	Peak-Hour Volume	Percent Trucks	Peak-Hour LOS
Highway				
WYO 789	1890	290	17	B
Intersection				
WYO 789 and Williams Road				
Northbound Left	N/A	3/2	0	A/A
Eastbound Left	N/A	10/139	40/3	B/B

Source: CH2M HILL, 2008
NA = Not Applicable

The facilities operate at desirable levels of service during the peak hours. However, WYO 789 will experience a decrease in LOS from A to B during the peak construction period. Even though the additional vehicles generated by the construction Project cause a 10 percent increase in the time spent following, the average travel speed decreases by less than 2 miles per hour in the peak hours. This condition where the passing opportunities decrease will only occur during the temporary construction period.

The eastbound left turn experiences a decrease in LOS from A to B during both peak hours. However, the actual average delay increase is less than 1 second per vehicle. The average delay in the background conditions was 9.5 seconds, which is close to the LOS A/B threshold of 10 seconds of delay per vehicle. This minimal increase in delay will only occur during the construction period.

4.4.7.3 Operations Period Peak-Hour Levels of Service

The potentially affected highway and intersection were analyzed with and without the Project to determine impacts to the facilities due to the operations of the Project once construction is complete. The operations will begin in 2011, so the analysis year is 2011.

Background Analysis. Highway volumes were grown by the same annual growth rate as used previously in the analysis to obtain 2011 background volumes. Due to the nature of the land uses served by Williams Road, the volume not related to the Project is assumed to remain the same as the 2008 volume for this intersection. Hence, the turn movement volumes at the intersection remain the same while the through movements on WYO 789 grow a little for the without Project or background scenario. It is assumed the truck percentage does not grow.

Table 4-58 shows the 2011 background highway and intersection left-turn volumes and corresponding LOS. The intersection LOS is shown for both morning and evening peak hours.

TABLE 4-58
Operations Period Peak-Hour Background Operating Conditions (Year 2011)

Transportation Facility	Average Daily Volume	Peak-Hour Volume	Percent Trucks	Peak-Hour LOS
Highway				
WYO 789	1670	170	28	B
Intersection				
WYO 789 and Williams Road				
Northbound Left	N/A	2/2	0	A/A
Eastbound Left	N/A	8/8	28	A/A

Source: CH2M HILL, 2008
NA = Not Applicable

The facilities operate at very desirable levels of service during the peak hours. On the highway, the average travel speed is relatively high and the percent time spent following another vehicle correspondingly low. At the intersection, the left-turning movements experience an average delay of 10 seconds or less per vehicle. The volumes and operations are similar to the existing and construction background conditions because the background volume growth is minimal over this 3-year period.

Total Analysis. Adding the traffic generated by the site during operations to the background traffic yields the volumes for the analysis of the operations period with the Project. The trip generation and distribution process uses the following assumptions to calculate the additional highway and turn movement volumes due to the operation of the Project:

- Workforce will operate in one shift during the day.
- All personnel will travel in their own vehicles to the Project site.
- Personnel will not leave the site during the shift.
- One truck delivery, or two truck trips, will occur in each peak hour.
- All truck trips will use WYO 789 from the north to access the site.

These assumptions result in the estimation of an additional seven cars and one truck traveling to and from the Project site on WYO 789 from the north and through the WYO 789 – Williams Road intersection during each of the peak hours.

Table 4-59 shows the 2011 total highway and intersection left-turn volumes and corresponding LOS. The intersection LOS is shown for both morning and evening peak hours. The intersection truck percentages vary from the background conditions because the operations add two truck trips in the peak hours for general deliveries, which doubles the number of trucks assumed for the background conditions.

TABLE 4-59
Operations Period Peak-Hour Total Operating Conditions (Year 2011)

Transportation Facility	Average Daily Volume	Peak-Hour Volume	Percent Trucks	Peak-Hour LOS
Highways				
WYO 789	1690	175	28	B
Intersections				
WYO 789 and Williams Road				
Northbound Left	N/A	2/2	0	A/A
Eastbound Left	N/A	9/16	33/19	A/A

Source: CH2M HILL, 2008
NA = Not Applicable

The facilities operate at very desirable levels of service during the peak hours. On the highway, the average travel speed remains relatively high, and the percent time spent following another vehicle is correspondingly low. At the intersection, the left-turning movements experience an average delay of 10 seconds or less per vehicle. Since they have excess capacity, the additional volume generated by the Project operations does not decrease the level of service or degrade the operational performance of the adjacent roadway facilities.

4.4.7.4 Conclusion

The additional vehicle and truck trips generated by the construction and operation of the Project will have a minimal impact on the operations of the adjacent roadway network. WYO 789 and its intersection with Williams Road will experience a temporary decrease in level of service during the peak construction period for 2 hours a day. However, the resultant increased travel time during these 2 hours will not be a permanent condition and adding capacity to the facility is not recommended. Once the peak is over, the facilities will continue to operate at desirable levels of service as they do currently. Thus, no roadway capacity improvements are recommended for WYO 789 or its intersection with Williams Road.

4.4.8 Taxes

The benefits related to the Project from a tax perspective would occur based primarily on the ad valorem taxes that would be collected over the life of the Project. Additionally, in conjunction with associated ancillary activities, as discussed below, state and local tax revenues would be generated during construction and operation of the proposed facility. Although some of these tax revenues will be distributed on a local level, the state controls such distribution.

4.4.8.1 Ad Valorem Taxes

Rule I Section (7)(vii)(B) – Ad Valorem Taxes. An estimate of the cost of components of the industrial facility, which will be included in the assessed value of the industrial facility for purposes of ad valorem taxes for both the construction and operations periods. This estimate should include a

breakdown by county if the components of the industrial facility will be located in more than one county.

Ad valorem taxes support a variety of county and municipal operations including airports, fire protection, hospitals, libraries, museums, public health, recreational systems, special districts, and education. Assessed property values are the basis for ad valorem taxes. Property values related to the Project are annually determined on a centralized basis by the State Department of Revenue (the Department).

It is the Department's role to estimate the fair market value (FMV) of the improved facility, which includes the value of the land and improvements. It is the owner's responsibility to provide the Department with all necessary information enabling them to make this determination. Developments are taxable prior to their completion and operation, especially in the case of multi-year construction schedules. Under such circumstances, the owner provides the Department with cumulative construction costs, which are then incorporated into their appraisal.

After the Department determines the FMV of the development, the assessed value is stated as 11.5 percent of this value. The assessed value is then allocated to the county within which the Project is located, and then the county applies the property tax levy (for the tax district within which the Project is located) to calculate the annual property taxes due. The annual ad valorem tax estimate is shown in Table 4-60.

TABLE 4-60
Estimate of Ad Valorem Taxes Paid Per Year

	2010	2011 and beyond
Annual	$400,000	$1,500,000

Source: Williams, 2008

4.4.8.1 Sales, Use, and Lodging Taxes

Rule I Section 7(vii)(A) – Sales and Use Taxes. An estimate of the cost of the industrial facility subject to sales and use taxes and expected payments by quarter for the construction period. This estimate should include a breakdown by county if the components of the industrial facility will be located in more than one county.

The State of Wyoming levies a state sales tax of 4 percent on a wide array of goods and services purchased within the state. The use tax is a companion to the sales tax and is imposed upon goods purchased tax-free outside Wyoming for use in Wyoming. Collected taxes are shared between the state (69 percent) and counties (31 percent). Counties can levy additional sales and use taxes: general purpose option tax of 1 percent, specific purpose option tax of 1 percent, and lodging tax of up to 4 percent on hotel and motel room charges.

The estimated sales and use taxes paid on the materials purchased for the construction of the Project could total $1.7 million in 2009 as shown in Table 4-61. During 2009, expenditures on equipment, materials, and supplies could approach $35 million.

TABLE 4-61
Estimate of Sales and Use Tax Revenues Accruing to Local Governments from Purchase of Equipment and Materials During Construction

	2008	2009	2010
State Tax (4%)	$1,200,000	$1,400,480	$175,000
Carbon County General Purpose Option Tax (1%)	$300,000	$350,120	$45,000
Annual Total	$1,500,000	$1,750,000	$220,000

Source: Williams, 2008.

In addition to sales and use taxes assessed against materials purchased for the construction of the Project, local tax revenues would accrue from the sale of goods and services to non local workers. It is possible that tax revenues totaling over $325,000 over the 3-year construction period would accrue to Carbon and Sweetwater counties combined. The sources of these potential tax revenues are shown in Table 4-62. These estimates are based on the assumption that expenditures by non-local workers are distributed between Carbon and Sweetwater counties in the following proportions: 45 percent and 55 percent, respectively.

TABLE 4-62
Estimate of Tax Revenues Accruing to Local Governments from Non-Local Worker Expenditures

	2009	2010	2011	2009-2011
Carbon County				
State Tax	$15,023	$28,055	$1,913	$44,992
General Purpose Option	$12,115	$22,625	$1,543	$36,284
Specific Purpose Option	$0	$0	$0	$0
Lodging	$14,663	$27,384	$1,868	$43,915
Total Local Taxes	$41,801	$78,065	$5,324	$125,190
Sweetwater County				
State Tax	$18,642	$34,815	$2,375	$55,832
General Purpose Option	$15,034	$28,077	$1,915	$45,026
Specific Purpose Option	$15,034	$28,077	$1,915	$45,026
Lodging	$18,196	$33,982	$2,318	$54,497
Total Local Taxes	$66,907	$124,951	$8,522	$200,381
STUDY AREA				
State Tax	$33,665	$62,871	$4,288	$100,824
General Purpose Option	$27,149	$50,702	$3,458	$81,309
Specific Purpose Option	$15,034	$28,077	$1,915	$45,026
Lodging	$32,860	$61,367	$4,185	$98,412
Total Local Taxes	**$108,708**	**$203,016**	**$13,847**	**$325,571**

Source: CH2M HILL, 2008

Lodging Taxes. Lodging tax revenues could accrue to the counties in which Project-related construction workers temporarily reside as shown in Table 4-62. Such potential revenue may not materialize to the extent shown in Table 4-62 since lodging taxes are levied on sleeping accommodations for guests staying less than 30 days only.

4.4.9 Cumulative Impacts

Rule I Section 7(vi)(I) - Problems due to the transition from temporary construction employees to operating workforces should be addressed. Changes in levels of services required as a result of the proposed industrial facility should specifically be addressed. Cumulative impacts of the proposed industrial facility and other developments in the area of site influence should be addressed separately. This assessment should examine increased demands associated with the construction and operational phases of the proposed industrial facility, as well as effects on the level of services as the construction or operational workforces decline.

It is likely that other projects, in addition to that under assessment in this report, could occur within the study area counties. Additional projects addressed in this section include the Seven Mile Hill (SMH) Wind Energy Project, Medicine Bow Fuel and Power coal-to-liquids facility (known as the DKRW project), and the High Plains – McFadden Ridge Wind Energy Project. The sum of impacts associated with all projects is referred to as "cumulative" impacts.

4.4.9.1 Seven Mile Hill Wind Energy Project

The SMH project is located in Carbon County approximately 3 miles northwest of Medicine Bow. Most of the project site is located on privately leased land, with a small portion on Wyoming state lands. The site encompasses in excess of 14,000 acres of land that extend approximately 6.5 miles from north to south and approximately 4 miles east to west. The project is rated at 99 megawatts (MW) and will be constructed in 2008. The SMH project will consist of 66 WTGs with 80 meter (m) tubular towers. Facilities will also include transformers, an operation and maintenance (O&M) building, underground electric cable, fiber optic communication cable, turbine access roads, necessary permanent 80-m meteorological towers, and a supervisory control and data acquisition (SCADA) system. Output from the project wind turbine generators (WTGs) will be delivered to a collector substation on the project site where it will be stepped up to 230 kilovolt (kV) at a new 34.5 /230-kV substation and interconnect to the existing Dave Johnston 230-kV transmission line. The SMH project construction activities commenced in April 2008 with operational capability expected to be achieved by February 2009. The onsite construction workforce would peak at about 230 workers in September 2008. During operations, the project would employ about 10 full-time personnel.

4.4.9.2 Medicine Bow Fuel and Power Coal-to-Liquids Facility

The DKRW project would be comprised of a coal-to-liquids facility (CTL) and accompanying coal mine in Carbon County south of Medicine Bow. The date when construction would commence is not known definitively at this time but, for purposes of this analysis, is assumed to be April 2009 terminating in December 2011. It is estimated that monthly onsite employment could peak at 2,000 workers for the CTL facility and 307 for the coal mine during construction. During operation, it is estimated that there would be up to 200 workers at the CTL facility and up to 250 at the coal mine.

The housing plan for DKRW includes a worker camp for 500 personnel at the project site. This camp will support the smaller staff winter construction campaigns and the startup and operation phases of the project. Additional 200-person work camps are being evaluated at Medicine Bow and Rawlins. The remainder of the housing would be accommodated by RVs, hotel and motel rooms, and single-family rental housing units in the various Carbon County communities surrounding the site and the towns of Rock River and Laramie in Albany County.

4.4.9.3 High Plains-McFadden Ridge Wind Energy Project

The High Plains – McFadden Ridge project site is located in both Albany and Carbon counties, Wyoming, approximately 2 miles east of McFadden on approximately 11,000 acres of leased private fee lands. The majority of proposed site is in Albany County (8,880 acres) with the remaining 2,120 acres in Carbon County. The project would be comprised of up to three wind generation phases consisting of: (1) the High Plains Wind Energy Phase (High Plains) rated at 99 MW, which is located along the northern portion of the site; (2) the McFadden Ridge Wind Energy Phase (McFadden Ridge) rated up to 99 MW, which is located along the southern portion of the site; and (3) an additional Phase III rated at up to 99 MW to be further defined by PacifiCorp in the future and potentially constructed in 2010 or later.

High Plains and McFadden Ridge will have up to 66 and 59 WTGs, respectively, with separate collector cable systems, substations, metering, and control equipment. High Plains and McFadden Ridge will share an O&M building and access roads. Phase III site civil development engineering and WTG layouts are undetermined at this time.

It is anticipated that the High Plains – McFadden Ridge project would commence construction activities in July 2008 with operational capability achieved by December 2010. The onsite construction workforce would peak at about 275 workers in March 2009.

4.4.9.4 Cumulative Effects

The combined construction workforce of all projects could vary from a low of 15 in January 2008 to a high of 2,437 during July 2010. There could be considerable overlap of workforce schedules for the Project and the High Plains – McFadden Ridge project as illustrated in Figure 4-48. The Echo Springs Project would commence at the projected peak of the High Plains – McFadden Ridge project and, thus, extend this level of employment about 18 months. Between September 2008 and September 2010, combined employment of all projects, with the exception of DKRW would range between 200 and 300 workers.

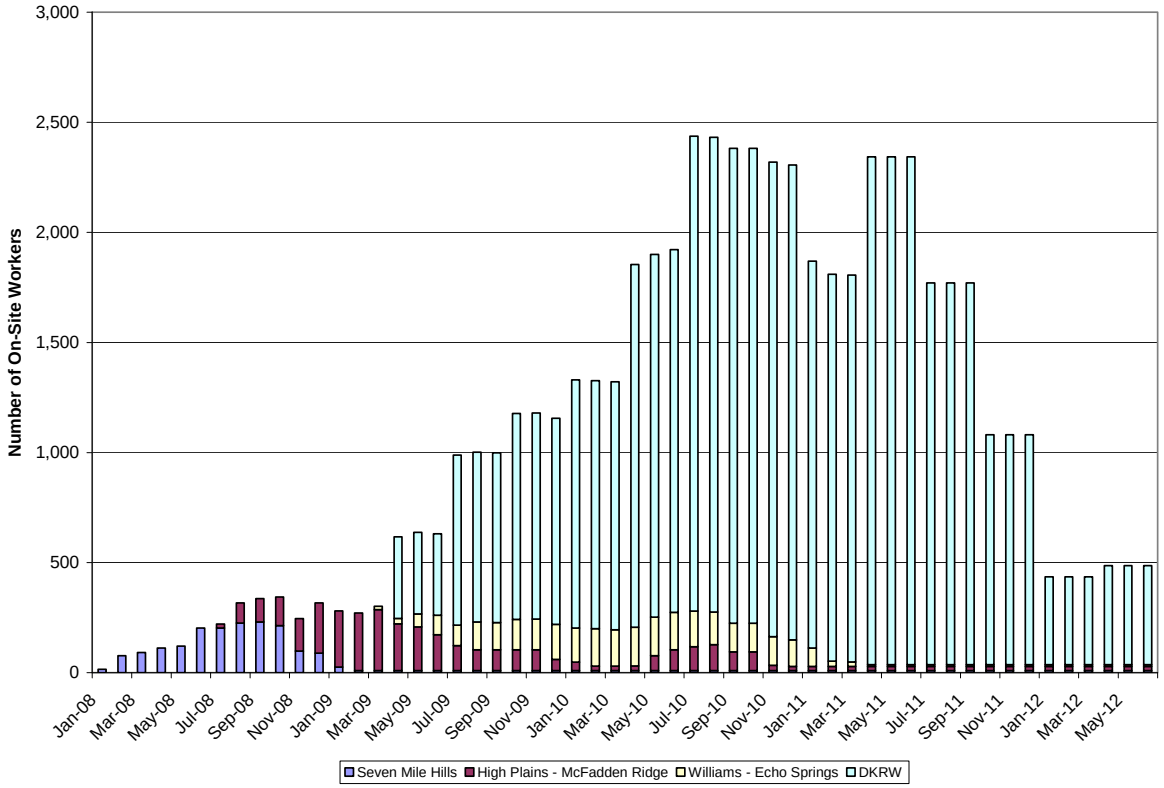

FIGURE 4-48
Cumulative Number of Construction Workers

The DKRW project would commence during the extended local peak created by the other three projects and increase the cumulative number of project workers to over 600. Over the space of just a few months, the DKRW project would contribute over 2,000 workers creating a cumulative total of almost 2,500 workers. DKRW employment would peak in April 2011 with just over 2,300 workers.

Potentially adverse impacts to community facilities and services relate more directly to the number of non-local workers who could temporarily relocate to the study area counties rather than the total number of project-related workers since some of these workers would be drawn from the local labor pool.

As can be seen from Figure 4-49, discounting the DKRW project, the number of temporary residents would rise to about 200 and remain between 180 and 250 for a period of over 2 years. However, from April 2009, the number of non-local workers who could enter the study area would exceed 500 in all but two of the following 33 months and exceed 1,500 in 18 of these months.

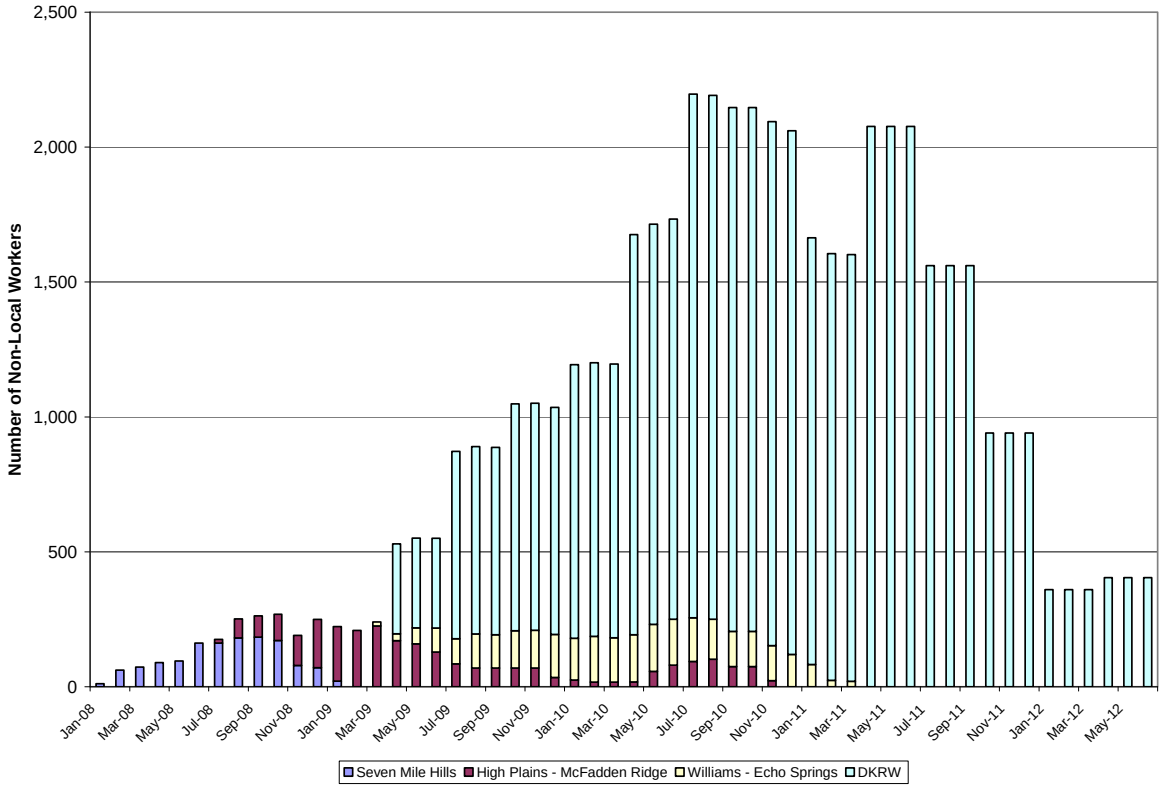

FIGURE 4-49
Cumulative Number of Non-Local Construction Workers

4.5 Trade-Off Analysis

The proposed Project is expected to create significant and ongoing tax benefits, a considerable temporary increase in employment, and a modest long-term increase in employment throughout the study area and area of site influence. It is anticipated that Project-related impacts, especially on community services, would be potentially distributed throughout the area of site influence and relatively minor.

Implementation of the Project would create both primary and secondary employment opportunities, contribute growth to the local economy including the service sectors, and provide a substantial source of revenues for local governments through the collection of significant ad valorem taxes. The potential for short-term impacts associated with implementation of the Project on socioeconomic resources would depend in part on the timing of other construction and mineral extraction activities occurring in the study area.

The major long-term impact of the Project would be the additional revenue collected by the state and distributed to Carbon County through increased ad valorem taxes. The increased ad valorem tax revenues would be distributed by the state and counties for schools, roads, and other community infrastructure. Further expansion of the coal and natural gas activities and other mineral development including uranium extraction in the region will continue to add jobs to the growing economies and generate additional tax revenues. The sustained employment and economic development associated with the operation of the DKRW project

can have both positive and negative impacts on the quality of life of residents and on environmental and socioeconomic resources.

4.5.1 Benefits Compared to Impacts

The proposed Project is expected to create long-term tax benefits, a considerable short-term increase in employment, and a modest long-term increase in local employment. Related impacts, especially on community services, would be small and distributed across the communities of the area of site influence. The Project would have the following benefits to the local communities and counties comprising the study area and area of site influence:

- The creation of direct employment in each of the 3 years of construction: 100 FTE jobs in 2009, 190 FTE jobs in 2010, and 13 FTE jobs in 2011.
- The creation, during the construction phase of the Project, of about 18 temporary secondary jobs during 2009, about 9 jobs in 2010, and about 2 jobs in 2011.
- The creation of a total of nine direct and secondary jobs annually attributable to operations and maintenance.
- Ad valorem (property) taxes accruing to Carbon County would increase as a result of an increase in the fair market value (and assessed value) of the Project site. Ad valorem taxes would be approximately $1,500,000 annually upon completion of the Project.
- Sales and use tax revenues attributable to the Project would result from two sources: (1) purchase of materials, equipment, and supplies necessary for construction of the facility; and (2) purchases made by non-local workers temporarily residing in the area for lodgings, meals, recreation, and gasoline. It is estimated that sales and use tax revenues associated with purchases of materials, equipment, and supplies could total about $1.5 million in 2008, $1.75 million in 2009, and $220,000 in 2010. Tax revenues accruing to the counties from purchases made by non-local workers (exclusive of any lodging tax revenues) could total about $75,000 in 2009, $140,000 in 2010, and $10,000 in 2011.
- Temporary construction workers are expected to reside in local hotels, motels, and RV parks. It is possible, depending on their length of stay, that Carbon and Sweetwater counties could gain revenues from the lodging tax levied on room costs totaling almost $100,000 during the 3 calendar years during which construction would take place.

4.5.2 Impacts to Community Services

During the construction phase of the Project, the number of non-local workers entering the area temporarily would peak at 175. The potential impacts this influx of persons would have on community services in the area of site influence would be negligible. Their short-term presence would have negligible impacts on education, law enforcement, fire protection, health care, or municipal services.

The additional vehicle and truck trips generated by the construction and operation of the Project will have a minimal impact on the operations of the adjacent roadway network. WYO 789 and its intersection with Williams Road will experience a temporary decrease in level of service during the peak construction period for 2 hours each day. However, the

resultant increased travel time over these 2 hours will not be a permanent condition. Following the peak, the facilities will continue to operate at their current desirable levels of service.

If hotels are the primary temporary lodging choice, the most noticeable impact would be on the availability of hotel and motel rooms for other visitors, especially tourists during the summer months. However, the demand exerted by the temporary workers would not exhaust the likely available supply of vacant units. The potential effects on room availability of the demand by non-local workers at the construction site would be reduced further should the planned development of additional hotel/motel rooms in Wamsutter materialize.

Waste materials currently generated at the facility are disposed of at a permitted landfill in Rock Springs in neighboring Sweetwater County. Additional waste material resulting from expansion of the facility will be similarly disposed at the same facility.

4.6 Mitigation Measures to Offset Adverse Cumulative Impacts to Housing

Housing is a concern of communities throughout the area of site influence. However, it is expected that the majority of non-local workers would choose to stay in hotels, motels, and RV parks and. To this end, the Project proponent communicated with numerous hotels, motels, and RV parks in the Rawlins area regarding the availability of rooms and RV sites during the construction period and rates. Respondents provided information concerning pre-negotiated rates and the likelihood of available accommodations. Results of the survey completed by the Project proponent are shown in Appendix B.

5.0 Evaluation of Environmental Impacts

Rule I Section 7(j) – An evaluation of environmental impacts. The items shall be noted and evaluated as they would exist if the proposed facility were built. Each evaluation should be followed by a brief explanation of each impact and the permit issued that regulates the impact. If the impact is not regulated by a state regulatory agency or federal land management agency, the application must including (sic) plans and proposals for alleviating adverse impacts. Cumulative impacts of the proposed industrial facility and other projects in the area of site influence should be addressed separately.

Potential environmental impacts associated with the construction and operation and maintenance of the Project are discussed below. Resource data were collected for some resources, other resources relied on existing information and studies, and impact analyses were conducted to evaluate impacts on the natural environment. Methods of mitigating potential impacts will be implemented as part of the Project and are incorporated into the impact analysis. Unless otherwise stated, the area of analysis for the various environmental resources evaluated consisted of the existing Project area as detailed in Figure 2-1. Refer to Appendix C for a copy of Biological and Cultural Resource Reports specific to the Project site.

5.1 Physical, Chemical, Biological, and Radiological

Rule I Section 7(ix) – Inventory of estimated discharges including physical, chemical, biological and radiological characteristics.

There are no anticipated chemical, physical, biological, or radiological discharges associated with operation of the Project that would substantially impair the health, safety, or welfare of the present or expected inhabitants in the area of primary affect or Project area.

5.2 Air Quality

Rule I Section 7(x) – Inventory of estimated emissions and proposed methods of control.

Air emissions from the Project construction and operation are subject to the Wyoming Department of Environmental Quality – Air Quality Division Standards and Regulations. Specifically, Chapter 6 establishes permitting requirements for all sources constructing and/or operating in the State of Wyoming.

