

# Wyoming Industrial Development Information and Siting Act

Section 107 Permit Application  
Dave Johnston Power Plant  
Units 3 & 4  
Emission Control Project

 **PACIFICORP ENERGY**  
A DIVISION OF PACIFICORP  
Prepared for

**CH2MHILL**  
Prepared By:

9193 South Jamaica Street  
Englewood, CO 80112

April 2008





April 9, 2008

Mr. Tom Schroeder  
Industrial Siting Division  
Wyoming Department of Environmental Quality  
Herschler Building, 4-W  
122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002

RE: PacifiCorp Dave Johnston Power Plant Emission Control Project  
Submittal of Section 107 Industrial Siting Permit Application

Dear Mr. Schroeder,

PacifiCorp is pleased to submit a Section 107 Permit Application for construction of the Dave Johnston Power Plant Units 3 and 4 Emission Control Project near Glenrock, Wyoming.

Sixty (60) bound copies of the application and one (1) electronic copy on compact disc are included with the application. Also, the requested fee payment for the amount of \$26,060 was mailed directly to you on March 27, 2008.

Alan Dugan, Senior Project Manager, is the designated contact for the company. Mr. Dugan can be reached at (307) 436-2046 or at his email address [alan.dugan@pacificorp.com](mailto:alan.dugan@pacificorp.com). Paul Hickey, of the law firm Hickey & Evans, is designated as our project attorney. Mr. Hickey can be reached at his Cheyenne office at (307) 634-1525 or at his email address [phickey@hickeyevans.com](mailto:phickey@hickeyevans.com).

We look forward to working with you and Industrial Siting Division to make this review process as efficient as possible.

Very truly yours,

PacifiCorp Energy

A handwritten signature in blue ink, appearing to read "Nicholas Rahn".

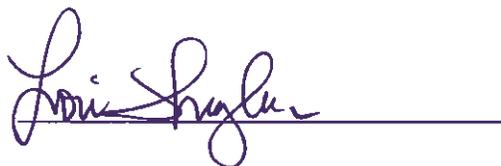
Nicholas Rahn  
Vice President, Resource Development & Construction

Verification

I, Nicholas Rahn, Vice President, Resource Development & Construction, PacifiCorp Energy, hereby affirm and certify that the enclosed Section 107 Industrial Siting Permit application for the Dave Johnston Units 3 and 4 Emission Control Project is truthful and accurate to the best of my knowledge.



Subscribed and sworn to before me this 3 day of April 2008.



Notary Public for Utah  
My commission expires: Nov. 15, 2011



# Contents

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## List of Acronyms

- Section 1.0 Introduction
- Section 2.0 Project Description
- Section 3.0 Construction and Operations Description
- Section 4.0 Socioeconomic Baseline Data and Analysis of Impacts
- Section 5.0 Public Involvement
- Section 6.0 Potential Environmental Impacts
- Section 7.0 Plans for Alleviating Impacts
- Section 8.0 References

## List of Appendices

- Appendix A Site and Project Information
- Appendix B Public Involvement
- Appendix C Housing Plan

# Acronyms and Abbreviations

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AADT	annual average daily traffic
B&W	Babcock & Wilcox
BART	best available retrofit technology
BLM	Bureau of Land Management
BLS	Bureau of Labor Statistics
BMP	Best management practice
CFR	Code of Federal Regulations
CIP	Capital Improvement Plan
CO	Carbon Monoxide
CPCN	Certificate of Public Convenience and Necessity
CWA	Clean Water Act
DFGD	dry flue gas desulfurization
DJPP	Dave Johnston Power Partners
Eagle Act	Bald and Golden Eagle Protection Act
EIS	Environmental Impact Statement
EMS	Emergency Medical Service
EPA	U.S. Environmental Protection Agency
EPC	engineer-procure-construct
E-stop	Emergency stop
ESA	Endangered Species Act
ESP	electrostatic precipitator
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FGD	Flue Gas Desulfurization
FIRM	Flood Insurance Rates Map
FMV	Fair market value
FR	Federal Register

ft	foot/feet
FTE	full-time equivalent
GDP	gross domestic product
GIS	Geographic information system
gpd	gallon per day
gpm	gallon per minute
HAP	Hazardous Air Pollutants
HB	House Bill
I-25	Interstate 25
I-80	Interstate 80
ID	induced draft
IMPLAN	Impact Analysis for Planning
I-O	input-output
ISA	Industrial Siting Act
ISC	Industrial Siting Commission
ISD	Industrial Siting Division
kV	kilovolt
LOS	level of service
LQD	Land Quality Division
m	meter
m/s	meter per second
m <sup>2</sup>	square meter
MBTA	Migratory Bird Treaty Act
MEHC	MidAmerican Energy Holdings Company
met	meteorological
MFI	median family income
MMBtu	Million British thermal unit
mpg	mile per gallon
msl	mean sea level
MW	megawatt
NAAQS	National Ambient Air Quality Standards

NAICS	North American Industry Classification System
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NOx	Nitrogen Oxides
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
O&M	operation and maintenance
OES	Occupational Employment Statistics
OSHA	Occupational Safety and Health Administration
PacifiCorp	PacifiCorp Energy
Plant	Dave Johnston Power Plant
PM	Particulate Matter
Project	Dave Johnston Units 3 and 4 Emission Control Project
PSD	Prevention of Significant Deterioration
REMI	Regional Economic Models, Inc.
RIMS II	Regional Industrial Multiplier System II
RMP	Resource Management Plan
ROI	region of influence
rpm	revolutions per minute
RV	recreational vehicle
S&L	Sargent and Lundy, Inc.
SCADA	supervisory control and data acquisition
SH	State Highway
SHPO	State Historical Preservation Office
SO <sub>2</sub>	Sulfur Dioxide
SPCC	Spill Prevention Control and Countermeasures
SSURGO	Soil Survey Geographic Database
SWPPP	Stormwater Pollution Prevention Plan
SWTSD	solid waste treatment, storage, and disposal
TAC	Technical Advisory Committee

TESS	threatened and endangered sensitive species
TIC	The Industrial Company
TMDL	Total Maximum Daily Limit
UI	Unemployment Insurance
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	Volatile Organic Compound
WAQSR	Wyoming Air Quality Standards and Regulations
WDEQ	Wyoming Department of Environmental Quality
WGFD	Wyoming Game and Fish Department
WHDP	Wyoming Housing Database Partnership
WS	Wyoming Statute
WYDOT	Wyoming Department of Transportation
WYNDD	Wyoming Natural Diversity Database
WYPDES	Wyoming Pollutant Discharge Elimination System
yd <sup>2</sup>	square yard

# 1.0 Introduction

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PacifiCorp, an Oregon corporation (the Applicant) owns and operates the Dave Johnston Power Plant (the Plant), located near the town of Glenrock, Wyoming. PacifiCorp submits this Industrial Development Information and Siting Act Section 107 Application regarding PacifiCorp's intention to retrofit the Dave Johnston Power Plant with pollution control equipment that satisfies the regional haze requirements of the State of Wyoming (the State) for each of Unit 3 and Unit 4 of the Plant (the Project). PacifiCorp, however, takes the legal position that the Industrial Siting Division (the Division) does not have jurisdiction to require an Industrial Siting permit for the Project for the following reasons:

- The plain language of the Industrial Development Information and Siting Act of 1975 (the Act), does not cover retrofits to an existing facility,
- The Division does not have any jurisdiction outside of the jurisdiction granted by the Act, and
- The scope and nature of the Project is consistent with the history of improvements at the Plant, as well as other projects which the Division previously determined were not subject to a permitting process.

PacifiCorp's legal position in this regard has been communicated to the Division through a memorandum dated February 15, 2008, and supplied to the Division.

It is essential that PacifiCorp commence construction of this Project by July 1, 2008, in order to meet its contractual and other commitments of installing the Unit 3 modifications by 2010. Any delay in the construction schedule would have a substantial adverse impact on the Project budget and operation of the Plant.

PacifiCorp and the Division have been unable to reach an agreement at this time regarding the existence of jurisdiction, as outlined above. Some additional time will be required to resolve the issue. However, because of the construction schedule constraints outlined above, the question of jurisdiction, and the nature of this Project (new pollution control equipment), PacifiCorp and the Division have reached the following agreement:

- PacifiCorp has voluntarily agreed to submit a Section 107 Application for this Project, notwithstanding its position that the Division does not have jurisdiction to require an Industrial Siting permit, and does not thereby waive its position regarding jurisdiction over this Project or any similar projects.
- Upon filing of this application, PacifiCorp will be allowed by the Industrial Siting Division to commence construction.
- Any impact assistance monies due as a result of this Project will be retroactive from the time the permit is granted, back to the commencement date of construction.

Accordingly, pursuant to the limitations outlined above, PacifiCorp submits this application.

# 1.1 Purpose and Need

The Project is located at the Dave Johnston Power Plant, which is in Converse County, Wyoming, near Glenrock and approximately 30 miles east of Casper. A vicinity map is shown in Figure 1-1. A larger vicinity map is also included in Appendix A.

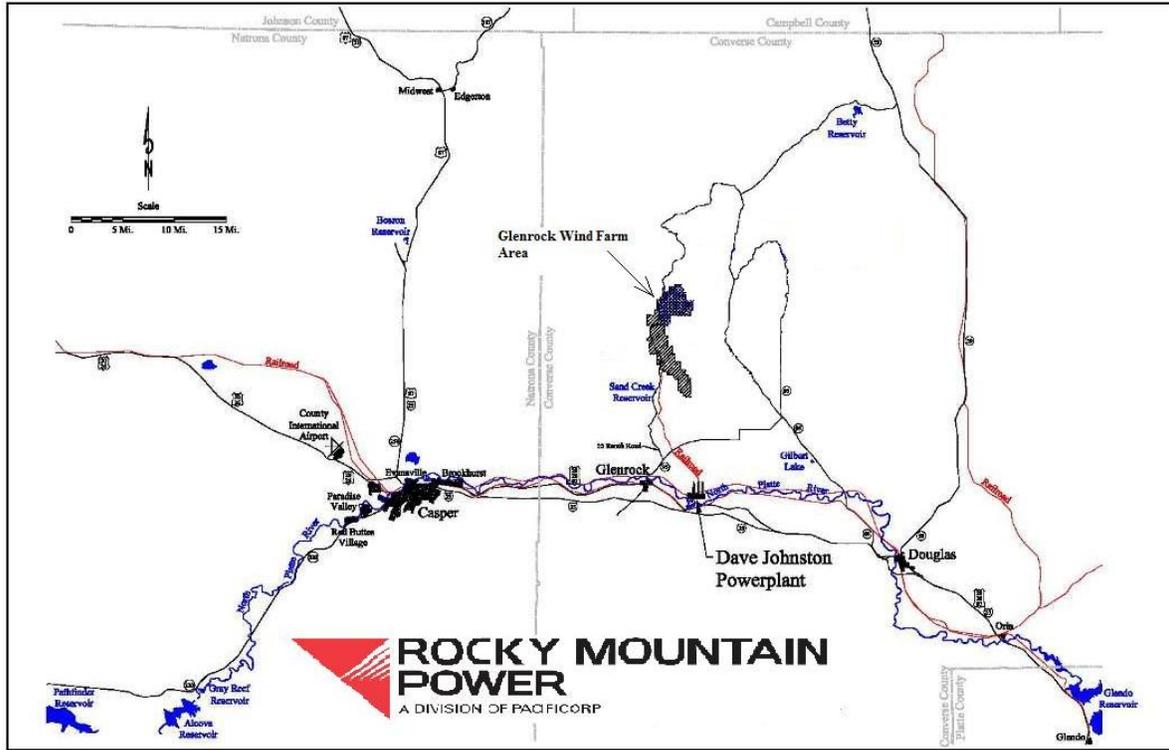


FIGURE 1-1  
Project Location Map

The proposed emissions control equipment retrofit is based on the most probable requirement for future regulations and demonstrate PacifiCorp’s commitment to reducing the environmental impact of the company’s facilities. Sargent and Lundy, Inc. (S&L) completed a flue gas desulfurization (FGD) study in 2006 to review potential new emission controls on the majority of PacifiCorp’s coal fleet. The S&L study recommended the implementation of a dry flue gas desulfurization (DFGD) process for sulfur dioxide (SO<sub>2</sub>) removal for Unit 3 and 4, as well as the installation of a fabric filter for particulate control.

In 2006, the State of Wyoming issued an order requiring all major coal-fired units built between 1962 and 1978 to conduct a best available retrofit technology (BART) review. The results of this review will be a determination by the State of what emissions controls constitute BART. BART controls would then need to be installed within a 5-year period from the BART determination. A BART engineering and modeling analysis was performed by CH2M HILL and is based on previous S&L studies and information obtained from PacifiCorp. The recommended emission controls to be installed on the Project are consistent with the PacifiCorp commitments and the BART report as submitted to the State.

## 1.2 Benefits

There are three major economic benefits attributable to the Project: additional tax revenues, direct employment, and indirect 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 for the duration of the construction phase. Personal consumption expenditures by direct workers would generate sales tax revenues for the counties and municipalities at points of sale. The purchase of goods and services necessary for construction and operation of the Project could create indirect jobs, and purchases by direct workers could induce additional employment. The taxes paid by PacifiCorp will contribute to the economic viability and health of the region. In addition, the Project furthers one of the State's objectives of continued use of one of the State's key resources (coal) effectively for the benefit of residents (i.e., PacifiCorp's customers and local tax jurisdictions) and the long-term economic health of the State). Lastly, the Project will result in environmental benefit from less SO<sub>2</sub> and particulate emissions from Dave Johnston Units 3 and 4.

Economic benefits of the proposed Project to both local communities near the site and the State include the following:

- Local service industry expansion
- Millions of dollars to be spent on local purchases
- Job creation and stable employment
  - Approximately 459 peak-month temporary construction jobs
  - Approximately 100 peak-month construction jobs for local workers
- Increased sales tax revenues from temporary and permanent employees during construction and operation
- Additional ad valorem taxes paid by PacifiCorp
- Increased need for local goods and services

## 1.3 Application Organization

This industrial siting application is organized into the following sections and appendices:

- Section 1.0 - Introduction. This section provides a legal determination, purpose and need, and a summary of Project benefits to the local communities and State of Wyoming, and describes the report organization.
- Section 2.0 - Project Description. This section provides information on the applicant, location and legal description, and a description of equipment being installed.
- Section 3.0 - Construction and Operations Description. This section provides information on the Project schedule, construction workforce, construction logistics, permits required, and the operations workforce.

- Section 4.0 – Socioeconomic Analysis. This section includes a detailed socioeconomic analysis describing the study area conditions, evaluation of impacts due to the Project, and provides plans for alleviating the impacts.
- Section 5.0 – Public Involvement. This section summarizes the public involvement activities conducted on the Project to date including meetings with state and local governmental agencies.
- Section 6.0 – Potential Environmental Impacts. This section summarizes environmental impacts associated with the construction, operation, and maintenance of the new air pollution control equipment.
- Section 7.0 – Plans for Alleviating Impacts. This section discusses measures that are planned to mitigate environmental impacts associated with the Project.
- Section 8.0 – References. This section lists documents used in preparation of the application.
- Appendix A – Site and Project Information. This appendix includes the site vicinity map, site construction plan, and a detailed Project construction schedule.
- Appendix B – Public Involvement. This appendix includes the Project fact sheet and notes from the local and state agency informational meetings.
- Appendix C – Housing Plan. This appendix includes the Project plan for ensuring adequate housing accommodations are in place during the construction phase 2008 – 2010. A summary table of available hotel rooms and associated letters from each hotel are included.

## 2.0 Project Description

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PacifiCorp intends to construct, own, and operate new emissions control equipment, which is referred to as the Project, on the Dave Johnston Power Plant Units 3 and 4. The Plant is located in central Wyoming near Glenrock, about 30 miles from Casper.

### 2.1 Applicant Information

The applicant is:

PacifiCorp Energy  
1407 West North Temple, Suite 210  
Salt Lake City, UT 84116

Formed in 1984, PacifiCorp is one of the Western United States' leading utilities. PacifiCorp is headquartered in Portland, Oregon, with a total of 6,654 employees. PacifiCorp's service area covers 136,000 square miles, and 1,604,817 customers throughout Utah, Oregon, Wyoming, Washington, Idaho, and California. The company was acquired by MidAmerican Energy Holdings Company (MEHC) in 2006.

MEHC is a global leader in the production of energy from diversified fuel sources including geothermal, natural gas, hydroelectric, coal, and wind. MEHC also leads in the supply and distribution of energy in the United States and United Kingdom consumer markets, with approximately 6.7 million electricity and gas customers. MEHC and its subsidiaries, MidAmerican Energy Company, PacifiCorp, CE Electric UK, Cal Energy Generation, Kern River Gas Transmission Company, and Northern Natural Gas, are established leaders in the world energy marketplace.

PacifiCorp consists of three business units:

- PacifiCorp Energy, which contains the electric generation, commercial and energy trading functions, and the coal-mining operations of the company, is headquartered in Salt Lake City, Utah.
- Pacific Power, which delivers electricity to customers in Oregon, Washington, and California, is headquartered in Portland, Oregon.
- Rocky Mountain Power, which delivers electricity to customers in Utah, Wyoming, and Idaho, is headquartered in Salt Lake City, Utah.

PacifiCorp relies on a variety of generation resources, both to maintain a balanced system and to ensure that all of its customers have access to reliable electricity supplies. In addition to coal-fired, gas-fired, and hydroelectric plants, PacifiCorp's generation system includes a mix of power including thermal generation, mining, hydro power, and renewable energy. Total PacifiCorp-owned generation is 8,261 MW.

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

Mr. Alan Dugan  
Project Manager  
PacifiCorp Energy  
Dave Johnston Power Plant  
1591 Tank Farm Road  
Glenrock, Wyoming 82637

Mr. Landon Hatch  
Project Manager  
PacifiCorp Energy  
1407 West North Temple, Suite 210  
Salt Lake City, UT 84116

Mr. Bob Van Engelenhoven  
Project Director  
PacifiCorp Energy  
1407 West North Temple, Suite 210  
Salt Lake City, UT 84116

## 2.2 Location and Legal Description

The Project is located in Converse County, Wyoming, near Glenrock and approximately 30 miles east of Casper (see Figure 1-1). The Project site is located along the North Platte River. The surrounding area is sparsely populated. The Plant site is approximately 200 acres and is located in Township 33 North, Sections 7 and 18, and Range 74 West. PacifiCorp owns over 13,000 acres adjacent to the Plant. The Project is located entirely on privately held fee lands owned by PacifiCorp and will become part of the equipment associated with the Dave Johnston Power Plant Units 3 and 4. The construction site is part of land currently being utilized for various power Plant uses and will be modified to allow the installation of equipment associated with the Project. The completed Project will not impact or infringe upon adjacent property owners.

## 2.3 Project Description

The Dave Johnston Power Plant consists of four steam electric generating units. Unit 3 is a nominal 230 MW pulverized coal unit placed in service in 1964 and is equipped with a cell-fired boiler. Unit 3 is currently not equipped with any SO<sub>2</sub> removal equipment. An electrostatic precipitator (ESP) for control of particulate matter was installed in 1976.

Unit 4 is a nominal 330 MW pulverized coal unit placed in service in 1972 and is equipped with a tangentially fired boiler. A venturi scrubber is currently being used for particulate control, and lime is added to the scrubber for SO<sub>2</sub> control and to prevent scaling.

PacifiCorp proposes to construct air pollution control equipment on Dave Johnston Units 3 and 4 to reduce emissions of SO<sub>2</sub> and particulates. New Dry Flue Gas Desulfurization

(DFGD) systems will be utilized for SO<sub>2</sub> emissions reduction, and new fabric filters will result in lower particulate emissions. The entire emissions reduction effort is referred to herein as the Project.

All equipment installation and site modifications will occur on space located adjacent to Dave Johnston Units 3 and 4. In addition to the new air pollution control equipment, the installation will require connecting ductwork to the existing boilers, a new lime preparation system, and a new concrete stack. An overview of the Project layout is shown in Figure 2-1 below. An 11 by 17 site plan that also shows the construction laydown areas is included in Appendix A.

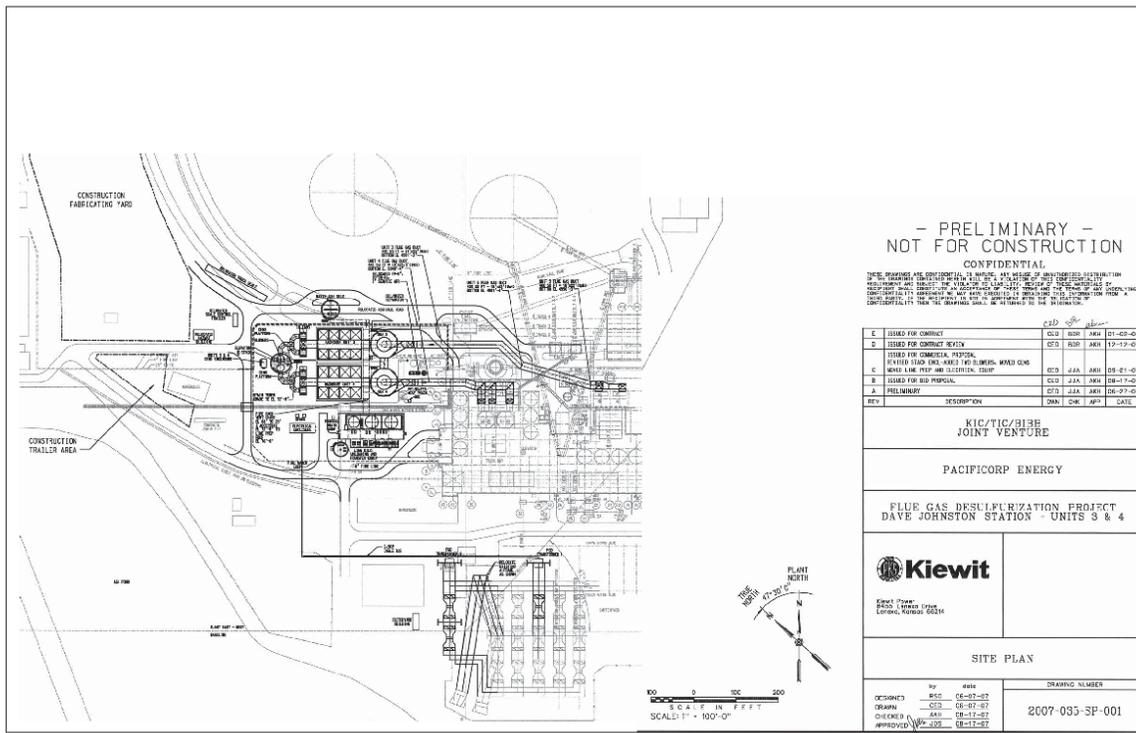


FIGURE 2-1  
Project Site Plan

### 2.3.1 Dry Scrubber Vessels

The lime spray dryer system injects lime slurry in the top of the absorber vessel with a rapidly rotating atomizer wheel. The rapid speed of the atomizer wheel causes the lime slurry to separate into very fine droplets that intermix with the flue gas. The SO<sub>2</sub> in the flue gas reacts with the calcium in the lime slurry to form dry calcium sulfate particles. These dry particles are injected upstream of the fabric filter and collected along with the fly ash. A lime spray dryer system typically produces a dry waste product suitable for landfill disposal.

### **2.3.2 Reagent Preparation System**

A single reagent preparation system will be installed and will provide reagent for the DFGD system for both Units 3 and 4. This system includes provisions for lime delivery, storage, and slaking in sufficient quantities and quality for utilization in the DFGD system. A fly ash recycle system will also be integral to the reagent preparation system and will allow for the mixing of fly ash with the lime slurry for improved DFGD system reagent utilization. Collected fly ash and reagent particles will be collected from the fabric filter, combined with new reagent, and re-injected into the lime spray dryer.

### **2.3.3 Pulse Jet Fabric Filter**

Fabric filter technology achieves particulate reduction through the filtration of the flue gas through filter bags. The collected particles are periodically removed from the bag through a pulse jet mechanism, which delivers a burst of compressed air through the bag in the direction opposite to normal flow. The dislodged particulate ash is collected in the fabric filter hoppers, and then transported to an onsite storage silo prior to disposal. A pulse jet fabric filter system was selected for installation on Dave Johnston Units 3 and 4 because this technology results in high particulate removal efficiency, lower capital cost, and a smaller required footprint.

### **2.3.4 Ductwork**

New ductwork will be required to transport the flue gas from the Dave Johnston Units 3 and 4 boilers to and from the emissions control equipment. This ductwork will first deliver flue gas to the dry scrubber vessels, and then from the scrubber vessels to the fabric filter, from the fabric filter to the new induced draft (ID) fans, and then from the fans to the new stack.

### **2.3.5 Foundations**

Foundations will be required for all Project equipment and structures. The actual foundation design will be determined based on site-specific geotechnical information and structural loading requirements of the building or equipment. It is anticipated that the foundations will utilize a drilled pier or driven pile design.

### **2.3.6 Electrical**

Electrical modifications will be required to provide power to operate the new emissions control equipment. Switchyard modifications will be completed to provide a new source of electrical power, which will also include the installation of two new transformers for the Project. In addition, new electrical switchgear, motor control centers, and controls will be installed.

### **2.3.7 Auxiliary Equipment**

There will several auxiliary equipment systems that will be required by the Project. A new ash-handling system will be necessary to remove collected spent reagent and fly ash from the fabric filter hoppers. Fly ash that is not recycled to the lime spray dryer will be transported the material to a storage silo for ultimate disposal.