The Echo Springs Gas Plant is a major source under the Prevention of Significant Deterioration (PSD) and Title V operating permit programs. Since the projected emission increases of regulated air pollutants are above the PSD significant emission rate thresholds, PSD review is required. The proposed expansion of the facility qualifies as a major modification under PSD for nitrogen oxide (NO_x), carbon monoxide (CO), and volatile organic compound (VOC) emissions. The proposed modification will also be subject to other

regulations such as New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP).

5.2.1 Construction

The sources of pollutants during the construction phase of the Project would be limited to dust emissions associated with clearing and grading the 10-acre temporary laydown area. The sources of pollutants during operation of the Project would be limited to the vehicles and equipment used by staff and the sources covered in the Air Quality Permit. The emissions from the staff vehicles would be minor in comparison to the levels of activity that would be required to exceed emissions thresholds; thus, these emissions are not quantified.

Potential fugitive dust from staff vehicles traveling within the Project area would be minimal and substantial impairment to the health, safety, or welfare of the present or expected inhabitants in the area of primary affect or Project area is not anticipated.

5.2.2 Operation

The annual emissions for both the proposed equipment and the existing equipment are shown in Table 5-1.

TABLE 5-1
Annual Emissions

	Emission Rates (tpy)				
Proposed Equipment	**NOx**	**CO**	**VOC**	**SO_2**	**PM_{10}**
Solar Mars 100-15000S (Precompressor)	30.4	34	3.3	1.5	2.8
Solar Mars 100-15000S (Recompressor)	30.4	34	3.3	1.5	2.8
Solar Titan 130-20502S (Recompressor)	38	42.5	4.1	1.8	3.5
Solar Centaur 40-4700S (Precompressor)	21.9	23.2	1.3	0.5	1
Hot Oil Heater	11	7.4	7	0.2	2.7
Amine Unit Thermal Oxidizer	39	13.6	13.1	neg.	neg.
Process Flare	9.1	49.5	14.8	neg.	neg.
Subtotal	179.8	204.2	46.9	5.5	12.8
Existing Equipment	379.2	549.1	133.2	5.1	17.9
Total	559	753.3	180.1	10.6	30.7

Source: Echo Springs Air Quality Permit Application

5.2.3 Pollution Control

A Best Available Control Technology (BACT) analysis has been completed for regulated air pollutants in significant amounts as part of the Air Quality Permit Application, in accordance with Wyoming Air Quality Standards and Regulations (WAQSR) Chapter 6, Section 4(b)(ii) and 40 Code of Federal Regulations (CFR) Part 52.21(j). BACT determinations have been made for the turbines and heater (NO_x, CO, and VOC) and for the amine treatment unit (VOC).

5.2.3.1 Turbines

For control of NO_x emissions from the proposed Titan 130 and Mars 100 turbines, SoLoNOx was selected as BACT based on its technical feasibility and economic, energy, and environmental acceptability. The proposed emission limit for NO_x using the Titan 130 and Mars 100 turbines is 15 parts per million by volume, dry (ppmvd), corrected to 15 percent oxygen (O_2).

For control of CO emissions from all proposed turbines, Wamsutter LLC proposes to implement good combustion practices. The proposed BACT emission limits for CO are less than 50 ppmvd @ 15 percent O_2.

As good combustion practice for the control of VOC emissions from turbines in the same size category as what are proposed at the Echo Springs Plant is most commonly found in the U.S. Environmental Protection Agency's (EPA) reasonably available control technology (RACT)/BACT/lowest achievable emission rate (LAER) Clearinghouse (RBLC) database. This is the control option that is selected as BACT. Good combustion practice on each turbine will limit VOC emissions to 25 ppmvd @ 15 percent O_2.

5.2.3.2 Heater

For control of NO_x emissions from the proposed heater, Wamsutter LLC proposes to utilize low NOx burners in combination with flue gas recirculation. The heater manufacturer's NO_x emission guarantee is 0.03 lb/MMBtu.

The RBLC database search identified the use of natural gas as an exclusive fuel in combination with good combustion practices as representing the most stringent control available for CO and VOC. No post-combustion controls for CO and VOC were identified during the review. Thus, good combustion practice is BACT for control of CO and VOC emissions from the proposed natural gas-fired heater.

5.2.3.3 Amine Treating Units

The RBLC database search identified the use of flares or thermal oxidizers as representing the most stringent control available for VOC. Wamsutter LLC proposes to utilize a thermal oxidizer to control emissions from the amine unit regenerator vent and either a thermal oxidizer or flare to control emissions from the amine unit flash tank vent.

5.2.4 Impacts

Rule I Section 7(xii) – The procedures proposed to avoid constituting a public nuisance, endangering the public health and safety, human or animal life, property, wildlife or plant life, or recreational facilities which may be adversely affected by the estimated emissions or discharges.

The data and supporting analyses in the Air Quality Permit Application demonstrate the following:

- Emissions from the modified facility will not cause or contribute to a violation of the NO_2 PSD increment and state or federal ambient air quality standards.
- Emissions from the proposed Project will be controlled using BACT.

- Emissions from the proposed Project will not result in detrimental effects to soils and vegetation.
- No significant affect on industrial, commercial, or residential growth in the area is anticipated due to the Echo Springs Gas Plant Project.

The assessment of air quality impacts from the proposed facility was conducted in accordance with the requirements set forth in the EPA and Wyoming Department of Environmental Quality (WDEQ) guidelines. Based on the results of the air quality analysis, it is concluded that the proposed modification to the Echo Springs Gas Plant will not pose an adverse threat to the maintenance of the local and regional air quality standards, and would not substantially impair the health, safety, or welfare of the present or expected inhabitants in the area of primary affect.

5.3 Noise

Rule I Section 7(xiii)(P) – Preliminary evaluations of or plans and proposals for alleviating social, economic or environmental impacts upon local government or any special districts which may result from the proposed facility, which evaluations, plans and approvals shall cover other relevant areas.

ISD regulations state that noise is an issue that must be taken into account in the siting process, but numeric limits are not specified at the state level in Wyoming.

5.3.1 Fundamentals of Acoustics

It is useful to understand how noise is defined and measured. Noise is defined as unwanted sound. Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. There are several ways to measure noise, depending on the source of the noise, the receiver, and the reason for the noise measurement.

Table 5-2 shows the relative A-weighted noise levels of common sounds measured in the environment and in industry for various sound levels.

TABLE 5-2
Typical Sound Levels Measured in the Environment and Industry

Noise Source At a Given Distance	A-Weighted Sound Level in Decibels	Qualitative Description
Carrier Deck Jet Operation	140	
	130	Pain Threshold
Jet Takeoff (200 feet)	120	
Auto Horn (3 feet)	110	Maximum Vocal Effort
Jet Takeoff (2000 feet) Shout (0.5 feet)	100	
N.Y. Subway Station Heavy Truck (50 feet)	90	Very Annoying Hearing Damage (8-hr, Continuous Exposure)

TABLE 5-2
Typical Sound Levels Measured in the Environment and Industry

Noise Source At a Given Distance	A-Weighted Sound Level in Decibels	Qualitative Description
Pneumatic Drill (50 feet)	80	Annoying
Freight Train (50 feet)		
Freeway Traffic (50 feet)		
	70	Intrusive Telephone Use Difficult
Air Conditioning Unit (20 feet)	60	
Light Auto Traffic (50 feet)	50	Quiet
Living Room Bedroom	40	
Library Soft whisper (5 feet)	30	Very Quiet
Broadcasting Studio	20	Recording Studio
	10	Just Audible

Note: A-weighted sound pressure level is the sound pressure level in decibels (dBA) as measured on a sound level meter using the A-weighted filter network. The A-weighted filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted.

Adapted from Table E, "Assessing and Mitigating Noise Impacts", NY DEC, February 2001. http://www.dec.ny.gov/docs/permits_ej_operations_pdf/noise2000.pdf. Accessed July 2008.

5.3.2 Facility Sound Levels

A noise survey was conducted by Wamsutter Health and Safety personnel to evaluate employee exposure and to identify the proper level of personal protection. The survey showed levels of noise in the range of 70 to 90 decibels (dBA). This survey was conducted in and around equipment at the facility. Noise levels at the fence line would be expected to be lower. Hearing protection requirements are posted at the facility.

5.3.3 Construction Noise Impact Assessment

The EPA Office of Noise Abatement and Control studied noise from individual pieces of construction equipment, as well as from construction sites for power plants and other types of facilities (Table 5-3). Because specific information about types, quantities, and operating schedules of construction equipment, is not known at this stage, data from the EPA document for industrial projects of similar size have been used. These data are conservative, because the evolution of construction equipment generally has gravitated toward quieter design. Use of these data is reasonable for estimating noise levels, given that they still are used widely by acoustical professionals.

TABLE 5-3
Average Noise Levels from Common Construction at a Reference Distance of 50 feet (dBA)

Construction Equipment	Typical Average Noise Level at 50 ft, dBA
Air compressor	81
Backhoe	85
Concrete mixer	85
Concrete pump	82
Crane, mobile	83
Generator	78
Grader	85
Loader	79
Pneumatic tool	85
Pump	76
Rock drill	98
Saw	78
Truck	91

Source: U.S. EPA, 1971.

Because there are no residences within 3 miles of the Project site, the resulting noise levels will not result in a significant detriment to, or significant impairment of the environment or the social and economic condition of present or expected inhabitants in the area of primary affect.

5.4 Soil Resources/Geologic Hazards

Rule I Section 7(xiii)(P) – Preliminary evaluations of or plans and proposals for alleviating social, economic or environmental impacts upon local government or any special districts which may result from the proposed facility, which evaluations, plans and approvals shall cover other relevant areas.

Data from the Wyoming State Geological Survey and the Soil Survey Geographic Database (SSURGO) were reviewed for information on soil characteristics and geologic hazards in the vicinity of the site.

5.4.1 Erosion and Landslides

The SSURGO database maps the soil types in the vicinity of the site as the CR03 group. More specifically the soils are described as: Ustic Haplargids, fine-loamy, mixed, frigid-Aridic Argiborolls, fine, smectitic. Based on the United States Geological Survey topographic map (Figure 5-1), surface elevations are generally greatest at the southwest corner of the temporary laydown yard and lowest at the northeast corner. Based on the elevation difference of approximately 20 feet, the slope is 2 percent across the site.

CH2M HILL reviewed maps available on the Wyoming State Geologic Survey (WSGS) website pertaining to windblown deposits, shrinking-swelling clay soils and landslides. Based on the reviewed data, none of these geologic hazards were depicted in the immediate vicinity of the site. The closest mapped landslides are approximately 15 to 20 miles to the southeast. The closest wind-blown deposits are mapped approximately 2 to 4 miles to the west, and the closest mapped expansive soils were approximately 15 to 20 miles to the southeast.

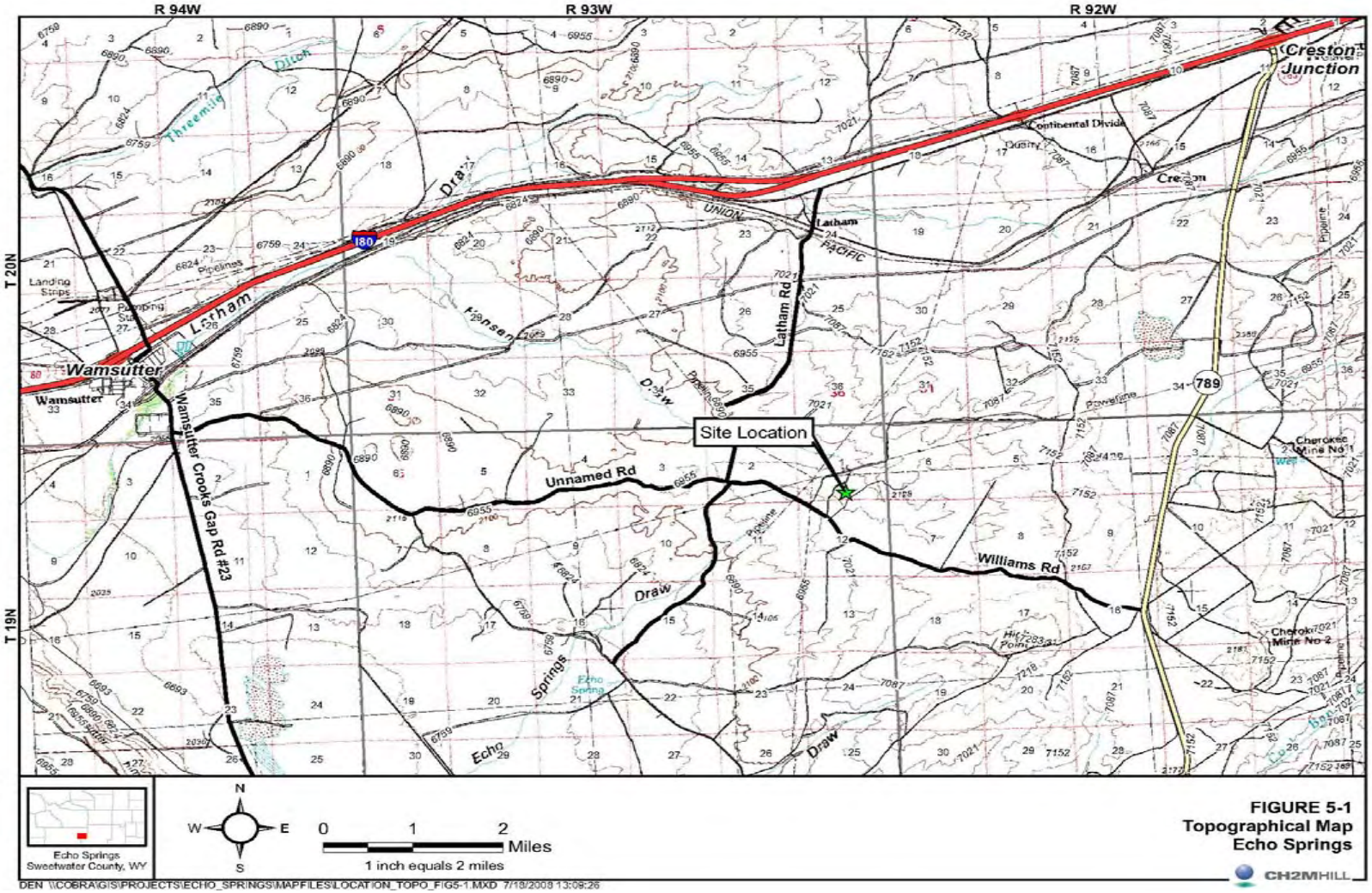

FIGURE 5-1
Topographical Map

5.4.2 Earthquakes/Faults

The WSGS maintains a database for historical earthquakes of magnitude 2.5 or greater, which occurred in Wyoming from 1871 to present. The most recent earthquake (3.0 magnitude) occurred in northern Carbon County on February 1, 2000. The nearest recorded epicenter for seismic activity is located approximately 15 miles to the south.

Carbon County contains an active fault system called the South Granite Mountain fault system. The fault system is composed of several northwest-southeast trending fault segments located in northwestern Carbon County. A closer fault system lies in the northeastern portion of Sweetwater County (WSGS, 2007). The east-west trending segments are at least 30 miles from the site. No exposed faults are present within the site boundary. The closest single mapped fault is approximately 5 miles to the east.

5.4.3 Impacts

There will be disturbance of soils associated with construction of the facilities at the Echo Springs Expansion Project. However, a stormwater pollution prevention plan (SWPPP) will be developed with the Notice of Intent (NOI) for the required Wyoming Pollution Discharge Elimination System (WYPDES) General Stormwater Construction Permit and implemented to minimize soil erosion during construction of the Project. Therefore, best management practices (BMPs) will be implemented during construction and operation of the Project to ensure that excessive erosion and other adverse impacts on area soils will not occur.

No impacts associated with geologic hazards such as seismic events, subsidence, flooding, or landslides that would substantially impair the health, safety, or welfare are expected to occur as a result of implementing the Project. Lastly, the resulting impacts to soil resources and geologic hazards will not result in a significant detriment to, or significant impairment of the environment or the social and economic condition of present or expected inhabitants in the area of primary affect.

5.5 Cultural Resources

Rule I Section 7(xiii)(C) – Preliminary evaluations of or plans and proposals for alleviating social, economic or environmental impacts upon local government or any special districts which may result from the proposed facility, which evaluations, plans and approvals shall cover archaeological and historical resources.

Cultural resources of concern consist of historical or archaeological sites that are listed on or are eligible to be listed on the National Register of Historic Places (NRHP).

5.5.1 Regulatory Jurisdiction

The National Historic Preservation Act (NHPA) is the principal federal law guiding federal actions with respect to the treatment of cultural, archaeological, and historic resources. Section 106 (16 United States Code [U.S.C.] 470f) of the NHPA requires federal agencies, prior to taking action to implement an undertaking, to take into account the effects of their undertaking on historic properties and to give the Advisory Council on Historic Preservation (ACHP) and State Historic Preservation Office (SHPO) a reasonable opportunity to comment regarding the undertaking. Historic properties are "any prehistoric

or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places" (16 U.S.C. 470w (5)). The criteria used to evaluate the NRHP eligibility of properties affected by federal agency undertakings are contained in 36 CFR 60.4.

5.5.2 Survey Results

An online archaeological records search was conducted on May 9, 2008, utilizing the Wyoming Cultural Resources Office web database. Results of the records search indicate that there has been a significant amount of previous survey work completed in the area due to the associated regional oil and gas production. There have been 72 previous surveys conducted in T19N, R93W, Section 1. In 1979, all of Section 1 was surveyed as a block survey by Archaeological Services (Accession #80-1527, WYCRIS ID 6227). This survey and the numerous surveys conducted since have identified 18 cultural resources within this section. One site is a historic debris scatter, the remaining 17 sites are prehistoric, including a large lithic landscape (48CR8414). None of the previously recorded sites are considered eligible for listing on the NRHP. Two Isolated Finds were located very near the proposed laydown area; however Isolated Finds are, by definition, not eligible for listing on the NRHP.

Due to the significant amount of previous surveys and the 1979 block survey covering the proposed laydown area, there is a low probability of finding any new cultural resources. However, because the survey was conducted over 20 years ago, a new Class III cultural resource survey was conducted by CH2M HILL on May 20, 2008, to assess the potential to affect cultural resources. No cultural resources were located during the survey, and the two previously located Isolated Finds could not be relocated during this survey.

5.5.3 Impacts

The Class III cultural resource survey was submitted to the Wyoming SHPO review prior to the ISA application. Based on the inventory findings and the low probability of significant cultural resources on the Project area, a determination of No Historic Properties Affected was recommended to the Wyoming SHPO for the Project. Consequently, the Wyoming State Historical Preservation Officer reviewed the Class III cultural resource report and provided a finding that the Project will not affect any cultural resources. See Appendix C for the SHPO concurrence letter.

Williams will agree to the recommendation provided by the Wyoming SHPO pursuant federal statute 48CFR22716 to provide notification if buried cultural materials are discovered during construction activity. Overall, there are no anticipated impacts to cultural resources from construction activities that may impair the health, safety, or welfare of the resource in the area of primary affect.

5.6 Special-Status Plant Species and Rare Vegetation Communities

Rule I Section 7(xiii)(P) – Preliminary evaluations of or plans and proposals for alleviating social, economic or environmental impacts upon local government or any special districts which may result from the proposed facility, which evaluations, plans and approvals shall cover other relevant areas.

Special-status plant species are those designated because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized federal, state, or other agencies. Some of these species receive specific protection defined by federal or state endangered species legislation. "Species of concern" is an informal term that refers to those species federal agencies believes might be in need of concentrated conservation actions. Such conservation actions vary depending on the health of the populations and degree and types of threats. There may only need to be periodic monitoring of populations and threats to the species and its habitat. At the other extreme, a species may need to be listed as a federal threatened or endangered species. "Species of concern" receive no legal protection, and the use of the term does not necessarily mean that the species will eventually be proposed for listing as a threatened or endangered species.

5.6.1 Regulatory Jurisdiction

Threatened and endangered plant species are protected under the Federal Endangered Species Act (ESA) of 1973, as amended.

5.6.1.1 Endangered Species Act - Plants

A major difference in the ESA is how it establishes broad prohibitions against "taking" endangered or threatened plant species. It is important to note that the "take" prohibition does not extend to plants on federal lands; however, by statute, it is illegal to "remove or reduce to possession" or "maliciously damage or destroy" threatened or endangered plants. Furthermore, protection for listed plants is significantly weaker on private lands where it is illegal to "remove, cut, dig up, or damage or destroy" plants only when it is "in knowing violation of any state law or in the course of any violation of state criminal trespass law." Stated another way, there are no federal prohibitions under the ESA for the take of listed plants on federal or nonfederal lands, unless taking of those plants is in violation of state law. However, if Section 7 consultation of the ESA process is initiated, the United States Fish and Wildlife Service (USFWS) is required to analyze the effects of the biological opinion and incidental take permit on listed plant species. This analysis is required because Section 7 of the ESA requires that issuance of an incidental take permit must not jeopardize any listed species, including plant species.

5.6.1.2 Rare Vegetation Communities

Rare (plant) vegetation communities are those that are considered rare in the region, support sensitive species of plants and animals, and/or are subject to regulatory protection through various federal, state, or local policies or regulations. These communities may or may not contain special-status plants.

5.6.2 Federally Listed Plant Species

CH2M HILL consulted the USFWS threatened and endangered, and candidate species lists (USFWS, 2008), reviewed the Wyoming Natural Diversity Database (WYNDD) (2008), consulted with Travis Sanderson, USFWS Fish and Wildlife Biologist (Sanderson, 2008), and completed a site reconnaissance of the Project area on May 21, 2008, to determine whether federally listed plant species or critical habitats are known or likely to occur in or near the Project area.

Federally listed plant species listed under the ESA that may occur in Carbon County include blowout penstemon (*Penstemon haydenii*) and Ute ladies'-tresses (*Spiranthes diluvialis*). Blowout penstemon occurs in the Sandhills of Nebraska and isolated areas of Wyoming in sandy, blowout locations with little to no vegetation present. Ute ladies'-tresses orchids occur along riparian edges, gravel bars, old oxbows, high-flow channels, and moist to wet meadows along perennial steams, typically occurring in stable wetland and seep areas.

Operation of the Project will have no impact on these species or their required habitats.

5.6.3 Impacts

Vegetation at the site is characteristic of the Wyoming big sagebrush community, dominated by a mixture of upland native and non-native grasses, forbs, and shrubs. The dominant shrub species at the site is Wyoming big sagebrush; the dominant grasses include western wheatgrass *(Pascopyrum smithii)* and annual bluegrass (*Poa annua*); and the dominant forbs include fringed sage *(Artemisia frigida)* and prickly-pear cactus (*Opuntia* spp.*)*. Overall plant composition and diversity are fairly uniform, with some variation in species composition and abundance associated with disturbances such as roads, pipelines, and fences. Most Wyoming big sagebrush is below 2 feet in height.

5.6.3.1 Existing Vegetation Community

Future development of the Wyoming big sagebrush community would not impact any significant vegetation resources, nor is the community recognized as rare or a unique vegetation community by authorized agencies. Potential disturbances to this vegetation community have been minimized by site selection and minimal area of the temporary laydown area. In addition, Williams will implement best management practices to minimize the impact to the temporary laydown area and also plans to avoid disturbance to the highest quality patches of big sagebrush (see Figure 2-2).

5.6.3.2 Federally Listed Plant Species

Based on a review the federally listed species in Carbon County (USFWS, 2008) and records provided by the WYNDD (2008), no designated critical habitats or federally listed plant species have been documented or are known to occur within or near the Project area. In addition, the site reconnaissance confirmed that no suitable habitat is present in or near the Project area for either of the federally listed plant species. A review of the best available data, confirmed by the site-reconnaissance, indicates that no federally listed plant species or critical habitats granted protection under the ESA are present or have potential for occurrence in or near the Project site. Therefore, no impacts are anticipated from either the construction or operation of the Project.

5.6.3.3 Rare Vegetation Communities

A review of publicly available data and site surveys did not identify the occurrence of rare vegetation communities. In addition, both a review of the WYNDD (2008) and site reconnaissance did not reveal any known or identified rare vegetation communities within the Project area. Therefore, there are no anticipated Project impacts from either the construction or operation of the Project.

Overall, there will be no substantial impacts to federally listed plant species or rare vegetation communities that may impair the health, safety, or welfare of the resource or the health, safety, or welfare of the present or expected populations or communities in the area of primary affect.

5.7 Surface and Groundwater Resources

W.S. 35-12-108(a) - Quantity of water available; analysis; public comment; opinions: If an applicant applies for an industrial siting permit, pursuant to W.S. 35-12-106, or for a waiver of the application provisions, pursuant to W.S. 35-12-107, for a facility which requires the use of 800 or more acre feet per year (ac-ft/yr) of waters of the state of Wyoming annually, the applicant shall prepare and submit to the state engineer a water supply and water yield analysis with a request for a preliminary and final opinion as to the quantity of water available for the proposed facility.

5.7.1 Water Supply

Existing water use at the Echo Springs Gas Plant is approximately 9 gallons per minute (gpm). However, due to water quality issues associated with the facility's existing groundwater well (see below), potable water is trucked in from the City of Rawlins (approximately 40 miles). This potable water is used in the CO_2 removal process as well as for the daily workforce needs at the facility.

The proposed TXP4 expansion will increase water use to approximately 15 gpm at the Echo Springs Gas Plant. Currently, the facility has an agreement with the WDEQ Water Quality Division and EPA that since the potable water is provided by a municipality that is in compliance with the Clean Drinking Water Act, no other requirements are necessary. If the facility started to provide potable water via a groundwater well, there would need to be additional sampling and training requirements and possible treatment requirements. The groundwater quality in the area has higher Total Dissolved Solids (TDS) than the current offsite supply (City of Rawlins). Treatment and regulatory cost for a suitable onsite water supply may exceed the current cost for trucking in the water.

The existing onsite well is approximately 490 feet below the surface and pulls water from saturated zones at 220 to 240 and 340 to 420 feet below the surface. The main water quality issue is TDS that exceed 400 milligrams per liter (mg/L). The water that is produced by the City of Rawlins is supplied from multiple sources including groundwater wells in the Sundance Nugget aquifer and springs. TDS is approximately 111 mg/L from the Rawlins water system, and the overall water quality is more beneficial to onsite water use requirements (City of Rawlins, 2008).

There are two nearby groundwater wells (BP and Amoco Production Company) located in Sections 1 and 11 that have a similar well construction (500 to 600 feet deep) and production characteristics (approximately 60 gpm). However, groundwater quality data for these wells were not publicly available. The City of Wamsutter (approximately 7 miles to the northwest) has four groundwater wells in production. These wells have a depth of 1,300 to 1,900 feet and pull water from saturated zones 1,200 to 1,900 feet below the surface. The TDS from these wells range from 480 to 1,135 mg/L, and this appears to be similar to the water quality at the facility's existing well.

5.7.2 Surface Water

The Project area is within the Great Divide Closed Basin, which is located between the Atlantic and Pacific drainage basins. As such, no downstream impacts to aquatic or riparian species or habitats in the Colorado or Platte River drainages would occur if water depletions are necessary for the Project. In addition, no wetlands or waters of the U.S. are present within the proposed Project area.

The closest potentially jurisdictional water body is Hansen Draw, located approximately 0.25–mile northeast of the Project. Hansen draw contains an impounded pond upstream of an access road crossing. Another pond exists within Hansen Draw farther downstream. These ponds drain via culverts installed under the roads and would connect during high-flow events. Small areas of wetland vegetation may exist in areas along the ponds within Hansen Draw, but most of the draw appears to only support non-wetland vegetation. Hansen Draw is not on the WDEQ's Section 303(d) list of impaired waters and does not require a Total Maximum Daily Load assessment (TMDL). There are no regulatory floodplains mapped within the Project area.

5.7.3 Impacts

No surface water will be used for the Project, and construction activities are not anticipated to discharge into surface waters of the state. Potential impacts to surface water features from erosion and sedimentation will be prevented by measures to control runoff during construction and operation of the Project. A SWPPP will be developed with the NOI for the required WYPDES General Stormwater Construction Permit and implemented to minimize impacts on surface water resources during construction of the Project.

Fuel storage areas will be managed and controlled in accordance with federal and state regulations to prevent the release of petroleum products to surface waters. Implementation of BMPs such as proper labeling and storage, secondary containment, and inspection as required by the WYPDES General Stormwater Construction Permit SWPPP will reduce the potential for accidental release of hazardous materials to surface water resources. No impacts to surface water resources are anticipated from use of hazardous materials during construction.

No work will be completed within jurisdictional surface waters, and there are no flood plains within the Project area

Overall, the Project will not result in substantial impairment to surface water resources that would impair the health, safety, or welfare of current or expected inhabitants in the area of primary affect.

5.7.4 Groundwater

In general, the lithology beneath the facility is known to consist of interbedded shale and coal (Green River Formation) to approximately 600 feet below ground surface (bgs) and expected to be underlain by the Wasatch-Battle Springs Formations. The Wasatch-Battle Springs formation is approximately 2,200 feet thick and composed of interbedded shale, coal, and sandstone. Although groundwater is the most reliable source of water in the vicinity of the Project area, water quality is low due to the high amount of TDS.

5.7.5 Impacts

During construction, water use requirements for dust control are estimated to be approximately 8 to 24 acre feet per year (ac-ft/yr) (5 to 15 gpm). Most of the operational water usage would be associated with the CO_2 removal process, with a smaller portion used for potable needs at the facility.

Because water for the construction and operation of the Project is anticipated to be trucked from the City of Rawlins public water supply, no impacts to groundwater resources are anticipated. The effects of using City of Rawlins water from the Sundance Nugget aquifer for operations will be small, consisting of an increase in water use from 9 gpm for existing operations to 15 gpm with the operation of the TXP4.

Based on both the construction and operational water balance calculations, the Project will not exceed the 800 ac-ft/yr threshold and will not require a state engineer's water supply yield analysis or opinion.

Construction and operation impacts to groundwater will not result in substantial impairment to the groundwater resources or the health, safety, or welfare of the present or expected inhabitants in the area of primary affect.

5.8 Land Use/Recreation

Rule I Section 7(xiii)(D) – Preliminary evaluations of or plans and proposals for alleviating social, economic or environmental impacts upon local government or any special districts which may result from the proposed facility, which evaluations, plans and approvals shall cover land use patterns.

The existing land use in the vicinity of the Project is rural with oil and gas development prominent in the region. BLM lands adjacent to the Project area are used for mineral development and grazing. Recreation tourists visit the area primary for hunting, and wildlife viewing. No state-owned lands are in the immediate vicinity of the Project area.

5.8.1 Consistency with Land Use Plans

Rule I Section 7(xvi) – Compatibility of the facility with state or local land use plans, if any.

Carbon County has implemented a permit system in lieu of conventional zoning. All changes in land use activities must receive county approval prior to Project implementation. In each county, specific permit approval standards applicable to certain activities are considered to ensure that new development is consistent with the county's land use plans.

5.8.2 Carbon County Local Land Use

New project development on private lands in Carbon County requires a Conditional Use Permit (CUP) issued by the Carbon County Planning Commission. This "land use permit" is issued to address a broad array of impacts to lands and other resources within the county's boundaries, including impacts to offsite resources such as the human population and county infrastructure.

5.8.3 Carbon County Special Use Permit

The Project site is zoned as Ranch, Agriculture, and Mineral (RAM). In accordance with the Carbon County Zoning Resolution of 2003, as amended, oil, gas, mineral exploration, development and production are permitted land uses. Therefore, Williams is not required to obtain a Special Use Permit. Appendix D contains documentation from the Carbon County Planning and Zoning and Commission, and the Carbon County and Prosecuting Attorney related to the absolving of a Special Use Permit.

5.8.4 Carbon County Building Permit

Carbon County's building permit is a ministerial permit required for all new proposed buildings within the county's jurisdiction. The existing building permit has been extended through June 29, 2009. Refer to Appendix D.

5.8.5 Impacts

Based on the TXP4 expansion occurring within the existing facility, Wamsutter LLC is not required to obtain a Special Use Permit. Wamsutter LLC has obtained all necessary land use and building permits from Carbon County. The Project will be constructed and operated in accordance with the terms and conditions of these permits to ensure that that there are no significant impacts to lands, uses, and other resources within the counties, including impacts to the local population and infrastructure to preclude substantial impairment to health, safety, or welfare.

5.9 Recreational Resources

Rule I Section 7(xiii)(B) – Preliminary evaluations of or plans and proposals for alleviating social, economic or environmental impacts upon local government or any special districts which may result from the proposed facility, which evaluations, plans and approvals shall cover recreational resources.

Recreational resources within the area of primary impact include numerous museums and cultural attractions, hiking, big game hunting, and various fishing opportunities at local reservoirs. Recreational camping and off-highway vehicle (OHV) use, which are popular in the BLM Rawlins Field Office Management area, may occur in the vicinity during hunting and preseason scouting visits; however, hunting and camping typically occur on BLM land, with some occurring on private land with landowner permission.

5.9.1 Local City and County Parks

5.9.1.1 Rawlins Family Recreation Center

The Rawlins Family Recreation Center is a city-owned facility, operated by the Parks and Recreation Department. The facility contains a fitness room with free weights and training stations. In addition, the facility has a 10-lane, 25-m indoor shooting range for small bore rifles, archery, black powder, and handguns up to and including 44 magnum. There is also a rifle cone, which enables hunters to sight in high-powered rifles.

5.9.1.2 Rochelle Ranch Municipal Golf Course

The 18-hole "Rochelle" course at the Rochelle Ranch Municipal Golf Course facility in Rawlins, Wyoming, features 7,925 yards of golf from the longest tees for a par of 72. The Rochelle golf course was designed by Kenneth M. Kavanaugh and opened in 2004. The Rochelle Ranch Golf Course and clubhouse are the result of a gift from Curt and Marian Rochelle.

5.9.2 State and National Parks and Refuges

A review of the Wyoming Digital Atlas reveals that there are no state or national parks within Sweetwater County, while Carbon County contains the Seminoe State Park and Fort Fred Steele State Historic Park.

5.9.2.1 Seminoe State Park

The Seminoe Dam and Power Plant are on the North Platte River about 34 miles northeast of Rawlins, Wyoming. The Seminoe Reservoir, a major feature of the Kendrick Project, provides storage capacity for water to irrigate Kendrick Project lands. The Kendrick Project conserves the waters of the North Platte River for irrigation and electric power generation. The Kendrick Project is a multi-purpose development with storage at Seminoe Reservoir and diversion at Alcova Dam to Project lands. Operation of the reservoirs and power plants is integrated with other river basin developments. Seminoe Reservoir has a total capacity of 1,017,279 acre-feet and provides storage capacity for the water to irrigate the Kendrick Project lands. The power plant generates electric power as the water is released for irrigation or stored in Pathfinder Reservoir for later release as required.

Recreational resources are managed for the Bureau of Reclamation by Wyoming State Parks and Historic Sites. The park is located on the North Platte River, 72 miles southwest of Casper, and 38 miles north of Sinclair, in Carbon County. Access to the park is from I-80 via Carbon County Rd. 351 or from U.S. 220 via Natrona County Hwy. 407 and Carbon County Roads 291 and 351. Seminoe State Park provides three campgrounds and three boat ramps.

Available species include walleye, brown trout, rainbow trout, and cutthroat trout. The reservoir is stocked annually with rainbow and cutthroat trout. Adjacent to Seminoe Dam, near the north end of the reservoir, the Morgan Creek drainage area comprises approximately 4,752 acres of forested lands within the Seminoe Mountains that is administered by the Wyoming Game and Fish Department as a winter range for elk and bighorn sheep. The area is open to hunting, but closed to grazing, camping, and fires.

5.9.2.2 Fort Fred Steele State Historic Park

"Fort Fred Steele was established on June 20, 1868, and occupied until August 7, 1886, by soldiers who were sent by the U.S. Government to guard the railroad against attack from Indians. The construction of the transcontinental Union Pacific Railroad across southern Wyoming in 1867-1869, in turn, brought the cattlemen, sheepherders, loggers, tie hacks, miners and merchants who changed a wasteland into the Wyoming Territory.

Colonel Richard I Dodge, who selected this site on the west bank of the North Platte River, named the fort for Major General Frederick Steele, 20th U.S. Infantry, a Civil War hero.

Although the fort at first resembled a tent city, Colonel Dodge's military quartermaster quickly built the fort according to Army specifications by using local materials and labor.

After the major Indian threat had passed, the War Department deactivated the post and transferred its troops to other military facilities throughout the United States. Only a guard was left to oversee this federal property.

After the fort was abandoned, a sparse population of civilians remained at what would be known only as Fort Steele. Prospering briefly as a logging center, millions of felled trees were floated down the North Platte River from the Medicine Bow and Sierra Madre Mountains to this small community, where they were turned into railroad ties and fence posts." (Fort Fred Steele State Historic Site, 2008)

5.9.2.3 Lincoln Highway

In 1912, the Lincoln Highway was conceived as a transcontinental highway to parallel the original railroad that crossed this country. The highway was dedicated in 1922, linking the east and west coasts. A brief economic revival for Fort Steele followed that achievement. However, the rerouting of the Lincoln Highway in 1939, plus the demise of the tie industry a year later, was the village's death knell (Fort Fred Steele State Historic Site, 2008).

Fort Fred Steele State Historic site is located approximately 12 miles east of Rawlins, Wyoming and 1.25 miles north of Ft. Steele Rest Area just off of Interstate 80.

5.9.3 Impacts

The Project would temporarily increase the population in the area of primary affect. It is anticipated that a limited number of workers may visit state parks, natural features, and wildlife refuges in the area. Currently, visitation numbers are not available to determine incremental visitation increases. Therefore, an established annual visitation rate has not been established and a threshold of significance determination cannot be asserted. It is envisioned that a very small incremental increase in park and refuge visitations would not exceed the current annual visitation growth rates and would not result in a significant increase in visitor impacts to the parks or refuge that would substantially impair the health, safety, and welfare of present or expected local inhabitants.

The transportation analysis (see Section 4.3.8) concluded that the additional vehicle trips generated by the construction and operations of the Project will have a negligible impact on the operations of the adjacent roadway network. Therefore, traffic on state roads and federal interstates is not considered further. The slight increase in traffic associated with construction and operation of the Project is not anticipated to impair substantially the health, safety, or welfare of the present or expected inhabitants of the area of primary affect.

5.10 Wetland/Waters of the United States Resources

Rule I Section 7(xiii)(P) – Preliminary evaluations of or plans and proposals for alleviating social, economic or environmental impacts upon local government or any special districts which may result from the proposed facility, which evaluations, plans and approvals shall cover other relevant areas.

CH2M HILL reviewed National Wetland Inventory (NWI) data to determine whether wetlands are known to occur in or near the Project area, and a wetland and waters of the U.S. assessment was conducted by CH2M HILL wetland scientists on May 21, 2008.

5.10.1 Regulatory Jurisdiction

The Clean Water Act (CWA) (33 U.S.C. § 1251, et seq.) is a 1977 amendment to the Federal Water Pollution Control Act of 1972, which set the basic structure for regulating discharges of pollutants to waters of the United States. The CWA implements impacts to both jurisdictional wetlands and waters of the U.S. and water quality standards. The section purposes are listed below:

- Section 404—regulates the discharge of dredged and fill material into waters of the United States, including wetlands
- Section 402—National Pollutant Discharge Elimination System (NPDES) permits for discharge of pollutants
- Section 401—State certification of water quality

The assessment determined that no jurisdictional wetlands or waters of the U.S. are present within the proposed Project area. The closest potentially jurisdictional water body is Hansen Draw, located approximately ¼ mile northeast of the Project. The draw contains an impounded pond upstream of an access road crossing. NWI mapping in Figure 5-2 shows the location of the pond. Another pond exists within Hansen Draw farther downstream. These ponds drain via culverts installed under the roads and would connect during high-flow events. Small patches of wetland vegetation may exist in areas along the ponds within Hansen Draw, but most of the draw appears to support non-wetland vegetation only. Project activities would not impact these resources in any way.

5.10.2 Impacts

No potential impacts to jurisdictional wetlands and waters of the U.S. will be associated with the construction and operation of the Project. Therefore, the Project will be constructed and operated in accordance with the terms and conditions of the permits to ensure that there are no significant impacts to wetlands and waters of U.S., including impacts to the local population and infrastructure to preclude substantial impairment to health, safety, or welfare of jurisdictional features in the area of primary affect.

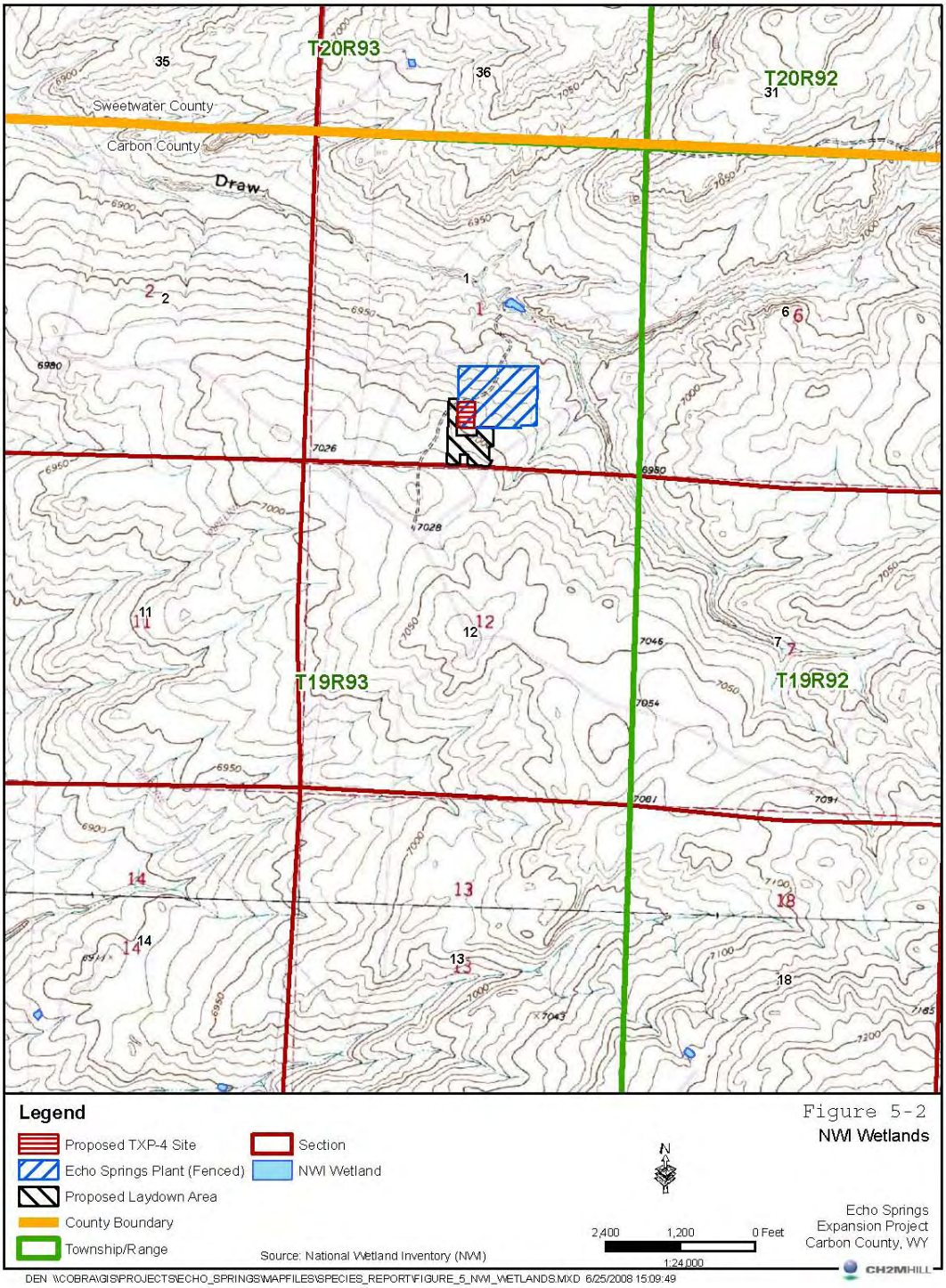

FIGURE 5-2
NWI Wetlands

5.11 Visual/Scenic Resources

Rule I Section 7(xiii)(A) – Preliminary evaluations of or plans and proposals for alleviating social, economic or environmental impacts upon local government or any special districts which may result from the proposed facility, which evaluations, plans and approvals shall cover scenic resources.

Visual or aesthetic resources are the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Visual resource or aesthetic impacts are generally defined in terms of a project's physical characteristics and potential visibility and the extent to which a project's presence would change the perceived visual character and quality of the environment in which it would be located.

5.11.1 Impacts

The following is a discussion of the Project's visual impacts analyzed using three visual measures pertaining to aesthetics.

Scenic Vista. A review of the area shows that there are no scenic vistas in the proposed Project area. Therefore, the proposed Project would not have a substantial adverse effect on a scenic vista.

Scenic Resources. A review has determined that there are no state scenic highway corridors in the Project vicinity. Therefore, the proposed Project would not substantially damage scenic resources within a state scenic highway corridor. In addition, no other scenic resources were identified that could be substantially damaged by the Project.

Visual Character or Quality. The Project was evaluated to determine whether the visual character or quality of the site and its surroundings. Based on the existing visual character of the highly industrialized Echo Springs Plant area, neither construction nor operation of the proposed Project would cause significant direct or cumulative visual character or quality impacts.

Light Glare. During the Project's construction and startup phases, some activities would occur 6 days a week and up to 16 hours a day. If nighttime construction activities are undertaken, illumination that meets state and federal worker safety regulations would be required. Because the existing Echo Spring Plant is already a brightly lit area, when viewed at night, no mitigation efforts are anticipated.

During the operational stage, the Project will require onsite nighttime lighting for safety and security purposes. TXP4 will be operated 24 hours a day, 7 days a week. Lighting associated with the Project's tower and flare stacks would be visible to surrounding areas. However, the lighting impact of the Project will not materially increase Echo Springs Plant's cumulative impact because it is already highly visible source, and mitigating TXP4 would not materially reduce Echo Springs Plant's overall nighttime footprint. Thus, no mitigation efforts are anticipated.

5.12 Federally Listed Wildlife Resources

Rule I Section 7(xiii)(P) – Preliminary evaluations of or plans and proposals for alleviating social, economic or environmental impacts upon local government or any special districts which may result from the proposed facility, which evaluations, plans and approvals shall cover other relevant areas.

CH2M HILL identified species and/or habitats that could potentially occur in or within 2.0 miles of the Project area and that could have management or planning implications for the proposed development. Sources used to identify these resources included USFWS threatened, endangered, and candidate species lists for Wyoming counties (USFWS, 2008), the BLM-sensitive species (BLM-SS) list (BLM, 2002), the WYNDD (2008), current data provided by the BLM, Wyoming Game and Fish Department (WGFD), and personal communication with Travis Sanderson, USFWS Fish and Wildlife Biologist, on June 23, 2008 (Sanderson, 2008).

Additionally, CH2M HILL completed a site reconnaissance of the Project area vicinity on May 21, 2008, to assess the potential occurrence of suitable habitat for special-status wildlife species. The objective of the evaluation was to assess potential impacts of the Project on special status species and any designated critical habitats. Special status species include USFWS threatened, endangered, and candidate species and their designated critical habitats, and other species of concern (i.e., raptors, big game). Surveys using focused protocols for special-status species were not conducted.

5.12.1 Regulatory Jurisdiction

Designated threatened and endangered wildlife species are protected from incidental take by implementing acts and federal policies. The following details the ESA and policies that currently protect threatened and endangered wildlife species.

Endangered Species Act. Those species classified as threatened or endangered, and habitats designated as critical habitats, are protected under the ESA, enforced by USFWS. Threatened or endangered species are considered "federally listed" or "listed" after a final rule has been published in the Federal Register.

Threatened and Endangered Species. Endangered species are those plant and animal species, subspecies, or varieties that are in danger of extinction throughout all or a significant portion of their range. The threatened category comprises plant and animal species, subspecies, or varieties likely to become endangered within the foreseeable future throughout all or a significant portion of their range.

Candidate Species. Federal candidate species are plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities. Candidate species receive no statutory protection under the ESA. However, the USFWS encourages cooperative conservation efforts for these species because they are, by definition, species that may warrant future protection under the ESA.

Threatened, endangered, or candidate species or critical habitats listed under the ESA that may occur in Carbon County are identified in Table 5-4. Table 5-4 provides the species

name, status, habitat, and conclusions regarding habitat suitability and likelihood of occurrence in or near the Project area.

5.12.2 USFWS Threatened and Endangered Species

Federally listed wildlife species were evaluated by "potential for occurrence" in or near the Project area based on review of data, existing literature, and field reconnaissance. "Potential for occurrence" categories are defined as follows:

- Unlikely: The parcels and/or immediate area do not support suitable habitat for a particular species. Parcels are outside of the species known range or known extant population occurrences.
- Low Potential: Parcels and/or immediate area only provide limited habitat for a particular species. In addition, the known range for a particular species may be outside of the Project area.
- Medium Potential: The parcels and/or immediate area provide suitable habitat for a particular species.
- High Potential: The parcels and/or immediate area provide ideal habitat conditions for a particular species.
- Potential Resident: The parcels and/or immediate area provide suitable habitat for a particular species. Additionally, the species has been known to occur in the area.

TABLE 5-4
Threatened and Endangered Species Potentially Occurring in or Near the Project Area

Species/Listing Name	Scientific Name	Federal Status	Habitat	Potential for Occurrence
Black-footed ferret	*Mustela nigripes*	Endangered	The black-footed ferret is found almost exclusively in prairie dog colonies in basin-prairie shrublands, sagebrush-grasslands, and grasslands. It is dependent on prairie dogs for food and all essential aspects of its habitat, especially prairie dog burrows where it spends most of its life underground. An experimental population is present in the Shirley Basin, over 50 miles northeast of the Project area.	Unlikely. The Project will be constructed on property that is actively managed as part of an existing gas-processing plant. White-tailed prairie dogs and low-density burrows were observed in the Project area during the site visit. The Project is also within the Continental Divide Complex nonblock-clearance area designated by the USFWS, meaning that surveys could be required if suitable habitat is present. The Project is over 50 miles from an experimental population in the Shirley Basin of Wyoming, and no black-footed ferrets have been observed in the vicinity of the Project area in over 40 years. The size and density of prairie dog colonies in the Project vicinity suggest that black-footed ferrets are unlikely to use the Project area or be affected by the Project as proposed.
Canada lynx	*Lynx canadensis*	Threatened	Inhabitant of boreal forest and occasionally shrub-steppe habitats. Lynx are specialized predators of snowshoe hare (*Lepus americanus*).	Unlikely. No suitable habitat present for lynx or for the specialized prey-base snowshoe hare.
Greater sage-grouse	*Centrocercus urophasianus*	Candidate	Basin-prairie shrub, mountain foothill shrub at elevations ranging from 4,000 to over 9,000 amsl. Highly dependent on sagebrush for cover and food.	High. However, The Project will be constructed on property that is actively managed as part of an existing gas-processing plant. Recorded observations in the Project vicinity. The 10-acre area proposed for disturbance immediately adjacent to the existing plant is considered suitable habitat for nesting, cover, and food, so Wamsutter LLC has excluded development of the sage-covered portions of the parcel. An occupied lek is located 1.8 miles south of the Project area. The greater sage-grouse is currently under status review by the USFWS and is granted no special protections under the Endangered Species Act on private land at this time. USFWS recommends avoiding surface disturbing activities in suitable nesting habitat within 2 miles of occupied leks from March 1 to June 30.
Western Yellowbilled cuckoo	*Coccyzus americanus*	Candidate	Typically associated with riparian forested habitats.	Unlikely. No suitable habitat present.

Source: USFWS Ecological Services Wyoming Field Office, Endangered, Threatened, and Candidate Species and Designated Critical Habitat for Wyoming Counties. February 2008. http://www.fws.gov/mountain-prairie/endspp/CountyLists/Wyoming.pdf. Accessed June 2008.

A review of the best available data, confirmed by the site-reconnaissance, indicates no threatened or endangered species or critical habitats that are granted protection under the ESA are present within the Project site. The greater sage-grouse was not documented to occur within the Project area, but records do detail that an occupied lek is present approximately 1.8 miles south of the Project area.

5.12.2.1 Potential Impacts

USFWS Threatened and Endangered Species. The Project does not involve federal lands and will not require the obtainment of a federal right-of-way grant for the development of Project (e.g., National Environmental Policy Act [NEPA]). In addition, the Project area does not contain any designated critical habitat for any federally listed species. Therefore, impacts to threatened and endangered species are not required to be considered pursuant to Section 7 or 10 of ESA, as amended.

The Project will not result in any impacts to federally listed threatened and endangered species and will preclude substantial impairment to health, safety, or welfare of those designated species and their designated critical habitats within the area of primary affect.

Greater Sage-Grouse. The greater sage-grouse, which is currently under status review by the USFWS, has a high potential for occurrence in the Project area. As previously stated, an occupied lek is present approximately 1.8 miles south of the Project area. Ephemeral use by nesting or foraging greater sage-grouse could potentially occur within the temporary laydown and staging area; therefore, individuals may be displaced. Clearing the vegetation from the temporary staging area should be completed outside the nesting season (March 1 to July 15) to prevent destruction of nests. Wamsutter LLC has already excluded development of the sage-covered portions of the parcel in order to minimize habitat damage.

The USFWS is conducting a status review of the greater sage-grouse. However, the Project will not result in any significant impacts to the greater sage-grouse and will preclude substantial impairment to health, safety, or welfare of the grouse within the area of primary affect.

5.13 Wildlife Resources

Rule I Section 7(xiii)(P) – Preliminary evaluations of or plans and proposals for alleviating social, economic or environmental impacts upon local government or any special districts which may result from the proposed facility, which evaluations, plans and approvals shall cover other relevant areas.

This section identifies wildlife species known to occur or that potentially will occur within the area of the Project. There are no federal wildlife refuges, state wildlife areas, or conservation easements within or adjacent to the sites.

CH2M HILL reviewed available data and conducted a site reconnaissance to identify species and/or habitats that could influence the implementation of the proposed Project in Carbon County, Wyoming. CH2M HILL used the best available data to determine whether these species, habitats, or related life-cycle features (e.g., leks, nests, seasonal ranges) are known to occur in or within 2.0 miles of the Project area. CH2M HILL also completed a site reconnaissance of the Project area vicinity on May 21, 2008.

5.13.1 Regulatory Background

Bald and Golden Eagle Protection Act of 1940. The Bald and Golden Eagle Protection Act of 1940 (Eagle Act) (16 U.S.C. 668-668d, 54 Stat. 250) as amended, was approved June 8, 1940, and amended by P.L 86-70 (73 Stat. 143) June 25, 1959; P.L. 87-884 (76 Stat. 1346) October 24, 1962; P.L. 92-535 (86 Stat. 1064) October 23, 1972; and P.L. 95-616 (92 Stat. 3114) November 8, 1978. The Eagle Act provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession, and commerce of such birds. The 1972 amendments increased penalties for violating provisions of the Eagle Act or regulations issued pursuant thereto and strengthened other enforcement measures. Rewards are provided for information leading to arrest and conviction for violation of the Eagle Act. The 1978 amendment authorizes the Secretary of the Interior to permit the taking of golden eagle nests that interfere with resource development or recovery operations.

A 1994 memorandum (59 Federal Register [FR] 22953, April 29, 1994) from President William J. Clinton to the heads of executive agencies and departments sets out the policy concerning collection and distribution of eagle feathers for Native American religious purposes.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act (MBTA) offers protection of 836 species of migratory birds (listed in 50 CFR 10.13), including waterfowl, shorebirds, seabirds, wading birds, raptors, and passerines. Generally speaking, the MBTA protects all birds in the United States, except gallinaceous (upland game) birds, rock pigeons, Eurasian collared doves, European starlings, and house sparrows.