New ID fans will be required as a result of the additional pressure drop incurred by the emissions control equipment, which is primarily due to the fabric filter operation. Two ID fans will be installed for each unit. Flue gas from the ID fans will be discharged to a new stack, which will be built as part of the Project. The compressed air system will be modified to serve required compressed air loads, and new controls will be added to provide for the operation of the equipment associated with the Project.

### **2.3.8 Stack**

The existing Unit 4 metal stack will be demolished and a new 500-foot concrete chimney will be constructed with flues inside for Units 3 and 4. The existing 500-foot concrete chimney that has flues for Units 1, 2, and 3 will continue to be used for Units 1 and 2.

# 3.0 Construction and Operations Description

This section describes construction and operations procedures, schedules, workforce estimates, and housing plans associated with the Project.

## 3.1 Construction Procedures

Construction of the new air pollution control equipment on Units 3 and 4 is being performed by Dave Johnston Power Partners (DJPP). DJPP is a joint venture partnership of The Industrial Company, Wyoming (TIC) and Kiewit Power Engineers. TIC will be performing the onsite construction and Kiewit Power Engineers is providing engineering and procurement services on the Project. Babcock & Wilcox (B&W) is the provider of the Dry Flue Gas Desulfurization (DFGD), baghouse system, and new lime preparation system.

DJPP will prepare the Project site, complete site civil work including construction of access roads, install equipment and facilities, provide construction management and oversight, provide and improve access roads as required, and complete final cleanup and restoration of disturbed areas. Major equipment that will be installed includes the DFGD and baghouse systems, a new lime preparation system, new ID fans, electrical substation modifications, and a new stack for Units 3 and 4.

Heavy construction equipment used to construct the Project is anticipated to 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 for the Project

Equipment	Construction Use
Bulldozers	Road and Equipment Pad Construction
Graders	Road and Equipment Pad Construction
Gravel Truck Haulers/Bottom Dump	Hauling and Placement of Road Aggregate
Water Trucks	Compaction, Erosion, and Dust Control
Roller/Compactors	Road and Pad Compaction
Backhoe/Trenching Machines	Excavating Foundations, Trenches for Underground Utilities
18-Wheel Semi-Tractors	Equipment and Material Delivery
Truck-Mounted Drill Rigs	Drilling Soil Test Bore Holes, Pier Installation
Concrete Trucks and Pumps	Pouring Equipment and Structure Foundations
Conventional and Small Cranes	Off-Loading Equipment Onsite
Heavy and Intermediate Cranes	Off-Loading Equipment Onsite, Erecting Scrubber vessels, Baghouse Components, Material Storage Silos
Cement Trucks	Foundations and Pads

TABLE 3-1  
List of General Construction Equipment for the Project

Equipment	Construction Use
Pickup Trucks	General Use by Construction Personnel
Small Hydraulic Cranes/Forklifts	Loading and Unloading Minor Project Equipment
Forklift	Lifting Equipment

Source: TIC, 2008

### 3.1.1 Site Civil Work/Preparation

Prior to breaking ground, the construction area for the Project will be surveyed and clearly demarcated with stakes and flagging. All construction activities will be confined to the designated areas. Above and below grade interferences will be demolished or relocated from the site to allow for construction activities. Access to the construction site will be established and maintained throughout the construction period.

### 3.1.2 Foundations

After the completion of construction site preparation, crews would begin installation of the equipment and structure foundations. A geotechnical report will be prepared for the Project to determine the appropriate foundation design. Raw materials used for foundations will include concrete and steel rebar, and/or steel piling. During construction, a licensed engineer would prepare an inspection report for each foundation excavation and pour. The source of concrete has not yet been determined, but may utilize the same concrete batch plant as the Glenrock and Rolling Hills Wind Projects.

### 3.1.3 Equipment Erection

After the concrete foundations are in place and cured, large cranes and erection equipment will be brought onsite to install the DGFD and baghouse equipment, stack, and support facilities. The following summarizes general construction categories to be completed for the Project:

- Structural Steel
- Buildings
- Electrical
- Instrumentation
- Mechanical Installation
- Pipe Installation
- Insulation
- Paving and Site Restoration

The majority of construction activities will be completed while the units remain in service. During an individual outage for each unit, tie-in activities will be completed. For Unit 3 this is scheduled for May 2010, and for Unit 4 this is scheduled for April 2012. This may include removal and/or demolition of existing equipment and ductwork, and the connection of new Project ductwork and equipment. Construction and tie-in activities will be scheduled to minimize unit downtime and operational interferences.

### **3.1.4 Testing**

After construction, all systems, controls, and safety equipment would be calibrated and tested before being placed in service. Qualified engineers, technicians, and operators will test and inspect all equipment and systems to ensure that they comply with required specifications and are working properly. All tests will be conducted and problems corrected prior to final turnover to PacifiCorp.

### **3.1.5 Safety Mechanisms**

Safety and emergency systems are incorporated into the design of the Project to ensure safe and reliable operation. Safety systems associated with the Project will be integrated into the Units 3 and 4 control systems and will be consistent with unit operation.

### **3.1.6 Construction Emergency Response/Plan**

DJPP will be responsible for the development of Safety and Fire Protection Plans, covering all site work to be performed by DJPP and all site subcontractors during construction of the Project. The Safety and Fire Protection Plan for the Project will be completed by DJPP and approved by PacifiCorp prior to the initiation of construction activities. In addition, DJPP will comply with all safety requirements of the Occupational Safety and Health Administration (OSHA), as applicable, and will maintain adequate first-aid facilities throughout the construction period. Specifically, prior to construction, DJPP will provide and maintain for the protection of its employees such safety equipment, guarding, and personal protective apparel as is prescribed for safety practices or as required by any law, ordinance, rules, or the exercise of ordinary prudence for the type of work being performed. PacifiCorp representatives and Owner's Engineer personnel will be onsite during the construction phase to monitor the performance of the DJPP.

## **3.2 Construction Schedule**

The current timeline for the Project is summarized in a master Project schedule from DJPP located in Appendix A. Engineering, final site layout, and initial permitting activities are currently underway. DJPP anticipates that site mobilization and construction will start no later than the second quarter of 2008 or when all required permits and authorizations are in place. The completion of construction and system startup for Units 3 and 4 is anticipated for second quarter of 2010 and 2012, respectively, which coincides with currently planned unit outage schedules.

## **3.3 Construction Workforce Estimate**

Construction for each unit will occur concurrently and will take place over a number of phases. Total construction duration is anticipated to last approximately 2 years (inclusive of tie-in and startup activities).

The workforce would peak in September 2009 when it is expected that almost 450 workers would be onsite throughout the month. During the 12-month period of most intense activity (April 2009 through February 2010), there would be an average of about 270 workers onsite. The manner in which the workforce varies over time and in trades person composition over the period of construction can be seen from the information presented in Table 3-2 and Figure 3-1.

TABLE 3-2  
Construction Workforce by Month and Type of Worker (Units 3 and 4)

Year	Month	Total Workforce	Civil - Concrete	Structural Steel Crew	Electrical Crew	Mechanical Crew	Piping Crew	Sub-Contractor	Indirect
2008	April	23	5	0	0	0	0	0	18
	May	25	7	0	0	0	0	0	18
	June	38	11	0	0	0	0	5	22
	July	41	13	0	0	0	0	5	23
	Aug	52	15	0	6	0	3	5	23
	Sept	54	23	0	5	0	1	0	25
	Oct	111	34	0	2	0	0	50	25
	Nov	170	42	0	2	1	0	100	25
	Dec	135	43	0	6	11	0	50	25
2009	Jan	91	36	16	8	3	0	0	28
	Feb	126	24	22	23	19	0	10	28
	Mar	168	25	28	28	49	0	10	28
	April	224	9	36	26	69	34	20	30
	May	210	1	28	28	69	34	20	30
	June	273	0	33	33	111	36	30	30
	July	364	0	38	33	171	54	35	33
	Aug	375	0	34	31	173	50	53	34
	Sept	442	0	27	32	238	52	58	35
	Oct	401	0	23	30	193	52	68	35
	Nov	310	0	13	29	115	60	58	35
	Dec	295	0	0	32	118	52	58	35
2010	Jan	177	0	0	17	35	25	58	42
	Feb	134	0	0	14	2	27	50	41
	Mar	111	0	0	16	4	24	30	37
	April	92	0	0	19	11	8	20	34
	May	61	0	0	8	3	0	20	30
	June	45	0	0	5	1	0	10	29
	July	29	0	0	0	0	0	0	29
	Aug	28	0	0	0	0	0	0	28
	Sept	29	0	0	0	0	0	0	29
	Oct	29	0	0	0	0	0	0	29
	Nov	26	0	0	0	0	0	0	26
	Dec	9	0	0	0	0	0	0	9

Source: TIC, 2008

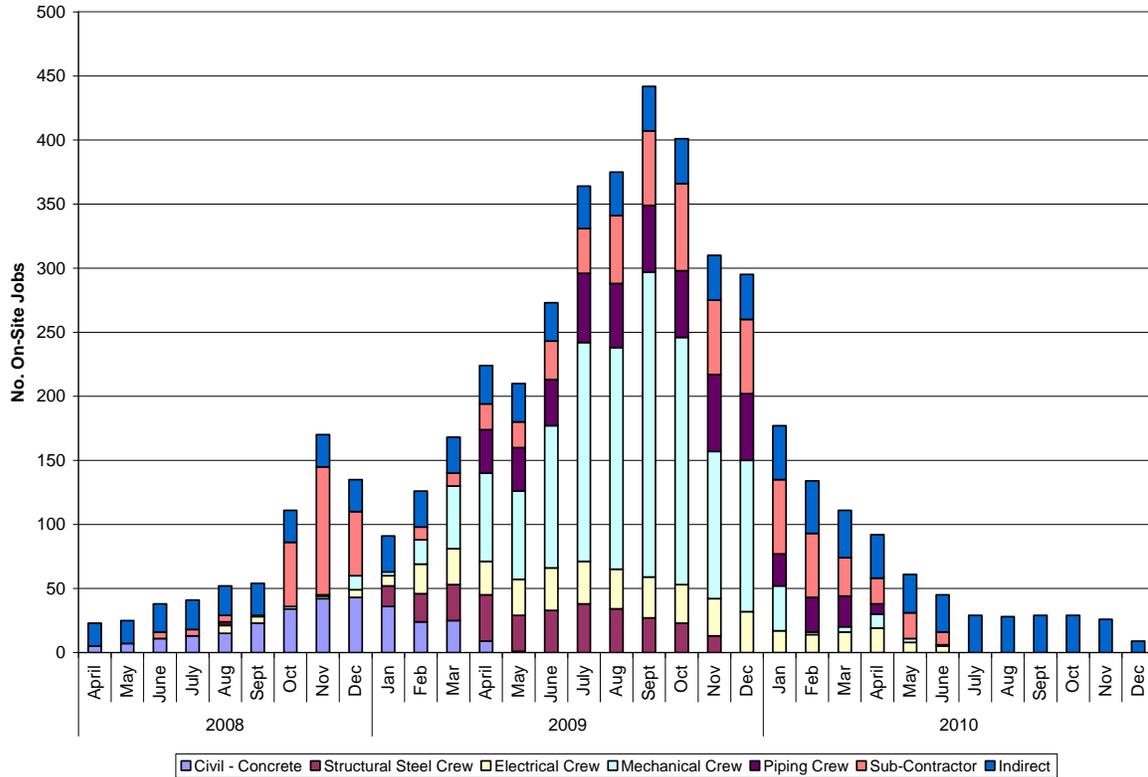


FIGURE 3-1  
Estimate of Construction Schedule and Construction Workforce by Trade Type

There will also be a small construction crew back on site in spring 2012 to tie in the new control equipment on Unit 4 during the planned maintenance outage. The peak workforce size for this activity is estimated to be 29 workers.

### 3.3.1 Construction Management Workforce

It is estimated that 22 construction management workers will be required during peak construction, and one half will relocate with their families during the construction period. Because the construction schedule for the Project is anticipated to be 24 months, it is assumed that the construction management will require long-term housing options.

It is anticipated that the construction management will be a non-local workforce and accompanied by family members. It is envisioned that this management workforce will seek to relocate primarily to the Town of Glenrock, City of Casper, and the City of Douglas. This is primarily due to the choice of several temporary and affordable longer-term rental housing options and relative proximity to the construction site.

### **3.3.2 Single Worker**

Based on the type of labor required to complete construction on the Project, a majority of the workforce is anticipated to be single and male. Because the majority of the workforce will be relocating as a single entity, PacifiCorp looked to secure motel/hotel and multi-dwelling temporary housing options for this majority group.

### **3.3.3 Local to Non-local Workforce Ratio**

The proportion of the workforce comprised of local workers will be highly dependent upon the availability of local workers possessing the required skills and level of experience. It is estimated that local workers will be 40 percent of the total requirement for the civil, structural, electrical, and piping crafts. Some activities such as work on the chimneys, pilings, building sheeting and finishes, and switchyard are expected to be performed wholly by non-local workers. During the peak construction month, this results in an estimated 340 workers who will require temporary housing.

### **3.3.4 Local Hiring Practice**

PacifiCorp has awarded DJPP the contract for engineer-procure-construct (EPC) services for the Project. Therefore, PacifiCorp will not directly hire trades people for the construction of the Project. DJPP will utilize a combination of current full-time construction workers on their present payrolls and will hire locally to supplement this workforce. If union trades people are used, they will be hired through the policies of the Union Hall, which has local jurisdiction.

## **3.4 List of Permits Required for Construction**

The purpose of this section is to identify anticipated permits required for the retrofit of Units 3 and 4. 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
<b>Federal</b>			
Federal Aviation Administration	Notice of Proposed Construction or Alteration Title 14 Code of Federal Regulations, Part 77, Objects Affecting Navigable Airspace	Pending final design and file prior to construction.  Approximate 60-day process for application development and approval. Work will begin in early 2008.	Spring 2008
U.S. Environmental Protection Agency (EPA)	Spill Prevention Control and Countermeasure Plan (SPCC)	Site has an existing approved SPCC plan. It will be modified after construction for the new lime desulfurization system. Revision will be submitted to EPA and the Wyoming Department of Environmental Quality [WDEQ].	NA
U.S. Environmental Protection Agency (EPA)	EPA ID number issued; identified as a generator of hazardous waste and used oil storage/transporter. Wyoming DEQ authorized to implement federal program.	Site already has EPA ID number, WYD051842730.	NA
U.S. Environmental Protection Agency (EPA)	Safe Drinking Water Act	Potable water system at the Plant already exists.	NA
<b>State of Wyoming</b>			
WDEQ, Air Quality Division	Wyoming Air Quality Standards and Regulations (WAQSR) Chapter 6, Section 2; the replacement and upgrade of the existing emissions control equipment will result in potential increase of some air pollutant emissions, requiring a construction permit.	Construction Permit Application Submitted November 2007. Permit must be obtained prior to initiating construction activities.	Spring 2008
WDEQ, Air Quality Division	WAQSR Chapter 6, Section 3; Title IV (acid rain) and Title V Permit 31-148-1	Permit Issued July 26, 2005, and expired January 1, 2008. Title V operating permit renewal application submitted June 28, 2007, which allows the Plant to continue operating until renewal permit issued.	Renewal anticipated summer 2008
WDEQ, Air Quality Division	WAQSR Chapter 6, Section 4; Prevention of Significant Deterioration (PSD) applies to major sources and major modifications within attainment areas. Because the planned retrofits are at a current PSD source, located in an area classified as attainment for all criteria pollutants, the PSD program will apply to obtaining a construction permit under Chapter 6, Section 2.	Required information was included in the Construction Permit Application submitted November 2007 (see status of Construction Permit above).	NA
WDEQ, Industrial Siting Division	Wyoming Industrial Development Information and Siting Act, Section 109	Submit application in April 2008.	May/June 2008
WDEQ, Solid & Hazardous Waste Division	Solid Waste Disposal Industrial Landfill	Active onsite landfill exists.	NA
WDEQ, Water Quality Division	Wyoming Pollutant Discharge Elimination System (WYPDES)—WYNPDES Permit WY0003115	Existing permit in place for outfalls 001-008, 011, 020, and 022 (expires January 31, 2012). No changes are anticipated to be needed as a result of the retrofit of Units 3 and 4.	NA

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

Agency	Permit/Decision	Status	Anticipated Permit Date
WDEQ, Water Quality Division	Storm Water Program- Industrial Permit WYR001128	Site has an existing permit that was renewed November 16, 2007. No modifications expected to the existing catch basins, wastewater sump, ponds, or discharge points.	NA
Wyoming State Historic Preservation Office	Existing industrial site. State Historical Preservation Office (SHPO) planned to submit a letter stating that they had no concerns.	Letter pending.	NA
Wyoming State Engineer's Office	Dave Johnston Power Plant has existing appropriations and beneficial use of groundwater permits (P19107W, 1539W, and 1540W)	No extraction expected or needed as a result of construction or retrofit. All water to be used is surface water.	NA
Wyoming Department of Transportation	Permit for Oversized/Overweight Loads	Prior to construction.	Early 2008

Source: PacifiCorp, CH2M HILL, 2008.

### 3.5 Construction Workforce Housing Plan

A review of the current housing inventory and planned temporary housing need for the Project are discussed in Sections 4.3.3 and 4.4.2 of the Socioeconomic Analysis. Specifically for this report, solicitations were made to all major hotels and motels in the area of site influence regarding commitments to make accommodations available to construction workers employed at the Project site. These commitments are adequate to accommodate all single non-local workers expected to work onsite at the Project. Appendix C has a list of all hotels contacted by CH2M HILL in Douglas, Glenrock, and Casper with an estimate of rooms that could be made available for the Project. Copies of emails and letters from area hotels with preliminary commitments are also included in Appendix C.

### 3.6 Operation and Maintenance Activities

After construction, onsite personnel would operate and maintain equipment associated with the Project, including modifications made to the substation.

Routine maintenance of the emissions control equipment will be necessary to maximize performance and detect potential malfunctions. Operations and maintenance (O&M) procedures will be established that will define specific routine equipment maintenance and inspection activities in accordance with the manufacturer's recommendations. O&M personnel will perform routine maintenance, including replacing lubricating fluids periodically, checking parts for wear, and recording operating parameters. O&M staff will perform most repairs with the assistance of contracted personnel, as needed.

Equipment will be monitored continuously through a monitoring and control system that communicates major aspects of operation through communication lines to the O&M staff and a 7-day-per-week, 24-hour-per-day facility. Alarm systems will be triggered if operational characteristics fall outside set limits. Emergency alarms and shutdown procedures will be implemented to address equipment or system malfunctions.

### **3.7 Anticipated Operation Life**

The useful life of equipment installed on each unit is anticipated to be 20 years from date of installation, but may be extended depending on market conditions and overall condition of the equipment and structures.

### **3.8 Operations Workforce Employment**

Following completion of the Project, it is anticipated that annual operations and maintenance of the newly installed equipment would require up to 12 new positions. It is likely that these positions will be filled by local workers already residing in the study area. Of the annual expenditures for materials made directly by the Plant of over \$3 million, only about 5 percent will be sources locally (i.e., about \$155,000). Much of the maintenance activity would be performed by a local contractor at an annual cost of almost \$1.2 million. It is anticipated that the contractor will hire local workers and source any materials locally. Secondary employment effects would include the generation of six indirect jobs and 13 induced jobs for a total employment effect of 31 jobs within the study area.

### **3.9 Dave Johnston Plant Scheduled Maintenance Outages**

Several planned maintenance outages are scheduled at the power plant in 2008 and 2009. Each will be accomplished mainly by contractors, and most of the workforce will be non-local. These outages are scheduled for April/May 2008 (Unit 2 boiler maintenance) with a peak workforce of about 100 persons, October 2008 (Unit 1 boiler/turbine maintenance) with a peak workforce of about 200 persons, and April/May 2009 (Unit 4 boiler/turbine maintenance) with a peak workforce of about 400 persons. These scheduled outages would occur during the construction phase of the Project and, thus, could create additional demand for temporary accommodations.

The first scheduled outage in April/May 2008 for Unit 2 would present little conflict with the Project because the construction workforce would be quite small, about 25 workers on average. The second scheduled outage for Unit 1 would also present little conflict with the Project. It would occur when the Project workforce would be only between about 50 and 100 workers. The third scheduled outage for Unit 4 would occur as the Project workforce approaches its monthly peak. Arrangements regarding temporary accommodations will be made well in advance of the third scheduled outage in order to minimize conflict and competition for temporary housing.

# 4.0 Socioeconomic Baseline Data and Analysis of Impacts

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## 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 the following: 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 the Social and Economic Conditions

The 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. The evaluation may include, but is not limited to the following topics.

- Land use designation of the site location, including whether or not the use of the land by the industrial facility is consistent with state, intrastate, regional, county, and local land use plans, if any. The analysis shall include the area of land required and ultimate use of land by the industrial facility and reclamation plans for all lands affected by the industrial facility or its dependent components.
- A study of the area economy including a description of methodology used. The study may include, but is not limited to, the following factors:
  - Employment projections by major sector;
  - Economic bases and economic trends of the local economy;
  - Estimates of basic versus non-basic employment;
  - Unemployment rates;
- 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.
- 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.
- 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.

- Public facilities and services availability and needs, which may include, but are not limited to:
  - Facilities required for the administrative functions of government;
  - Sewer and water distribution and treatment facilities including the capability of these facilities to meet projected service levels required due to the proposed industrial facility. Use of facilities by the proposed industrial facility should be assessed separately from population-related increases in service levels;
  - Solid waste collection and disposal services including the capability of these facilities to meet projected service levels required due to the proposed industrial facility. Use of facilities by the proposed industrial facility should be assessed separately from population related increases in service levels;
  - Existing police and fire protection facilities including specific new demands or increases in service levels created by the proposed industrial facility;
  - An analysis of health and hospital care facilities and services;
  - 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;
  - An analysis of user-oriented community recreational facilities and programs and urban outdoor recreational opportunities including descriptions of recreational resources, locations of the recreational resources, and the types of recreational resources and an analysis of outdoor, resource-oriented recreational opportunities including locations and types of the recreational resources;
  - 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;
  - 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.
- A fiscal analysis over the projection period for all local governments and special districts identified by the applicant as primarily affected by the proposed industrial facility, including revenue structure, expenditure levels, mill levies, services provided through public financing, and the problems in providing public services. The analysis may include, but is not limited to:
  - 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 estimate will also include projections of the impact assistance payments available under W.S. 39-6-411(c) and W.S. 39-6-512(d) generated by the proposed industrial facility through the sales and use tax payments;
- 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.

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 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 are 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, and new residents (even if temporary) could increase the demand for community resources and services such as public education and police and fire protection. Should the additional demand exceed the capacity of the existing service providers, it could be necessary to implement mitigation measures to alleviate the capacity issues.

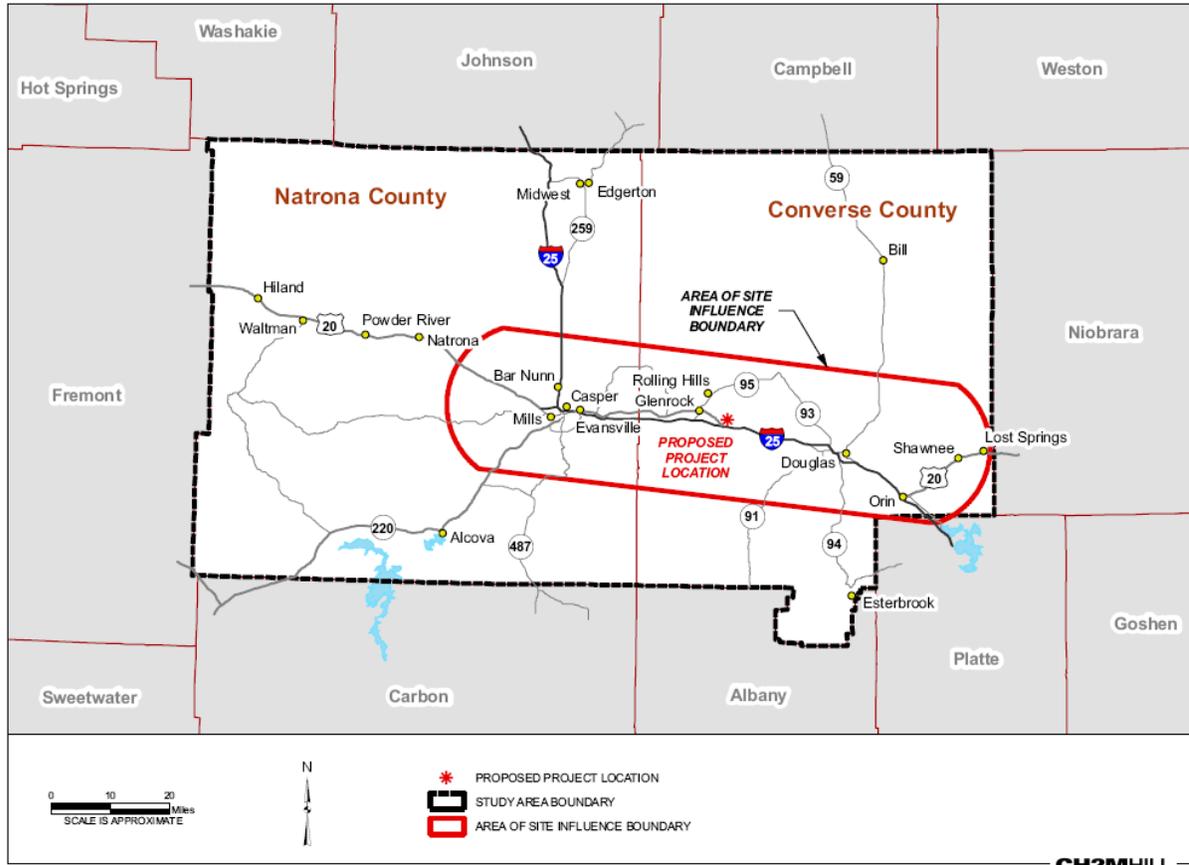
## 4.2 Study Area and Area of Site Influence

### 4.2.1 Study Area

The socioeconomic impact analysis methodology involves a description of the general baseline (i.e., existing) conditions in the broader study area and more confined area of site influence closer to the Project site. The study area is defined as Converse and Natrona counties (Figure 4-1). These counties were identified early in the analysis and in consultation with the Industrial Siting Division (ISD) as potential relocation sites for workers commuting to the construction site. This decision was based on information regarding the most likely counties from which workers commute into Converse County from other counties in Wyoming for work, as illustrated in Table 4-1.