The MBTA implements various treaties and conventions between the United States and Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Under the MBTA, taking, killing, or possessing migratory birds is unlawful. Unless permitted by regulation, the MBTA provides that it is unlawful to pursue, hunt, take, capture, or kill; attempt to take, capture, or kill; possess; offer to or sell, barter, purchase, or deliver; or cause to be shipped, exported, imported, transported, carried, or received any migratory bird, part, nest, egg, or product, manufactured or not.

According to the MBTA, a person, association, partnership, or corporation that violates the Act or its regulations is guilty of a misdemeanor and subject to a fine of up to $500, jail up to 6 months, or both. Anyone who knowingly takes a migratory bird and intends to, offers to, or actually sells or barters the bird is guilty of a felony, with fines up to $2,000, jail up to 2 years, or both. The USFWS is responsible for implementing the provisions of the MBTA, which is enforced by the USFWS Division of Law Enforcement.

Crucial Ranges for Big Game Animals. One of the more important criteria for federal and state wildlife managers in Wyoming are land areas that are designed as "crucial winter range." This designation is one of six seasonal wildlife range classifications recognized and used by WGFD, the Wyoming State Land Board, BLM, U.S. Forest Service Regions 2 and 4, USFWS, and the Natural Resources Conservation Services.

Crucial range refers to: "…any particular range or habitat component (often winter or winter/year long range in Wyoming), but describes that component which is the determining factor in a population's ability to maintain and reproduce itself at a certain

level (theoretically at or above WGFD population objectives) over the long-term." (Wyoming Wildlife Society, 1990) WGFD representatives indicate that crucial winter range areas are significant to sustaining big animal populations in Carbon and Albany counties and other counties in the state. WGFD completed the mapping of all seasonal wildlife range areas for big game animals in 1988.

Sensitive Species. On federally administered and owned lands, the regulating federal agency (e.g., BLM, USFWS) is required to manage sensitive plant and wildlife species as designated by the implementing Director as "sensitive." A sensitive species is defined differently by the implementing federal agency; however, generally it is a species that could potentially become threatened or endangered or extinct in the state or region. BLM-SS include species currently under status review by the USFWS, species whose numbers are declining rapidly so that federal listing may become necessary, species that typically have small or widely dispersed populations, or species that inhabit ecological refugia or other specialized or unique habitats (BLM, 2002).

BLM lacks regulatory authority over the Project because no BLM-administered land will be affected; therefore, BLM mitigation and stipulations on development for BLM-SS do not apply. However, the avian BLM-SS, as well as other raptors and passerines potentially present in the area are protected under the Migratory Bird Treaty Act. Golden eagles, which are likely occur in the Project vicinity, are protected under the Bald and Golden Eagle Protection Act.

5.13.2 Avian Resources

During the site reconnaissance, the Project area and surrounding 1-mile buffer were visually searched for the presence of raptor nests. In addition, WYNDD, BLM, and WGFD databases were searched for known locations of raptor nests. No raptor nests were observed during the site reconnaissance, and no previously recorded nests occur within 1 mile of the Project area.

5.13.2.1 Impacts

Due to the lack of historical and current occupied raptor nests, the Project will not impact any active nests. The Project will not result in any significant impacts to raptors and will preclude substantial impairment to health, safety, or welfare of nesting raptors within the area of primary affect.

5.13.3 Crucial Ranges for Big Game Animals

Although the Project area provides suitable habitat for pronghorn (*Antilocapra americana*), no big game crucial winter ranges, parturition areas, or migratory routes are identified in or near the Project area. The nearest pronghorn crucial winter range is located approximately 4 miles north of the Project.

WGFD big game seasonal range data indicate that pronghorn utilize the Project area vicinity. Pronghorn are migratory, and many areas of the region have relatively high densities of antelope during the summer and fall months, but few or none during the winter. Higher antelope densities are generally found in areas where a source of surface water is available, generally between 1 and 5 miles.

5.13.3.1 Impacts

Construction and operation of the Project would not result in direct effects to any designated big game crucial ranges. There will be disturbance of soils and removal of vegetation associated with construction of the Project, which could impact existing habitat or forage for pronghorn antelope within the temporarily disturbed 10-acre laydown area The Project will not result in any significant impacts to raptors or bald or golden eagles and will preclude substantial impairment to health, safety, or welfare of nesting raptors within the area of primary affect.

5.13.4 BLM-Sensitive Species

Species listed as sensitive by the BLM that may occur in and near the Project area are presented in Table 5-5. BLM mitigative guidelines to minimize impact to these species are presented (BLM, 2008).

5.13.4.1 Impacts

Adherence to BLM and USFWS guidelines for development activities near raptor nests and minimizing impact to shrub habitats during the general avian nesting season will reduce the probability of impacting any BLM-SS. The Project may displace BLM-SS present in the area proposed for disturbance, but will not result in any significant impacts to BLM-SS species. The Project will preclude substantial impairment to health, safety, or welfare of BLM-SS or their habitats within the area of primary affect.

TABLE5-5
BLM-Sensitive Species Potentially Occurring in or Near the Project Area

Species/Listing Name	Scientific Name	Habitat	Potential for Occurrence/ Mitigation Recommendations
Brewer's sparrow	*Spizella breweri*	Basin-prairie shrub	High. Ideal habitat is present. BLM recommends managing surface disturbing and disruptive activities to minimize impacts on crucial habitat for these species. This would not be considered crucial habitat; however, disturbance of sage-brush should be limited to nonnesting season.
Burrowing Owl	*Athene cunicularia*	Grassland, basin-prairie shrub	High. Observations have been recorded in the Project vicinity and active nests are probable. BLM recommends no surface disturbance within ¾ mile of active nest burrows from April 15 to September 15, and no disturbance year round within 825 feet.
Ferruginous Hawk	*Lynx canadensis*	Basin-prairie shrub, grassland, rock outcrops.	High. Recorded observations in the Project vicinity, but no known nest sites in or within 2 miles.
Greater sage-grouse	*Centrocercus urophasianus*	Basin-prairie shrub, mountain foothill shrub.	High. Recorded observations in the Project vicinity. Area proposed for disturbance is considered suitable habitat for nesting, cover, and food. An occupied lek is located 1.8 miles south of the Project area. The greater sage-grouse is currently under status review by the USFWS and is granted no special protections under the Endangered Species Act on private land at this time. BLM recommends avoiding surface disturbing activities in suitable nesting habitat within 2 miles of occupied leks from March 1 to July 15.
Loggerhead shrike	*Lanius ludovicianus*	Basin-prairie shrub, mountain-foothill shrub	Medium. Suitable foraging habitat is present, but no nesting habitat observed in Project area. BLM recommends managing surface disturbing and disruptive activities to minimize impacts on crucial habitat for these species. This would not be considered crucial habitat.
Pygmy rabbit	*Brachylagus idahoensis*	Basin-prairie and riparian shrub.	Medium. Tall sage-brush stands with in the Project area may provide suitable habitat. BLM recommends managing surface disturbing and disruptive activities to minimize impacts on crucial habitat for these species; however, this would not be considered crucial habitat for the species.

TABLE5-5
BLM-Sensitive Species Potentially Occurring in or Near the Project Area

Species/Listing Name	Scientific Name	Habitat	Potential for Occurrence/ Mitigation Recommendations
Sage thrasher	*Oreoscoptes montanus*	Basin-prairie shrub, mountain-foothill shrub	High. Suitable foraging and nesting habitat present. BLM recommends managing surface disturbing and disruptive activities to minimize impacts on crucial habitat for these species. This would not be considered crucial habitat; however, disturbance of sage-brush should be limited to nonnesting season.
Townsend's big-eared bat	*Corynorhinus townsendii*	Forests, basin-prairie shrub, caves, and mines.	Low. BLM recommends managing surface disturbing and disruptive activities to minimize impacts on crucial habitat for these species; however, this would not be considered crucial habitat for the species.
White-tailed prairie dogs	*Cynomys leucurus*	Basin-prairie shrub and grasslands.	Resident. An occupied white-tailed prairie dog colony was observed in the Project area during the field visit. BLM recommends avoiding surface disturbance activities within prairie dog colonies.

Source: BLM, 2002

5.14 Cumulative Impacts

Rule I Section 7(j) – Cumulative impacts of the proposed industrial facility and other projects in the area of site influence should be addressed separately.

Cumulative environmental impacts may include incremental impacts resulting from the Project, in addition to any impacts that would result from past, ongoing, or foreseeable future actions within the Project site or the surrounding area. For purposes of cumulative impacts analysis, the analysis area is defined as the area of primary affect for the natural resources which has been defined as the Project site plus a 1-mile buffer area.

5.14.1 Air Quality

Incremental impacts to air quality could result from fugitive dust emissions associated with increased vehicular traffic. However, these impacts will be acute resulting in potential above normal background levels, but the impact will be highly localized. The majority of these impacts would be confined to the construction period. The Echo Springs Gas Plant will not pose an adverse threat to the maintenance of the local and regional air quality standards based on the assessment of air quality conducted in accordance with the requirements set forth in the EPA and WDEQ guidelines. Increased emissions of NO_x, VOC, and CO associated with the operation of the TXP4 train will result in incremental cumulative emissions increases; however, emissions are not expected to contribute significantly to cumulative impacts to regional air quality because they would be localized and be minimized by using the BACT to minimize impacts.

5.14.2 Noise

Noise generated during the construction period and operational phase would approach typical background levels for rural areas at distances of 2,000 ft (600 meter [m]) or less. However, there are no residences within 3 miles of the Project site. Additional construction noise will be a short-term impact and will not result in cumulative impacts to any local residents.

5.14.3 Soil Resources/Geologic Hazards

There will be localized disturbance of soils associated with construction within the 10-acre laydown area. These impacts will be minimized by mitigation measures designed to guard against excessive erosion. There are no active faults located within the Project area. No other foreseeable action will contribute to cumulative impacts on soil resources within the Project site. Cumulative impacts to soil/geologic resources or seismic characteristics from the Project are not expected to be significant.

5.14.4 Cultural Resources

No cultural resources or NRHP-eligible archaeological sites will be affected by the Project; therefore, cumulative impacts to such cultural resources would not occur.

5.14.5 Vegetation Resources

No known federally threatened or endangered plant species, or rare vegetative communities exist within the Project area. Therefore, the Project will not contribute to cumulative degradation of these resources. Cumulative impacts on vegetation resources include direct impacts to soil and vegetation from clearing and grading the 10-acre temporary laydown areas. However, long-term and cumulative impacts will be minimized with the use of BMPs and reclamation of the temporary laydown area with native vegetation.

5.14.6 Surface and Groundwater Resources

No surface water will be used for the Project, and construction activities are not anticipated to discharge into surface waters. However, implementation of mitigation measures to control runoff during construction and operation of the Project will prevent significant impacts to surface waters from erosion and sedimentation.

After the Project is operational, minimal quantities of water will be needed. All water will be supplied from the City of Rawlins water supply. In addition, implementation of BMPs for handling, storage, and use of hazardous materials and adherence to applicable permits during construction and operation of the Project will prevent significant cumulative impacts on surface and groundwater resources.

5.14.7 Land Use and Recreation

Appropriate planning and evaluation to address cumulative impacts are conducted by Carbon County through land use and building permit processes and by the State of Wyoming through the Industrial Siting Application to ensure that the proposed Project is compatible with ongoing activities and land uses. The Project's contributions to cumulative impacts on land use would be small or negligible unless a significant permanent, uncompensated loss of the current productive use of a site occurred or if future uses were precluded. Land in the Project area is zoned ranching, agricultural, and mineral. Current land uses livestock grazing and mineral exploration, extraction, and processing.

The Project will be constructed and operated in accordance with Carbon County land use and building requirements; therefore, the Project will cause no significant cumulative impacts that are detrimental to established uses of the surrounding area. The minimal incremental increase in visitation and use of regional recreational areas during construction of the Project is not anticipated to impact recreational use cumulatively.

5.14.8 Wetland/Waters of the U.S. Resources

Project construction and operation activities will result in no discharges of dredged or fill materials into jurisdictional wetlands or waters of the U.S.; therefore, CWA permit approval is not required. Potential impacts to intermittent streams outside of the Project site will be minimized through the use of BMPs including sediment and erosion control measures.

5.14.9 Visual Resources

Because of the rural setting and lack of sensitive receptors both within and adjacent to the Project area, impacts to visual resource concerns should be minimal. Construction and

operation of the Project will not significantly degrade the scenic quality of the area due to the expansion within the existing facility's Project boundary.

5.14.10 Wildlife Resources

Construction of the Project will temporarily disturb approximately 10-acres of wildlife habitat adjacent to the Echo Springs Gas Plant, resulting in potential displacement of wildlife to potentially less suitable and less available habitats and habitat alteration. These impacts will be minimized with the use of BMPs and reclamation of the temporary laydown area with native vegetation.

The presence of the TXP4 expansion will result in minimal alteration of the landscape because it will be contained within the existing Echo Springs Gas Plant facility. Therefore, wildlife habitat use patterns are not likely to be altered by implementation of the TXP4 expansion.

5.14.10.1 Federally Listed Wildlife Species

Because there are no listed threatened or endangered species known or suspected to be present on the Project site, no cumulative impacts to threatened and endangered species or designated critical habitat will occur as a result of the Project.

5.14.10.2 Big Game

Pronghorn antelope may occur in proximity to the boundaries of the existing fenced Project area. In addition, the temporary disturbance to 10 acres of big sagebrush community associated with the temporary staging area may potentially affect foraging habitat. However, Williams plans to avoid disturbing the best sagebrush habitat within the 10-acre temporary staging area. Long-term and cumulative impacts will be minimized due to the expansion of TXP4 within the boundary of the existing Project area footprint and minimal habitat impacts associated with the 10-acre temporary laydown area.

5.14.10.3 BLM-Sensitive Species

BLM-SS may occur in proximity to the boundaries of the existing fenced Project area. In addition, the temporary disturbance to 10 acres of big sagebrush community associated with the temporary staging area will potentially affect suitable habitats. However, Williams plans to avoid disturbing the tallest sagebrush habitat within the 10-acre temporary staging area. Long-term and cumulative impacts will be minimized due to the expansion of TXP4 within the boundary of the existing Project area footprint and minimal habitat impacts associated with the 10-acre temporary laydown area.

6.0 Public Involvement

Rule I Section 7(g) - The applicant shall identify what it deems to be the area of site influence and the local governments primarily affected by the proposed industrial facility as defined in sections 2(b) and (c), respectively, of the regulations. The immediately adjoining area(s) and local governments shall also be identified with a statement of the reasons for their exclusion from the list of area(s) or local governments primarily affected by the proposed industrial facility.

Area of Study: The area of study was defined as a five-county area comprised of Albany, Carbon, Fremont, Natrona, and Sweetwater counties (Figure 4-1). These five counties were identified early in the analysis and in consultation with the ISD during the Jurisdictional meeting (held on April 24, 2008).

Area of Site Influence: Based on a review of the five-county study area, the area of site influence is defined as a more geographically restrictive area within which impacts are expected to be concentrated. This area extends approximately 70 miles west and 100 miles east from the Project site and includes Rawlins, Medicine Bow, and Hanna in Carbon County, and the towns of Wamsutter, Green River, and Rock Springs in Sweetwater County (Figure 4-1).

It is within this area and the communities contained within it that the majority of construction and operations workers are expected to reside and within which Wamsutter LLC will concentrate efforts to house non-local workers. Wamsutter LLC desires to maximize the benefits of the Project to the local communities, while minimizing adverse impacts as much as possible. While their intent is to ensure that adequate housing is available within the major communities of Rawlins, Wamsutter, Rock Springs, and Green River for the workforce at the Project site, it is recognized that some members of the workforce may choose to reside temporarily outside these communities.

After an initial assessment of the potential Project impacts and in consultation with the ISD, it was recommended that meetings be held with elected officials in Sweetwater County, Carbon County, Rawlins, and Wamsutter. Wamsutter LLC conducted a series of meetings with local officials of those communities, as well as with state agencies, and also undertook additional outreach activities that went beyond the ISA requirements. At the discretion of Wamsutter LLC, a public open house was held in Rawlins. A summary of these activities is detailed below.

6.1 Meeting Activities

Meetings were held by Wamsutter LLC to meet with and receive comments from state agencies and local government officials within the area of study. Wamsutter LLC conducted the following meetings and initiated the following consultations and contacts:

- Jurisdictional Meeting with ISD staff on April 24, 2008, in Cheyenne, WY.
- Meeting with the Town of Wamsutter on June 2, 2008, in Wamsutter, WY (Mayor Ken Walden, Town Community Development Lisa Colson, and Clerk Linda Geertson).
- Meeting with Carbon County Commissioners on June 3, 2008, in Rawlins, (Commissioners Terry Weickum, Jerry Paxton, and James Elliott; County Attorney Cindy DeLancey; and Clerk Owen Rothenburger).
- Meeting with local government officials of the City of Rawlins on June 3, 2008, in Rawlins, WY (Mayor Ken Klouda, Council Members DeBari Martinez and Patricia Schuler, Interim City Manager Duane Stolns, City Attorney Dan Massey, Director of Finance Dan Izzo; Deputy Clerk Wendy Leon, Clerk Marla Brown, and others).
- Public Open House at the Depot in the City of Rawlins on June 3, 2008, attended by various members of the public.
- Meeting with Sweetwater County Commissioners on June 17, 2008, in Rock Springs, WY (Commissioner Wally Johnson, Chairman Debbie DellaBose, County Attorney Bob Gordon, Executive Director Vickie Easton, and Clerk Matt Kott).
- Meeting with Wyoming State Agencies on June 16, 2008, in Cheyenne, WY (Randy Griesbach Wyoming Department of Transportation, Jerry Davis Department of Workforce Services, Vern Stelter Wyoming Game and Fish).
- Wyoming Game and Fish Department (May 2008 conference call with follow-up at Agency Meeting on June 16, 2008, in Cheyenne, WY).
- Wyoming State Historical Preservation Office (July 2008 call and follow-up email).

6.1.1 Meeting Format/Information Provided

The meeting format and information provided were generally the same at both the state agencies and local government officials' meetings. The format and information consisted of the following:

- Informational boards were displayed around a meeting room for attendees to see and discuss with Wamsutter LLC Project planners prior to a formal presentation. These displays included information on the following:
  - A map of the site location
  - A map of the general footprint of facilities on the site
  - A Project overview
  - Benefits (such as jobs and tax revenue)
  - Permit requirements and activities
  - The Industrial Siting Permit process and ISA schedule
  - Housing and transportation
  - Construction and operation workforce
  - Schedule (permit application and construction)

- After a period of informal mingling and review of the displays, the meeting was called to order, and Wamsutter LLC representatives distributed a Project fact sheet and gave a presentation and overview of the Project.
- A question-and-answer session followed the presentation.

At the meeting with Wyoming State Agencies in Cheyenne, a representative of the ISD was on hand to provide information on the ISA process and to answer questions.

6.1.2 Meeting Notices and Attendees

The state agencies and local entities notified of the meeting were those specified by statute in the ISA permit regulations. An email invitation and fact sheet were provided to local government officials and state agency representatives. Copies of the meeting invitations, list of the names/entities, and attendee sign-in sheets from the state agencies' meeting are included in Appendix E.

6.2 Additional Activities

The activities described in this section are not specifically required by the ISA permit application process. However, Wamsutter LLC planners undertook these additional activities as a way to better understand community perspectives.

6.2.1 Newspaper Advertisements for Public Open House

A newspaper advertisement announcing an informational open house for the public was placed in the *Rawlins Daily Times,* the main newspaper serving residents of Carbon County. The advertisement invited the public to the open house to learn more about the Project and to ask questions of Project representatives. The ad was published on Saturday, May 31, 2008, and again on Tuesday, June 3, 2008, the day of the open house. An electronic copy of the ad was emailed to representatives of the Town of Wamsutter (Sweetwater County) for public posting and circulation as they wished. A copy of the newspaper ad is included in Appendix E.

6.2.2 Public Open Houses

A public open house was held in Rawlins on June 3, 2008, at the Depot, a community center. The purpose of the open house was to give residents and community members an opportunity to find out more information and to give comments.

- Notification of the open house was made through the newspaper advertisement detailed above.
- The format for the open house included display of informational boards set around a room, and Project representatives were on-hand to speak with and answer questions from the public.
- A Project fact sheet was available as a handout.
- A copy of the fact sheet and the list of attendees who signed in at the open house are included in Appendix E.

6.2.3 Questions and Answers

The types and nature of the questions posed were similar across all the meetings and included such topics as:

- The ISA process and impact assistance fund allocations
- Construction processes, schedules, and housing
- Steps taken to reduce criminal infractions (i.e., speeding and drunk driving)
- Socioeconomic issues, including jobs/employment, housing, tax revenue, and community partnerships
- Environment, safety, and solid waste
- Technical questions on the nature of natural gas processing.
- Business viability and business aspects

The comments and questions received at the various meetings have been taken into consideration, as appropriate, in the ISA report and permit application. These meetings have opened the door to further communication as may be warranted between Wamsutter LLC and the local governments. Letters of support resulting from our meetings are included in Appendix E.

7.0 Plans for Alleviating Impacts

Rule I Section 7(k)(i) – Controls and Mitigation Measures. The applicant shall describe the procedures proposed to avoid constituting a public nuisance, endangering the public health and safety, human or animal life, property, wildlife or plant life, or recreational facilities which may be adversely affected by the proposed facility, including impact controls and mitigating measures proposed by the applicant to alleviate adverse environmental, social and economic impacts associated with construction and operation of the proposed industrial facility.

Various mitigation measures will be implemented to alleviate impacts related to construction and operation of the Projects. These mitigation measures are described in the following paragraphs and are organized by environmental resource.

7.1 Air Quality

The following mitigation measures will be followed to reduce dust and air emissions from construction-related activities:

- Construction-related dust disturbance shall be controlled by the periodic application of water to all disturbed areas along the right-of-way and access roads
- Stationary sources associated with operation of the Project requiring Wyoming Department of Air Quality – Air Quality Permits will be controlled in accordance with relevant regulations and issued conditions. The recent air quality analysis conducted as part of the permit applications shows that the facility will be in compliance with all state and federal standards.

7.2 Noise

Issues associated with noise are not expected. The nearest residence to the Echo Spring Gas Plant is in the Town of Wamsutter (over 8 miles away). The following mitigation measures will be followed to reduce noise and the potential for annoyance from construction-related activities:

- All local, state, and federal regulations will be followed.

7.3 Soil Resources/Geologic Hazards

Erosion control measures and reporting measures will be prescribed in the WYPDES permit and administered through construction specifications and balance of plant contractor implementation. Therefore, site-specific erosion control measures will be monitored for effectiveness to minimize the impacts to soils during and after construction.

Wamsutter LLC will adhere to the Storm Water Pollution Prevention Plan, which includes an erosion control plan. The plan will address excavation, grading, and placement of erosion control measures during and after construction.

7.4 Cultural Resources

No known cultural resource locations are present on the site. Should any previously unknown historic/prehistoric sites or artifacts be encountered during construction, all land-altering activities at that location will be immediately suspended and the discovery left intact until such time that Wamsutter LLC is notified and appropriate measures are taken to ensure compliance with the National Historic Preservation Act and enabling legislation.

Should any additional cultural resources be discovered during construction, the Wyoming State Historic Preservation Officer will be immediately contacted at:

Wyoming State Historic Preservation Office
2301 Central Avenue, Barrett Building, Third Floor
Cheyenne, Wyoming 82002
307-777-6311

7.5 Vegetation Resources

Disturbances will be minimized through best management practices to minimize the impact area and avoid unnecessary disturbance of vegetation and minimize the potential for spread of noxious weeds to the areas of disturbed soil.

7.6 Surface Water and Groundwater Resources

Construction activities shall be performed by methods that prevent entrance or accidental spillage of solid matter, contaminant debris, and other objectionable pollutants and wastes into flowing streams or dry water courses, lakes, and underground water sources. Such pollutants and wastes include, but are not restricted to, refuse, garbage, cement, concrete, sanitary waste, industrial waste, oil and other petroleum products. Activities shall be conducted in this manner:

- Excavated material or other construction materials shall not be stockpiled or deposited near or on stream banks, lake shorelines, or other water course perimeters where they can be washed away by high water or storm runoff.

7.7 Land Use

The following mitigation measures will be followed to reduce land use impacts from construction-related activities:

- The contractor shall limit movement of crews, vehicles, and equipment to the Project area and approved access roads to minimize damage to property and disruption of normal land use activity.
- The contractor shall eliminate, at the earliest opportunity, all construction ruts that are hazardous to agricultural/ranching operations and/or movement of vehicles and equipment. Such ruts shall be leveled, filled, and graded or otherwise eliminated in an approved manner. Damage to ditches, tile drains, culverts, terraces, local roads, and other similar land use features shall be corrected, as necessary, by the contractor. The land shall be restored as nearly as practicable to their original condition.

7.8 Wetland/Waters of the United States Resources

Project impacts to waters of the U.S. from the final Project layout will be avoided during construction and operation of the Project or minimized when possible.

7.9 Wildlife Resources

Rule I Section 7(k)(ii) – Monitoring Programs. The applicant shall describe the procedures proposed to avoid constituting a public nuisance, endangering the public health and safety, human or animal life, property, wildlife or plant life, or recreational facilities which may be adversely affected by the proposed facility, including monitoring programs to assess effects of the proposed industrial facility and the overall effectiveness of impact controls and mitigating actions.

The proposed Project does not contain suitable habitat or designated critical habitat for any federally listed species. Pending status review of the greater sage-grouse, consultation may be necessary if the species becomes listed prior to or during Project construction.

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Appendix A
Impact Assistance Payments

Appendix A

Impact Assistance Payments

Industrial Impact Assistance Tax Payments.

Under the Industrial Development and Siting Statutes (Wyoming Statutes 35-12-101 through 35-12-109), the criteria that potential industrial facilities must meet in order to be awarded a construction permit (found at Wyoming Statutes 35-12-102(a)(vii)) also qualify a county or town to receive industrial impact assistance tax payments.

This program of industrial impact assistance tax payments is designed to assist cities, towns, or counties in deflecting the impact a major industrial project may have on community resources. This program measures the increase in tax revenue caused by the industrial project and matches that increase with additional monies from the state General Fund to help communities respond to project-related impacts. This tax distribution is transferred from the state General Fund, via the office of the State Treasurer, directly to County Treasurers' offices. Table 1 lists the impact assistance tax payments (attributable to both sales tax and use tax) received in each of the fiscal years (FY) 1994 through 2007 by county, and any portion paid to cities or towns. These totals represent the amount of extra revenue that counties, cities, and towns receive in direct proportion to any increase in their tax collection to mitigate project-related impacts.