For each of the two counties, the large majority of the persons working in the county reside in the same county. However, for the residents of Converse County who work outside the county (and within the state), 57 percent of them work in neighboring Natrona County.

The next most important job source for residents of Converse County is Campbell County, immediately adjacent to the north. For persons working in Converse County but residing outside the county, 33 percent live in Natrona County. In the case of Natrona County, there is no single predominant commuter destination for residents and three counties (Laramie, Campbell, and Sweetwater) that attracts higher proportions of out-commuters from Natrona County than Converse County. However, the largest number of commuters entering Natrona County on a daily basis resides in Converse County. Such commuter flows are suggestive of a strong linkage between the economies of Converse and Natrona counties. The proximity of the Project to Casper and convenient access via I-25 makes the majority of socioeconomic impacts likely to occur in Converse and Natrona counties.



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

**TABLE 4-1**  
Converse and Natrona Counties: Commuter Flows, 4th Quarter, 2005

County of Origin or Destination	Converse County		Natrona County	
	Inflow	Outflow	Inflow	Outflow
Albany	1.2%	1.4%	4.0%	7.1%
Big Horn	1.3%	0.4%	1.5%	1.6%
Campbell	8.2%	24.4%	9.2%	15.3%
Carbon	3.2%	0.4%	5.7%	4.3%
Converse	0.0%	0.0%	18.4%	8.8%
Crook	0.7%	0.0%	1.3%	0.6%
Fremont	2.6%	0.9%	11.7%	7.9%
Goshen	4.7%	2.1%	1.6%	1.3%
Hot Springs	0.6%	1.0%	1.6%	1.5%
Johnson	0.1%	0.3%	2.3%	2.5%
Laramie	7.1%	4.1%	8.8%	20.0%

TABLE 4-1  
 Converse and Natrona Counties: Commuter Flows, 4th Quarter, 2005

County of Origin or Destination	Converse County		Natrona County	
	Inflow	Outflow	Inflow	Outflow
Lincoln	0.6%	0.4%	1.9%	1.2%
Natrona	33.3%	57.3%	0.0%	0.0%
Niobrara	8.2%	0.7%	0.9%	0.2%
Park	0.2%	0.9%	4.8%	4.5%
Platte	14.0%	1.0%	1.6%	1.3%
Sheridan	4.2%	1.0%	5.0%	4.5%
Sublette	0.5%	0.7%	1.8%	1.1%
Sweetwater	6.6%	2.4%	9.1%	11.4%
Teton	0.0%	0.2%	0.8%	2.7%
Unita	0.1%	0.3%	3.4%	1.4%
Washakie	0.2%	0.1%	2.1%	0.6%
Weston	2.3%	0.0%	2.3%	0.3%

Source: [http://doe.state.wy.us/LMI/commuter\\_flow\\_2007.pdf](http://doe.state.wy.us/LMI/commuter_flow_2007.pdf)

## 4.2.2 Area of Site Influence

Based on a review of the two-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 and includes the urban area of Casper (comprised of the incorporated communities of Casper, Bar Nunn, Evansville, and Mills), Glenrock, Rolling Hills, Douglas, and westward to Lost Springs adjacent to the Converse County line (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 PacifiCorp will concentrate efforts to house non-local workers. PacifiCorp desires to maximize the benefits of the Project to the local communities, while minimizing adverse impacts as much as possible. While the intent of PacifiCorp is to ensure that adequate housing is available within the major communities of Casper, Douglas, and Glenrock for the workforce at the Project, it is recognized that some members of the workforce may choose to temporarily reside outside these cities.

## 4.3 Baseline Socioeconomic Conditions

This section presents a summary of baseline socioeconomic conditions within the broader study area. The purpose of this 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.

### 4.3.1 Population

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).

Historical Population Trends. Between 1920 and 2007, the population of Converse County increased by 64 percent at an average annual rate of 0.6 percent: substantially below the 169 percent and 1.3 percent, respectively, registered by the state. The county experienced a steady decline in population between 1920 and 1970 followed by an increase, as can be seen from the information presented in Table 4-2 and Figure 4-2. Overall, the population of the study area has seen steady growth since 1920 except for during the 1930s and 1980s when it experienced a decline.

The population trend between 1970 and 2006 for Converse County exhibited a marked “boom-bust” cycle that saw rapid growth starting in 1974 and peaking in 1982. During this “boom” period, population increased at a rate in excess of 10 percent annually, on average. During the “bust” period of 1982 through 1991, population fell at a rate of over 3 percent annually, on average. Steady, consistent population growth occurred between 1991 and 2006 at an average annual rate of 1 percent. This pattern is evident in Figure 4-3, which illustrates year-to-year percentage population change.

Natrona County also experienced a “boom-bust” cycle, but less pronounced than that of Converse County. The “boom” period between 1973 and 1982 saw population increase at an average annual rate of 4.3 percent. The “bust” period between 1982 and 1990 saw a rate of decline in population of 2.8 percent annually, on average. This was followed by a period of steady population growth that took place at an average annual rate of 0.9 percent. At the state level, the “boom-bust” cycle was less pronounced. The cyclical nature of the trend is evident in Figure 4-3 where the timing and magnitude of the trends are illustrated.

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

<b>Geographical Area</b>	<b>1920</b>	<b>1930</b>	<b>1940</b>	<b>1950</b>	<b>1960</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>2007</b>
Converse County	7,871	7,145	6,631	5,933	6,366	5,938	14,069	11,128	12,052	12,868
Natrona County	14,635	24,272	23,858	31,437	49,623	51,264	71,856	61,226	66,533	71,750
<b>Study Area</b>	22,506	31,417	30,489	37,370	55,989	57,202	85,925	72,354	78,585	84,618
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](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>

County Population Trends (1920-2007)



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

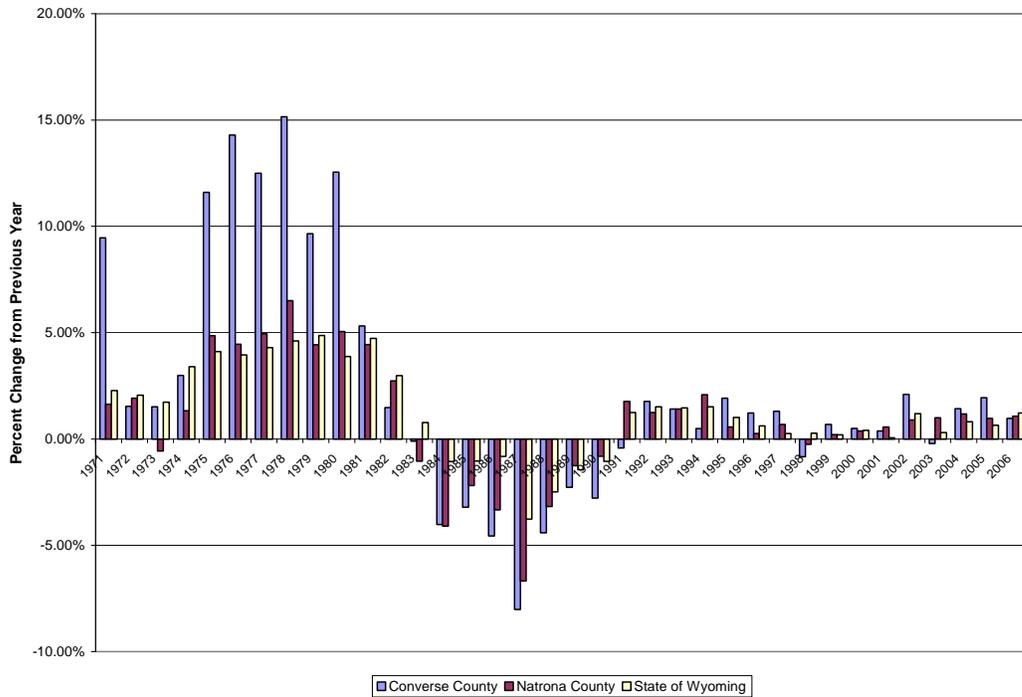


FIGURE 4-3  
Population Trends: Counties and State (1970-2007)

At the beginning of the period 1920 through 2007, the population of the study area comprised about 11.5 percent of that of the state of Wyoming. This percentage reached its highest level in 1980 with 18.3 percent of the state population. Its share declined to 13.5 percent in 1990 and has remained quite constant since then. Table 4-3 displays the share of the state of Wyoming population contributed by each of the counties comprising the study area. The smaller Converse County showed a steadily decreasing share between 1920 and 1970 with a slight upturn since then. In contrast, Natrona County's share of state population increased from 7.5 percent to almost 14 percent.

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

Geographical Area	1920	1930	1940	1950	1960	1970	1980	1990	2000	2007
Converse County	4.0%	3.2%	2.6%	2.0%	1.9%	1.8%	3.0%	2.5%	2.4%	2.5%
Natrona County	7.5%	10.8%	9.5%	10.8%	15.0%	15.4%	15.3%	13.5%	13.5%	13.7%
<b>Study Area</b>	11.6%	13.9%	12.2%	12.9%	17.0%	17.2%	18.3%	16.0%	15.9%	16.2%

**Density and Location of Population.** The majority of the population of each county resides in incorporated communities. The cities of Douglas and Glenrock together contained 62 percent of the 2006 total population of Converse County (44 percent is contributed by Douglas). The City of Casper was home to 73 percent of Natrona County residents, and the larger Casper urban area (Casper, Evansville, Mills, and Bar Nunn) contained 82 percent of the county population. The spatial distribution of population as of the year 2000 is illustrated in Figure 4-4.

**Age of the Population.** With regard to the age composition of the population, those of the two counties exhibit similar trends to that of the state as can be seen in Figure 4-5. Over the period 1980 – 2006, the proportion of the population under 14 years of age has declined consistently, by over 5 percentage points. Since 1990, the proportion of the population between 25 and 44 years old has also declined steadily. The proportion of the population between 45 and 54 years old has increased steadily and noticeably since 1990, and the proportion of persons over 54 years old has also increased.

In the case of Converse County, the proportion of young persons (less than 14 years of age) was, until 2006, noticeably higher than in the state or Natrona County. The county had, until 2006, a smaller proportion of its population in the 65 years and older age category than either the state or Natrona County. The age composition of the Natrona County population mirrored closely that of the state during all time periods and across all age categories.

**Population Migration.** Population change is attributable to births, deaths, and net migration. An indication of the relative role played by migration can be gained from an inspection of information developed by the Wyoming Department of Transportation (WYDOT). Drivers taking up residency in the state from elsewhere are required to obtain a state-issued driver's license and surrender one when leaving the state. During the period 2001 through 2007, the study area (and Natrona County) experienced increasing net in-migration in each year (except 2004) as shown in Figure 4-6. By 2007, a net migration of over 800 persons took

place. For Converse County, net migration decreased from 2001 through 2004 and then rose to a 7-year high of 170 persons in 2007.

**Future Population.** Population projections prepared by the state of Wyoming Economic Analysis Division forecast the population of the study area to increase by about 7,600 residents between 2010 and 2020 (an 8.6 percent increase occurring at an average annual rate of 0.8 percent) as indicated in Table 4-4. The population of Converse County is forecast to grow at a modest average annual rate of 0.6 percent and Natrona County at a rate of 0.9 percent annually. The population of the State of Wyoming is projected to grow at an average annual rate of 0.7 percent between 2010 and 2020.

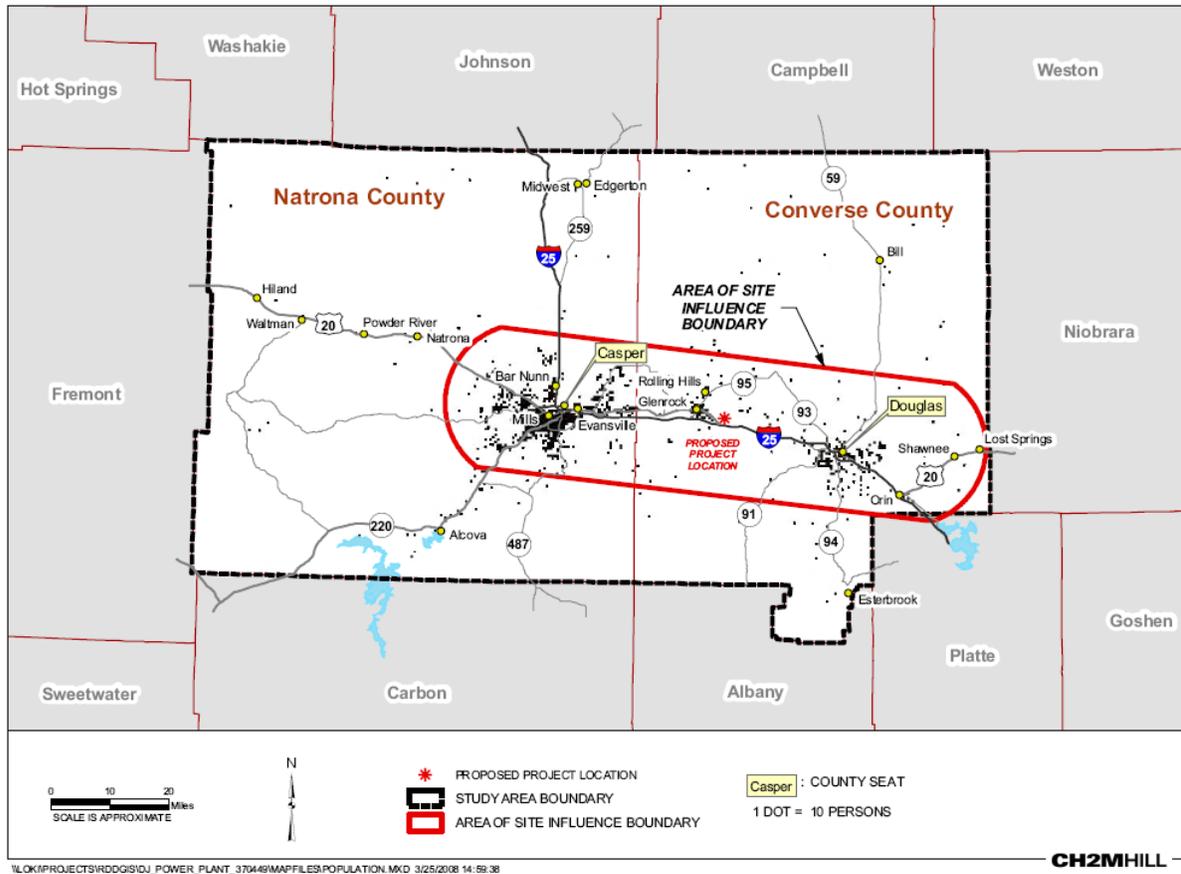


FIGURE 4-4  
Population Distribution in the Study Area (2000 Census)

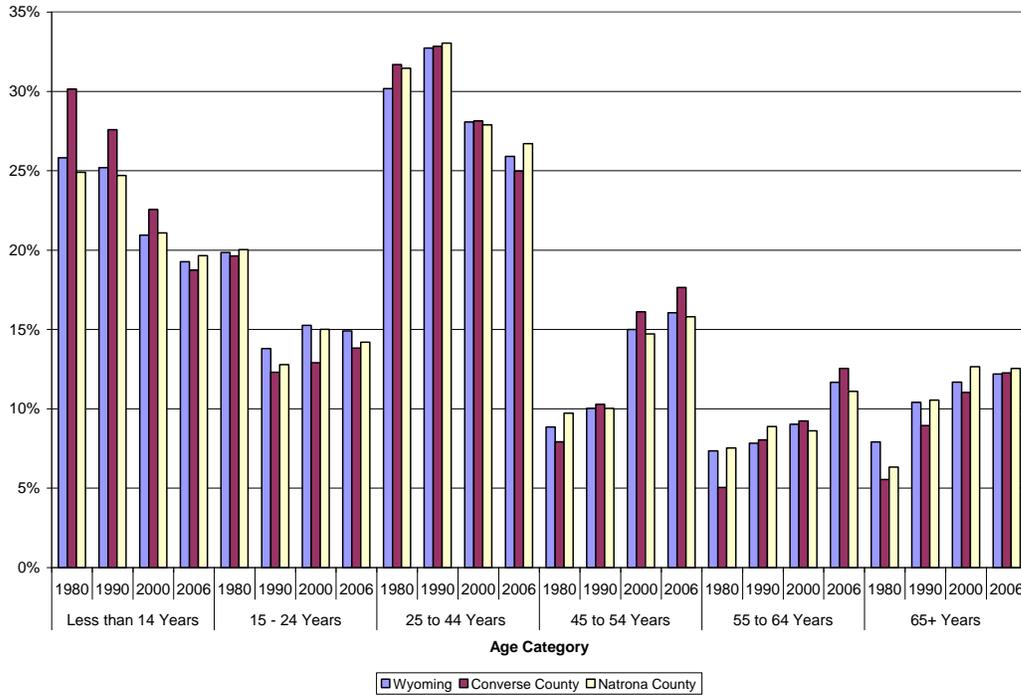


FIGURE 4-5  
Population Age Distribution in the Study Area (1980-2006)

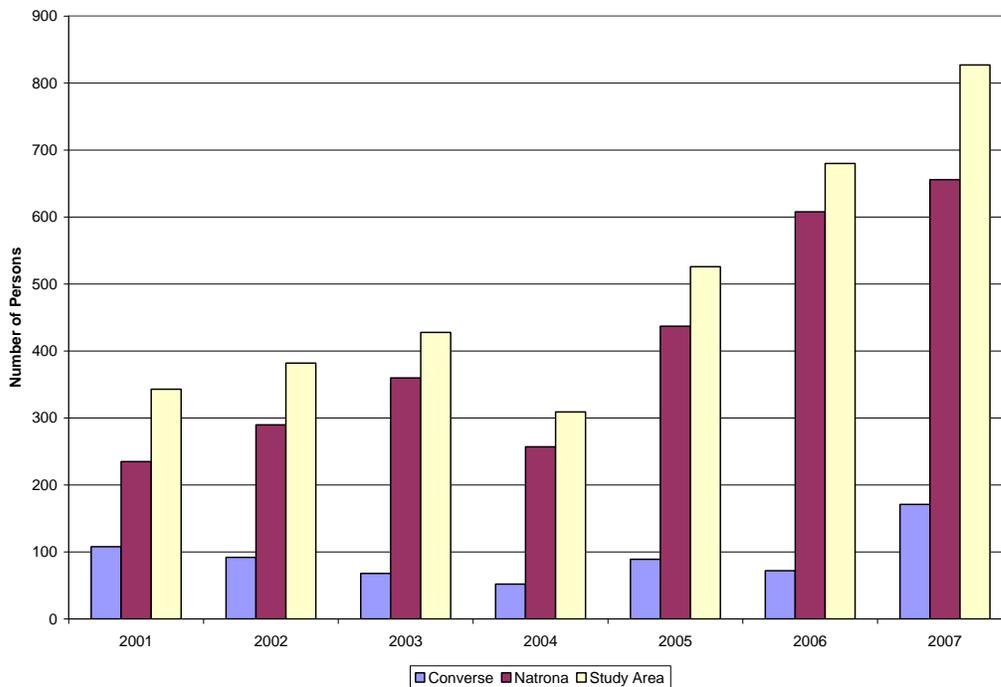


FIGURE 4-6  
Net Migration for Counties and Study Area (2001 through 2006)

TABLE 4-4  
Population Forecasts for State, Counties, and Places

Geographical Area	2010 Forecast	2015 Forecast	2020 Forecast	2010-2020 Change		
	2010	2015	2020	Numeric	%	Av. Ann. %
<b>Wyoming</b>	<b>540,040</b>	<b>559,210</b>	<b>579,090</b>	<b>39,050</b>	<b>7.23%</b>	<b>0.70%</b>
<b>Converse County</b>	13,400	13,820	14,240	840	6.27%	0.61%
City of Douglas	5,871	6,055	6,239	368	6.27%	0.61%
Town of Glenrock	2,475	2,552	2,630	155	6.26%	0.61%
Town of Lost Springs	1	1	1	0	0.00%	0.00%
Town of Rolling Hills	495	511	526	31	6.26%	0.61%
Balance of Converse County	4,558	4,701	4,844	286	6.27%	0.61%
<b>Natrona County</b>	74,560	77,920	81,320	6,760	9.07%	0.87%
Town of Bar Nunn	1,190	1,244	1,298	108	9.08%	0.87%
City of Casper	55,409	57,906	60,433	5,024	9.07%	0.87%
Town of Edgerton	186	195	203	17	9.14%	0.88%
Town of Evansville	2,503	2,616	2,730	227	9.07%	0.87%
Town of Midwest	458	479	500	42	9.17%	0.88%
Town of Mills	3,098	3,237	3,379	281	9.07%	0.87%
Balance of Natrona County	11,715	12,243	12,777	1,062	9.07%	0.87%
<b>Study Area Total</b>	<b>87,960</b>	<b>91,740</b>	<b>95,560</b>	<b>7,600</b>	<b>8.64%</b>	<b>0.83%</b>

Source: <http://eadiv.state.wy.us/pop/wyc&sc20.htm>

## 4.3.2 Economic Conditions

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

### 4.3.2.1 Past and Present Economic Conditions

During the period 1990 through 2006, total employment in the study area increased by over 10,500 jobs or almost 30 percent as can be seen from Figure 4-7. This compared with a change of 23 percent for the State of Wyoming over the same time period. Natrona and Converse counties experienced moderate growth in the number employed with 31 percent and 24 percent increases, respectively. The unemployment rate in the study area has generally trended downwards over the period 1990 to 2006 with periodic increases when employment growth faltered (e.g., 1992-1993, 1995-1996, and 2001-2003). Unemployment rates for each of the counties of the study area illustrate similar trends over the time period. The two counties experienced a marked drop in their unemployment rates between 1999 and 2001, followed by a rise through 2003, and then a decline to their lowest levels in 2006. The trend in unemployment rates in the study area and Converse and Natrona counties during the period 1990 through 2006 can be seen in Figure 4-8.

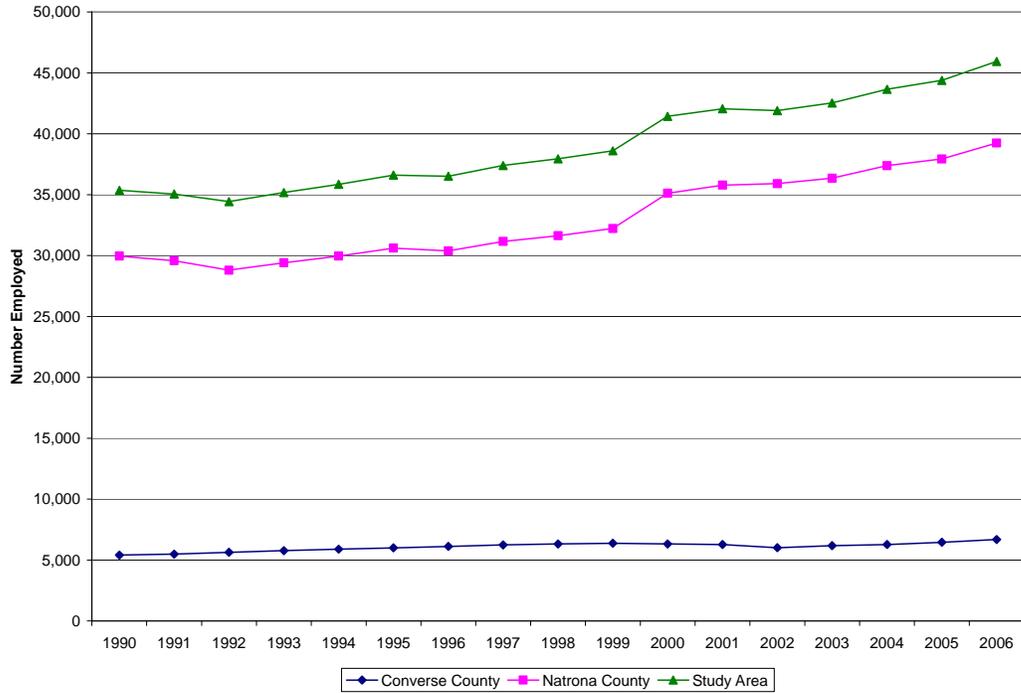


FIGURE 4-7  
Employment in the Study Area by County (1990 through 2006)

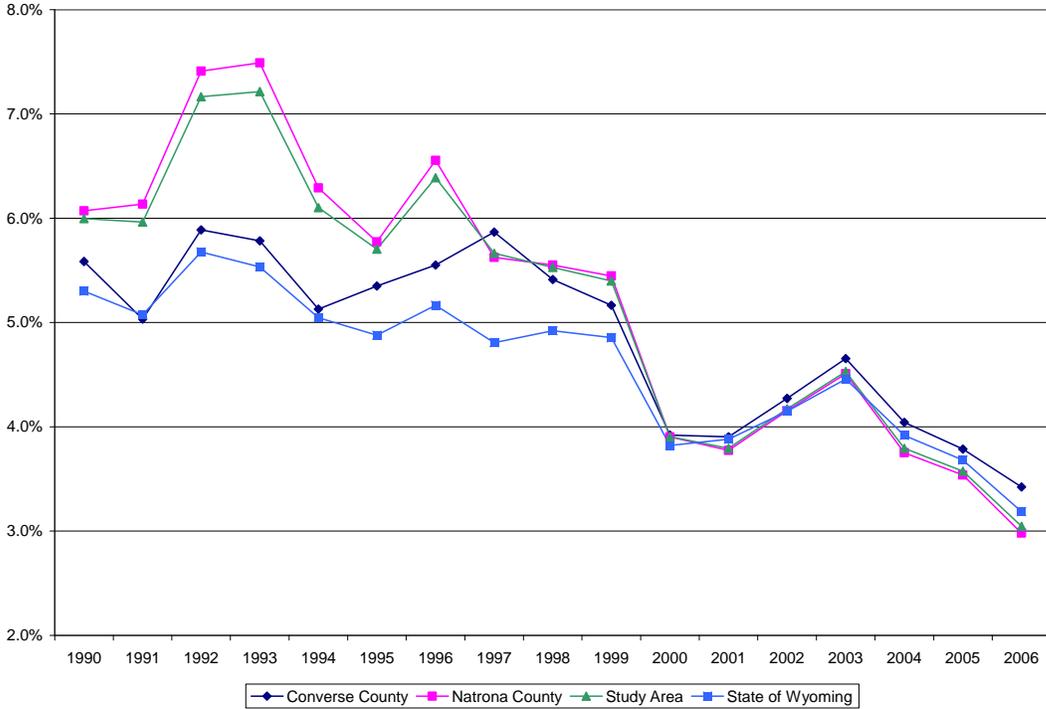


FIGURE 4-8  
Unemployment Rate for Counties in the Study Area (1990 through 2006)

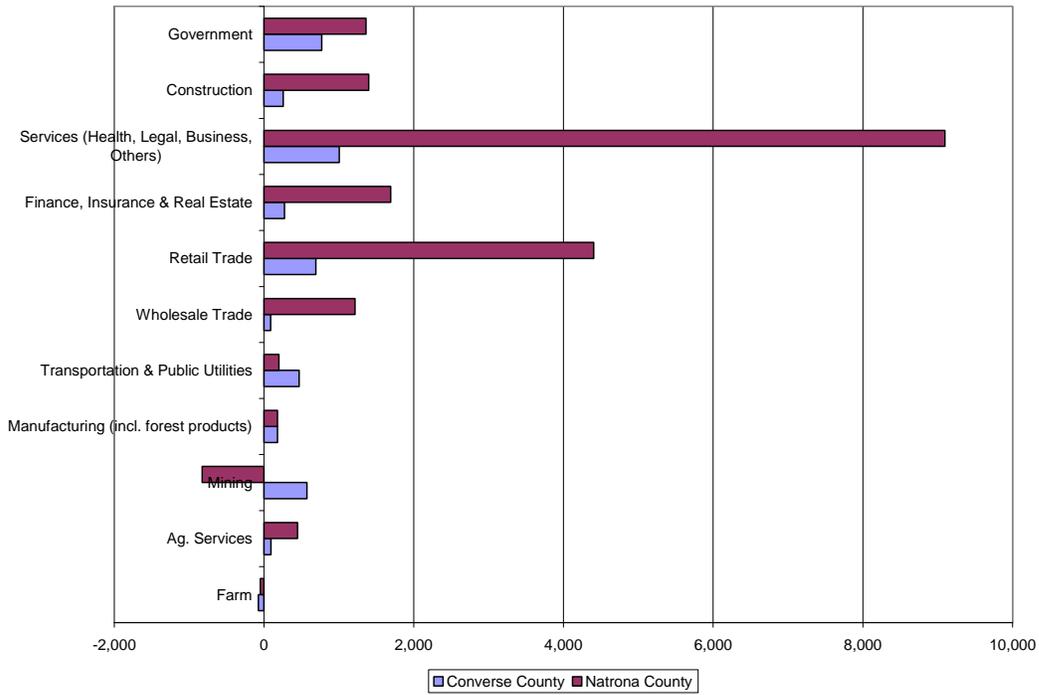
#### 4.3.2.2 Existing Economic Conditions

**Employment by Industrial Sector.** Over the period 1970 through 2000, total employment in the study area increased by over 23,400 jobs as shown in Table 4-5. The sector of the economy experiencing the greatest change was the services and professional sector where the number of full- and part-time jobs increased by over 19,100 jobs as can be seen from Figure 4-9. The increase comprised over 81 percent of total job growth over the period. The contribution made by this sector to total employment increased from 52 percent in 1970 to over 65 percent in 2000. Much of this increase was accounted for by gains in health, legal and business services (10,100 jobs), and retail trade (5,100 jobs). The government and construction sectors also posted increases, while employment in farming and mining declined. The changes in employment by sector for each of the counties comprising the study area are presented in Table 4-5 and Figure 4-10.

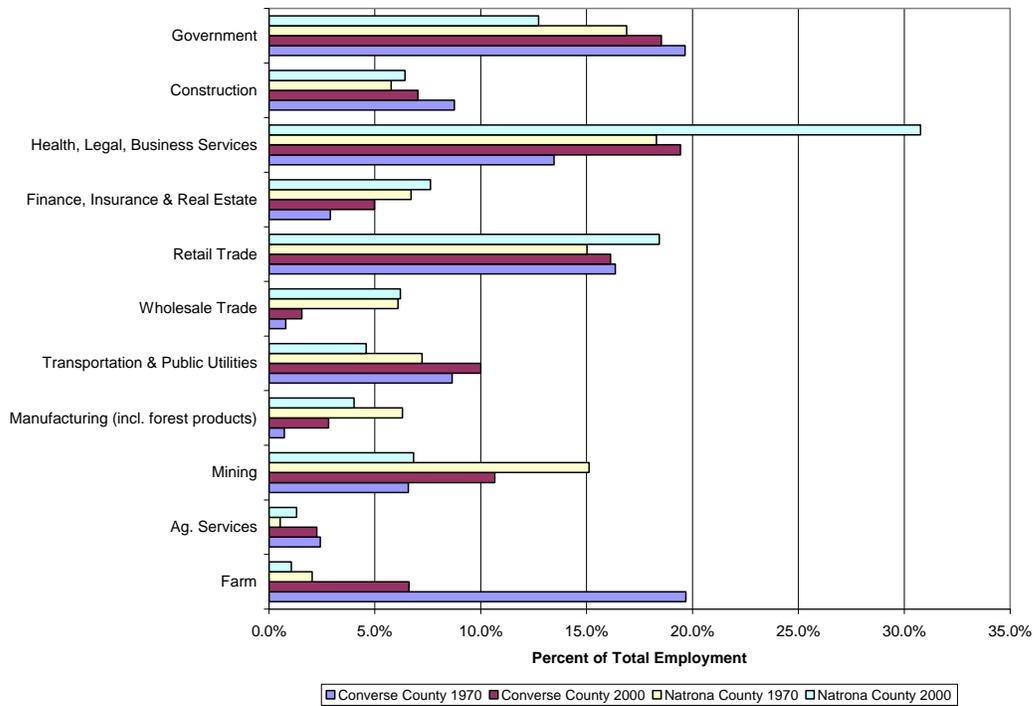
TABLE 4-5  
Study Area: Employment by Industrial Sector (1970 and 2000)

	1970		2000		Change in Employment (1970-2000)	
	Number	% of Total	Number	% of Total	Number	% of Numeric Change
Total Employment	28,499		51,950		23,451	
Wage and Salary Employment	23,819	83.58%	39,922	76.85%	16,103	68.67%
Proprietors' Employment	4,680	16.42%	12,028	23.15%	7,348	31.33%
Farm and Agricultural Services	1,272	4.46%	1,689	3.25%	417	1.78%
Farm	1,068	3.75%	944	1.82%	-124	-0.53%
Ag. Services	204	0.72%	745	1.43%	541	2.31%
Mining	4,072	14.29%	3,821	7.36%	-251	-1.07%
Manufacturing (incl. forest products)	1,643	5.77%	2,003	3.86%	360	1.54%
Services and Professional	14,895	52.26%	34,031	65.51%	19,136	81.60%
Transportation & Public Utilities	2,099	7.37%	2,768	5.33%	669	2.85%
Wholesale Trade	1,590	5.58%	2,895	5.57%	1,305	5.56%
Retail Trade	4,317	15.15%	9,412	18.12%	5,095	21.73%
Finance, Insurance & Real Estate	1,807	6.34%	3,773	7.26%	1,966	8.38%
Services (Health, Legal, Business, Others)	5,082	17.83%	15,183	29.23%	10,101	43.07%
Construction	1,727	6.06%	3,383	6.51%	1,656	7.06%
Government	4,890	17.16%	7,023	13.52%	2,133	9.10%

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



**FIGURE 4-9**  
Change in Employment by Sector and County (1970 through 2000)



**FIGURE 4-10**  
Industrial Sector Share of Total Non-Farm Employment (1970 and 2000)

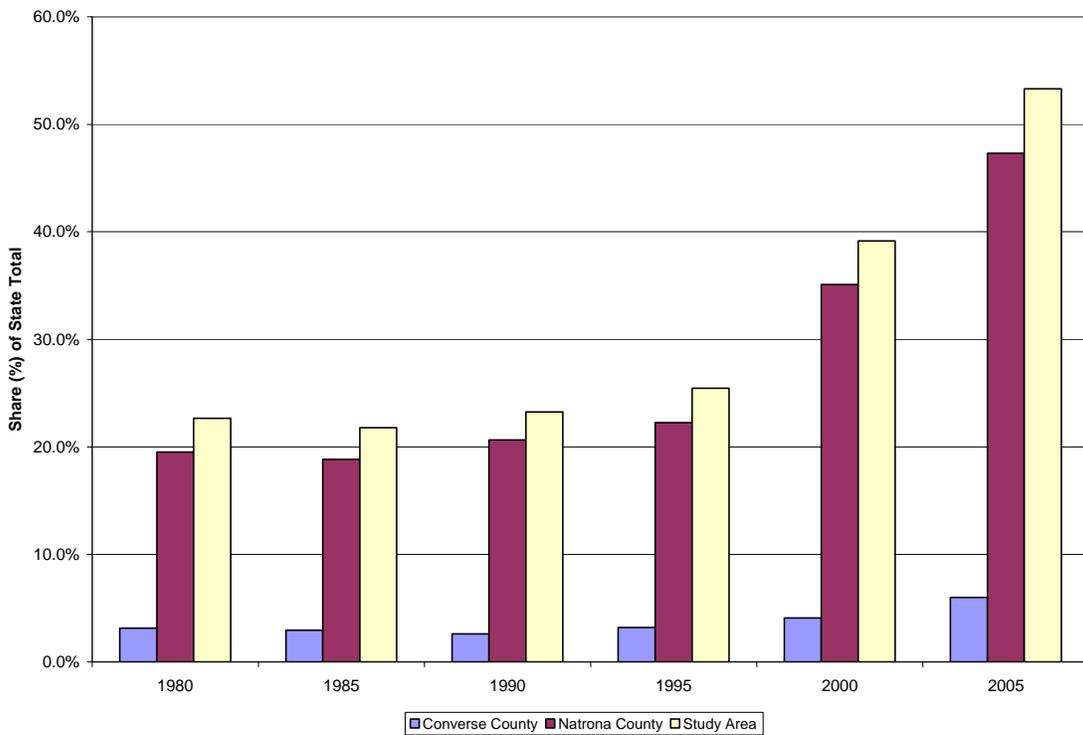
As of 2005, major shares of total nonfarm employment in Converse County were contributed by the following industrial sectors: local government (16 percent), mining (12 percent), retail trade (10 percent), construction (9 percent), accommodation and food services (8 percent), and transportation and warehousing (7 percent) as shown in Table 4-6. It should be pointed out that information regarding a number of industrial sectors is withheld: utilities, wholesale trade, and a number of services including health care. The mining and local government sectors have significantly greater shares of total employment than at the state level: 12 percent versus 7 percent for mining; and 16 percent versus 12 percent for local government.

TABLE 4-6  
Share of Employment and Earnings by Industrial Sector (2005)

	Wyoming		Converse County		Natrona County	
	Employment	Earnings	Employment	Earnings	Employment	Earnings
Forestry	0.8%	0.3%	1.3%	0.5%	Not Disclosed	Not Disclosed
Mining	7.3%	17.5%	11.9%	31.4%	9.4%	25.9%
Utilities	0.7%	1.6%	Not Disclosed	Not Disclosed	Not Disclosed	Not Disclosed
Construction	8.4%	8.7%	8.6%	8.5%	7.1%	6.3%
Manufacturing	3.3%	4.6%	2.0%	1.7%	4.0%	4.5%
Wholesale Trade	2.5%	3.4%	Not Disclosed	Not Disclosed	5.4%	8.2%
Retail Trade	11.5%	6.5%	10.4%	3.8%	12.7%	6.7%
Transportation	3.7%	4.9%	6.9%	9.8%	Not Disclosed	Not Disclosed
Information	1.5%	1.3%	1.4%	0.7%	1.4%	1.0%
Finance & Insurance	3.2%	2.9%	2.9%	2.0%	3.6%	2.9%
Real Estate	4.0%	3.1%	3.3%	1.2%	4.6%	4.0%
Professional & Technical Services	4.6%	4.7%	3.4%	2.4%	4.8%	4.7%
Management	0.3%	0.6%	Not Disclosed	Not Disclosed	0.2%	0.4%
Administrative Services	3.4%	1.7%	Not Disclosed	Not Disclosed	4.7%	2.0%
Educational Services	0.9%	0.4%	Not Disclosed	Not Disclosed	0.8%	0.2%
Health Care	7.6%	7.0%	Not Disclosed	Not Disclosed	11.4%	11.0%
Arts, Entertainment & Recreation	1.9%	1.1%	1.7%	0.4%	1.8%	0.8%
Accommodation & Food Services	9.2%	3.9%	8.3%	2.3%	7.0%	2.2%
Other Services	5.6%	2.5%	5.7%	1.7%	6.1%	2.9%
Federal Civilian	2.1%	4.2%	0.9%	1.6%	1.4%	2.7%
Federal Military	1.8%	2.7%	1.0%	1.1%	0.8%	0.7%
State Government	4.3%	4.8%	1.9%	2.2%	1.5%	1.5%
Local Government	11.5%	11.6%	15.7%	15.3%	8.0%	7.2%

For Natrona County, major shares of total nonfarm employment were contributed by the following industrial sectors: retail trade (13 percent), health care (11 percent), mining (9 percent), local government (8 percent), construction (7 percent), and accommodation and food services (7 percent) as shown in Table 4-6.

**Earnings and Income.** Total aggregate wage and salary income increased in each of the counties over the period 1980 through 2005 (unadjusted for inflation), from \$149.4 million to \$285.6 million in Converse County and from \$929.2 million to \$2.252 billion in Natrona County. In 1980, the study area contributed 22.7 percent of total statewide aggregate wage and salary income and this share remained relatively stable through 1995 as can be seen from Figure 4-11. This share then increased to 39.2 percent in 2000 and 53.3 percent in 2005. Of this share in 2005, 47.3 percent was contributed by Natrona County and the remaining 6.0 percent by Converse County.



**FIGURE 4-11**  
Share of Aggregate State-wide Wage and Salary Income (1980-2005)

The greatest share (usually about 70 percent or more) of personal income is derived from wages and salaries. The largest share of total non-farm earnings in the state of Wyoming in 2005 (which totaled over \$13.5 billion) was contributed by the services sector (21.7 percent, including 7.0 percent by health care and social assistance), mining sector (17.5 percent), and state and local government sector (16.4 percent). Other notable sectors were construction (8.7 percent) and retail trade (6.5 percent). Differences in these sector contributions exist between the counties and the state as can be seen from the information contained in Table 4-6 and Figure 4-12.

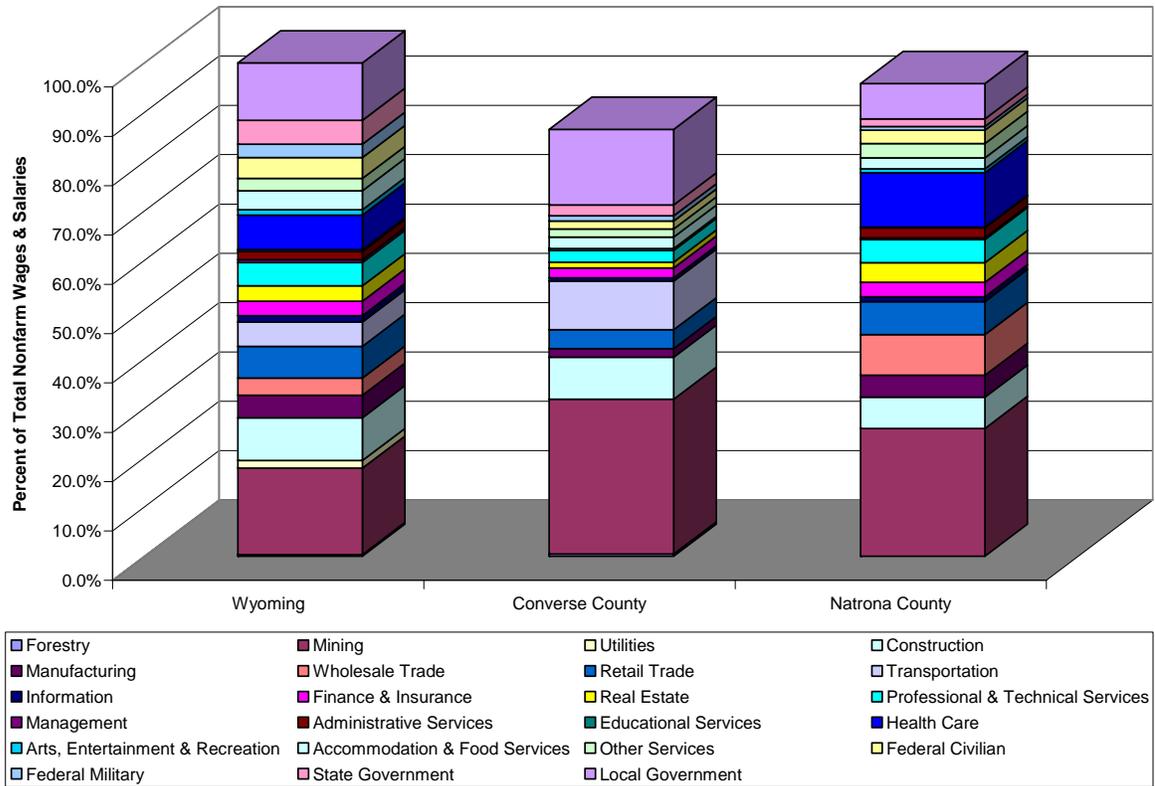


FIGURE 4-12  
Non-Farm Earnings, Contribution by Industrial Sector for County and State (2005)

When compared to the state as a whole, Converse County exhibits a concentration of non-farm wage and salary income in the mining and state and local government sectors of the economy. Mining contributed over 31 percent of non-farm earnings (compared with almost 18 percent for the state), and the transportation sector contributed 10 percent (compared to 5 percent for the state) as can be seen from Figure 4-13. With total non-farm earnings of almost \$280 million in 2005, Converse County contributed about 2 percent of the state total.

### Converse County Earnings

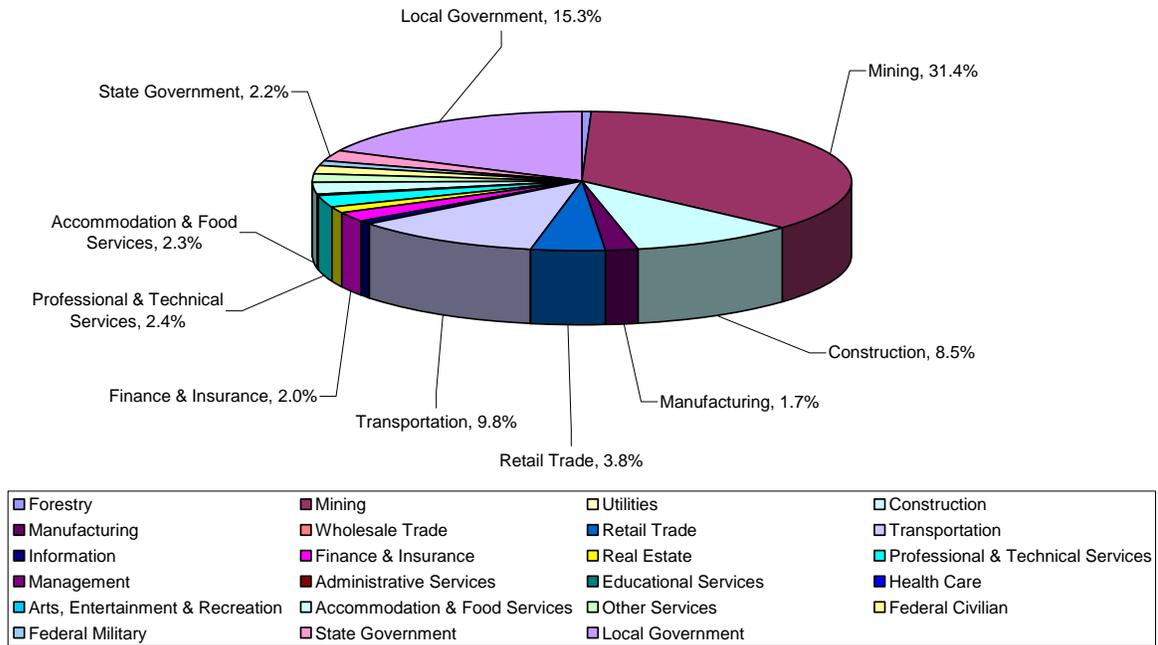
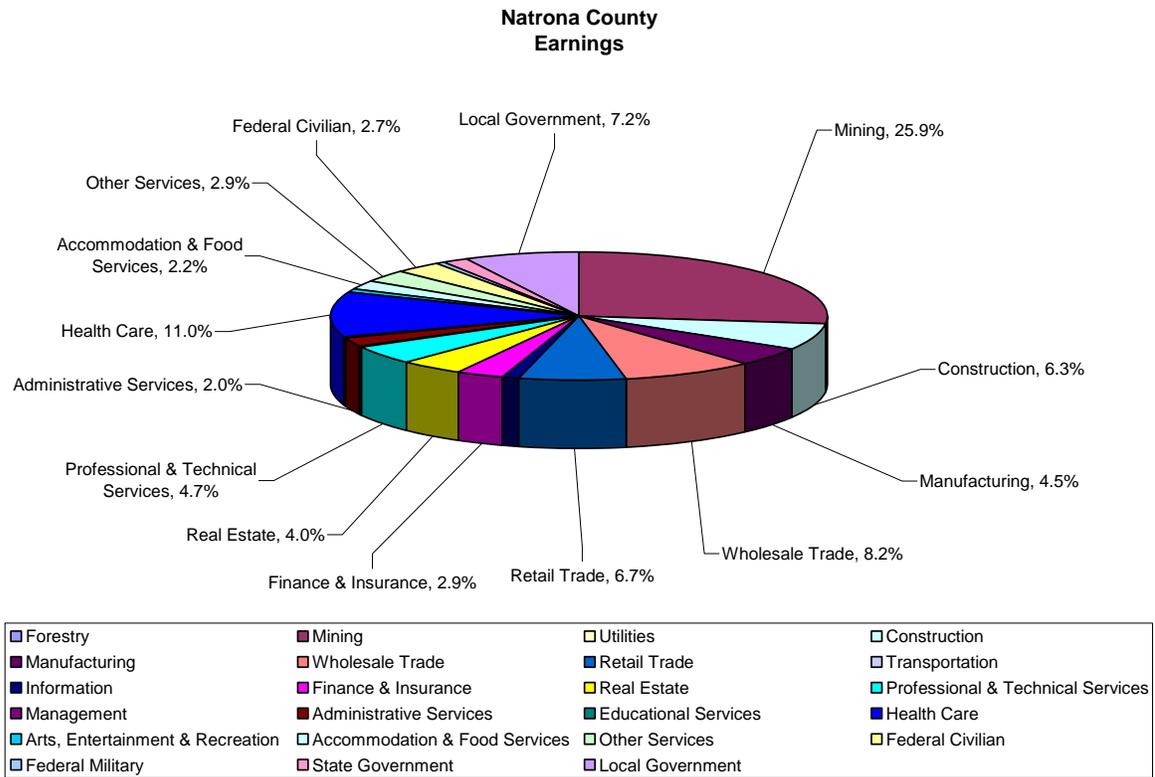


FIGURE 4-13  
Earnings Shares by Industrial Sector, Converse County (2005)

For Natrona County in 2005, contributions by the mining sector (26 percent) exceeded the corresponding value for the state by 8 percentage points while the contribution by the state and local government sector (almost 9 percent) was significantly smaller than that for the state (16 percent) as can be seen from Figure 4-14. With total non-farm earnings of \$2.25 billion in 2005, Natrona County contributed 17 percent of the state total.



**FIGURE 4-14**  
Earnings Shares by Industrial Sector, Natrona County (2005)

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 7.3 percent of non-farm employment but 17.5 percent of earnings. The retail trade sector contributes 11.5 percent of employment but only 6.5 percent of earnings, and the accommodations and food services sector contributes 9.2 percent of employment but only 3.9 percent of earnings. The information presented in Table 4-6 reflects the corresponding shares of both employment and earnings for the state of Wyoming and Converse and Natrona counties, while Figure 4-15 illustrates the relationship for the state. Such inequalities can be explained by the values of earning per job: over \$92,000 annually 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 levels.