Table 1. Impact Assistance Tax Payments (1994-2007)

Jurisdiction	Albany County	Rock River	Campbell County	Carbon County	Crook County	Moorcroft	Converse County	Douglas	Lincoln County	Sweetwater County	Weston County	Uinta County	Lyman	Mountain View	TOTAL ANNUAL TAXES
FY 1994															
Total	$0	$0	$809,649	$0	$0	$75,838	$0	$0	$0	$80,266	$0	$0	$3,728	$754	$970,235
Sales Tax			$678,972			$64,728				$80,266			$3,728	$754	$828,448
Use Tax			$130,677			$11,110				$0			$0	$0	$141,787
FY 1995															
Total	$0	$0	$854,058	$0	$0	$60,044	$0	$0	$0	$1,068,665	$0	$0	$49,647	$10,041	$2,042,455
Sales Tax			$604,468			$39,253				$887,135			$41,214	$8,336	$1,580,406
Use Tax			$249,590			$20,791				$181,530			$8,433	$1,705	$462,049
FY 1996															
Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$883,980	$0	$0	$41,067	$5,306	$930,353
Sales Tax										$718,537			$33,381	$3,752	$755,670
Use Tax										$165,443			$7,686	$1,554	$174,683
FY 1997															
Total	$0	$0	$303,284	$0	$0	$0	$0	$0	$0	$663,096	$0	$0	$52,350	$0	$1,018,730
Sales Tax			$300,967							$632,469			$49,750		$983,186
Use Tax			$2,317							$30,627			$2,600		$35,544
FY 1998															
Total	$0	$131,527	$2,404,525	$599,182	$0	$0	$0	$0	$0	$3,383,517	$0	$0	$294,218	$0	$6,812,969
Sales Tax		$98,687	$2,404,525	$449,577						$2,847,186			$247,581		$6,047,556
Use Tax		$32,840	$0	$149,605						$536,331			$46,637		$765,413
FY 1999															
Total	$0	$122,185	$2,005,177	$556,622	$0	$0	$0	$0	$0	$2,419,869	$0	$0	$210,422	$0	$5,314,275
Sales Tax		$107,958	$1,896,170	$491,810						$2,272,903			$197,643		$4,966,484
Use Tax		$14,227	$109,007	$64,812						$146,966			$12,779		$347,791
FY 2000															
Total	$0	$167,231	$0	$761,832	$0	$0	$0	$0	$0	$2,076,012	$0	$0	$180,522	$0	$3,185,597
Sales Tax		$49,751		$226,643						$1,960,798			$170,504		$2,407,696
Use Tax		$117,480		$535,189						$115,214			$10,018		$777,901
FY 2001															
Total	$0	$0	$0	$718,554	$0	$0	$0	$0	$0	$1,340,798	$0	$0	$0	$0	$2,059,352
Sales Tax				$476,011						$1,198,702					$1,674,713
Use Tax				$242,543						$142,096					$384,639
FY 2002															
Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sales Tax															$0
Use Tax															$0
FY 2003															
Total	$0	$0	$0	$0	$0	$0	$0	$0	$770,976	$1,638,324	$0	$0	$0	$0	$2,409,300
Sales Tax									$524,282	$1,114,099					$1,638,381

Use Tax									$246,694	$524,225					$770,919
FY 2004															
Total	$0	$0	$0	$0	$0	$0	$0	$0	$935,496	$1,987,932	$0	$156,893	$0	$0	$3,080,321
Sales Tax									$724,050	$1,538,608		$156,893			$2,419,551
Use Tax									$211,446	$449,324		$0			$660,770
FY 2005															
Total	$0	$0	$0	$0	$0	$0	$0	$0	$54,412	$115,627	$0	$0	$0	$0	$170,039
Sales Tax									$46,763	$99,372					$146,135
Use Tax									$7,649	$16,255					$23,904
FY 2006															
Total	$0	$0	$9,954,548	$0	$1,238,082	$145,610	$99,045	$364,027	$0	$0	$2,252,732	$0	$0	$0	$14,054,044
Sales Tax			$8,901,406		$1,106,748	$130,223	$88,539	$325,559			$2,014,515				$12,566,990
Use Tax			$1,053,142		$131,334	$15,387	$10,506	$38,468			$238,217				$1,487,054
FY 2007															
Total	$0	$0	$8,144,981	$0	$2,573,222	$31,650	$205,857	$78,626	$0	$0	$1,224,429	$0	$0	$0	$12,258,765
Sales Tax			$6,680,926		$2,104,969	$26,119	$168,397	$65,297			$1,006,608				$10,052,316
Use Tax			$1,464,055		$468,253	$5,531	$37,460	$13,329			$217,821				$2,206,449
Total Taxes (1994-2007)	$0	$420,943	$24,476,222	$2,636,190	$3,811,304	$313,142	$304,902	$442,653	$1,760,884	$15,658,086	$3,477,161	$156,893	$831,954	$16,101	$54,306,435

The impact assistance payment shall be in addition to all other distributions under this section, but no impact assistance payment shall be made for any period in which the county or counties are not imposing at least a one percent (1%) tax authorized by W.S. 39-15-204(a)(i) and 39-16-204(a)(i) or at least a total of a two percent (2%) sales tax authorized under W.S. 39-15-204(a)(i), (iii) and (vi) and at least a total of a two percent (2%) use tax authorized under W.S. 39-16-204(a)(i), (ii) and (v).

There are a number of criteria governing the period over which impact assistance payments may be appropriate and the manner in which such payments are distributed between jurisdictions affected by the construction project. The period of construction begins at the commencement of construction and ends when the physical components of the industrial facility ate 90 percent complete. Each impact assistance payment to the county treasurer shall be equal to the excess of each monthly payment of sales tax revenues distributed from the state to the county over the base period amount during the period of construction. It is the responsibility of the county treasurer to distribute the impact assistance payments to the county and cities and towns within the county based on a ratio established by the Industrial Siting Council (ISC). The ISC shall review the distribution ratio for construction projects on a regular basis and make appropriate adjustments. The industrial facility will be deemed to be located in the county in which the majority of the construction costs will be expended. However, upon a request from the county commissioners of any adjoining county to the ISC, the Council may determine that the social and economic impacts from construction of the industrial facility upon the adjoining county are significant and establish the ratio of impacts between the counties. The ISC shall certify this ratio to the state treasurer who will thereafter distribute the impact assistance payment to the counties pursuant to that ratio.

Forecasts of the monthly impact assistance tax payments to Carbon County presented in this Attachment A. These forecasts (made on a monthly basis) are based on the difference between two values: a "base period amount"; and a projected value derived from a simple linear regression of historical value. The "base period amount" is the monthly average value of sales and use tax revenues returned to the county and all municipalities within it over the preceding 4 years. The projected monthly value is extrapolated from the least squares fit linear regression using the monthly historic values from the preceding 4 years. Where the projected value exceeds the base period amount, the difference is the projected monthly impact assistance payment disbursed from the State general fund to the county and municipalities.

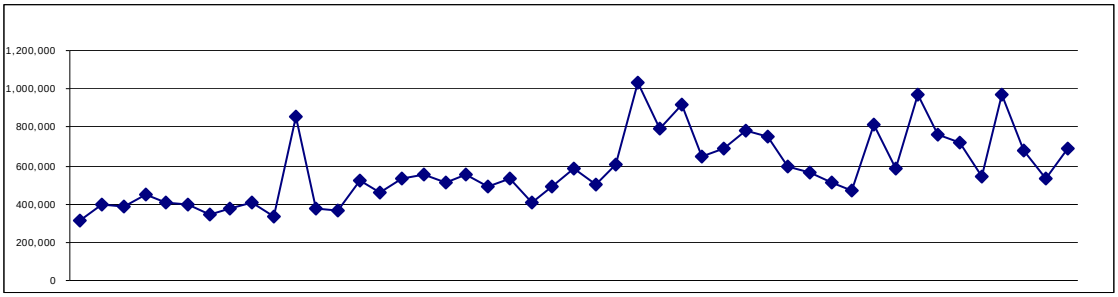
Attachment A

History of State Sales and Use Tax Given to Carbon County Local Governments

Prepared by the Wyoming Industrial Siting Division

		State Share Given to Co			State Share Given to Muni's			Total
Serial	Month	Sales	Use	Total	Sales	Use	Total	
1	July 04	10,703	1,139	11,842	272,105	27,175	299,280	311,122
2	Aug 04	14,251	1,641	15,892	354,453	22,194	376,647	392,539
3	Sep 04	14,396	1,403	15,799	345,565	24,480	370,045	385,844
4	Oct O4	14,229	1,469	15,698	413,303	22,602	435,905	451,603
5	Nov 04	14,415	1,607	16,022	360,898	27,173	388,071	404,093
6	Dec 04	13,160	1,587	14,747	358,534	18,391	376,925	391,672
7	Jan 05	12,250	1,323	13,573	302,731	32,081	334,812	348,385
8	Feb 05	13,024	1,263	14,287	335,912	23,888	359,800	374,087
9	Mar 05	14,219	1,507	15,726	362,869	32,735	395,604	411,330
10	Apr 05	11,508	1,482	12,990	271,065	45,207	316,272	329,262
11	May 05	13,046	2,085	15,131	343,915	**492,998**	836,913	852,044
12	Jun 05	13,515	1,832	15,347	305,021	55,192	360,213	375,560
13	Jul 05	13,087	1,768	14,855	315,616	30,727	346,343	361,198
14	Aug 05	19,846	1,984	21,830	467,774	29,678	497,452	519,282
15	Sep 05	14,973	1,797	16,770	412,490	32,007	444,497	461,267
16	Oct 05	16,797	1,849	18,646	474,986	35,414	510,400	529,046
17	Nov 05	15,062	1,783	16,845	504,518	35,308	539,826	556,671
18	Dec 05	14,396	1,835	16,231	476,666	22,914	499,580	515,811
19	Jan 06	14,793	1,510	16,303	504,105	29,366	533,471	549,774
20	Feb 06	15,800	1,842	17,642	451,170	25,150	476,320	493,962
21	Mar 06	17,441	1,648	19,089	466,650	44,288	510,938	530,027
22	Apr 06	11,945	1,612	13,557	363,610	32,884	396,494	410,051
23	May 06	17,164	2,860	20,024	417,313	54,946	472,259	492,283
24	Jun 06	16,620	2,494	19,114	457,266	**106,875**	564,141	583,255
25	Jul 06	15,337	1,999	17,336	426,577	53,027	479,604	496,940
26	Aug 06	21,612	2,893	24,505	544,648	36,120	580,768	605,273
27	Sep 06	17,283	2,377	19,660	587,594	**429,376**	1,016,970	1,036,630
28	Oct 06	17,199	2,732	19,931	507,718	**267,635**	775,353	795,284
29	Nov 06	20,198	3,193	23,391	760,503	**135,113**	895,616	919,007
30	Dec 06	15,747	2,627	18,374	575,416	49,660	625,076	643,450

		State Share Given to Co			State Share Given to Muni's			Total
Serial	Month	Sales	Use	Total	Sales	Use	Total	
31	Jan 07	17,632	2,318	19,950	616,517	54,542	671,059	691,009
32	Feb 07	16,643	2,580	19,223	519,470	**243,127**	762,597	781,820
33	Mar 07	15,694	2,175	17,869	517,107	**214,680**	731,787	749,656
34	Apr 07	14,627	1,934	16,561	539,047	44,057	583,104	599,665
35	May 07	17,637	2,649	20,286	463,663	77,570	541,233	561,519
36	June 07	14,795	2,198	16,993	448,129	45,821	493,950	510,943
37	July 07	17,790	3,108	20,898	405,132	41,457	446,589	467,487
38	Aug 07	20,544	3,299	23,843	669,242	123,850	793,092	816,935
39	Sept 07	18,529	1,584	20,113	552,890	8,909	561,799	581,912
40	Oct 07	20,118	4,938	25,056	555,489	386,922	942,411	967,467
41	Nov 07	18,868	2,182	21,050	656,467	79,029	735,496	756,546
42	Dec 07	16,532	2,686	19,218	560,434	135,770	696,204	715,422
43	Jan 08	17,643	2,404	20,047	532,316	(14,702)	517,614	537,661
44	Feb 08	18,374	3,105	21,479	661,958	286,515	948,473	969,952
45	Mar 08	16,311	2,414	18,725	588,830	72,900	661,730	680,455
46	Apr 08	16,123	1,899	18,022	470,571	43,326	513,897	531,919
47	May 08	17,854	2,781	20,635	568,432	95,364	663,796	684,431
							Base Period Amount =	685,094



Forecast of State Shares and Impact Assistance Payments

Serial	Month	*SLR*	BasePeriod	**Impact Assistance**
48	June 2008	*780,727*	685,094	***95,633***
49	July 2008	*789,205*	685,094	***104,111***
50	Aug 2008	*797,682*	685,094	***112,588***
51	Sep 2008	*806,160*	685,094	***121,066***
52	Oct 2008	*814,637*	685,094	***129,543***
53	Nov 2008	*823,115*	685,094	***138,021***
54	Dec 2008	*831,592*	685,094	***146,498***
55	Jan 2009	*840,070*	685,094	***154,976***
56	Feb 2009	*848,547*	685,094	***163,453***
57	Mar 2009	*857,025*	685,094	***171,931***
58	Apr 2009	*865,502*	685,094	***180,408***
59	May 2009	*873,980*	685,094	***188,886***

Average IAP, June 08 through May 09	*142,259*
Total IAP, June 08 through May 09	*1,707,113*
State shares forecast growth rate=	*1.340*

Appendix B
Housing Information

Appendix B1
Hotel Correspondence

Americas Best Value Inn

Americas Best Value Inn
1392 South Higley Boulevard
Rawlins, Wyoming 82301
Tel: (307) 328-1732
Fax: (307) 328-0412

July 8, 2008

Beverly Macey
Optimized Process Designs, Inc.
P. O. Box 810
Katy, TX 77492-810

Attention: Beverly Macey

SUBJECT: Williams Echo Springs TXP4 Project
Housing Availability for Industrial Siting Plan

Dear Beverly,

Per your letter dated June 17, 2008, we have approximately 81 rooms, 26 non smoking queens, 7 smoking queens, 15 non-smoking kings, 3 smoking kings, 23 non-smoking doubles, 7 smoking doubles.

Starting November 1, 2008 our winter rates would be $89.55 plus tax for a total of $95.23 for 1 bed and $99.55 plus tax for a total of $106.52 for 2 beds. Availability depends on occupancy, of course, and all remaining rooms are on a first come, first serve basis. It is, however, unlikely that we would be able to accommodate such a large group without a guarantee in advance which would be non-refundable.

We offer free high speed internet, continental breakfast from 4:00 a.m. to 9:00 p.m., a sauna, plus we have refrigerators and microwaves, iron and ironing boards in every room. We also offer shuttle service in town only and upon availability of shuttle.

If you have any questions, please do not hesitate to call or write.

Sincerely,

Lorraine Woodward

Lorraine Woodward
Manager

L. H. Lee/Key Motel
14653 Carnelian Glen
Saratoga, CA 95070

Fax: (281) 371-0132 July 21, 2008

To: Beverly Macey / OPD

This is to confirm our telephone conversation this morning that Key Motel will be able to commit our entire 32 rooms for your use during the period from March 2009 thru Dec 2010.

Since the number of rooms we have is way less than your peak requirement, there is the possibility that you may want to use our Motel as the staging point (temp office) to link with other rooming facilities.

In this respect you may want to either booking the rooms on monthly rates or simply lease the entire building to make any add on or modifications. As I mentioned in my previous correspondence our current room rate is $55 per day plus 7% tax.

Please feel free to call or send e-mail if you need any additional information.

Lester H. Lee, Owner
Key Motel, Rawlins, Wyo
Tel: (408) 928-1488
E-Mail: leslee@recortec.com

Attn: Beverly Macey

1617 W. Spruce
Rawlins, WY 82301
Ph: 307-328-1600
Fax: 307-328-4078
Email: suhasrawlins@yahoo.com

Dear Beverly,

I appreciate you giving me the opportunity in earning your business for next year. I manage both the Travelodge and Econolodge in Rawlins, WY and I would be more than happy to accommodate your associates at our facility. We offer great accommodations and services for a reasonable price compared to our competition.

I am willing to commit 45 rooms at the Travelodge and 25 rooms at the Econolodge for the Williams Echo Springs TXP4 Project. Our rates vary depending on the season, but I can offer discounted rates for extended stay at both properties. If you have any questions please feel free to contact me at anytime. Thanks for your time.

Sincerely,

Suhas Patel
Manager

Microtel®
Inns & Suites

July 17, 2008

Beverly Macey
Project Secretary
Optimized Process Designs, Inc.
25610 Clay Road
Katy, TX 77493

Dear Beverly,

Thank you for taking the time to discuss the value of the Microtel Rawlins for OPD in conjunction with the Echo Springs project in Wamsutter. We are looking forward to hosting your guests and providing them with a comfortable and enjoyable stay.

We offer a complimentary continental breakfast served daily, complimentary high-speed internet access, free local and long distance phone calls, and a free copy of the USA Today. We are offering Optimized Process Designs a negotiated rate of $ 99.00 for our standard room types and $ 129.00 for our suites. All rates are subject to availability rates are net, non-commissionable and do not include state and local taxes. We could extend 15 of our rooms to OPD for housing during this project. This rate is based upon production of 300 room nights per month. Normally, we do not inflate our rates in order to discount, our quoted rate is our corporate rate. However, based on your projected demand during this project we were able to extend a room discount. Management reserves the right to evaluate the volume, and discuss the preferred rate status on a six month basis after reviewing the production.

I would like to offer you a tour of our hotel at your earliest convenience. If you have any further questions, please contact me at anytime. We look forward to welcoming your guests in the Spring of 2009.

To confirm this agreement, please sign below and return a copy of this agreement to my attention by September 1, 2008. This would be required in order to guarantee the availability of 15 rooms. Upon receipt of the signed copy of this agreement, we will confirm and load rates and inventory to your group.

Sincerely,

Marty Marburger
General Manager

_____ Date: _____
Rate acceptance by:
Name/Title

812 Locust Street Rawlins, WY 82301
Phone 307.324.5588 Fax 307.324.5205 Resv. 800.771.7171
www.microtelinn.com

TIMBERLINE
HOSPITALITIES, LLC
Wyoming Owned & Operated

July 21, 2008

RECEIVED JUL 2 0 OPD, INC.

Beverly Macey
Optimized Process Designs, Inc
PO Box 810
Katy, TX 77492-0810

Hello Beverly,

Timberline Hospitalities is proud to offer eight, **Wyoming owned** motel properties located in **Casper, Rock Springs, Rawlins, Gillette and Laramie**. The Holiday Inn of Laramie opened September 11, 2007!

I understand you are requesting room rates for the Williams Echo Springs TXP4 Project starting in March of 2009. We would be willing block 15 rooms per night for the duration of the project. The rate would be as listed below of $139.

We will be opening a new Candlewood Suites, an extended stay hotel in Gillette, 4th quarter of 2008.

Holiday Inn Express, Rawlins $139/Year Round

We feature:

- **Complimentary Breakfast** --- *We take great pride in providing an exceptional breakfast.* The Holiday Inn Express in Rawlins offers scrambled eggs, egg and cheese omelets, sausage, bacon, biscuits and gravy, cinnamon rolls, yogurt and more.
- **Complimentary High Speed Internet**
- Please refer to your company name when arranging accommodations for the project.

We sincerely appreciate your patronage at our hotels. If you have special needs, questions, or concerns, please do not hesitate to give us a call at (307) 266-4733 or **toll free** at 877-996-4667 **(877-WYO-INNS).**

Sincerely,

Christine Hill

Christine Hill
Corporate Sales & Marketing Director
chill@timberlinehotels.com

Kade Sharp

Kade Sharp
Corporate Sales & Marketing Manager
ksharp@timberlinehotels.com

RAWLINS COMFORT INN & SUITES

Rate Agreement
Between
Comfort Inn & Suites – Rawlins, WY.
&
OPTIMIZED PROCESS DESIGNS, INC

BY CHOICE HOTELS

The Comfort Inn & Suites – Rawlins, is pleased to offer
OPTIMIZED PROCESS DESIGNS, INC.
the preferred rates for the year of the 2008 to 2010

Based on the volume of 100 room nights or less a year, roughly estimated, the Comfort Inn & Suites - Rawlins is pleased to extend to you these seasonal (2008 to 2010) negotiated room rates: $ 109.99 + Tax for one person on Standard Room and $ 115.99 + Tax for double occupancy (2 person) and Suites $ 129.99 + Tax (1 or 2 people).
These rates are extended to you for the period of June 2008 to December 2010. The Comfort Inn & Suites - Rawlins will guarantee these rates during peak tourist season. Although the hotel cannot guarantee room availability, every effort will be made to accommodate OPD on a priority basis.

RESERVATION:
Authorized officers of Williams can call our hotel directly at (307) 324-3663 or fax (307) 324-4180to make individual reservation. These preferred rates are available only when calling the numbers listed.

CANCELLATION:
Individual reservation must be canceled by 04.00pm the date of arrival. Groups must be cancelled by the date of cancellation provide by the Sales Office. Direct bill we will cancel by 06.00pm unless provide a guarantee by William's officers and approved by Manger of the Comfort Inn & Suites - Rawlins. Get the reservation and cancellation number when you make a reservation or cancellation. If the individual or group reservations are not canceled in a timely fashion this company will remain responsible for payment for such reservation at the rates described above.

AMENITIES:
We offer indoor Swimming pool & Spa, Work out room, Business center with 2 computer and printers for guest use, Hard wire and wire less high speed internet service, Free upgrade hot/cold breakfast, 24 hrs coffee, in room Coffee maker, Dryer, Micro-fridge all rooms, All rooms & lobby are non smoking facility, 24 hrs front desk, Meeting rooms (Subject to charge) and Free local calls and 0 plus (Credit card calls) in state or out of state calls.

Near by Comfort Inn & Suites some Restaurants, Banks, Grocery stores and medical facilities.

Banks: The Rawlins National Bank and Bank of Commerce.
Grocery Store: City Market
Restaurants: Penn's Diners, Sanford's, Taco Bell, Mc Donald's, Subway, Anong's Thai Cuisine, Rawlins Buffet, Aspen House Restaurant, Pizza hut, Domino's Pizza.
Medical Facility: Carbon County Memorial Hospital.

2366 EAST CEDAR STREET
RAWLINS, WYOMING 82301
PHONE 307.324.3663
e-mail wy_comfortinn59@yahoo.com
For reservations worldwide: 800.4CHOICE choicehotels.com

If you are in agreement with the contents of this negotiated rate agreement, please sign the original and return it to us by mail or / and fax back 307-324-4180 for our files so you are incorporated into our rate structure. We are pleased to be of service to you, and look forward to many years of a good working relationship with you. Please do not hesitate to let me know if we can be of assistance.

M.P.Patel 6/18/08

M.P.Patel

Signature Date:

Name: Phone #.

21 May 2008

Williams
9193 south Jamaica Street
Englewood, CO 80112
Attn: Aynie Scott

Dear Ms. Scott:

Thank you for requesting our hotel information and rates. I want to thank you for the confidence you've bestowed upon our hotel and especially the amount of business Williams have given us over the years.

Williams is still one of our VIP customer and we always extended our lowest preferred rate to you. Since our business is typically seasonal, our rates usually vary. Our shoulder season's regular rates range from $109.00 to $114.00. Our rates during the peak season which commences May 1st until October 31st ranges from $129.99 to $150.00.

Williams' family of companies has always been our Preferred Customer and receives our frequent stay rate. That rate will be $89.00 daily and will be the same throughout the year. It will not fluctuate as does our regular rack rates.

As to the number of rooms you reserve, that will depend on your personnel. Williams will have the last room availability designation.

Our usual perks and amenities now include the Free Hot Breakfast, Lounge, Indoor Pool & Hot Tub, Sauna, Free Local Calls, Free USA Today and Free Access to the City Recreation Center. In addition, we provide free Wireless Internet Access in every single room and public areas.

Thank you in advance for considering the Best Western CottonTree Inn for your lodging needs. We have truly valued our relationship over the years and very much look forward to continuing our association.

Sincerely,

Jerome Oiterong
General Manger

Jade Lodge
415 West Spruce St.
Rawlins, WY, 82301

To whom this may concern,
(Aynie Scott)

Thank you so much for calling the Jade Lodge Motel to confirm our motel rates. I am going to send you our best motel rates for the rooms which are: $44.95 for one bed, daily; $55.95 for a double bed, daily. We also have a fridge, microwave, colored TV, HBO Cable, and wireless high speed internet. So if you have any questions or concerns please be sure to call: Bill Malhi at: (510) 376-9959 or Baljeet Malhi at (510) 676-8588. Our business phone numbers are: (307) 710-2978 and (307) 324-2791. We would be glad to have you here!

Sincerely, Bill Malhi.

Attn: → Aynie Scott

CH2M
Aynie Scott
9193 South Jamaica Street
Englewood, CO 80112

Dear Aynie,

I am pleased to provide CH2M with quality accommodations, superior service and special rates, whenever CH2M has travelers visiting our area. The Rawlins Quality Inn will provide your travelers with guest rooms that are much larger than the average hotel room so that they may stretch out and relax. All of our guest rooms also offer a coffee maker, hairdryer, microwave, refrigerator, iron and full-size ironing board, to provide homelike amenities.

Our property is located off of I-80 at Exit 215 on Cedar Street. Our location offers restaurants, banks, a barber, a grocery and liquor store as well as other shopping outlets all within walking distance for your convenience. However, your guests will have to look no further than our lobby to find a great place to eat and relax. Our restaurant, Hoot & Howl is open for breakfast, lunch, and dinner so that your guests can relax after a busy day.

I am pleased to present CH2M the following rates:

	One Single or Two Double Beds
January 1, 2009 – December 31, 2010	$75 per night/room
January 1, 2011 – April 30, 2011	$75 per night/room

Aynie, I am your personal contact at the hotel; however, reservations may be made 24 hours a day, 7 days a week by simply calling the hotel directly at (307) 324-2783. Just be sure that you or your travelers request the CH2M rate.

Please sign and date this Agreement below and return to me via facsimile at (304) 328-1011 or US Mail. I will return the fully executed copy to you for your files. I look forward to being your hotel partner in the Rawlins area.

Rawlins Quality Inn Representative

_____
Hayley Briskey, Guest Relations Manager

Representative

_____
Aynie Scott, CH2M

Appendix B2
Hotel Survey

WILLIAMS - ECHO SPRINGS Project

Hotel-Motel Accommodations by Community

			Number of Rooms				
County	***Community***	*Hotel/Motel*	*Motel*	*Community*	*County*	*Phone*	*Address*
					Cty		
Carbon	***Rawlins***	Super 8 Rawlins	47	1,125	1,382	307.328.0630	2338 Wagon Circle Rd.
		Best Motel	28			307.324.3456	905 W. Spruce St.
		Oak Tree Inn	63			307.324.4700	2005 E. Daley Street
		Best Western Cottontree Inn	122			307.324.2737	Spruce & 23rd St.
		Days Inn Rawlins	118			307.324.6615	2222 E. Cedar St.
		Econo Lodge Rawlins	36			370.328.1600	1500 West Spruce St.
		1st Choice Inn	48			307.328.1401	1904 E. Cedar St
		Americas Best Value Inn Rawlins	81			307.328.1732	1392 S. Higley Blvd
		Jade Lodge	26			307.324.2791	415 W. Spruce St.
		Travelodge Rawlins	60			307.328.1600	1617 W. Spruce St.
		Quality Inn Rawlins	131			307.324.2783	1801 E. Cedar St.
		Express Inn	50			307.324.3471	1720 W. Spruce St.
		Comfort Inn Rawlins	65			307.324.3663	2366 E. Cedar St.
		Key Motel	32			307.324.2728	1806 E. Cedar St.
		Holiday Inn Express Hotel Rawlins	72			307.324.3760	201 Airport Rd.
Opening June 2008		Microtel Inn Rawlins	60			307.324.5588	812 Locust St.
		Ideal Motel	86			307.324.3451	1507 W. Spruce St.
	Saratoga	Riviera Lodge	40	122			
		Hacienda Motel	32				
		Saratoga Inn Resort	50				
	Baggs	Drifters Inn	52	52			
		Country Inn Motel & Apartments	NA				
	Elk Mountain	Historic Elk Mountain Hotel	14	14			
	Encampment	Big Horn Lodge	13	13			
	Hanna	Golden Rule Motel	10	10			
	Medicine Bow	Historic Virginian Hotel	31	46			
		Trampas Lodge	15				
Sweetwater	***Green River***	Coachman Inn	18	266	1,762		
		Flaming Gorge Motel	NA				
		Mustang Motel	24				
		Oak Tree Inn	191				
		Super 8 Motel	33				
	Rock Springs	Best Western Outlaw Inn	101	1488			
		Econo Lodge	95				
		Hampton Inn	70				
		La Quinta	129				
		America's Best Value In & Suites	150				
		Budget Host Inn	32				
		Cody Motel	39				
		Days Inn	105				
		Economy Guest Village	110				
		Holiday Inn	170				
		Motel 6	99				
		Motel 8	91				
		Quality Inn	130				
		Rocky Mountain Motel	10				
		Sands Inn	20				
		Springs Motel	23				
		Super 8 Motel	48				
		Wingate Inn	66				
	Wamsutter	Sagebrush Motel	8	8			
TOTAL					3,144		

Appendix C
Biological and Cultural Resource

Appendix C1
Cultural Resource Assessment

Cultural Resources Assessment for Williams' Echo Springs Gas Plant TXP Laydown Area

PREPARED FOR: Andrea Walton/Williams

PREPARED BY: Aaron Fergusson, RPA/CH2M HILL, SLC

COPIES: Jerry Fiore/CH2M HILL, DEN

DATE: May 28, 2008

Undertaking/Project Description

The purpose of this memorandum is to summarize the results of a cultural resources assessment performed for the proposed Echo Springs Gas Plant TXP laydown area located adjacent to the existing Echo Springs Plant in Carbon County, Wyoming. Williams is preparing a Wyoming Industrial Siting Permit Application for their proposed expansion. This expansion will take place within the existing, fenced Echo Springs Gas Plant; however the construction will require a 10 acre temporary laydown area. This laydown area is adjacent to the southwestern corner of the existing plant. Upon approval for expansion, the topsoil for the laydown area will be stripped, the area used for construction, and then reclaimed within a couple of years, upon completion of construction.