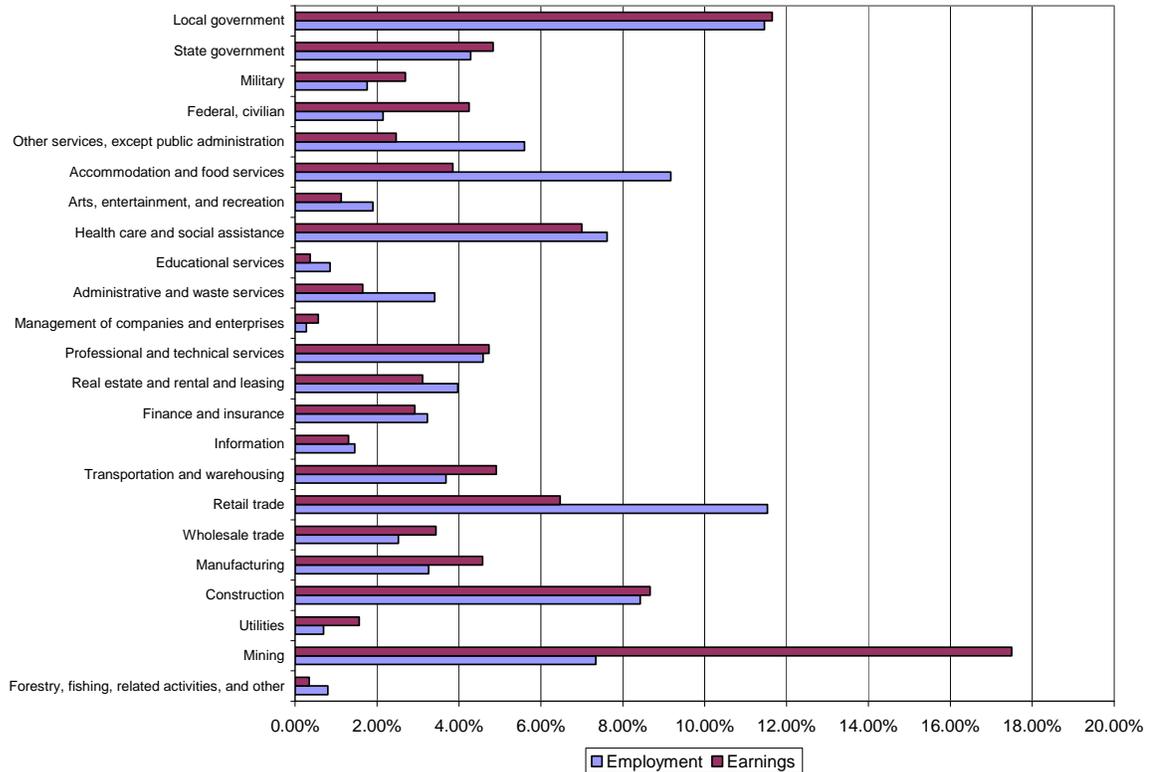


FIGURE 4-15  
 Employment and Earnings Shares by Industrial Sector, State of Wyoming (2005)

**Work Centers and Bedroom Communities.** Depending upon the balance between the number of employment opportunities in a county and the number of employed persons 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, and 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 U.S. Census of 2000 provides a detailed picture of commuting patterns on a county-by-county basis and is indicative of the economic linkages and interdependencies between counties. Table 4-7 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 account for the highest commuter flows (e.g., Converse County residents commuting to Natrona County and Natrona County residents commuting to Converse County).

TABLE 4-7  
County Economic Interdependencies

Place of Residence County	Workplace County	Commuters	Place of Residence County	Workplace County	Commuters
Converse Co. WY	Converse Co. WY	4,477	Natrona Co. WY	Natrona Co. WY	31,031
Converse Co. WY	Natrona Co. WY	812	Natrona Co. WY	Converse Co. WY	375
Converse Co. WY	Campbell Co. WY	349	Natrona Co. WY	Campbell Co. WY	210
Converse Co. WY	Laramie Co. WY	25	Natrona Co. WY	Carbon Co. WY	123
Converse Co. WY	Platte Co. WY	22	Natrona Co. WY	Fremont Co. WY	73
Converse Co. WY	Sweetwater Co. WY	21	Natrona Co. WY	Platte Co. WY	67
Converse Co. WY	Niobrara Co. WY	20	Natrona Co. WY	Sweetwater Co. WY	39
Converse Co. WY	Other	132	Natrona Co. WY	Denver Co. CO	36
Converse Co. WY			Natrona Co. WY	Park Co. WY	33
Converse Co. WY			Natrona Co. WY	Johnson Co. WY	27
Converse Co. WY			Natrona Co. WY	Harris Co. TX	27
Converse Co. WY			Natrona Co. WY	Clark Co. NV	25
Converse Co. WY			Natrona Co. WY	Jefferson Co. CO	25
Converse Co. WY			Natrona Co. WY	Cascade Co. MT	23
			Natrona Co. WY	Sheridan Co. WY	21
			Natrona Co. WY	Boulder Co. CO	20

Source: U.S Census, 2000, County to County Work Flows,  
<http://www.census.gov/population/www.cen2000/commuting.html>

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 gives the “net residence adjustment” that 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 location of residences and job opportunities change differentially. Converse County is classed as a bedroom

community and Natrona County has a balance between jobs and housing. Table 4-8 shows the net residence adjustment and classification for each county.

TABLE 4-8  
County Commuting Patterns

County	Net Residence Adjustment (% of Total Income in County in 2005)	Bedroom Community or Job Center
Converse	+12.6%	Bedroom Community
Natrona	-0.1%	Balanced Community

Source: *A Socioeconomic Profile*, developed with Economic Profile System (EPS), Sonoran Institute, 2005.

Over the period 1990 through 2005 for Converse County, although incomes have been increasing over the period, income attributable to inflows increasingly exceeds that associated with outflows. In 2005, there was a net inflow of almost \$55 million, and the net residential adjustment value stood at +12.6 percent, as shown in Figure 4-16. For Converse County, the role as a bedroom community has steadily increased over the period.

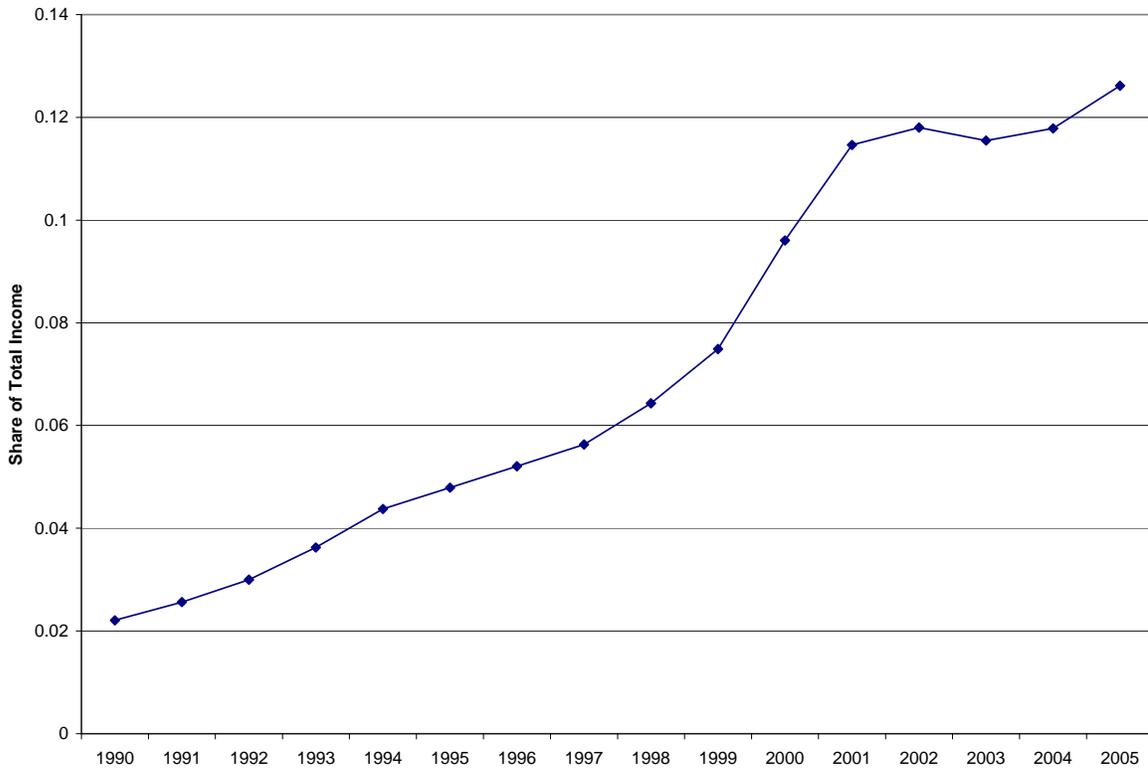


FIGURE 4-16  
Net Residential Adjustment for Converse County (1990 through 2005)

The net residential adjustment values for Natrona County over the period 1900 through 2005, as can be seen in Figure 4-17, have steadily decreased indicating a swing toward becoming a work center. However, the imbalance between inflow and outflow is small, indicating a relative balance between jobs and residents.

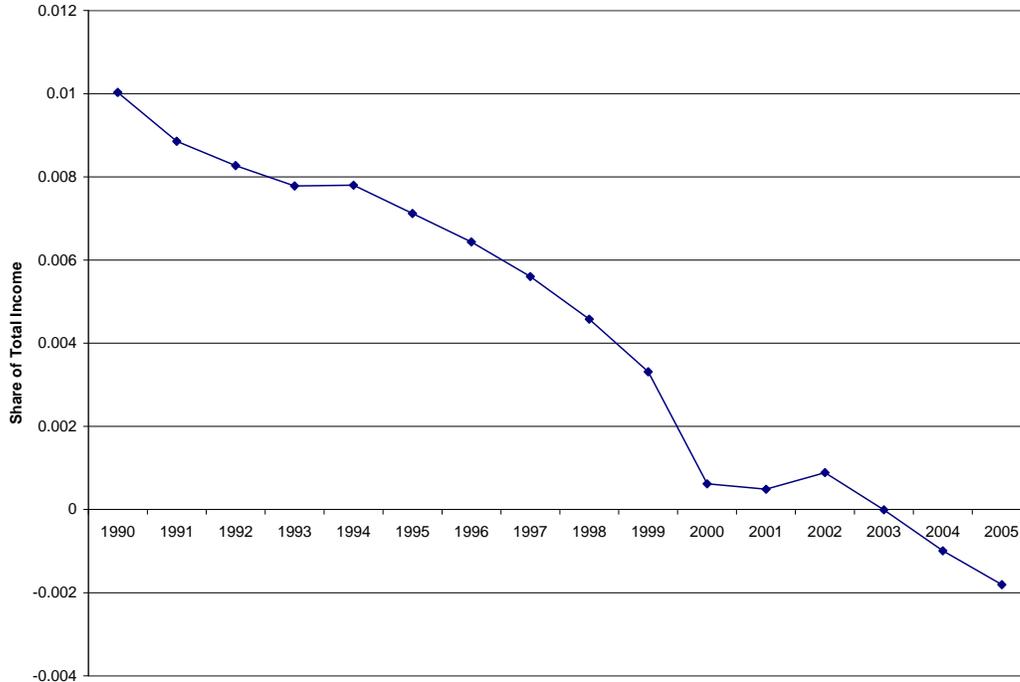


FIGURE 4-17  
Net Residential Adjustment for Natrona County (1990 through 2005)

### 4.3.2.3 Existing Labor Characteristics and Availability

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

**General Construction Labor Characteristics.** The number of jobs in the construction trades has increased steadily in Natrona County and remained fairly constant in Converse County over the period 1990 through 2005 as shown in Figure 4-18. Between 1991 and 1992, Natrona County experienced a decline of more than 500 construction jobs; however, from 1992 to 2005, the number of construction jobs increased by more than 1,350. Construction employment in Converse County saw a decline in the early 1990s, but over the 16-year period, construction jobs increased by almost 290. Over this same period, statewide construction employment increased by over 85 percent.

The average annual wage for persons in construction and extraction occupations for the state of Wyoming (as of May 2006) was \$39,194, which was 14 percent higher than the average for all occupations (\$34,246). Average annual wages for workers in construction and

extraction occupations were lower than the state level in Converse County (\$38,370) but somewhat higher in Natrona County.

During the period 2006 to 2012, specialty trade contractors and heavy and civil engineering construction contractors are two of the top 10 industries expected to add the most jobs. 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.

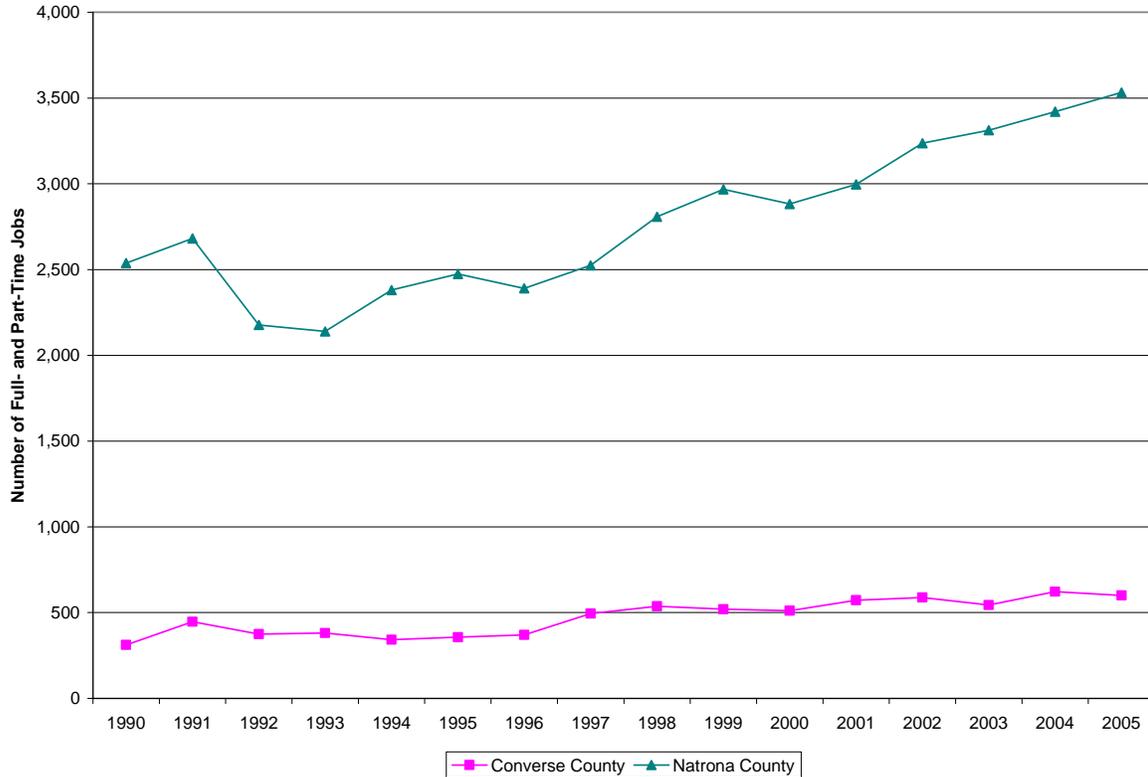


FIGURE 4-18  
Construction Employment by County (1990 through 2005)

#### 4.3.2.4 Governmental Revenues and 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 two-county study area was \$1.539 billion as displayed in Table 4-9. Of this total, 33 percent was contributed by Converse County and 67 percent by Natrona County. Together, the counties accounted for just over 7 percent of the assessed value of all real property in the state.

TABLE 4-9  
Assessed Valuation by Type of Property and County (2007)

County	Locally Assessed Valuation			State Assessed Valuation		Total	
	Agricultural Land	Commercial Land, Improvements & Personal Property	Residential Land, Improvements & Personal Property	Industrial Property	Non Minerals (Utilities, Railroads, and Airlines) Minerals		
Converse	\$10,082,504	\$13,872,388	\$59,845,975	\$48,081,944	\$65,728,740	\$308,161,966	\$505,773,517
Natrona	\$6,044,315	\$142,967,781	\$385,698,540	\$54,316,636	\$37,794,608	\$406,617,408	\$1,033,439,288
<b>Total</b>	\$16,126,819	\$156,840,169	\$445,544,515	\$102,398,580	\$103,523,348	\$714,779,374	\$1,539,212,805
<b>STATE</b>	\$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

Of the six types of properties, the greatest contribution is associated with mineral properties which accounted for over 60 percent of total assessed value in Converse County and over 39 percent in Natrona County, as can be seen from Table 4-10. For the state as a whole, the contribution was almost 68 percent. In Converse County, the second largest contribution is associated with utilities (13 percent of the total), followed by residential land (12 percent) and industrial land (10 percent). For Natrona County, the second largest contribution is from residential land (37 percent of the total) followed by commercial land (14 percent of the total) reflecting the markedly more urban nature of the county.

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

County	Agricultural Land	Commercial Land, Improvements & Personal Property	Residential Land, Improvements & Personal Property	Industrial Property	Non Minerals (Utilities, Railroads, and Airlines)	Minerals	Total
Converse	1.99%	2.74%	11.83%	9.51%	13.00%	60.93%	100%
Natrona	0.58%	13.83%	37.32%	5.26%	3.66%	39.35%	100%
STATE	0.90%	4.29%	16.83%	6.35%	3.76%	67.87%	100%

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 4-11 displays the major beneficiaries of ad valorem taxes in the state.

TABLE 4-11  
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 4-12.

TABLE 4-12  
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
Converse	4%	1%	None	5%	3%	8%
Natrona	4%	1%	None	5%	3%	8%

Source: Wyoming Department of Revenue, July 2007

**Sales Tax.** The state-imposed tax rate is 4 percent, and the distribution of revenues is 69 percent to the state and 31 percent to the county. Each of the counties of the study area imposes a 1 percent optional sales tax. The optional sales tax revenue, less administrative costs, is 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 4-13. Figure 4-19 shows sales tax collections by county. Collections remained relatively flat between 2001 and 2003, after which time they increased significantly, especially in Natrona County.

TABLE 4-13  
Sales, Use, and Lodging Tax Collections (Fiscal Year 2002-2007)

<b>SALES TAX</b>						
	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Converse County	\$9,996,589	\$9,791,374	\$10,836,204	\$12,083,692	\$14,839,237	\$15,066,741
Natrona County	\$61,923,336	\$62,181,247	\$71,128,758	\$78,432,104	\$88,395,192	\$93,393,353
State of Wyoming	\$515,799,683	\$503,970,199	\$551,668,565	\$603,951,798	\$719,115,277	\$799,254,374
<b>USE TAX</b>						
Converse County	\$1,086,413	\$1,524,036	\$1,383,992	\$1,564,483	\$1,798,863	\$1,888,515
Natrona County	\$4,886,304	\$3,190,012	\$4,967,802	\$4,165,076	\$6,357,269	\$7,493,952
State of Wyoming	\$62,491,361	\$54,866,020	\$58,387,269	\$64,326,659	\$82,158,509	\$113,045,113
<b>LODGING TAX</b>						
Converse County	\$2,955	\$3,822	\$4,603	\$4,179	\$4,553	\$4,484
Douglas	\$55,896	\$57,393	\$84,436	\$104,480	\$130,936	\$159,723
Glenrock	\$2,849	\$2,554	\$3,865	\$3,763	\$2,670	\$3,878
<b>TOTAL</b>	<b>\$61,701</b>	<b>\$63,769</b>	<b>\$92,904</b>	<b>\$112,421</b>	<b>\$138,158</b>	<b>\$168,085</b>
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
<b>TOTAL</b>	<b>\$510,348</b>	<b>\$520,110</b>	<b>\$577,933</b>	<b>\$623,478</b>	<b>\$730,165</b>	<b>\$856,247</b>
State of Wyoming	\$3,939,521	\$4,108,475	\$4,738,192	\$4,960,822	\$5,859,863	\$6,843,052

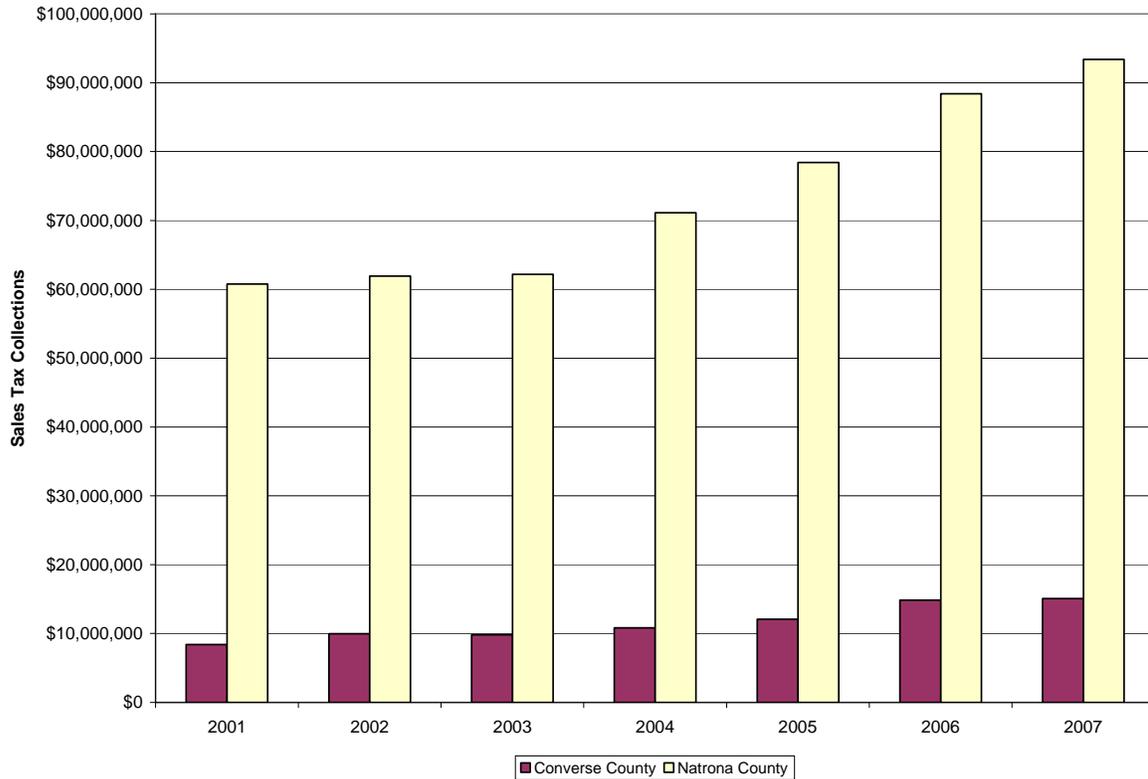


FIGURE 4-19  
Sales Tax Collections by County (2001 through 2007)

**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 4-13.

**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 4-12, and tax collections are shown in Table 4-13.

**Governmental Finances.** General revenues totaled over \$22 million for Converse County in fiscal year (FY) 2001-2002 with the large majority (87 percent) being derived from local sources as can be seen from Table 4-14. Only small contributions came from intergovernmental sources (i.e., federal [2.3 percent of total] and state [6.6 percent of total]). In the case of Natrona County, general revenues totaled over \$432 million, of which 78 percent were derived from local sources. Contributions from intergovernmental sources comprised 22 percent: federal (2.3 percent of total) and state (6.6 percent of total).

The largest shares of general expenditures in Converse County are assigned to the county hospital (41 percent of total general expenditures), followed by highways (11 percent of the total) and education (9 percent of the total) as can be seen from Table 4-14. In Natrona County, major expenditure categories are parks and recreation (8 percent of total general expenditures), corrections (8 percent), education (7 percent), and highways (7 percent).

TABLE 4-14  
Public Finances (2001-2002)

	<b>Converse County</b>	<b>Natrona County</b>
General Revenue	\$22,754	\$43,068
Intergovernmental	\$2,034	\$9,377
From Federal Government	\$540	\$4,377
From State Government	\$1,494	\$5,000
Own Sources	\$19,862	\$33,691
Taxes	\$7,631	\$25,533
General Expenditure	\$23,843	\$46,035
Capital Outlay	\$280	\$9,275
Major Functions:		
Education	\$2,159	\$3,396
Welfare	\$95	\$999
Hospitals	\$9,742	\$120
Health	\$575	\$1,900
Highways	\$2,550	\$3,322
Police Protection	\$838	\$2,718
Correction	\$575	\$3,506
Natural Resources and Parks & Recreation	\$723	\$3,559
Sewerage & Solid Waste Management	\$457	
Interest on General Debt	\$1,657	\$1,234
Outstanding Debt	\$21,706	\$17,229
Salaries & Wages	\$6,994	\$9,736

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

#### 4.3.2.5 Future Economic Conditions

**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 services 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 services 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, 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 from mineral production.

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 4-15. 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 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 4-15.

TABLE 4-15  
Wyoming Nonagricultural 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/Outlook2005.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 4-16. 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 4-16

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
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 4-17. 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 4-17

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

This section addresses five major topics: (1) the composition of the existing housing stock in the two-county study area including the cities of Casper, Douglas, and Glenrock; (2) residential construction trends in the counties of the study area; (3) housing costs, availability, and need; and (4) temporary accommodations.

#### 4.3.3.1 Existing Housing Stock in the Study Area

The study area contained a total of 35,551 housing units (occupied and vacant) at the time of the U.S. Census in 2000, with 84 percent of them (29,882 units) located in Natrona County. Approximately 89 percent of the units were occupied; the remaining units were vacant. The housing vacancy rate was highest in Converse County (17 percent) and lower in Natrona County (10 percent) as shown in Table 4-18. Of the 4,038 vacant units in the study area, 36 percent were for seasonal, recreational, or occasional use; 26 percent were for rent; 11 percent were for sale; and 10 percent were rented or sold but not occupied.