The current Echo Springs Plant measures 1000 feet by 1500 feet and is located in the western half of the SE ¼ of Section 1, Township 19 North 93 West. It is on land owned by Williams. The temporary laydown is extends approximately 150 feet to the west from the western edge and extends approximately 500 feet to the south. The legal description is Eastern ½ of SE ¼ of SW ¼ and SW ¼ of SW ¼ of SE ¼ Township 19 North, Range 93 West, Section 1 (Figure 1).

Environmental Setting

The proposed project is located at 7,000 ft AMSL above and south of Hansen Draw. The topography is varied but generally slopes northeast towards Hansen Draw. The project is in a sagebrush vegetation community with predominantly Wyoming big sage. Other forbes include fringed sage, Western wheatgrass, Annual bluegrass, and prickly pear cactus. Soils are sandy loams and are generally stable due to the vegetation cover. There has been very little surface disturbance in this area although buried pipelines and well pads are in the vicinity.

Background Research

An online archaeological records search was conducted on May 9, 2008 utilizing the WYCRO web database. Results of the records search indicate there has been a significant amount of previous work done in the area associated with the oil and gas production.

There have been 72 previous surveys conducted in T19N R93W, Section 1. In 1979 all of Section 1 was surveyed as a block survey by Archaeological Services (Accession #80-1527, WYCRIS ID 6227). This survey, and the numerous conducted since have identified 18 cultural resources within this section. One site is a historic debris scatter, the remaining 17 sites are prehistoric, including a large lithic landscape (48CR8414). None of the previously recorded sites are considered eligible for listing on the National Register of Historic Places (NRHP). Two Isolated Finds were located very near the proposed laydown area, however Isolated Finds are, by definition, not eligible for listing on the NRHP.

Due to the significant amount of previous surveys and the block survey covering the proposed laydown area there is a low probability of finding any new cultural resources. However, since the survey was conducted over 20 years ago, a new cultural resource survey was conducted for the laydown area to assess the potential to affect cultural resources.

Survey Methodology

On May 20, 2008 CH2M HILL archaeologist Aaron Fergusson conducted the cultural resources inventory on proposed laydown area. The cultural survey was conducted by walking north/south parallel transects spaced no more than 30 meters apart. The boundaries of the laydown area are staked with wooden lathe. The block survey covered the entire 10 acre proposed laydown area. Extra time was spent examining ant hills and animal burrows when encountered for evidence of sub-surface cultural resources.

Inventory Results

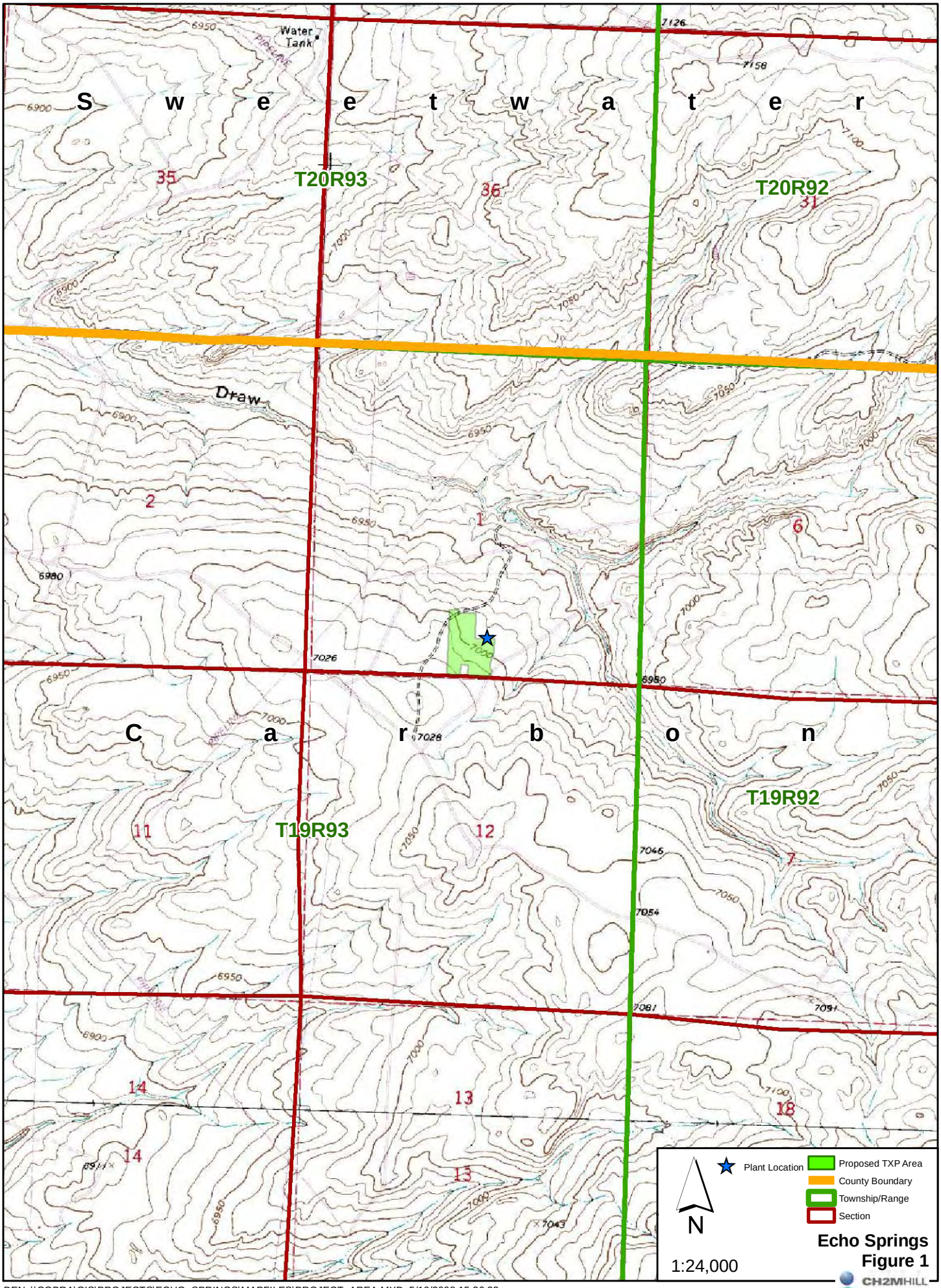
No cultural resources were located during the survey and the two previously located Isolated Finds could not be relocated during this survey.

Conclusions/Summary

There are no cultural resources within the proposed project area.

Based on the inventory findings and the low probability of significant cultural resources, it is recommended that a determination of No Historic Properties Affected be found for the Project. However, should buried cultural materials be discovered during construction, work should cease immediately and the appropriate agency and/or the Wyoming State Historic Preservation should be notified.

Figure 2. Overview of Proposed Laydown Area, facing north. Echo Springs Gas Plant is visible in background.



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Appendix C2
SHPO Concurrence

ARTS. PARKS. HISTORY.
Wyoming State Parks & Cultural Resources

State Historic Preservation Office
Barrett Building, 3rd Floor
2301 Central Avenue
Cheyenne, WY 82002
Phone: (307) 777-7697
Fax: (307) 777-6421
http://wyoshpo.state.wy.us

Jul 14, 2008

Jerry Fiore
CH2M Hill
9193 South Jamaica Street
Englewood, CO 80112-5946

Re: Willaim's Echo Springs Gas Plant TXP Laydown Area (SHPO File # 0708JRD010)

Dear Mr. Fiore:

Thank you for consulting with the Wyoming State Historic Preservation Office (SHPO) regarding the above referenced project. We have reviewed the project report and find the documentation meets the Secretary of the Interior's Standards for Archaeology and Historic Preservation (48 FR 44716-42). We concur with your finding that no historic properties, as defined in 36 CFR § 800.16(l)(1), will be affected by the project as planned.

We recommend the Williams Ecjo Springs Gas Plant allow the project to proceed in accordance with state and federal laws subject to the following stipulation:

> If any cultural materials are discovered during construction, work in the area shall halt immediately, the federal agency must be contacted, and the materials evaluated by an archaeologist or historian meeting the Secretary of the Interior's Professional Qualification Standards (48 FR 22716, Sept. 1983).

This letter should be retained in your files as documentation of a SHPO concurrence on your finding of no historic properties affected. Please refer to SHPO project #0708JRD010 on any future correspondence regarding this project. If you have any questions, please contact Joseph Daniele, Archaeologist/Review and Federal Consultation at 307-777-8793.

Sincerely,

Joseph Daniele
Wyoming State Historic Preservation Office

Appendix C3
Biological Resource Evaluation

TECHNICAL MEMORANDUM CH2MHILL

Echo Springs Expansion Project - Carbon County, Wyoming – Biological Resource Evaluation

PREPARED FOR: Andrea Walton, Williams

PREPARED BY: Brian Lee, CH2M HILL
Dave Phillips, CH2M HILL

DATE: June 25, 2008

PROJECT NUMBER: 371150.01.ER

Introduction

CH2M HILL reviewed available data and conducted a site reconnaissance to identify species and/or habitats that could influence the implementation of Wamsutter LLC's proposed Echo Springs Expansion Project (Project) in Carbon County, Wyoming. The objective of this evaluation is to assess potential impacts of the Project on biological resources (i.e., special status species, critical habitats, and wetlands). This report includes review and discussion of U.S. Fish and Wildlife (USFWS) threatened, endangered, and candidate species and their designated critical habitats, Bureau of Land Management (BLM) sensitive species, other species of concern (i.e., raptors, big game) and potential wetlands and stream-crossing areas.

Project Description

Wamsutter LLC intends to add approximately 350 million cubic feet equivalent (MMcfe) per day of processing capacity and 30,000 barrels per day of natural gas liquids (NGL) production capacity at their Echo Springs Plant. The expansion would roughly double the plant's volumes in both cases, creating a total processing capacity of 740 MMcfe per day and 60,000 barrels per day of production capacity of NGL. Williams expects to bring the additional capacity online during late 2010, subject to all applicable permitting.

The Project facilities would be constructed within the existing fenced Echo Springs Plant; however, a 10.0-acre laydown area adjacent to the plant would be temporarily utilized for storage and assembly during construction (Figure 1 in Appendix A). Williams would remove all vegetation on the site except for three small areas of taller Wyoming big sage brush (*Artemisia tridentata*) located within the laydown area. No cut or fill would be required at the laydown area, and the entire 10-acre laydown area would be reclaimed after construction.

Project Location

The Project is located approximately 8 miles southeast of Wamsutter, Wyoming, on private land in the southern half of Section 1, Township 19 North, Range 93 West in Carbon County, Wyoming. The Project site will be accessed from Interstate 80 by traveling south on State

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Highway 789 and then 4.5 miles west on a maintained dirt road (see Figure 1 in Appendix A).

Environmental Conditions

The Project area is within the Great Divide Closed Basin, which is located between the Atlantic and Pacific drainage basins. As such, no downstream impacts to aquatic or riparian species in the Colorado or Platte River drainages would occur from sedimentation or if onsite water depletions are necessary for the Project. Vegetation at the site is characteristic of the Wyoming big sage steppe community, dominated by a mixture of upland native and non-native grasses, forbs, and shrubs. The dominant shrub species at the site is Wyoming big sagebrush; the dominant grasses include western wheatgrass *(Pascopyrum smithii)* and annual bluegrass (*Poa annua*); and the dominant forbs include fringed sage *(Artemisia frigida)* and prickly-pear cactus (*Opuntia* spp.*)*. Overall plant composition and diversity are fairly uniform, with some variation in species composition and abundance associated with disturbances such as roads, pipelines, and fences. Most Wyoming big sagebrush in the area is below 2 feet in height; however, patches of sagebrush over 3 feet tall occur in three separate areas within the proposed laydown area. No wetland vegetation is present on the Project area.

Topography at the Project site slopes gradually downward towards Hansen Draw to the northeast of the Echo Springs Plant. Approximate elevation at the site is 7,000 feet above mean sea level. Operation and construction of oil and gas facilities, pipelines, and roads, as well as livestock grazing are common land uses in the vicinity. Photographs of the Project area are presented in Appendix B.

Methods

CH2M HILL identified species and/or habitats that could potentially occur in or within 2.0 miles of the Project area and that could have management or planning implications for the proposed development. Sources used to identify these resource concerns included USFWS threatened, endangered, and candidate species lists for Wyoming counties (USFWS, 2008), the BLM-sensitive species (BLM-SS) list (BLM, 2002), the Wyoming Natural Diversity Database (WYNDD), National Wetland Inventory (NWI) data, current data provided by the BLM, Wyoming Game and Fish Department (WGFD), and personal communication with Travis Sanderson, USFWS Fish and Wildlife Biologist, on June 23, 2008. CH2M HILL used the available data to determine whether these species, habitats, or related life-cycle features (e.g., leks, nests, and seasonal ranges) are known to occur in or within 2.0 miles of the Project area.

CH2M HILL completed a site reconnaissance of the Project area vicinity on May 21, 2008. Prior to field inspection, species characteristics and habitat requirements were reviewed to aid in identification of species and suitable habitats. The area was assessed for the potential occurrence of wetlands and waters of the U.S., suitable habitat for special-status plant and animal species, and for sensitive or unique vegetation communities. A close visual inspection of the Project area was completed, and general vegetation communities were characterized. Surveys using focused protocols for special-status species were not conducted.

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Species were evaluated by "potential for occurrence" in or near the Project area based on review of data, existing literature, and field reconnaissance. "Potential for occurrence" categories are defined as follows:

- Unlikely: The parcels and/or immediate area do not support suitable habitat for a particular species. Parcels are outside of the species known range or known extant population occurrences.
- Low Potential: Parcels and/or immediate area only provide limited habitat for a particular species. In addition, the known range for a particular species may be outside of the Project area.
- Medium Potential: The parcels and/or immediate area provide suitable habitat for a particular species.
- High Potential: The parcels and/or immediate area provide ideal habitat conditions for a particular species.
- Potential Resident: The parcels and/or immediate area provide suitable habitat for a particular species. Additionally, the species has been known to occur in the area.

Species with potential to occur in or near the Project area may be incidental or transient and may not be primarily supported by resources solely within the site. For example, special-status species could utilize habitats proposed for disturbance, but may not depend on the site's resources; habitat features utilized may be found within adjacent communities.

For species identified as potentially affected by the Project as proposed, the regulatory framework and required or recommended mitigation for species, habitats, or related life-cycle features (e.g., leks, nests, seasonal ranges) are discussed.

Results

USFWS Threatened and Endangered Species

No designated critical habitats occur within the Project area, and no federally threatened or endangered species are known to occur within or near the Project area. Species or habitats listed under the Endangered Species Act (ESA) that may occur in Carbon County are identified in Table 1. Table 1 provides the species name, status, habitat, and conclusions regarding habitat suitability and likelihood of occurrence in or near the Project area.

A review of the best available data, confirmed by the site-reconnaissance, indicates that no species or critical habitats granted protection under the ESA are present or have high potential for occurrence in or near the Project site. The greater sage-grouse, which is currently under status review by the USFWS, has a high potential for occurrence in the Project area. The species is granted no protection under the ESA at this time; however, the species may receive protection pending the outcome of the USFWS status review. An occupied lek is present approximately 1.8 miles south of the Project area (Figure 3 in Appendix 1) and could influence construction if the species is listed under the ESA before or during construction. Currently, the USFWS recommends no Project-related disturbance during the breeding season from March 1 through June 30 within 2 miles of a lek.

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TABLE 1

Threatened and Endangered Species Potentially Occurring in or Near the Project Area[1]

Species/Listing Name	Scientific Name	Federal Status	Habitat	Potential for Occurrence
Black-footed ferret	*Mustela nigripes*	Endangered	The black-footed ferret is found almost exclusively in prairie dog colonies in basin-prairie shrublands, sagebrush-grasslands, and grasslands. It is dependent on prairie dogs for food and all essential aspects of its habitat, especially prairie dog burrows where it spends most of its life underground. An experimental population is present in the Shirley Basin, over 50 miles northeast of the Project area.	Unlikely. White-tailed prairie dogs and low-density burrows were observed in the Project area during the site visit. The Project is also within the Continental Divide Complex nonblock-clearance area designated by the USFWS, meaning that surveys could be required if suitable habitat is present. The Project is over 50 miles from an experimental population in the Shirley Basin of Wyoming. No black-footed ferrets have been observed in the vicinity of the Project area in over 40 years, and the size and density of prairie dog colonies in the Project vicinity suggest that black-footed ferrets are unlikely to use the Project area or be affected by the Project as proposed.
Blowout penstemon	*Penstemon haydenii*	Endangered	Blowout Penstemon occurs in the Sandhills of Nebraska and isolated areas of Wyoming in sandy, blowout locations with little to no vegetation present.	Unlikely. No suitable habitat present.
Canada lynx	*Lynx canadensis*	Threatened	Inhabitant of boreal forest and occasionally shrub-steppe habitats. Lynx are specialized predators of snowshoe hare (*Lepus americanus*).	Unlikely. No suitable habitat present for lynx or for the specialized prey-base snowshoe hare.
Greater sage-grouse	*Centrocercus urophasianus*	Candidate	Basin-prairie shrub, mountain foothill shrub at elevations ranging from 4,000 to over 9,000 amsl. Highly dependent on sagebrush for cover and food.	High. Recorded observations in the Project vicinity. Area proposed for disturbance is considered suitable habitat for nesting, cover, and food. An occupied lek is located 1.8 miles south of the Project area. The greater sage-grouse is currently under status review by the USFWS and is granted no special protections under the Endangered Species Act on private land at this time. USFWS recommends avoiding surface disturbing activities in suitable nesting habitat within 2 miles of occupied leks from March 1 to June 30.
Ute ladies'-tresses	*Spiranthes diluvialis*	Threatened	Ute ladies'-tresses orchids occur along riparian edges, gravel bars, old oxbos, high flow channels, and most to wet meadows along perennial steams. It typically occurs in stable wetland and seep areas	Unlikely. No suitable habitat present.
Western Yellow-billed cuckoo	*Coccyzus americanus*	Candidate	Typically associated with riparian forested habitats.	Unlikely. No suitable habitat present.

[1](USFWS 2008)

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BLM-Sensitive Species

Species listed as sensitive by the BLM that may occur in and near the Project area are presented in Table 2. BLM mitigative guidelines to minimize impact to these species are presented (BLM, 2008). The BLM has no regulatory authority over Project activities; however, the species identified by the BLM as sensitive and the relevant mitigation recommendations may warrant consideration. BLM-sensitive species include species currently under status review by the USFWS, species whose numbers are declining rapidly so that federal listing may become necessary, species that typically have small or widely dispersed populations, or species that inhabit ecological refugia or other specialized or unique habitats (BLM, 2002).

Big Game Ranges

Although the Project area provides excellent habitat for pronghorn (*Antilocapra americana*), no big game crucial winter ranges, parturition areas, or migratory routes are identified in or near the Project area. The nearest pronghorn crucial winter range is located approximately 4 miles north of the Project.

Raptors

One historic burrowing owl nest was recorded approximately ½ mile from the Project area. No other raptor nests were observed during the site visit or have been recorded in or within 2 miles of the Project area.

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TABLE 2

BLM-Sensitive Species Potentially Occurring in or Near the Project Area[1]

Species/Listing Name	Scientific Name	Habitat	Potential for Occurrence/ Mitigation Recommendations
Brewer's sparrow	*Spizella breweri*	Basin-prairie shrub	High. Ideal habitat is present. BLM recommends managing surface disturbing and disruptive activities to minimize impacts on crucial habitat for these species. This would not be considered crucial habitat; however, disturbance of sage-brush should be limited to non-nesting season.
Burrowing Owl	*Athene cunicularia*	Grassland, basin-prairie shrub	High. Observations have been recorded in the Project vicinity and active nests are probable. BLM recommends no surface disturbance within ¾ mile of active nest burrows from April 15 to September 15, and no disturbance year round within 825 feet.
Ferruginous Hawk	*Lynx canadensis*	Basin-prairie shrub, grassland, rock outcrops.	High. Recorded observations in the Project vicinity, but no known nest sites in or within 2 miles.
Greater sage-grouse	*Centrocercus urophasianus*	Basin-prairie shrub, mountain foothill shrub.	High. Recorded observations in the Project vicinity. Area proposed for disturbance is considered suitable habitat for nesting, cover, and food. An occupied lek is located 1.8 miles south of the Project area. The greater sage-grouse is currently under status review by the USFWS and is granted no special protections under the Endangered Species Act on private land at this time. BLM recommends avoiding surface disturbing activities in suitable nesting habitat within 2 miles of occupied leks from March 1 to July 15.
Loggerhead shrike	*Lanius ludovicianus*	Basin-prairie shrub, mountain-foothill shrub	Medium. Suitable foraging habitat is present, but no nesting habitat observed in Project area. BLM recommends managing surface disturbing and disruptive activities to minimize impacts on crucial habitat for these species. This would not be considered crucial habitat.
Pygmy rabbit	*Brachylagus idahoensis*	Basin-prairie and riparian shrub.	Medium. Tall sage-brush stands with in the Project area may provide suitable habitat. BLM recommends managing surface disturbing and disruptive activities to minimize impacts on crucial habitat for these species; however, this would not be considered crucial habitat for the species.
Sage thrasher	*Oreoscoptes montanus*	Basin-prairie shrub, mountain-foothill shrub	High. Suitable foraging and nesting habitat present. BLM recommends managing surface disturbing and disruptive activities to minimize impacts on crucial habitat for these species. This would not be considered crucial habitat; however, disturbance of sage-brush should be limited to non-nesting season.
Townsend's big-eared bat	*Corynorhinus townsendii*	Forests, basin-prairie shrub, caves, and mines.	Low. BLM recommends managing surface disturbing and disruptive activities to minimize impacts on crucial habitat for these species; however, this would not be considered crucial habitat for the species.
White-tailed prairie dogs	*Cynomys leucurus*	Basin-prairie shrub and grasslands.	Resident. An occupied white-tailed prairie dog colony was observed in the Project area during the field visit. BLM recommends avoiding surface disturbance activities within prairie dog colonies.

[1](BLM 2002)

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Effects and Recommendations

Unique or Rare Vegetation Communities

The general habitat characterization for the parcel identified Wyoming big sage steppe as the dominant upland vegetation community/habitat within the Project site. Future development of the Wyoming big sage steppe community would not impact any significant biological habitat features, nor is the community recognized as rare or a unique vegetation community by authorized agencies. Although no special status plants are likely to occur in the area proposed for disturbance, habitat types present on the Project site may provide potential habitat for the various special-status wildlife species.

Wetlands and Waters of the U.S.

No wetlands or waters of the U.S. are present within the proposed Project area. The closest potentially jurisdictional water body is Hansen Draw, located approximately 1/4 –mile northeast of the Project. The draw contains an impounded pond upstream of an access road crossing and another pond within Hansen Draw farther downstream. These ponds drain via culverts installed under the roads and would connect during high-flow events. Small patches of wetland vegetation may exist in areas along the ponds within Hansen Draw, but most of the draw appears to only support non-wetland vegetation. Project activities would not impact these resources in any way.

Crucial Big Game Range

No big game crucial winter ranges, parturition areas, or migration corridors occur in or near the proposed Project area. The nearest crucial winter range is designated for pronghorn and is approximately 4 miles north of the proposed laydown area. Construction and operation of the Project would not result in direct effects to any big game crucial range. However, potential effects, including displacement from suitable habitats to potentially less suitable and less available habitats, habitat alteration, or destruction may occur as a result of Project activities. CH2M HILL recommends Project activities to follow the *Recommendations for Development of Oil and Gas Resources within Crucial and Important Wildlife Habitats* (WGFD, 2004) to minimize impacts to sensitive resources.

Special-Status Species

Described below are the specific regulatory constraints regarding the potential occurrence of the special-status species within the Project area. The following biological resource constraints are based on policies and guidelines established by the USFWS through the ESA.

Section 7 Consultation

Section 7 of the ESA outlines the procedures for interagency cooperation to conserve federally-listed species and designated critical habitats. Section 7(a)(1) of the ESA directs all federal agencies to utilize their authorities in furtherance of the purposes of the ESA by carrying out programs for the conservation of species listed pursuant to the ESA. Section 7(a)(2) of the ESA requires federal agencies to ensure that their actions are not likely to

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jeopardize listed species or result in the destruction or adverse modification of designated critical habitat. The consultation process between the EPA and USFWS and other federal agencies to verify avoidance of jeopardy is generally defined in 50 Code of Federal Regulations (CFR) Part 402.

The Project does not initiate a federal action nor does it involve federal lands. Therefore, the Project is not required to obtain any federal agency(s) approvals for the development of Project (e.g., National Environmental Policy Act [NEPA]). In addition, the Project area does not contain any designated critical habitat for any listed species. Therefore, impacts to threatened and endangered species are not required to be considered pursuant to Section 7 of ESA, as amended.

Section 10 Consultation

ESA Section 10(a)(1)(A) permits are issued to federal and non-federal entities by USFWS for activities involving take of listed species otherwise prohibited by Section 9 if such taking is for scientific purposes or to enhance the propagation or survival of the affected species, including, but not limited to, acts necessary for the establishment and maintenance of experimental populations. Section 10(a)(1)(B) permits are issued to non-federal entities for any other activities involving take of listed species otherwise prohibited by Section 9 if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Issuances of both a section 10(a)1(A) and section 10(a)1(B) permit are federal actions subject to Section 7 of the ESA and NEPA.

If the construction or operation of the Project were to result in the take of an endangered species, the applicant would be in violation of the ESA. However, there is a very low probability that any federally listed endangered species would occur within the Project site. Because the proposed Project area does not contain suitable habitat or designated critical habitat for any federally listed species, Section 10 consultation would not be required to initiate construction and operation of the Project.

Greater Sage-grouse – Regulatory Jurisdiction

The USFWS is conducting a status review of the greater sage-grouse. Because there are no protections afforded to candidate species, any incidental taking of a greater sage-grouse does not require any additional approval, as the take is incidental to an otherwise lawful activity. Further impacts resulting in an incidental take of the greater sage-grouse would not be required to be mitigated and/or monitored. Pending status review of the greater sage-grouse, consultation may be necessary if the species becomes listed prior to, or during, Project construction.