Of the occupied housing units in the study area, almost 71 percent are owner-occupied and the remaining 29 percent are rental units. The proportion of renter-occupied units is highest in Natrona County (30.1 percent), which was almost identical to that for the state, and 26 percent in Converse County as shown in Table 4-18.

TABLE 4-18  
Housing Stock, Occupancy, and Tenure (2000)

	Wyoming	Converse County	Natrona County
Occupied	86.5%	82.8%	89.8%
Vacant	13.5%	17.2%	10.3%
For rent	20.6%	28.2%	25.1%
For sale only	10.9%	9.4%	10.9%
Rented or sold, not occupied	6.2%	7.2%	10.9%
For seasonal, recreational, or occasional use	44.3%	41.1%	34.4%
For migrant workers	1.2%	0.8%	0.7%
Other vacant	16.8%	13.2%	18.1%
Owner-occupied	70.0%	74.1%	70.0%
Renter-occupied	30.0%	25.9%	30.1%

Source: <http://factfinder.census.gov>

Of the housing units in the counties of the study area, the largest proportion are single family detached units with between 63 and 69 percentage shares in Converse and Natrona counties, respectively. Mobile homes make up a larger portion of total housing units in Converse County (18 percent) than in Natrona County (13 percent) or the state of Wyoming (16 percent). Table 4-19 displays the breakdown of housing units by occupancy and type of structure for the state and counties of the study area.

TABLE 4-19  
Housing Stock by Type of Structure (2000)

	Wyoming	Converse County	Natrona County
<b>Total Housing Units</b>			
1, Detached	64.89%	63.45%	68.96%
1, Attached	3.65%	3.81%	1.75%
2	2.54%	0.97%	1.87%
3 or 4	4.56%	4.32%	4.59%
5 to 9	3.00%	1.78%	2.24%
10 to 19	1.89%	3.53%	2.34%
20 to 49	2.18%	2.40%	3.01%
50 or more	1.03%	0.78%	2.24%
Mobile Home	15.89%	17.90%	12.68%
Boat, RV, Van, etc.	0.38%	1.06%	0.33%
<b>Owner-Occupied Housing Units</b>			
1, Detached	79.06%	77.26%	85.78%
1, Attached	3.00%	3.97%	1.57%
2	0.47%	0.26%	0.25%
3 or 4	0.36%	0.23%	0.34%
5 to 9	0.23%	0.00%	0.12%
10 to 19	0.10%	0.00%	0.09%
20 to 49	0.09%	0.00%	0.17%
50 or more	0.01%	0.00%	0.04%
Mobile Home	16.52%	18.02%	11.49%
Boat, RV, Van, etc.	0.17%	0.26%	0.16%
<b>Renter-Occupied Housing Units</b>			
1, Detached	36.56%	36.05%	36.68%
1, Attached	5.11%	4.61%	2.17%
2	7.17%	1.98%	5.16%
3 or 4	13.97%	9.14%	13.84%
5 to 9	8.65%	5.60%	6.47%
10 to 19	5.63%	12.18%	6.91%
20 to 49	6.81%	8.64%	9.44%
50 or more	3.53%	3.62%	7.64%
Mobile Home	12.51%	18.19%	11.61%

TABLE 4-19  
Housing Stock by Type of Structure (2000)

	Wyoming	Converse County	Natrona County
Boat, RV, Van, etc.	0.05%	0.00%	0.07%
<b>Vacant Housing Units</b>			
1, Detached	55.87%	48.31%	50.96%
1, Attached	3.75%	2.26%	1.76%
2	2.91%	2.26%	3.13%
3 or 4	5.27%	12.92%	6.27%
5 to 9	4.54%	3.38%	4.08%
10 to 19	2.74%	5.33%	4.08%
20 to 49	2.62%	3.18%	3.43%
50 or more	0.76%	0.00%	1.53%
Mobile Home	19.57%	17.13%	22.72%
Boat, RV, Van, etc.	1.98%	5.23%	2.02%

Source: <http://factfinder.census.gov>

Large shares of the housing stock (as of 2000) in the study area were constructed in the 1960s: 40 percent in Converse County and 31 percent in Natrona County compared to 27 percent for the state as shown in Table 4-20. The decade of the 1970s contributed the next highest shares of the housing stock with between 14 and 15 percent for the study area counties. Relatively small shares of the housing stock were constructed in the 1980s and 1990s. Natrona County contains a larger share of older housing (constructed in the 1940s) than Converse County or the state: 19 percent versus 6 percent and 11 percent, respectively. More recent building activity is addressed later in this section.

The largest share of housing units contains either three or two bedrooms, and only between 2 and 3 percent of housing would be classed as substandard based on the lack of complete plumbing or kitchen facilities.

TABLE 4-20  
Housing Stock by Age, Number of Bedrooms, and Quality (2000)

	Wyoming	Converse County	Natrona County
<b>Age of Housing Units:</b>			
Built 1990 to 2000	7.04%	5.56%	3.08%
Built 1980 to 1989	4.64%	3.63%	1.93%
Built 1970 to 1979	17.33%	15.63%	14.14%
Built 1960 to 1969	26.67%	39.72%	31.36%
Built 1950 to 1959	10.30%	9.33%	11.45%

TABLE 4-20

Housing Stock by Age, Number of Bedrooms, and Quality (2000)

	Wyoming	Converse County	Natrona County
Built 1940 to 1949	11.03%	6.09%	18.87%
Built 1939 or earlier	6.90%	3.53%	6.26%
<b>Number of Bedrooms:</b>			
No bedroom	1.97%	2.01%	2.25%
1 bedroom	11.00%	9.30%	11.22%
2 bedrooms	28.28%	28.96%	26.57%
3 bedrooms	36.75%	36.74%	34.91%
4 bedrooms	16.48%	17.48%	19.32%
5 or more bedrooms	5.51%	5.50%	5.74%
Lacking complete plumbing facilities	1.92%	2.93%	2.09%
Lacking complete kitchen facilities	2.25%	3.48%	2.20%
Median contract rent	\$373	\$290	\$354

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 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; 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.

The pattern of construction activity in the study area generally resembles that of the state described above, but with some differences as is evident in Figure 4-20. The increase in activity evident between 1991 and 2000 at the state level is present, but significantly less pronounced. The contribution that residential construction activity in the study area has made to that of the state has varied substantially. In 1981, the study area contributed about 21 percent of all new residential units authorized for construction in the state. By 1987, this share had declined to less than 1 percent. From 1987 through 1998, the share contributed by the study area was 5 percent or less (except in 1996), after which time the share increased to between 8 and 13 percent.

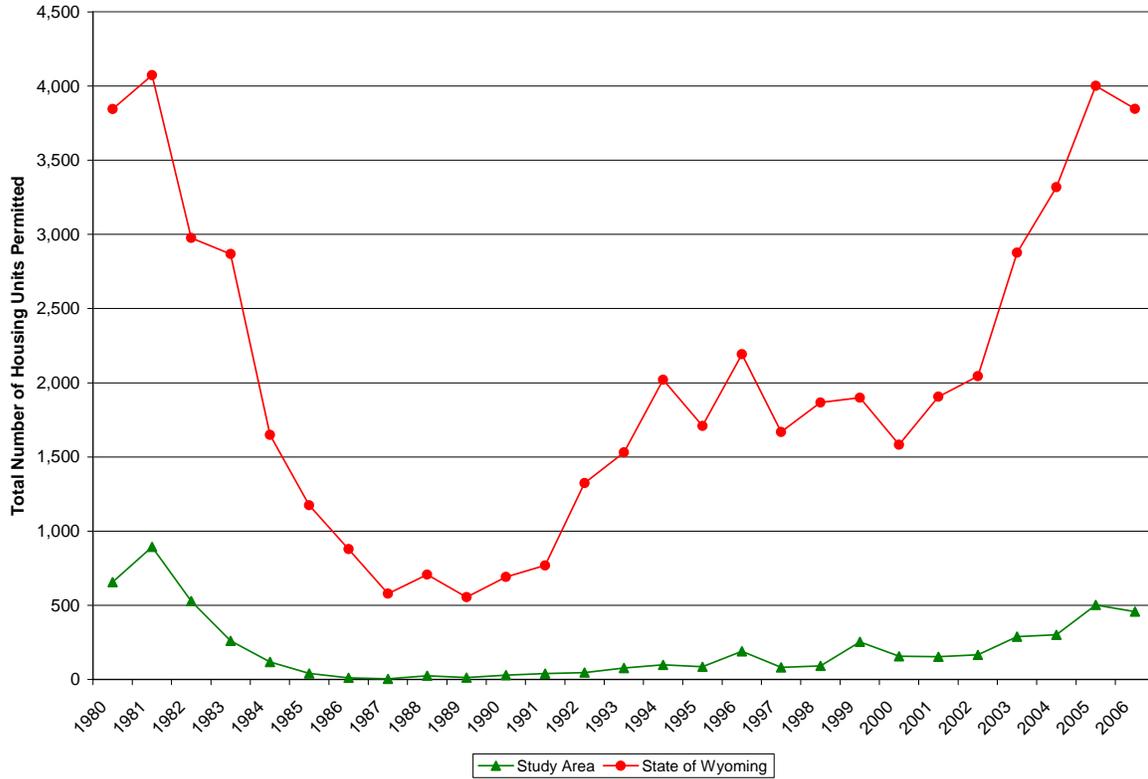


FIGURE 4-20  
 New Residential Construction for Study Area and State (1980 through 2006)

The majority of the housing authorized for construction in the study area has been built in Natrona County with a relatively small contribution from Converse County, as can be seen from the information presented in Figure 4-21.

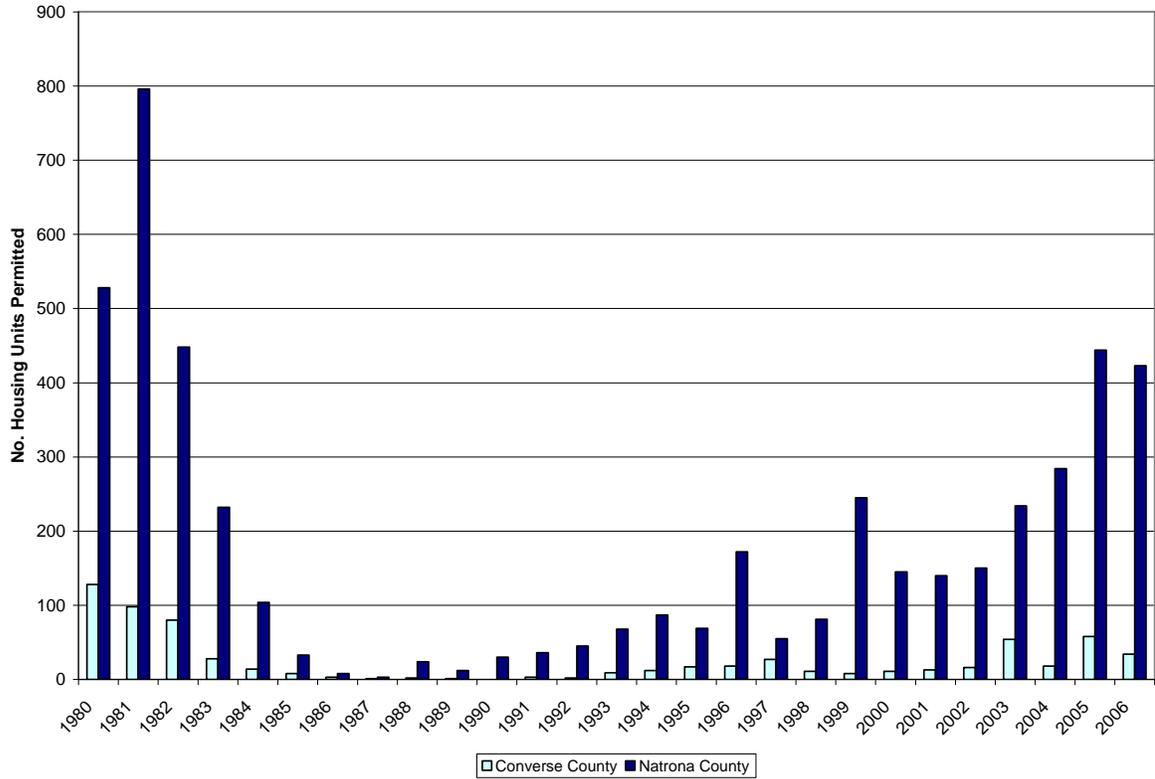


FIGURE 4-21  
New Residential Construction by County (1980 through 2006)

Single-family units comprised the large majority of housing units constructed in all but a few years as can be seen from the information presented in Figure 4-22. Construction of structures containing five or more units in the study area has been concentrated in a few years, especially 1980 through 1982, 1997, and 1999 through 2001.

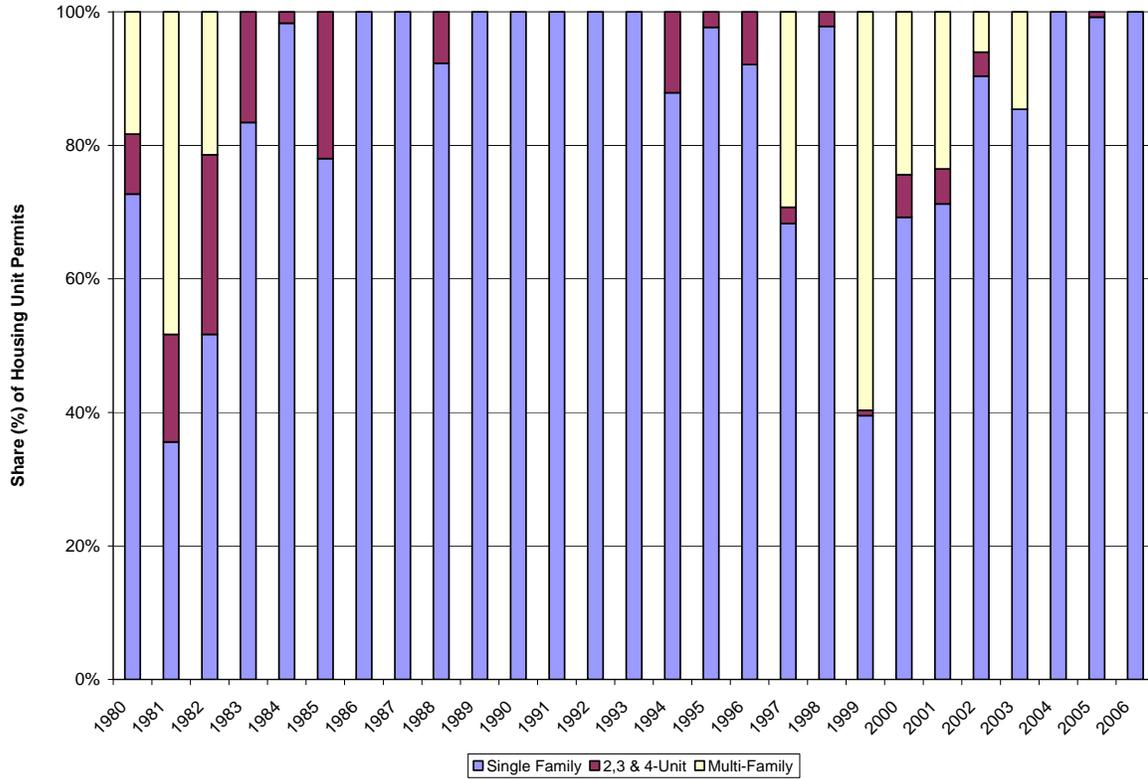


FIGURE 4-22  
New Residential Construction by Type of Structure in the Study Area (1980 through 2006)

### 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. Average annual growth rates (presented in Table 4-21) were as follows: 2.2 percent for the state of Wyoming, 2.3 percent in Converse County, and 1.3 percent in Natrona County. The 1970s saw a steep rise in median values from around \$14,000 to \$17,000 to around \$60,000 to \$70,000 when dramatic average annual changes in value of 14.6 percent for the state, 17 percent in Converse County and 15.3 percent in Natrona County occurred. Between 1980 and 1990, values saw little upward movement, and the state and Converse and Natrona counties experienced average annual percentage decreases of 2.6 percent and 2.8 percent, respectively. 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 around 9 percent annually continued through 2006.

TABLE 4-21  
Average Annual Percentage Change in Home Value (1960 through 2006)

	1960-1970	1970-1980	1980-1990	1990-2000	2000-2006
State of Wyoming	2.2%	14.6%	0.3%	4.0%	9.1%
Converse County	2.3%	16.9%	-2.68%	4.9%	9.2%
Natrona County	1.3%	15.3%	-2.8%	4.5%	9.2%

Sources: <http://factfinder.census.gov> for 1990 through 2000 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

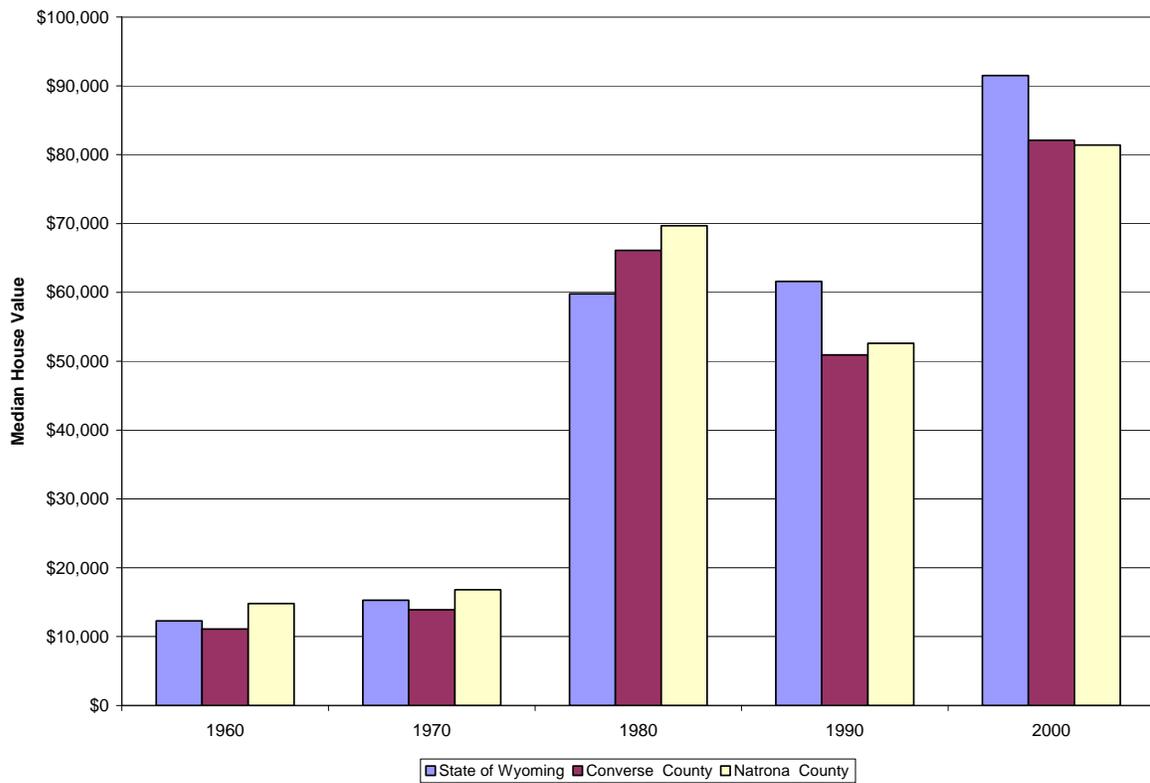


FIGURE 4-23  
Median House Value for Counties in the Study Area and State (1960 through 2000)

**Rental Housing Costs.** Over the period 1960 through 2006, rent levels have mirrored closely those of home values, as presented in Table 4-22 and Figure 4-24. A dramatic increase in rents took place in the 1970s with average annual increases of between 14 and 15 percent, followed by declines in the 1980s. The period from 1990 through 2006 saw robust increases in housing rental prices.

TABLE 4-22  
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%	5.7%
Converse County	0.5%	15.1%	-2.1%	4.6%	3.8%
Natrona County	0.5%	14.2%	-1.7%	5.0%	6.6%

Source: <http://factfinder.census.gov>

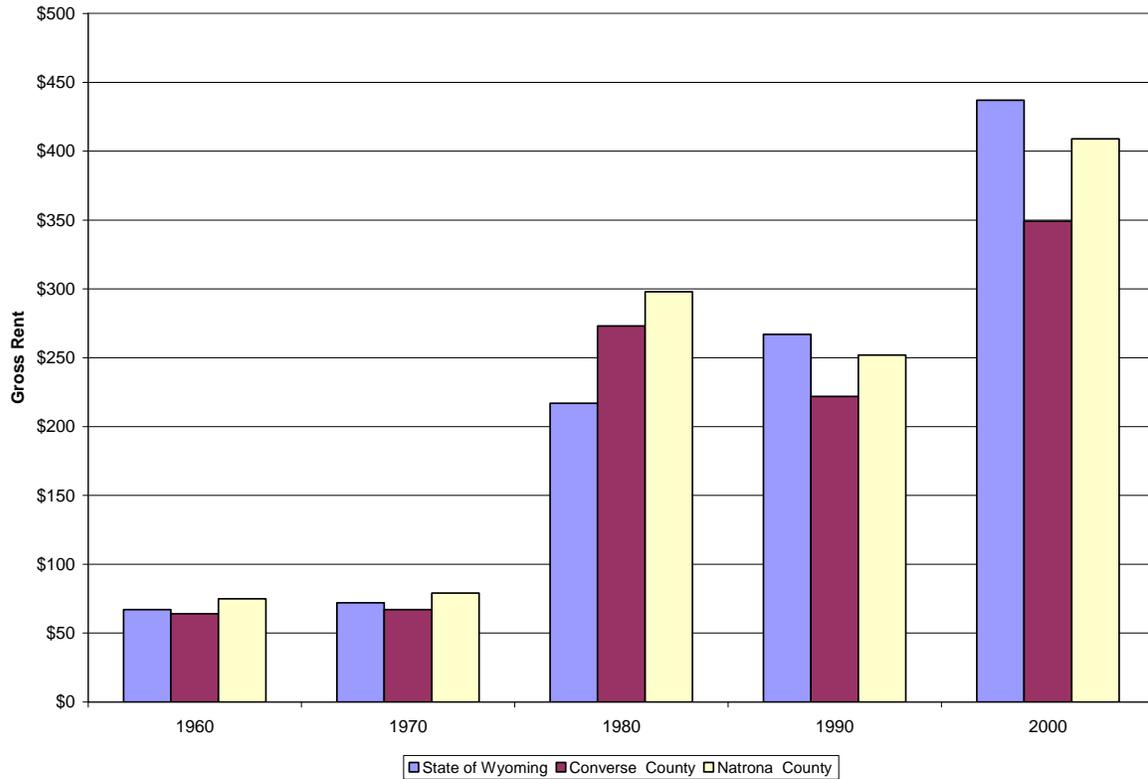


FIGURE 4-24  
Gross Rents for Counties in the Study Area and State (1960 through 2000)

A detailed view of changes in house rental prices, between the second quarter of 2000 and the second quarter of 2007 at the state and county level is presented in Figure 4-25. Rent levels in Converse County have remained well below the state average, while those in Natrona County have generally tracked the state values and exceeded them since the end of 2004. House rents in both counties in the past year have risen noticeably.

Apartment rents show a very similar pattern as illustrated by the information presented in Figure 4-26. Rental levels in each of the counties have remained consistently below those of the state. The start of 2005 saw a sharp rise in rent levels in Natrona County and the state,

but the last 6 months represented by the data show a noticeable slackening of this rise and a drop in Converse County.

Mobile homes (and mobile home lots) provide an alternative form of rental housing, especially to apartments. Rents for mobile home and lots have also shown consistent price appreciation since 2000. Rental prices for mobile homes on lots increased steadily at the state level over the entire time period as shown in Figure 4-27. There was a rapid appreciation in 2006 followed by a decline in the last calendar quarter. The price trend for Natrona County followed closely that of the state. Converse County experienced steady rent appreciation through 2005, after which time values showed a sizeable increase. Mobile home lot rent levels in Converse County remained relatively flat between 2002 and 2006 whereas values in Natrona County experienced a sharp rise in 2004-2005 followed by a decline as shown in Figure 4-28.

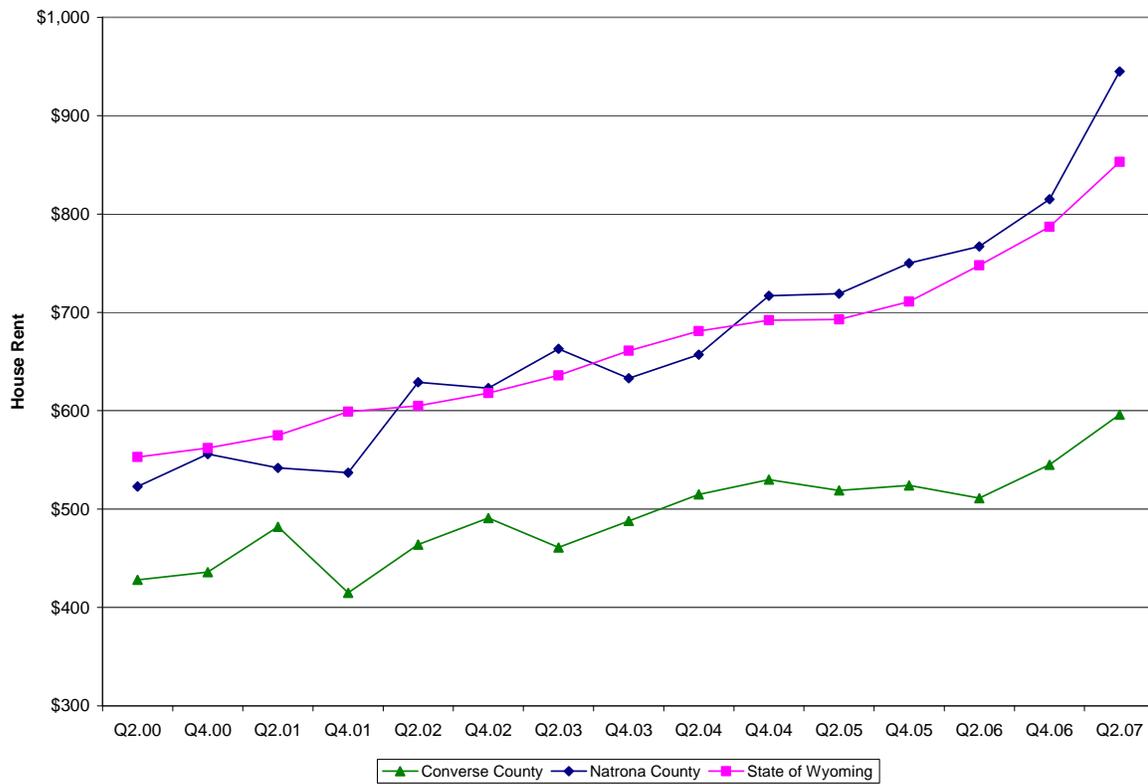


FIGURE 4-25  
Monthly House Rent by County and State (2000 through 2006)

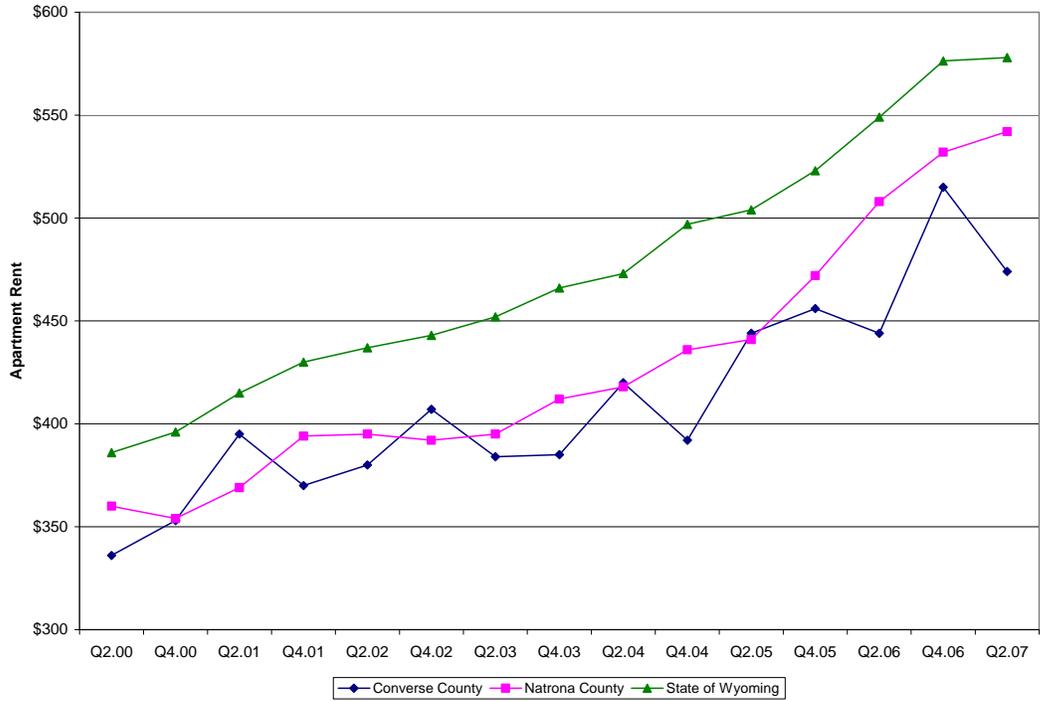


FIGURE 4-26  
Monthly Apartment Rent by County and State (2000 through 2006)

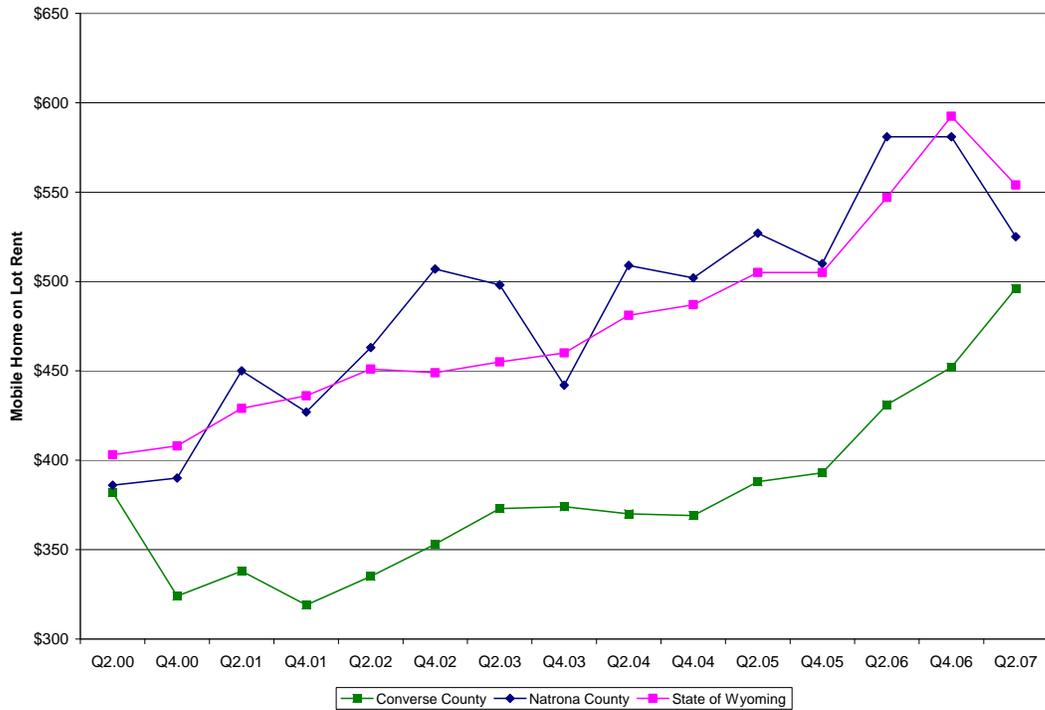


FIGURE 4-27  
Monthly Mobile Home on Lot Rent by County and State (2000 through 2006)

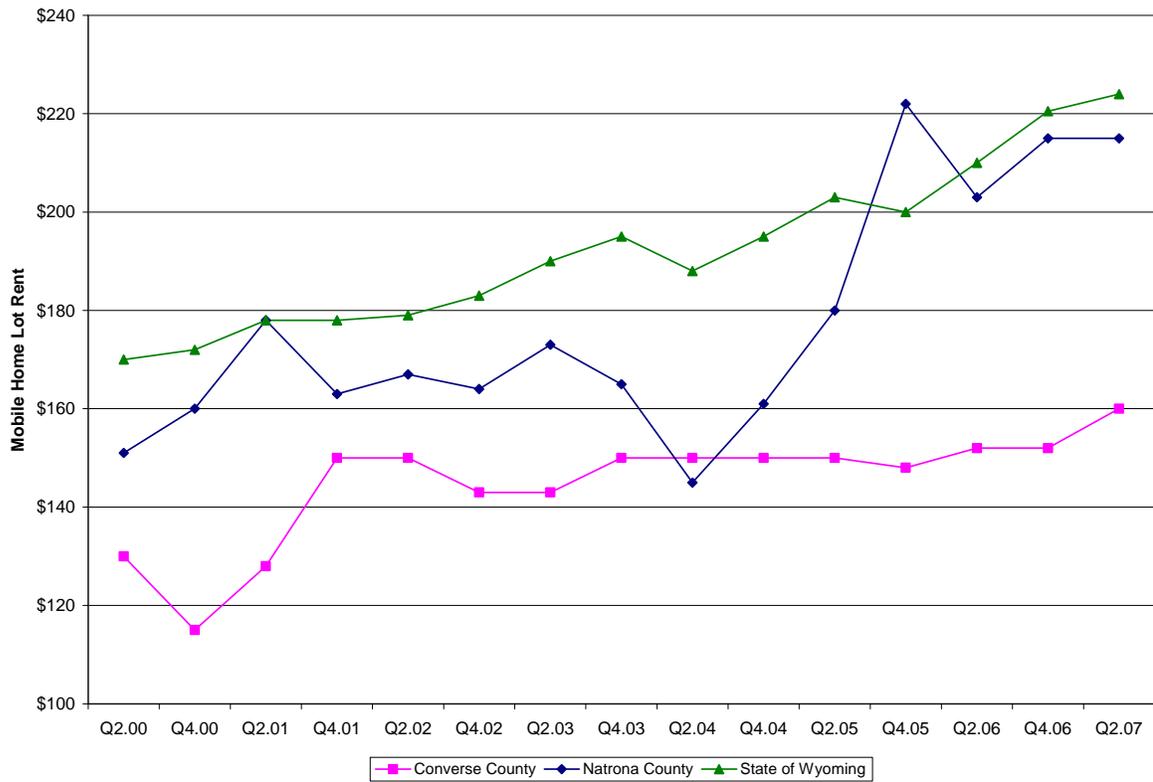


FIGURE 4-28  
Monthly Mobile Home Lot Rent by County and State (2000 through 2006)

#### 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 are shown in Table 4-23.

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 contained in Table 4-23 and Figure 4-29, vacancy rates in the rental housing markets of Converse and Natrona counties have consistently been below the natural vacancy rate of 5 percent. The rates indicate an extremely tight rental housing market in the area. The rates are developed from surveys undertaken semi-annually and where a sizeable sample size exists, dramatic swings in values are unlikely.

**TABLE 4-23**  
**Semi-Annual Rental Housing Vacancy Rate (%)**

<b>Year</b>	<b>Converse County</b>	<b>Natrona County</b>
2001-1	4.58	2.51
2001-2	3.38	1.89
2002-1	1.90	3.55
2002-2	3.28	4.49
2003-1	3.08	2.72
2003-2	2.78	3.41
2004-1	3.97	2.57
2004-2	8.32	2.82
2005-1	5.08	2.65
2005-2	2.27	1.96
2006-1	4.70	1.57
2006-2	1.44	1.67
2007-1	0.75	0.57
2007-2	0.47	1.07

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

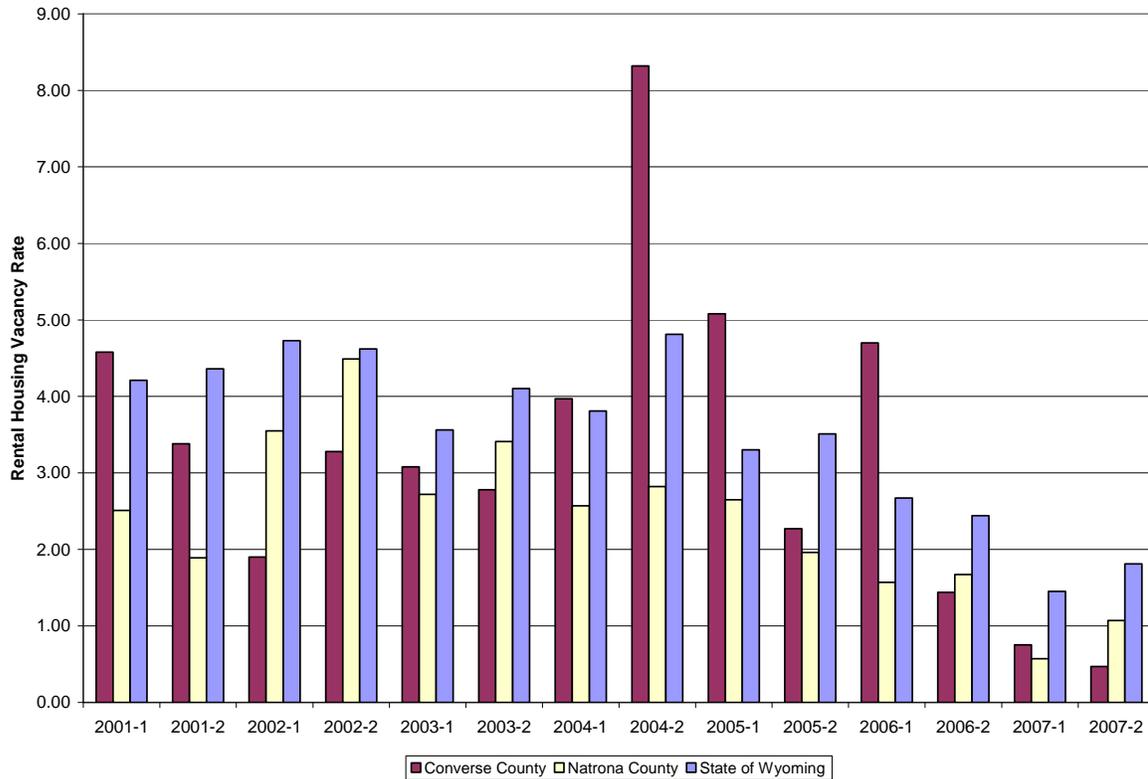


FIGURE 4-29  
Rental Housing Vacancy Rate by County (2001 through 2007)

Additional indications of the tight rental housing market are available from the results of an informal survey conducted for this report. Apartment complexes were identified in the communities of Casper, Douglas, and Glenrock and contacted regarding current vacancies and rental costs. The results of the survey are presented in Table 4-24. None of the contacted complexes had units available, many had waiting lists, and vacancies were immediately filled.

TABLE 4-24  
Apartment Complexes in the Study Area

Site	City	County	Apartments Available	Monthly Rent
<b>City of Casper:</b>				
Casper Village	Casper	Natrona	0	1 BR: \$400/420 & 2 BR: \$470/495
Village Gardens Apartments	Casper	Natrona	NA	NA
Oakwood Apartments	Casper	Natrona	NA	NA
Sunridge Apartments	Casper	Natrona	NA	NA
Sage Hills Townhomes	Casper	Natrona	0	2 BR: \$650
Aspen Court Apartments	Casper	Natrona	0	1 BR: \$469 & 2 BR \$539
Platte View Apartments	Casper	Natrona	NA	NA

TABLE 4-24  
Apartment Complexes in the Study Area

Site	City	County	Apartments Available	Monthly Rent
Foxhill Apartments	Casper	Natrona	0	Efficiency: \$380, 1 BR: \$425/445, & 2 BR \$500/530
Conquistador Apartments	Casper	Natrona	0	1 BR \$400 & 2 BR \$500
Normandy Apartments	Casper	Natrona	NA	NA
Quail Run Apartments	Casper	Natrona	0	1 BR: \$425/450, 2 BR: \$500/525, & 3 BR \$575
Kinsman Arms Apartments	Casper	Natrona	NA	NA
Mountain View Apartments	Casper	Natrona	NA	NA
Spring Hill Apartments	Casper	Natrona	0	1,2,& 3 BR Low income based
Gail Gardens Apartments	Casper	Natrona	0	1 & 2 BR HUD
<b>City of Douglas:</b>				
Conestoga Village	Douglas	Converse	NA	NA
LaPrele Apartments	Douglas	Converse	0	2 BR: \$703 & 3 BR: \$843
Payne Plaza	Douglas	Converse	NA	NA
Westgate Limited	Douglas	Converse	0	2 BR \$544
Wind River Apartments	Douglas	Converse	NA	NA
Laurel Gardens Apartments	Douglas	Converse	NA	NA
Amber Valley Estates	Douglas	Converse	NA	NA
<b>City of Glenrock:</b>				
Trails Apartments	Glenrock	Converse	NA	NA
Glenrock Apartments	Glenrock	Converse	NA	NA

Source: [www.DexKnows.com](http://www.DexKnows.com)  
[www.forrent.com](http://www.forrent.com)

A survey conducted by the Wyoming Housing Database Partnership (WHDP) of mobile home parks throughout Wyoming during January 2007 estimated that for the counties comprising the study area, Converse County had the lowest vacancy rate of 1.02 percent, and Natrona County had a vacancy rate of 2.27. Table 4-25 displays the survey results for each of the counties.

TABLE 4-25  
Available Mobile Home Lots to Rent (January 2007)

County	Surveys	Lots	Available	Vacancy Rate
Converse	2	196	2	1.02
Natrona	8	88	20	2.27

Source: Wyoming Housing Database Partnership, February 2007. *A Profile of Wyoming Demographics, Economics and Housing Semiannual Report Ending December 31, 2006*

A more recent, internet-based survey of mobile home parks and communities conducted for this report identified 22 in Gillette, one in Wright, three in Douglas, one in Glenrock, 19 in Casper, one in Evansville, one in Wheatland, and two in Guernsey. Of the communities contacted, none identified available units, and only a limited number of lots were available.

#### 4.3.3.5 Housing Survey of Needs

The Wyoming Housing Database Partnership develops predictions of the demand for housing within the state (down to the county and community level). They are presented in the 2007 Wyoming Housing Needs Forecast. Three separate viewpoints of the future were developed: a moderate growth scenario ending in 2020, a strong growth scenario forecast extending to 2030, and very strong growth scenario forecast extending to 2030.

The housing need predictions 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.

**Converse County.** The household forecast indicates a total increase of 3,975 households in Converse County, from 4,694 in 2000 to 8,669 in 2030 as indicated in Table 4-26.

Homeowners are expected to increase from 3,475 in 2000 to 6,762 by 2030. Renters are anticipated to increase from 1,219 in 2000 to 1,906 in 2030. Homeownership from the year 2000 to 2030 is expected to increase by 234 households for homeowners with extremely low incomes, by 312 households with incomes from 31 to 50 percent of median family income (MFI), and by 494 households with 51 to 80 percent of MFI.

Rental demand from the year 2000 to 2030 is expected to increase by 166 households for renters with extremely low incomes. Further, rental demand for those households with 31 to 50 percent of MFI is expected to increase by 160 households over the period.

**Natrona County.** The household forecast indicates a total increase of 19,650 households in Natrona County, from 26,819 in 2000 to 46,469 in 2030 as indicated in Table 4-27.

Homeowners are expected to increase from 18,740 in 2000 to 34,638 by 2030. Renters are anticipated to increase from 8,079 in 2000 to 11,831 in 2030. Homeownership from the year 2000 to 2030 is expected to increase by 891 households for homeowners with extremely low incomes, by 1,445 households with incomes from 31 to 50 percent of MFI, and by 2,452 households with 51 to 80 percent of MFI.

Rental demand from the year 2000 to 2030 is expected to increase by 691 households for renters with extremely low incomes. Further, rental demand for those households with 31 to 50 percent of MFI is expected to increase by 867 households over the period.

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

Year	Converse County			Natrona County		
	Total	Home-owners	Renters	Total	Home-owners	Renters
2000	4,694	3,475	1,219	26,819	18,740	8,079
2005	5,122	3,833	1,289	28,941	20,488	8,453
2010	5,696	4,299	1,397	32,827	23,425	9,402
2015	6,374	4,850	1,525	36,528	26,317	10,211
2020	7,066	5,422	1,644	39,727	28,949	10,778
2025	7,836	6,063	1,773	42,905	31,631	11,274
2030	8,669	6,762	1,906	46,469	34,638	11,831

Source: Wyoming Housing Database Partnership, February 2007. A Profile of Wyoming Demographics, Economics and Housing Semiannual Report Ending December 31, 2006.

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

County	Community	Hotel/Motel	No. Rooms
Converse	Douglas	Holiday Inn Express Hotel & Suites	76
		Best Western Douglas Inn & Conference Center	117
		Plains Motel	30
		Super 8	37
		1st Interstate Inn	43
		Alpine Inn	40
	Glenrock	All American Inn	21
	<b>County Total</b>		
Natrona	Casper *	Skyler Inn	66
		Royal Inn	37
		National 9 Showboat Inn	45
		Holiday Inn Casper Convention Center	200
		Hampton Inn	121
		Days Inn	121
		Best Western Ramkota Hotel	229
		Courtyard	100
		Motel 6	111

TABLE 4-27

Hotel and Motel Rooms by County and Community (2007)

County	Community	Hotel/Motel	No. Rooms
		Parkway Plaza Hotel	287
		Topper Motel	20
		Quality Inn & Suites	92
		Westside Inn	42
		Super 8 West	66
		Red Stone Motel	59
		Holiday Inn Express Hotel	84
		Wingate by Wyndham	100
		Cmon Inn	125
		Colonial House Motel	19
		Sleep Inn & Suites	80
		Comfort Inn	56
		Shilo Inn Hotel	101
		Sage and Sand Motel	33
		Ranch House Motel	12
		Virginian Motel	19
		Yellowstone Motel	13
		Super 8 East	57
	<b>County Total</b>		<b>2,292</b>
<b>Study Area Total</b>			<b>2,656</b>

\* Includes the communities of Casper, Bar Nunn, Evansville, and Mills

Sources: <http://wyomingtourism.org>, Accessed February 18, 2008, and CH2M HILL calculations

#### 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 was compiled. The information is presented in Table 4-27.

Based on information from Smith Travel Research for the period from 2001 to 2007, hotel and motel vacancy rates are presented in Figure 4-30. The estimated occupancy rates are derived from hotels and motels mostly in Casper, Douglas, Wheatland, Evansville, Douglas, and Glenrock. The vacancy rate is highly seasonal ranging between highs around 60 percent

in December and January to lows around 10 to 20 percent in June through August. Since 2005, vacancy rates have been declining during all months of the year. Variation in monthly vacancy rate is shown in Figure 4-31.

The average daily room rate fluctuates depending on the month of the year 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. From 2002 to 2005, the average hotel rate increased approximately 4.2 percent a year or an average of \$2. In 2006, the price increased almost \$4 from the previous year resulting in a 6.7 percent increase. Table 4-28 displays the average daily hotel rate and percent change over the previous year.