The USFWS recommends no Project-related disturbance during the breeding season from March 1 through June 30 within 2 miles of a lek. The BLM recommends no surface disturbance in potential nesting habitat from March 1 through July 15 within 2 miles of an occupied lek. Additionally the USFWS recommends that Project-related disturbance should be halted from November 15 through March 14 if important winter habitats are present. Sever winter relief habitat was not observed in the Project area during CH2M HILL's site reconnaissance.

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BLM-Sensitive Species – Regulatory Jurisdiction

BLM lacks regulatory authority over the Project because no BLM-administered land will be affected; therefore, BLM mitigation and stipulations on development do not apply. However, the avian BLM-SS, as well as other raptors and passerines potentially present in the area, are protected under the Migratory Bird Treaty Act. Golden eagles, which likely occur in the Project vicinity, are protected under the Bald and Golden Eagle Protection Act. Adherence to BLM and USFWS guidelines for development activities near raptor nests and minimizing impact to shrub habitats during the general avian nesting season will reduce the probability of impacting any protected species.

References

Bureau of Land Management (BLM). 2002. *Wyoming State Director's Sensitive Species List*. September 20, 2002. <http://www.blm.gov/pgdata/etc/medialib/blm/wy/wildlife.Par.9226.File.dat/02species.pdf>. Accessed June 2008.

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U.S. Fish and Wildlife Service. 2008. *U.S. Department of the Interior, Fish and Wildlife Ecological Services Wyoming Field Office, Endangered, Threatened, and Candidate Species and Designated Critical Habitat for Wyoming Counties*. February 2008. <http://www.fws.gov/mountain-prairie/endspp/CountyLists/Wyoming.pdf>. Accessed June 2008.

WGFD. 2004. *Recommendations for Development of Oil and Gas Resources within Crucial and Important Wildlife Habitats*. December 6, 2004. <http://gf.state.wy.us/downloads/pdf/og.pdf>. Accessed June 2008.

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APPENDIX A
Figures

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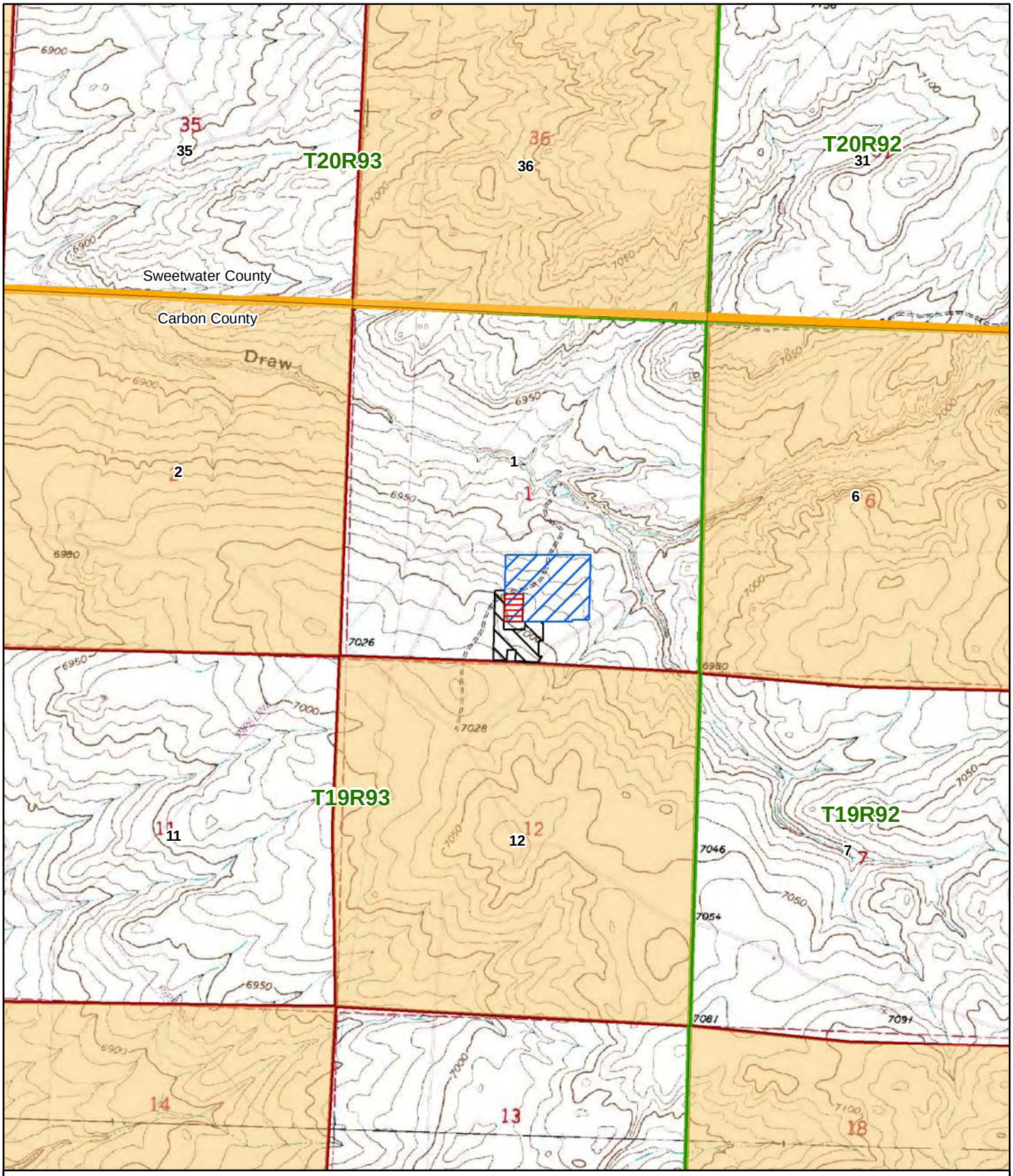


Legend

- Proposed TXP-4 Site
- Echo Springs Plant (Fenced)
- Proposed Laydown Area
- County Boundary
- Township/Range
- Section

Surface Ownership

- Bureau of Land Management
- Private

Source: BLM Rawlins Field Office

2,400 1,200 0 Feet

1:24,000

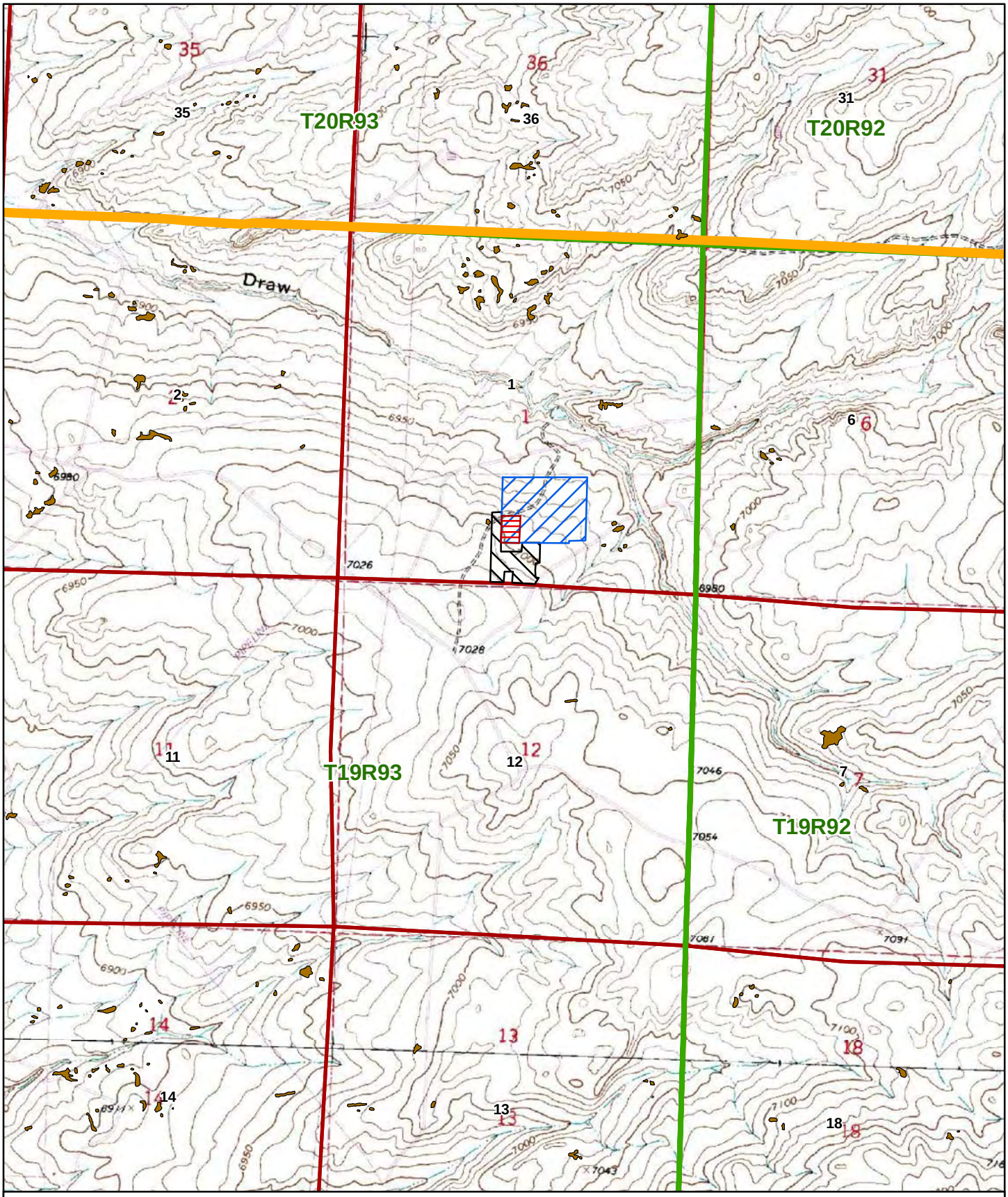
N

Figure 1
Project Location and Ownership

Echo Springs
Expansion Project
Carbon County, WY

CH2MHILL

DEN \\COBRA\GIS\PROJECTS\ECHO_SPRINGS\MAPFILES\SPECIES_REPORT\FIGURE_1_LOCATION_REVISED.MXD 6/24/2008 14:37:20



Legend

- White-tailed Prairie Dog (BLM)
- Proposed TXP-4 Site
- Echo Springs Plant (Fenced)
- Proposed Laydown Area
- County Boundary
- Township/Range
- Section

2,400 1,200 0 Feet

1:24,000

N

Source: BLM data based on aerial photographs

Figure 2
White-tailed Prairie Dog

Echo Springs
Expansion Project
Carbon County, WY

CH2MHILL

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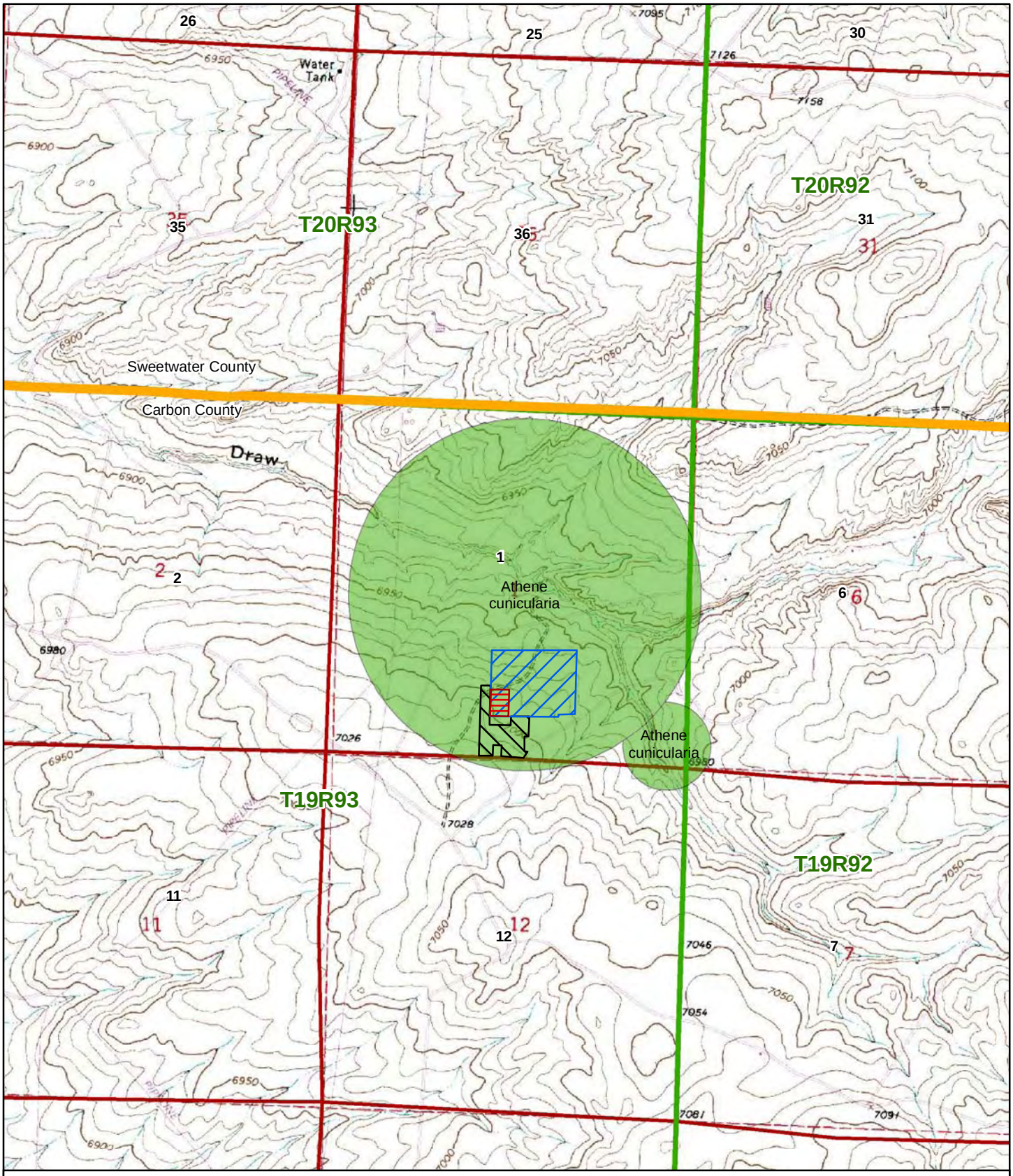

Legend

- Proposed TXP-4 Site
- Echo Springs Plant (Fenced)
- Proposed Laydown Area
- County Boundary
- Township/Range
- Section
- Burrowing Owl Record (WYNDD)

2,400 1,200 0 Feet

1:24,000

N

Source: Wyoming Natural Diversity Database (WYNDD)

Figure 3
Burrowing Owl

Echo Springs
Expansion Project
Carbon County, WY

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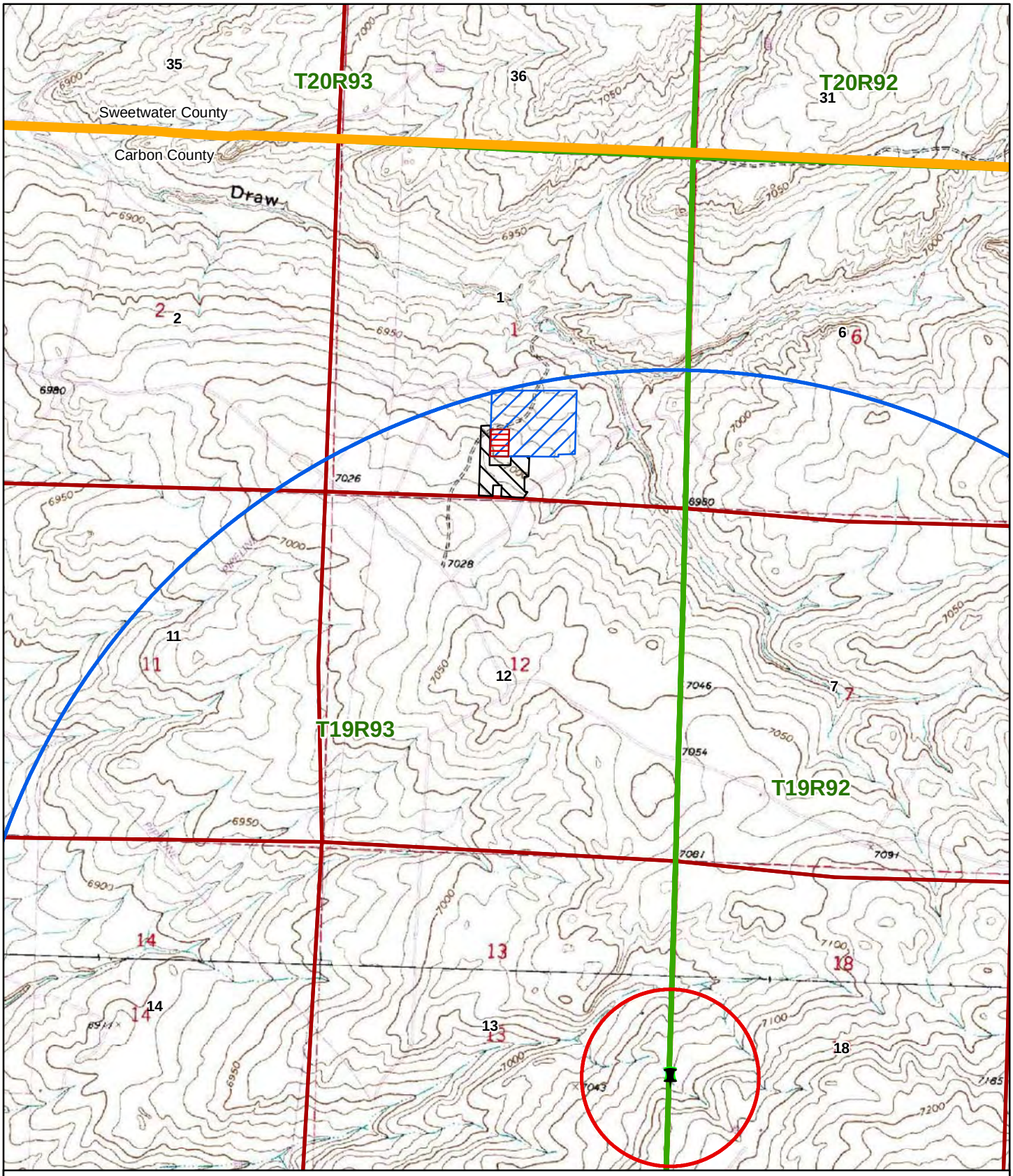

Legend

- Proposed TXP-4 Site
- Echo Springs Plant (Fenced)
- Proposed Laydown Area
- County Boundary
- Township/Range
- Section
- Greater Sage-Grouse Lek (WGF 2007)
- Greater Sage-Grouse 1/4-Mile Avoidance Buffer
- Greater Sage-Grouse Two-Mile Brood Buffer

Source: Wyoming Game and Fish (2007)

N

2,400 1,200 0 Feet

1:24,000

Figure 4
Greater Sage-Grouse Lek

Echo Springs
Expansion Project
Carbon County, WY

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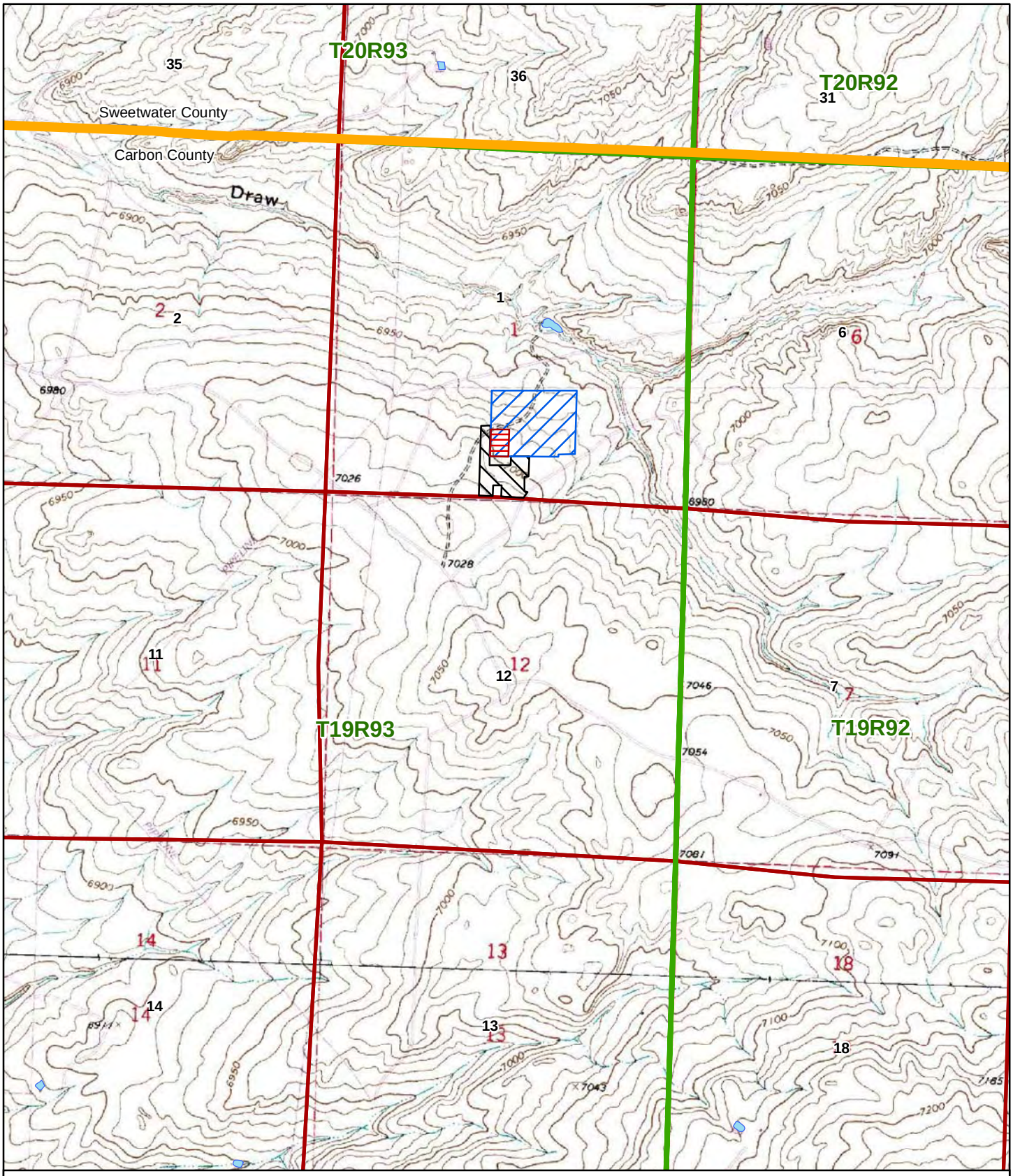

Legend

- Proposed TXP-4 Site
- Echo Springs Plant (Fenced)
- Proposed Laydown Area
- County Boundary
- Township/Range
- Section
- NWI Wetland

Source: National Wetland Inventory (NWI)

N

2,400 1,200 0 Feet

1:24,000

Figure 5
NWI Wetlands

Echo Springs
Expansion Project
Carbon County, WY

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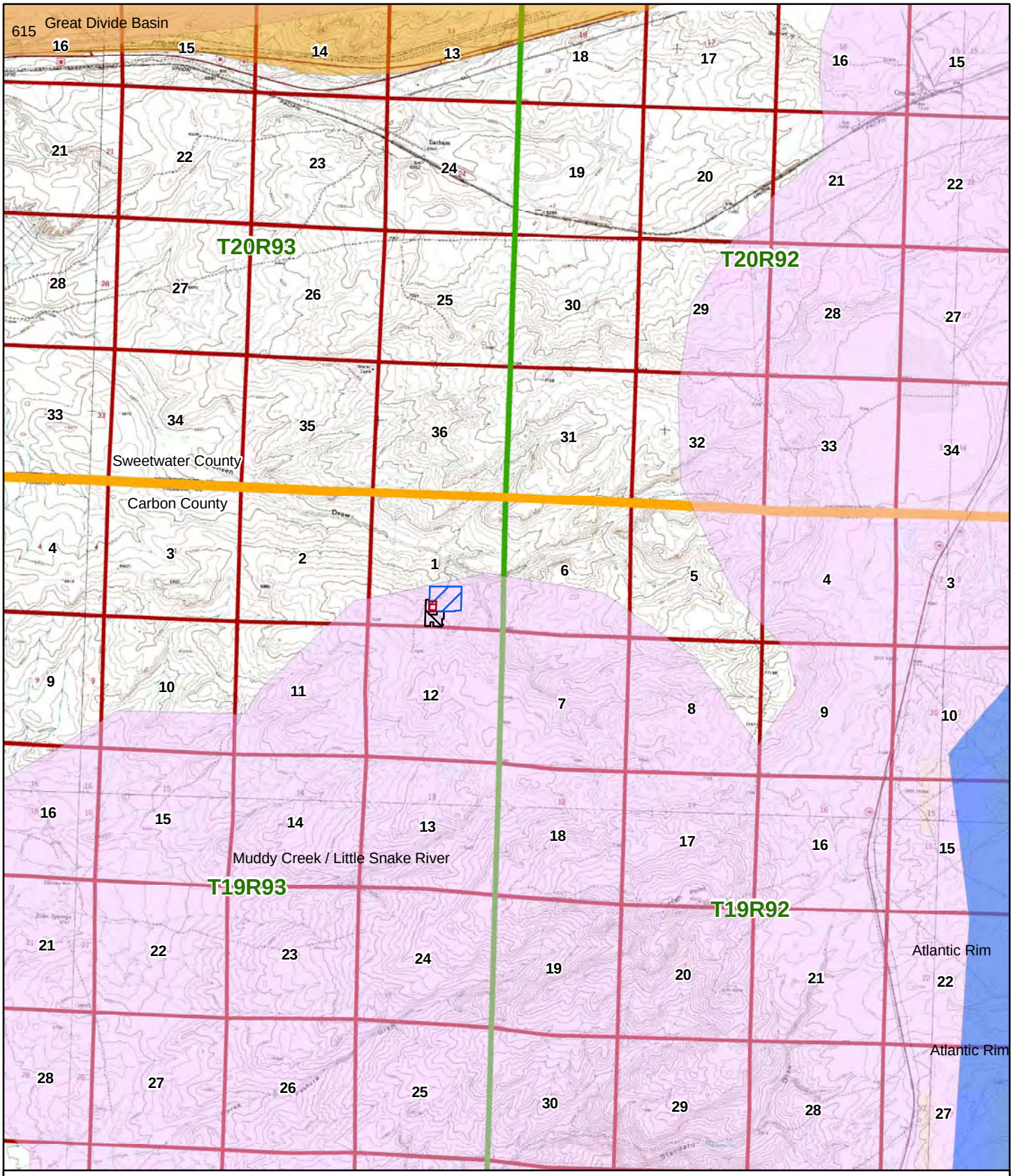

Legend

- Proposed TXP-4 Site
- Echo Springs Plant (Fenced)
- Proposed Laydown Area
- County Boundary
- Township/Range
- Section
- Terrestrial Priority Habitats
- Sage-Grouse Crucial Range
- Pronghorn Crucial Range

Source: Wyoming Game and Fish (2007)

N

4,800 2,400 0 Feet

1:64,000

Figure 6
Game Crucial Range
and Priority Habitat

Echo Springs
Expansion Project
Carbon County, WY

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Legend

- Proposed TXP-4 Site
- Echo Springs Plant (Fenced)
- Proposed Laydown Area
- Historic Suspected Black-footed Ferret Breeding/Residence Areas (BLM)
- Continental Divide Non-Block Cleared Area (BLM)
- County Boundary
- Township/Range
- Section

N

2 1 0 Miles

1:144,400

Figure 7
Black-footed Ferret
Non-block Cleared Zone

Echo Springs
Expansion Project
Carbon County, WY

Source: Wyoming Natural Diversity Database (WYNDD), BLM Rawlins Field Office

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APPENDIX B
Site Photographs

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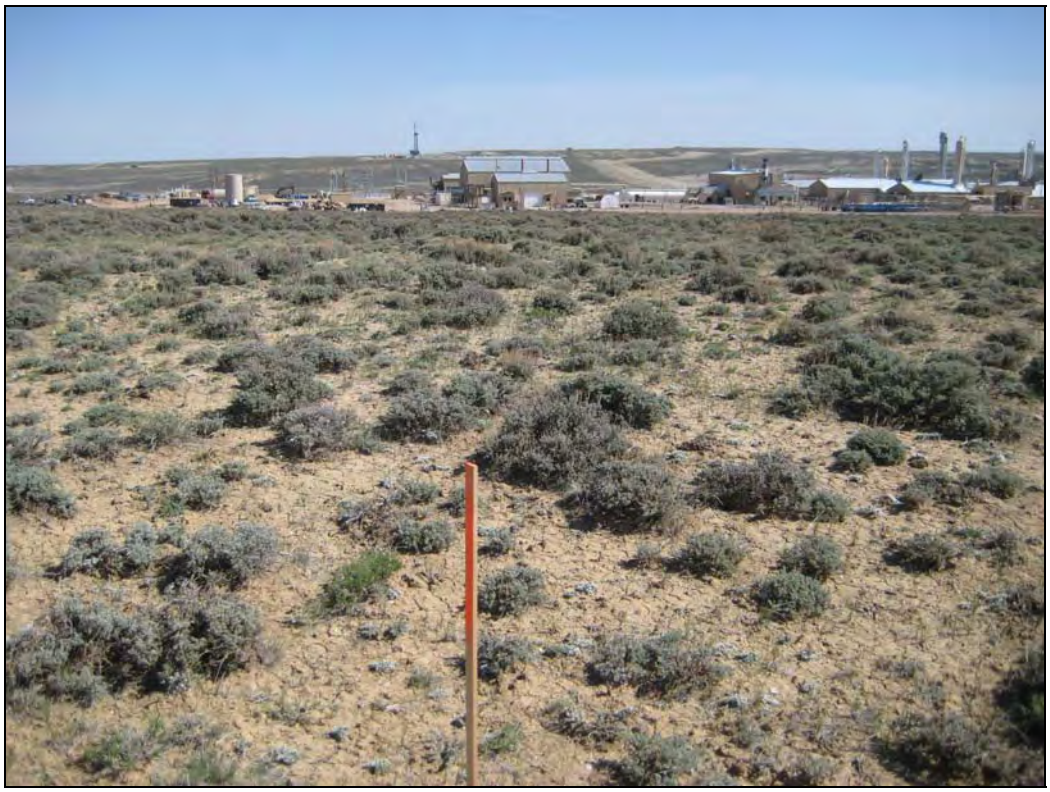
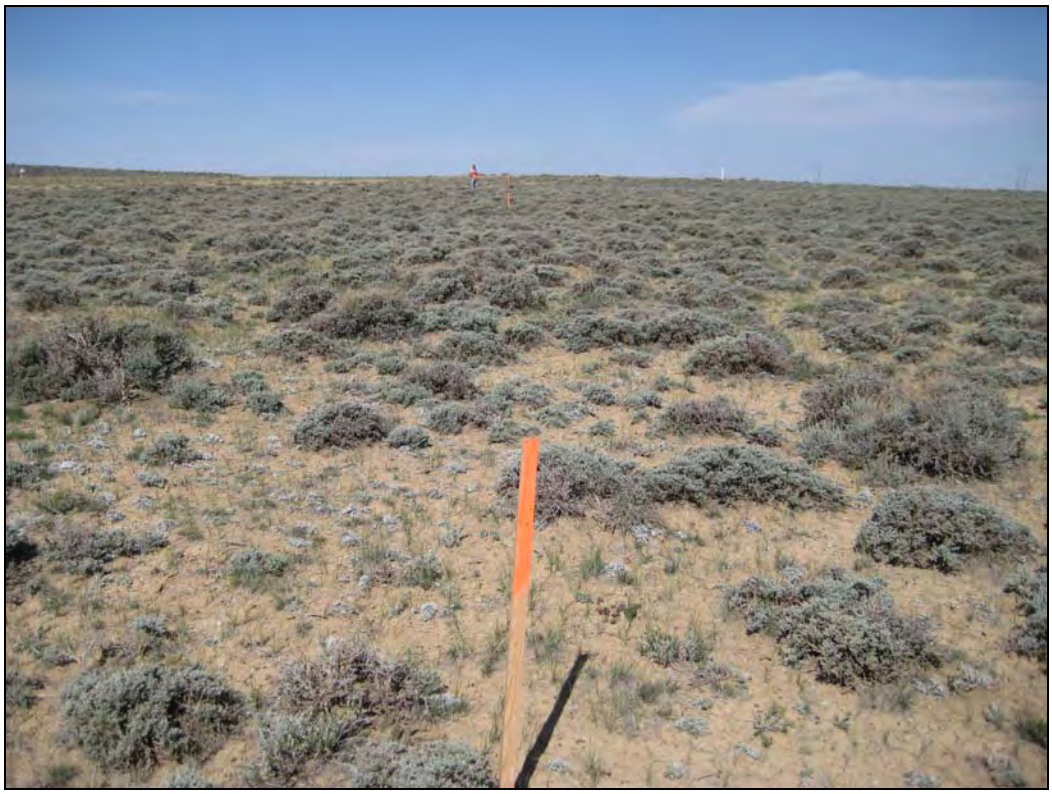


Photograph 1 – View of Echo Springs Plant from south edge of proposed laydown area looking north.

Photograph 2 – View from northeast corner of proposed laydown area looking west along fenceline.



Photograph 3 – View from south edge of proposed laydown area looking west.

Photograph 4 – View from western edge of proposed laydown area looking north.

Photograph 5 – View from southern edge of proposed laydown area near pipeline ROW looking east. Burrows are present in the softer soil along the pipeline.

Photograph 6 – View of tall sage area (to be avoided) near southeast corner of proposed laydown area looking northwest towards Echo Springs Plant.

Photograph 7 – White-tailed prairie dog in burrow near southeast corner of proposed laydown area.

Photograph 8 – Typical 9″ white-tailed prairie dog burrow found within the proposed laydown area.

Photograph 9 – Culverted pond area upstream of road crossing ¼ mile to the northeast from proposed laydown area.

Photograph 10 – View of Hansen Draw from road crossing just downstream of culverted pond looking northwest.

Appendix D
Planning and Zoning

Appendix D1
Letter from Planning and Zoning
April 24, 2008

CARBON COUNTY
PLANNING & ZONING COMMISSION

Carbon Building
215 W. Buffalo Street, #336
Rawlins, Wyoming 82301

Phone: (307) 328-2651
ccpz@bresnan.net

Fax: (307) 328-2735
www.carbonwy.com

Planning & Zoning Commission
Troy Maddox, Chairman
Richard Wilson, Vice Chair
Ed "Shorty" Ballard
Brian Lally
William Speer

Board of County Commissioners
Terry Weickum, Chairman
Jerry D. Paxton, Vice Chair
James E. Elliott, Jr.

Planning & Development Dept.
Lou Kline, Planning Director
Kristy R. Rowan, Administration

April 24, 2008

Williams Field Services LLC
Attn: Ms. Andrea Walton
3 Miles West on Highway 374
HC 70, Box 260
Green River, WY 82935

RE: Installation of a natural gas processing plant and compression
W1/2, Section 1, T19N, R93W, 6th P.M., Carbon County, WY

To Whom It May Concern:

Williams Field Services LLC may install a natural gas processing plant and compression located in the W1/2, Section 1, T19N, R93W, 6th P.M., Carbon County, Wyoming, located off Exit 184 off I-80, 8 miles south of Wamsutter, Wyoming. This type of operation will allow the development, exploration, and production of oil, gas, and mineral.

This type of operation is allowed in the Ranching, Agriculture, Mining Zone (RAM), which are attached. The Principally Permitted Use #6 of the Carbon County Zoning Resolution of 2003 Amended 01-06-2004 state that oil, gas, mineral exploration, development and production is permitted. A Conditional Use Permit is not required; however, this is conditioned upon receiving an Industrial Siting Permit from the State of Wyoming.

If you have questions or concerns, please do not hesitate to contact the Carbon County Planning and Development Department at 307-328-2651.

Sincerely,

Lou Kline
Planning Director
Attachment: 2003 RAM Regulations

cc: Tom Schroeder, State of Wyoming – Dept. of Environmental Quality – Industrial Siting Division (w/o attachment)
Cindy DeLancey, Carbon County Attorney (w/o attachment)
Troy Maddox, Carbon County Planning & Zoning Commission Chairman (w/o attachment)
Correspondence File (w/o attachment)
Building Permit #2295 (w/o attachment)

Appendix D2
Letter from Carbon County Attorney
June 10, 2008

Carbon County and Prosecuting Attorney
Cindy DeLancey

Deputy County and Prosecuting Attorneys
Cal Rerucha, Chief Deputy
Dawnessa Snyder
Marcia E. Bean

CARBON COUNTY
WYOMING

Carbon County and Prosecuting Attorney
Carbon Building, Suite 118
Post Office Box 1146
Rawlins, Wyoming 82301
307-328-2700 • 866-530-0548
307-328-2704 Fax

June 10, 2008

Williams Field Services, LLC
Attn: Ms. Andrea Walton
3 Miles West on Highway 374
HC 70, Box 260
Green River, WY 82935

Re: Carbon County Natural Gas Processing Plant (Echo Springs Expansion)

Dear Ms. Williams:

Thank you for taking the time to meet with me and Mr. Kline regarding your proposed Carbon County project. As we discussed during our meeting, it is my understanding that Williams Field Services, LLC is proposing to install a natural gas processing plant and compression site located in the W ½, Section 1, T19N, R93W, 6th P.M., Carbon County, Wyoming. Further, it is my understanding that the facility will allow for the development, exploration and production of oil, gas and mineral exploration.

In accordance with the current Carbon County Zoning Resolution, this type of activity appears to be a permitted use in the property's current "RAM" zone. Since this is a permitted use within the existing zone, a special use permit is not required. I have reviewed the letter from Mr. Lou Kline dated April 24, 2008, and concur with his analysis.

It was a pleasure meeting you, and I look forward to working with you and your attorney on the Industrial Siting process. Please feel free to contact me or Mr. Kline should you require any additional information as related to the zoning for this project.

Sincerely,

Cindy DeLancey
Carbon County Attorney

cc: Tom Schroeder, State of Wyoming, DEQ (Industrial Siting Division)
Lou Kline, Carbon County Planner
Troy Maddox, Chairman, Planning and Zoning Commission
Board of County Commissioners

Appendix D3
Building Permit
June 10, 2008

ZONED: RAM

CARBON COUNTY DEPARTMENT OF PLANNING AND DEVELOPMENT
CARBON BUILDING, 215 W. BUFFALO STREET, SUITE 336
RAWLINS, WYOMING 82301
(307) 328-2651

EXTENDED BUILDING PERMIT - REPLACES BUILDING PERMIT #2295

Permit No. 2363 EXTENDED BUILDING PERMIT — Date of Issue: June 10, 2008
Case No. N/A — **EXTENDED UNTIL JULY 29, 2009**
GEO/PIN No. 19930130000600

Property Owner:	Williams Field Services, LLC
Mailing Address:	3 miles west on HWY 374 Green River, WY 82935
Physical Rural Address:	N/A
Contractors (if applicable):	Self/Owner
Authorized Construction:	Installation of a natural gas processing plant and compression (per application and site plan)
General Property Location:	Exit 184 off I-80, 8 miles south of Wamsutter
Legal Description:	W1/2, Section 1, T19N, R93W
Size of Property:	27.55 acres
ZONED:	***RAM (EXTENDED UNTIL JULY 27, 2009)***

Issued By
Title: Zoning Officer

THIS NOTICE MUST BE DISPLAYED AT THE SITE OF WORK.
Permittee agrees to abide by the rules and regulations as outlined in the Carbon County Zoning Resolution of 2003, as amended; as well as any related permit stipulation required by the Carbon County Planning and Zoning Commission.

Construction must start within 180 days from the issued date or permit will be void.
(PERMIT EXPIRES ONE YEAR FROM DATE OF ISSUE)

Appendix E
Public Involvement

Appendix E1
State Agency Invitation List and Invitation

Echo Springs TXP Expansion Project
State Agency Invitation List

Agency	Contact	Title	Phone	email
Wyoming Department of Transportation	Mark Wingate	Section Manager	(307) 777-4180	mark.wingate@dot.state.wy.us
	Jay Gould	District Engineer	(307) 745-2100	Jay.Gould@dot.state.wy.us
	Pat Persson	District Construction Engineer	(307) 745-2100	Pat.Persson@dot.state.wy.us
	Randall Griesbach	District Traffic Engineer	(307) 745-2100	Randy.Griesbach@dot.state.wy.us
Wyoming Public Service Commission	Kathleen A. "Cindy" Lewis,	Chairman	(307) 777-7427	klewis@state.wy.us
	Steve Oxley	Deputy Chairman	(307) 777-7427	soxley@state.wy.us
	Mary Byrnes	Commissioner	(307) 777-7427	mbyrne@state.wy.us
	Chris Petrie	Chief Counsel	(307) 777-5763	cpetri@state.wy.us
Wyoming Game and Fish	Terry Cleveland	Director	(307) 777-4600	Terry.Cleveland@wgf.state.wy.us
	Vern Stelter	Habitat Protection Program Supervisor	(307) 777-4587	vern.stelter@wgf.state.wy.us
Department of Health	Bob Crowther	Policy Advisor	(307) 777-3408	Bob.Crowther@health.wyo.gov
	Ginny Mahoney	Chief of Staff	(307) 777-7656, (866) 571-0944	Ginny.Mahoney@health.wyo.gov
	Dr. Brent D. Sherard	Director & State Health Officer	(307) 777-7656, (866) 571-0944	Brent.Sherard@health.wyo.gov
Department of Education	Dr. Jim McBride	Superintendent	(307) 777-7675	supt@educ.state.wy.us
	Joe Simpson	Deputy Superintendent	(307) 777-7674	deputysupt@educ.state.wy.us
Office of State Engineer	Lisa Lindemann	Administrator	(307) 777-6689	llinde@seo.wyo.gov
	John Harju	Water Manager	(307) 777-6689	JHARJU@seo.wyo.gov
Wyoming State Geologist	Ronald Surdam	State Geologist	(307) 766-2286	wsgs@wsgs.uwyo.edu
Wyoming Department of Agriculture	John Etchepare	Director	(307) 777-7321	jetche@state.wy.us
	Jason Fearneyhough	Deputy Director		jfearn@state.wy.us
Wyoming Department of Environmental Quality	John Corra	Director	(307)777-7937	JCorra@wyo.gov
	Todd Parfitt	Deputy Director, Industrial Siting Administrator		tparfi@wyo.gov
University of Wyoming	William A. Gern	VP Research & Economic Dev Ofc	(307) 766-5353	willger@uwyo.edu
	Mark Northam	Director of School of Energy Resources	(307) 766-6858	mnortham@uwyo.edu
	Angela Lea Faxon	Staff Assistant	(307) 766-5353	afaxon@uwyo.edu
Wyoming Business Council	Robert Jensen	Chief Executive Officer	(307) 777-2800	bob.jensen@wybusiness.org
State Historic Preservation Office	Mary Hopkins	Deputy SHPO	(307) 777-6311	hopkins@uwyo.edu
	Richard Currit	Senior Archaeologist	(307) 777-5497	rcurri@state.wy.us
Work Force Services	Joan Evans	Director	(307) 777-8728	jevans1@state.wy.us
	Lisa M. Osvold	Deputy Director		losvol@state.wy.us
Office of Homeland Security	Joe Moore	Director	(307) 777-HOME (4663)	dburto@state.wy.us
	Kim Lee	WMD Unit Chief	(307) 777-7540	klee@state.wy.us

Fiore, Jerry/DEN

From: Fiore, Jerry/DEN

Sent: Friday, June 06, 2008 1:26 PM

To: TSchro@state.wy.us; (mark.wingate@dot.state.wy.us); Jay.Gould@dot.state.wy.us; (Pat.Persson@dot.state.wy.us); (Randy.Griesbach@dot.state.wy.us); (klewis@state.wy.us); (soxley@state.wy.us); (mbyrne@state.wy.us); (cpetri@state.wy.us); (Terry.Cleveland@wfg.state.wy.us); (vern.stelter@wfg.state.wy.us); (Bob.Crowther@health.wyo.gov); (Ginny.Mahoney@health.wyo.gov); (Brent.Sherard@health.wyo.gov); (supt@educ.state.wy.us); (deputysupt@educ.state.wy.us); (llinde@seo.wyo.gov); John Harju (JHARJU@seo.wyo.gov); (wsgs@wsgs.uwyo.edu); (jetche@state.wy.us); (jfearn@state.wy.us); (JCorra@state.wy.us); (tparfi@state.wy.us); (willger@uwyo.edu); (mnortham@uwyo.edu); (bob.jensen@wybusiness.org); (hopkins@uwyo.edu); (rcurri@state.wy.us); (jevans1@state.wy.us); (losvol@state.wy.us); (jmoore@state.wy.us); (klee@state.wy.us)

Cc: Andrea Walton; Dallas Scholes (dallas.scholes@williams.com); Delgado, Sara; Majeune, Michele/DEN; Henning, Ryan/DEN

Subject: Williams Echo Springs Expansion Industrial Siting Permit Application

Attachments: Williams Fact Sheet.pdf; State Agency Invitation.pdf

Tracking:

Recipient	Delivery	Read
TSchro@state.wy.us		
(mark.wingate@dot.state.wy.us)		
Jay.Gould@dot.state.wy.us		
(Pat.Persson@dot.state.wy.us)		
(Randy.Griesbach@dot.state.wy.us)		
(klewis@state.wy.us)		
(soxley@state.wy.us)		
(mbyrne@state.wy.us)		
(cpetri@state.wy.us)		
(Terry.Cleveland@wfg.state.wy.us)		
(vern.stelter@wfg.state.wy.us)		
(Bob.Crowther@health.wyo.gov)		
(Ginny.Mahoney@health.wyo.gov)		
(Brent.Sherard@health.wyo.gov)		
(supt@educ.state.wy.us)		
(deputysupt@educ.state.wy.us)		
(llinde@seo.wyo.gov)		
John Harju (JHARJU@seo.wyo.gov)		
(wsgs@wsgs.uwyo.edu)		
(jetche@state.wy.us)		
(jfearn@state.wy.us)		
(JCorra@state.wy.us)		
(tparfi@state.wy.us)		
(willger@uwyo.edu)		
(mnortham@uwyo.edu)		
(bob.jensen@wybusiness.org)		
(hopkins@uwyo.edu)		
(rcurri@state.wy.us)		
(jevans1@state.wy.us)		
(losvol@state.wy.us)		
(jmoore@state.wy.us)		
(klee@state.wy.us)		

Andrea Walton	
Dallas Scholes (dallas.scholes@williams.com)	
Delgado, Sara	
Majeune, Michele/DEN	Delivered: 6/6/2008 1:26 PM Read: 6/9/2008 2:13 PM
Henning, Ryan/DEN	Delivered: 6/6/2008 1:26 PM Read: 6/6/2008 1:48 PM

Williams is proposing to expand the Echo Springs Gas Plant near Wamsutter, Wyoming. This project will be required to submit an Industrial Siting Permit Application. We would like to have your input. Please see the attached invitation and Fact Sheet.

Feel free to call or email me if you have any questions.

Jerry Fiore
CH2M HILL
9193 South Jamaica Street
Englewood, CO 80112-5946
work (720) 286-2512
fax (720) 286-9946
email jerry.fiore@ch2m.com

Williams

Echo Springs
Gas Plant Expansion Project

INVITATION / NOTICE
To Wyoming State Agencies

Please join representatives of Williams and CH2M HILL for a meeting to discuss the proposed Williams Echo Springs Gas Plant expansion and their Industrial Siting Act (ISA) Permit Application.

We will provide a presentation and answer questions. Comments, concerns and issues raised at this meeting will be considered as Williams develops its ISA permit application. Thank you.

Williams ISA Permit Application Meeting with State Agencies

Monday, June 16, 2008

3:00pm – 5:00 pm

Holland & Hart Building
2515 Warren Avenue
Suite 450 (4th floor)
Cheyenne, Wyoming 82001

Please enter the building at the northwest corner (Warren Avenue and 26th Street)

For Further Information:
Jerry Fiore, CH2M HILL 720-286-2512 or 720-878-2434

Appendix E2
Notice for Public Meeting

Williams

Echo Springs Gas Plant Expansion Project

You're Invited to a Public Open House

Tuesday, June 3, from 7 p.m. - 9 p.m.

at The Depot • 400 W. Front Street • Rawlins, Wyoming 82301

The public is invited to an open house to learn about the proposed expansion of the existing Williams Echo Springs natural gas processing facility located in Carbon County. Williams is seeking an Industrial Siting Permit from the State of Wyoming for this proposed expansion. The permit application will address socioeconomic and environmental aspects of the construction and expansion, which are targeted to begin in 2009. Please join us at the open house to get more information and to give your comments.

For further information, contact:
Jerry Fiore from CH2M HILL 720-878-2324
Michele Majeune from CH2M HILL 720-286-5624
Dallas Scholes from Williams 303- 606-4377

Appendix E3
Local Letters of Support

Terry Weickum, Chairman
Jerry Paxton, Vice Chairman
James E. Elliott, Jr., Member

(307)-328-2699
Toll Free 1-800-250-9812
Fax: (307)-328-2669
www.carbonwy.com

BOARD OF CARBON COUNTY COMMISSIONERS

P.O. Box 6, 415 West Pine Street
Rawlins, WY 82301

July 1, 2008

Mr. Tom Schroeder
Industrial Siting Division,
Department of Environmental Quality
Herschler Building 4-W
122 W. 25th Street
Cheyenne, VVY 82002

Dear Mr. Schroeder,

The Board of Carbon County Commissioners strongly urges a positive consideration in the permitting of the Williams Echo Springs Gas Plant Expansion near the Town of Wamsutter, WY in Carbon County.

We appreciate companies like Williams and their continued investment in our county and residences. Therefore we strongly encourage the Wyoming Industrial Siting Council to approve the permits requested by Williams to proceed with the expansion of this facility.

Sincerely,

Terry Weickum
Chairman, Board of Carbon County Commissioners

CC: Jerry Fiore CH2M HILL

Jerry Fiore
CH2M HILL
9191 South Jamaica Street
Englewood, CO 80112

BOARD OF COUNTY COMMISSIONERS

SWEETWATER COUNTY

- WALLY J. JOHNSON, BOARD CHAIR
  COURTHOUSE (307) 872-6331 ~ HOME (307) 382-6064
- JOE OLDFIELD, COMMISSIONER
  COURTHOUSE (307) 872-6332 ~ HOME (307) 362-8106
- DEBBY DELLAI BOESE, COMMISSIONER
  COURTHOUSE (307) 872-3287 ~ HOME (307) 382-5721

80 WEST FLAMING GORGE WAY ~ GREEN RIVER, WY 82935
COURTHOUSE (307) 872-6338 ~ FAX (307) 872-6349

July 28, 2008

Mr. Tom Schroeder
Industrial Siting Division
Department of Environmental Quality
Herschler Building 4-W
122 West 25th Street
Cheyenne, Wyoming 82002

Dear Mr. Schroeder:

The Sweetwater County Board of County Commissioners strongly urges a positive consideration in permitting of the Williams Echo Springs Gas Plant Expansion near the Town of Wamsutter, Wyoming, in Carbon County.

We appreciate the need for expanding the natural gas infrastructure in order to maximize the value of natural resources in ours and neighboring counties. Williams has been a good corporate citizen to our community and we look forward to their continued investment in our County. We strongly encourage the Wyoming Industrial Siting Council to approve the permits request by Williams to proceed with the expansion of this facility.

Sincerely,

Wally J. Johnson	Joseph L. Oldfield	Debby Dellai Boese
Sweetwater County	Sweetwater County	Sweetwater County
Commission Chairman	Commission Member	Commission Member

WJJ/JLO/DDB:aet

cc-Governor Dave Freudenthal
Mr. John V. Corra
Jerry Fiore

TOWN OF WAMSUTTER
P.O. Box 6
Wamsutter, WY 82336

June 16, 2008

Jerry Fiore, Sr. Project Manager
CH2M HILL
9191 South Jamaica Street
Englewood, CO 80112-5946

RE: Echo Springs Expansion, Industrial Siting Application.

Dear Mr. Fiore:

Thank you for meeting with us to explain the expansion project proposed by Williams. As Mayor and lifetime resident of Wamsutter I am well aware of the project your company is proposing and can say that we receive positive impact from workforce living in and passing through our community.

At this time, the town of Wamsutter has no negative comment regarding the expansion.

Sincerely,
Kenneth R Waldner
Mayor Kenneth Waldner

Cc: Dallas Scholes, Williams

City of Rawlins

P.O. Box 953
Rawlins, Wyoming 82301

July 2, 2008

Mr. Tom Schroeder
Industrial Siting Council
Department of Environmental Quality
Herschler Building - 4th Floor West
122 West 25th Street
Cheyenne, WY 82001

RE: Williams Company Echo Springs Gas Plant Expansion Project

Dear Mr. Schroeder:

On behalf of the Rawlins City Council, I am writing to express our support for the above referenced project. The meeting held during a Rawlins City Council work session on June 3, 2008 was very beneficial in providing information on the project expansion and future permanent positions at Williams Echo Springs Gas Plant. The City of Rawlins and Carbon County will further benefit from the expansion of gas process in our area resulting in additional permanent jobs. Williams Company is an important part of our community and we look forward to their continued support.

Again, we express our support and assistance in facilitating the review process and urge positive consideration in permitting this expansion project. Do not hesitate to contact me if additional information is needed.

Respectfully,

Kenneth C. Klouda, Mayor

Duane Stolns, Interim City Manager

CC: Jerry Fiore
CH2M Hill
9191 South Jamaica Street, Second Floor
Englewood, CO 80112

PHONE (307) 328-4500 FAX: (307) 328-4555

BANK OF COMMERCE

Third & Buffalo
P.O. Box 50
Rawlins, Wyoming 82301

(307) 324-2265

June 5, 2008

Williams Energy Services
c/o John Hilim
Rawlins, Wyoming 82301

Dear Williams Energy Services,

It was with great pleasure that I recently read an article speaking about the proposed expansion of the Echo Springs production plant by Williams Energy Services. As you are well aware, energy development in Carbon County has been the bread and butter of economic growth for our communities. I personally appreciate your company's interest in developing resources in Carbon County, and truly appreciate the positive impact your company has on the communities in Carbon County.

Williams Energy Services and their employees are always willing to help out with local projects, especially non-profit events. The additional development at the Echo Springs plant helps to reassure the community of your plans to partner with our communities to enhance not only the resources, but the quality of life we enjoy in Southern Wyoming.

I applaud your continued efforts, and encourage you to stay the course. As a community, we need companies like yours to work with and help us continue to grow.

Sincerely,

Copper W. France
Vice President & Cashier
Bank of Commerce

Rawlins' Only Home Owned Bank

Rawlins-Carbon County
CHAMBER OF COMMERCE

phone **307-324-4111** fax **307-324-5078**
519 W. Cedar St., P.O. Box 1331, Rawlins WY 82301

June 10, 2008

We have put together and provided fifty visitor/relocation packets to Williams Field Services for them to provide to their contractors who will be coming to the area to work on the Echo Springs Gas Plant Expansion. These packets have a variety of brochures regarding recreational and cultural opportunities in Rawlins, Carbon County and the surrounding area.

We will be happy to provide additional packets and/or information to Williams Field Services and their contractors.

Sincerely,

Dorothy Stanfield

Dorothy Stanfield
Administrative Assistant