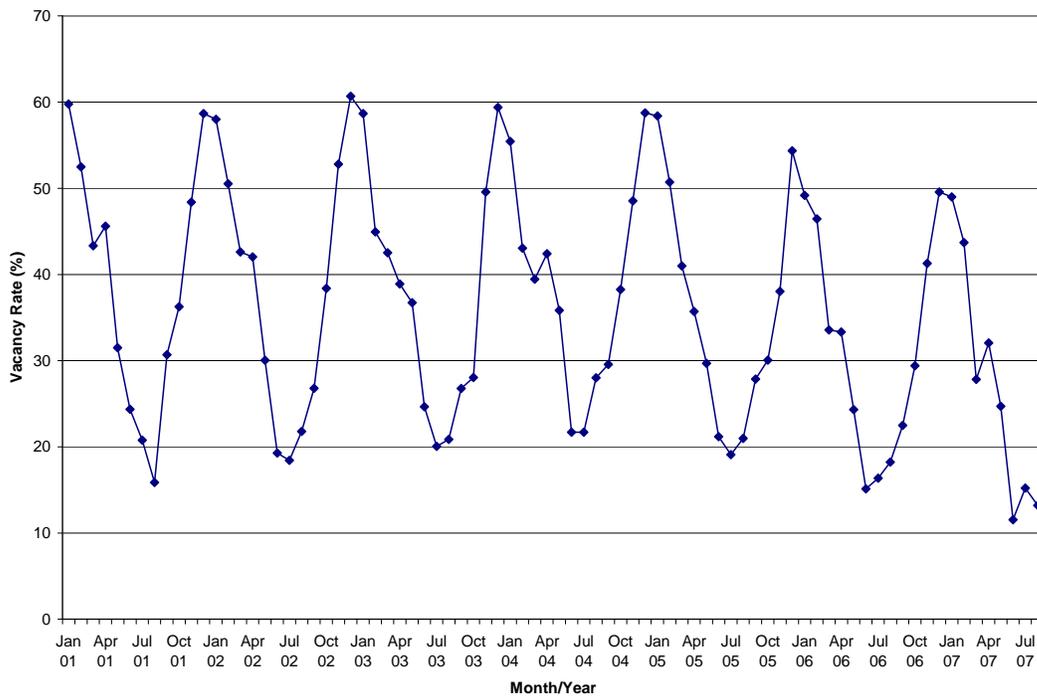


FIGURE 4-30  
Hotel-Motel Vacancy Rate in the Study Area (2001 through 2007)

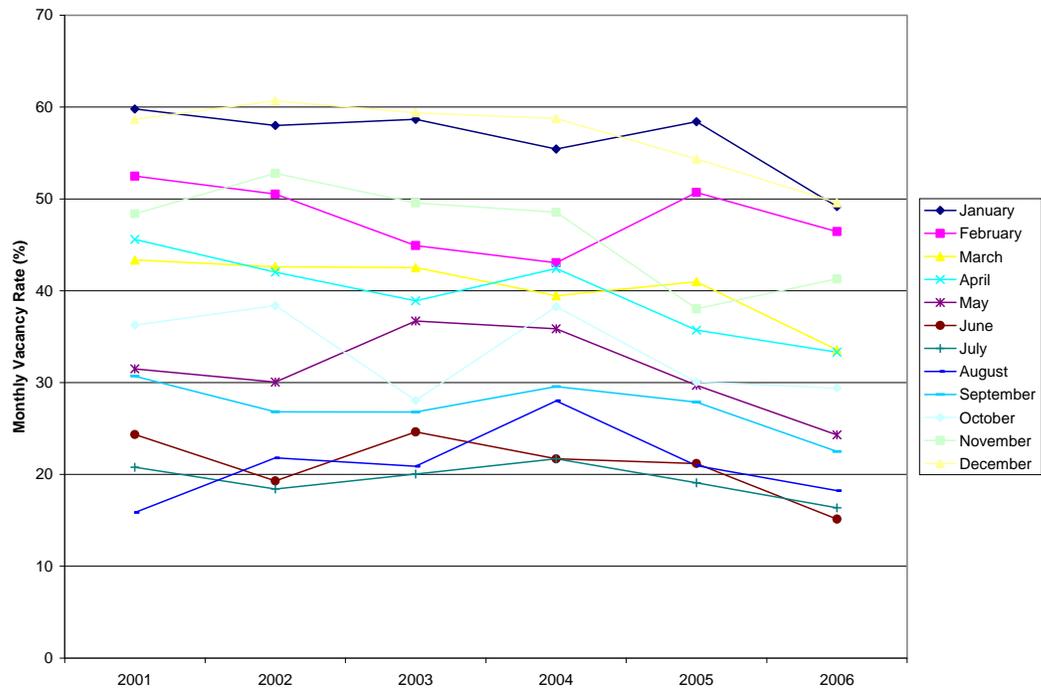


FIGURE 4-31  
Hotel-Motel Average Room Rate in the Study Area (2001 through 2007)

TABLE 4-28  
Average Daily Hotel Room Rate

Year	Average Cost (\$)	Percent Change Over Previous Year
2001	51.93	--
2002	53.92	3.8
2003	54.24	0.6
2004	56.09	3.4
2005	57.75	3.0
2006	61.62	6.7
2007*	66.46*	7.9*

Source: Smith Travel Research  
\*Year-to-date through August 2007

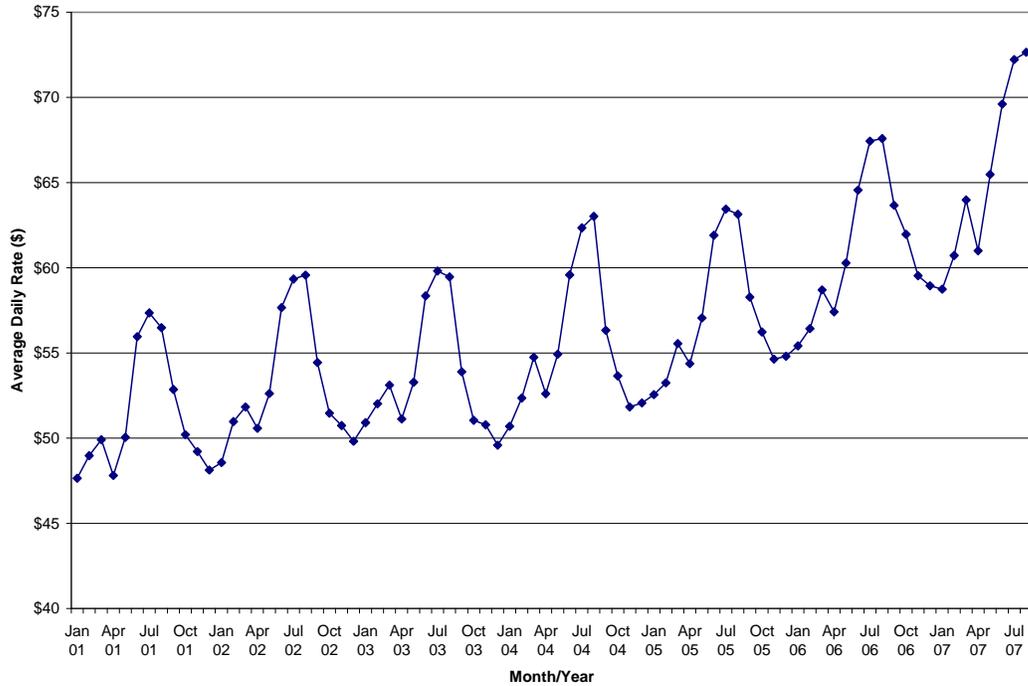


FIGURE 4-32  
Hotel-Motel Average Daily Room Rate in the Study Area (2001 through 2007)

**Recreational Vehicle (RV) 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 the two-county study area. The City of Casper has the most RV locations (seven sites) and Wright, Glenrock, and Douglas have one location each. Vacancy rates are not currently available for this type of temporary accommodation.

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

Study Area	Location	No. Sites
<b>Converse County</b>		<b>137</b>
Glenrock	Deer Creek Village RV Park	50
Douglas	Douglas KOA Campground	87
<b>Natrona County</b>		<b>402</b>
Casper	Alcova Lake Campground	200
Casper	Casper East RV Park and Campground	62
Casper	Casper Mountain Campgrounds	29

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

Study Area	Location	No. Sites
Casper	Fort Casper Campground	86
Casper	BLM Lodgepole Campground	14
Casper	Pathfinder Reservoir	3
Casper	Muddy Mountain-Rim Campground	8

Source: <http://wyomingtourism.org>

### 4.3.4 Education

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 two-county study area contains the following three school districts: Converse County School District 1, Converse County School District 2, and Natrona County School District 1.

These three school districts, the service areas of which are illustrated in Figure 4-33, operate a total of 47 educational facilities categorized as follows: 34 elementary schools, seven junior high/middle schools, five high schools, and one kindergarten through 12th grade school. Natrona County District 1 is the largest district, with 34 educational facilities followed by eight for Converse County District 1 and five for Converse County District 2. Table 4-30 shows the type and number of schools by district and selected district-wide characteristics.

Revenues per student vary by school district with Converse County District 2 reporting the highest revenues per student at \$27,811 followed by Natrona County District 1 and Converse County District 1 around \$14,200 to \$14,700 per student, respectively.

Additionally, the contribution to total revenues from federal, state, and local sources for each of the school districts varies. Federal revenues comprise the smallest shares for all school districts at between 4 percent and 8 percent. Local revenue sources, comprised of property tax revenues and special impact aid funds, provide the most important funding source in Converse County District 1, where they make up 38 percent of all revenues. Converse County District 2 and Natrona County District 1 both receive the greatest proportion of their revenues from state sources: 58 percent and 66 percent, respectively.

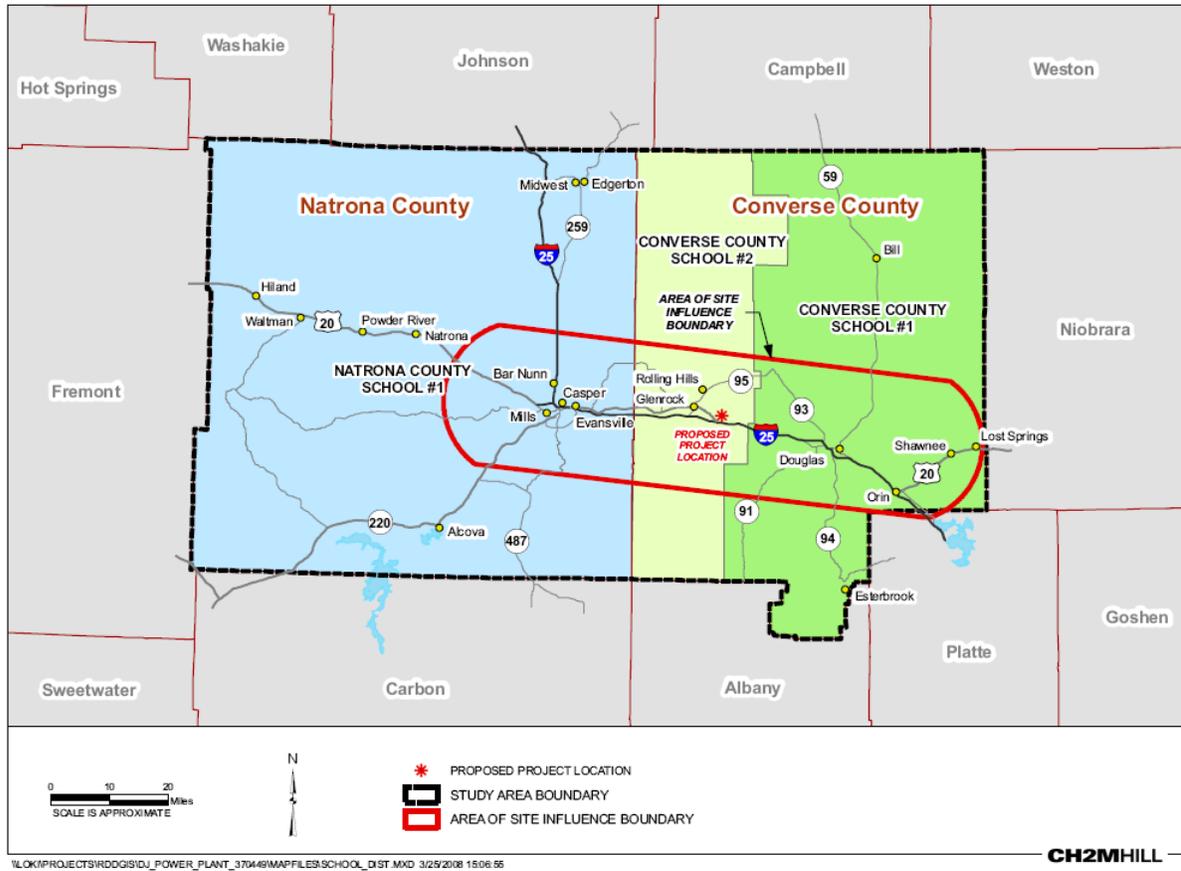


FIGURE 4-33  
Public School Districts in the Study Area

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

	Converse School District No. 1	Converse School District No. 2	Natrona County School District No. 1
Enrollment	1,617	691	11,444
Free & Reduced Eligibility (%)	26.3%	25.3%	31.2%
Number of Schools:			
Total	8	5	34
Elementary	5	2	25
Intermediate	1	1	0
Middle/Junior High	1	1	6
High	1	1	3
Staff (full-time equivalent)			
Total	305.8	136.0	1,940.4
Teachers	125.8	58.9	823.2
Student Instructional Support (certified)	32.9	12.2	174.7
Staff Instructional Support (certified)	8.9	3.4	63.5
Administration	13.0	8.0	74.9
Instruction & Instructional Support (classified)	58.7	19.1	393.0
Other General Support (classified)	66.5	34.4	411.1
Revenue Source (%)			
Local	37.7%	32.0%	21.0%
County	10.1%	5.5%	4.9%
State	45.2%	58.4%	65.7%
Federal	7.0%	4.1%	8.4%
Revenue per Student	\$14,178	\$27,811	\$14,710

Source: Wyoming Department of Education. Accessed March 2008  
[https://wdesecure.k12.wy.us/pls/warehouse/wde.district\\_profile.menu](https://wdesecure.k12.wy.us/pls/warehouse/wde.district_profile.menu)

#### 4.3.4.2 Student Enrollment

Student enrollment as of October 1, 2007, totaled 14,055 in the study area, as shown in Table 4-31. Natrona County School District 1 had the highest enrollment with 11,604 students, followed by Converse County School District 1 with 1,755 students. Converse County District 2 had the lowest enrollment with 696.

During the period 1991 through 2007, combined enrollment in the three school districts declined by 1,676 students (-10.7 percent), as can be seen from the information presented in

Table 4-31 and Figure 4-34. The greatest numeric decline of 1,414 students occurred in Natrona County School District 1. However, the greatest percentage declines took place in Converse County School District 2 (-24.3 percent). Converse County District 1 experienced both the lowest numeric decline (39 students) and the lowest percentage decline (-2.2 percent).

TABLE 4-31  
School District Enrollment

Year	Converse District #1	Converse District #2	Natrona District #1	Study Area Total
2007	1,755	696	11,604	14,055
2006	1,617	691	11,444	13,752
2005	1,584	713	11,408	13,705
2004	1,587	739	11,546	13,872
2003	1,582	743	11,590	13,915
2002	1,688	771	11,650	14,109
2001	1,663	792	11,835	14,290
2000	1,660	783	12,038	14,481
1999	1,715	860	12,048	14,623
1998	1,747	879	12,271	14,897
1997	1,793	909	12,612	15,314
1996	1,828	894	12,885	15,607
1995	1,843	897	12,936	15,676
1994	1,809	906	13,100	15,815
1993	1,858	932	13,223	16,013
1992	1,819	914	13,015	15,748
1991	1,794	919	13,018	15,731
<b>Change (1991-2007)</b>				
Numeric	-39	-223	-1,414	-1,676
Percent	-2.2%	-24.3%	-10.9%	-10.7%
Ave. Ann. %	-0.1%	-1.7%	-0.7%	-0.7%

Source: Wyoming Department of Education. Accessed March 2008  
[https://wdesecure.k12.wy.us/pls/warehouse/wde\\_district\\_profile.menu](https://wdesecure.k12.wy.us/pls/warehouse/wde_district_profile.menu)

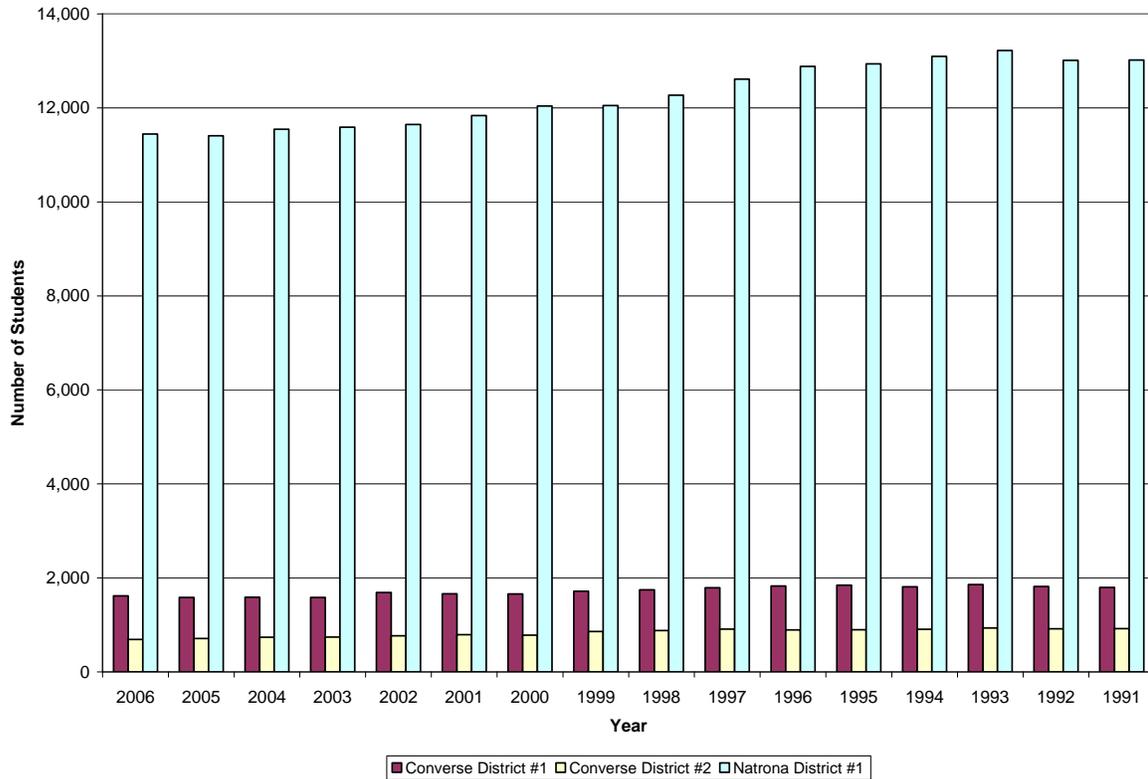


FIGURE 4-34  
Public School Enrollment by School District (1991 through 2006)

#### 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 national levels.

Of the three school districts comprising the study area, Converse County School District 2 (with a 2006 student/teacher ratio of 11.7) had the lowest ratio followed by Converse County District 1 with 12.9 and Natrona County District 1 with 13.9. All three school districts are below the national ratio of 15.7 while Converse County Districts 1 and 2 are also below the state ratio of 13.2. The Natrona School District 1 ratio of 13.9 exceeds slightly the state ratio. The ratio for the state of Wyoming has consistently been lower than that of the nation. Table 4-32 and Figure 4-35 display student-teacher ratios by school district in the study area, the state of Wyoming, and the nation from 1995 to 2006. Until recently, the ratios for all school districts and the State of Wyoming have shown a consistent decline (i.e., fewer students per teacher). In 2006, ratios in Converse County Districts 1 and 2 as well as the State of Wyoming in general showed slight increases in the student-teacher ratios.

TABLE 4-32

## Historic Student-Teacher Ratios

<b>Year</b>	<b>Converse District #1</b>	<b>Converse District #2</b>	<b>Natrona District #1</b>	<b>Wyoming</b>	<b>United States</b>
2006	12.9	11.7	13.9	13.2	15.7
2005	12.2	10.9	14.3	12.6	15.5
2004	12.7	11.4	14.4	12.8	15.6
2003	12.5	11.4	14.4	13.2	15.9
2002	13.3	11.9	14.6	13.3	15.9
2001	13.4	12.2	14.6	13.3	15.9
2000	12.8	11.3	15.1	13.5	16.0
1999	13.0	12.4	15.1	13.7	16.1
1998	13.2	12.6	15.9	14.5	16.4
1997	13.6	12.9	16.5	15.0	16.8
1996	14.2	12.7	16.1	15.2	17.1
1995	13.9	12.7	16.6	15.6	NA

Source: Wyoming Department of Education. Accessed March 2008  
[https://wdesecure.k12.wy.us/pls/warehouse/wde.district\\_profile.menu](https://wdesecure.k12.wy.us/pls/warehouse/wde.district_profile.menu)

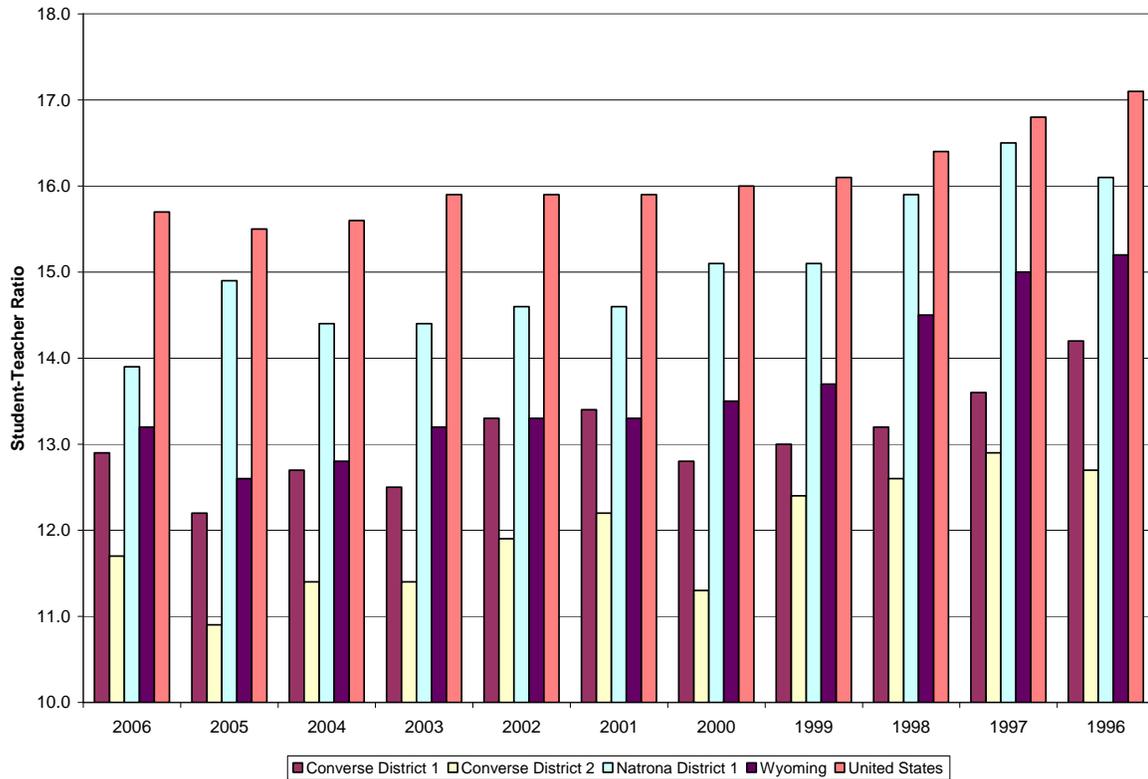


FIGURE 4-35  
Student-Teacher Ratio by School District, State of Wyoming, and Nation (1996 through 2005)

#### 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.

### 4.3.5 Public Safety

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 two-county study area has a total of 13 fire stations operated by nine fire departments, the majority of which are staffed on a volunteer basis. Table 4-33 lists the fire departments and selected characteristics describing each department. The largest departments are those of the City of Casper in Natrona County and the Dave Johnston Power Plant in Converse County.

TABLE 4-33  
Fire Departments in the Study Area

Name	No. Stations	No. Firefighters		
		Career	Paid per Call	Volunteer
<b>Study Area Total</b>	<b>13</b>	<b>115</b>	<b>0</b>	<b>181</b>
<b>Converse County Total</b>	<b>3</b>	<b>28</b>	<b>0</b>	<b>67</b>
Dave Johnston Power Plant Fire Brigade	1	28	0	0
Douglas Fire Department	1	0	0	35
Glenrock/Converse County Volunteer Fire Department	1	0	0	32
<b>Natrona County Total</b>	<b>10</b>	<b>87</b>	<b>0</b>	<b>114</b>
Bar Nunn Fire Department	1	0	0	17
Casper Fire Department	5	73	0	0
Casper Mountain Fire Department	1	0	0	35
Evansville Emergency Service	1	0	0	28
Mills Volunteer Fire Department	1	0	0	24
Natrona County Fire Protection District	1	14	0	10

Sources: 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](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 4-34.

TABLE 4-34  
Police Stations in the Study Area

<b>Name</b>	<b>Address</b>	<b>City</b>	<b>County</b>
Glenrock Police Department	219 South 3 <sup>rd</sup> Street Glenrock, WY 82637	Glenrock	Converse
Converse County Sheriff Department	107 North 5 <sup>th</sup> Street Douglas, WY	Douglas	Converse
Douglas Police Department	101 North 4 <sup>th</sup> Street Douglas, WY 82513	Douglas	Converse
Wyoming Highway Patrol	P.O. Box 2963 Casper, WY 82602	Casper	Natrona
Natrona County Sheriff Department	201 North David Casper, WY 82601	Casper	Natrona
Casper Police Department	Hall of Justice 201 North David Casper, WY 82601	Casper	Natrona
Evansville Police Department	235 North Curtis Street Evansville, WY 82636	Evansville	Natrona
Mills Police Department	704 Fourth Street Mills, WY 82644	Mills	Natrona

Source: [http://50states.com/wyoming/police\\_departments.htm](http://50states.com/wyoming/police_departments.htm), [http://www.50states.com/wyoming/fire\\_departments.htm](http://www.50states.com/wyoming/fire_departments.htm)

Over the period 1999 through 2006, the number of law enforcement officers within the study area has remained virtually unchanged. As of 2006, each of the counties had the following number of officers: 35 in Converse County and 152 in Natrona County. As can be seen from the information presented in Table 4-35, the majority of the law enforcement officers are located in the community of Casper, and the city has the lowest LOS ratio (1.7 officers per 1,000 residents) in the study area and highest number of index crimes per officer.

TABLE 4-35  
Law Enforcement Personnel (2006)

County/Agency	Employees			Officers per 1,000 Population	Index Crimes per Officer
	Total	Officers	Civilian		
<b>Converse County</b>	55	35	20		
Converse County Sheriff	19	12	7	2.5	3.7
Town of Douglas	26	16	10	2.8	10.8
Town of Glenrock	10	7	3	2.9	5.9
<b>Natrona County</b>	206	152	54		
Natrona County Sheriff	52	43	9	3.3	10.0
City of Casper	133	91	42	1.7	29.8
Town of Evansville	10	8	2	3.4	14.1
Town of Mills	11	10	1	3.4	9.9

Source: Crime in Wyoming, Annual Report, State of Wyoming Office of Attorney General, 2006

#### 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). To facilitate comparison between reporting areas with differing characteristics such as number of residents, crime rates are reported as the number of crimes per 10,000 residents. Between 1999 and 2006, the number of index crimes in each of the counties of the study area first rose (peaking in 2002 or 2003) and then fell, as can be seen from the information presented in Table 4-36 and Figure 4-36.

TABLE 4-36  
Number of Index (Part 1) Crimes by County (1999 through 2006)

<b>Violent Crime</b>								
	1999	2000	2001	2002	2003	2004	2005	2006
Converse County	20	13	43	27	29	19	21	20
Natrona County	168	233	198	181	156	131	163	168
State of Wyoming	1,201	1,309	1,259	1,329	1,280	1,130	1,137	1,201
<b>Property Crime Rate</b>								
	1999	2000	2001	2002	2003	2004	2005	2006
Converse County	354	237	253	292	261	255	219	238
Natrona County	2,547	2,509	2,767	3,184	3,522	3,354	3,315	3,187

TABLE 4-36  
 Number of Index (Part 1) Crimes by County (1999 through 2006)

<b>Violent Crime</b>								
	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
State of Wyoming	15,285	14,891	16,038	16,312	16,306	16,573	15,841	15,040
<b>Index Crime Rate</b>								
	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
Converse County	374	250	296	319	290	274	240	258
Natrona County	2,715	2,742	2,965	3,365	3,678	3,485	3,478	3,355
State of Wyoming	16,486	16,200	17,297	17,641	17,586	17,703	16,978	16,241

Source: Crime in Wyoming, Annual Report, State of Wyoming Office of Attorney General, 1999 through 2006

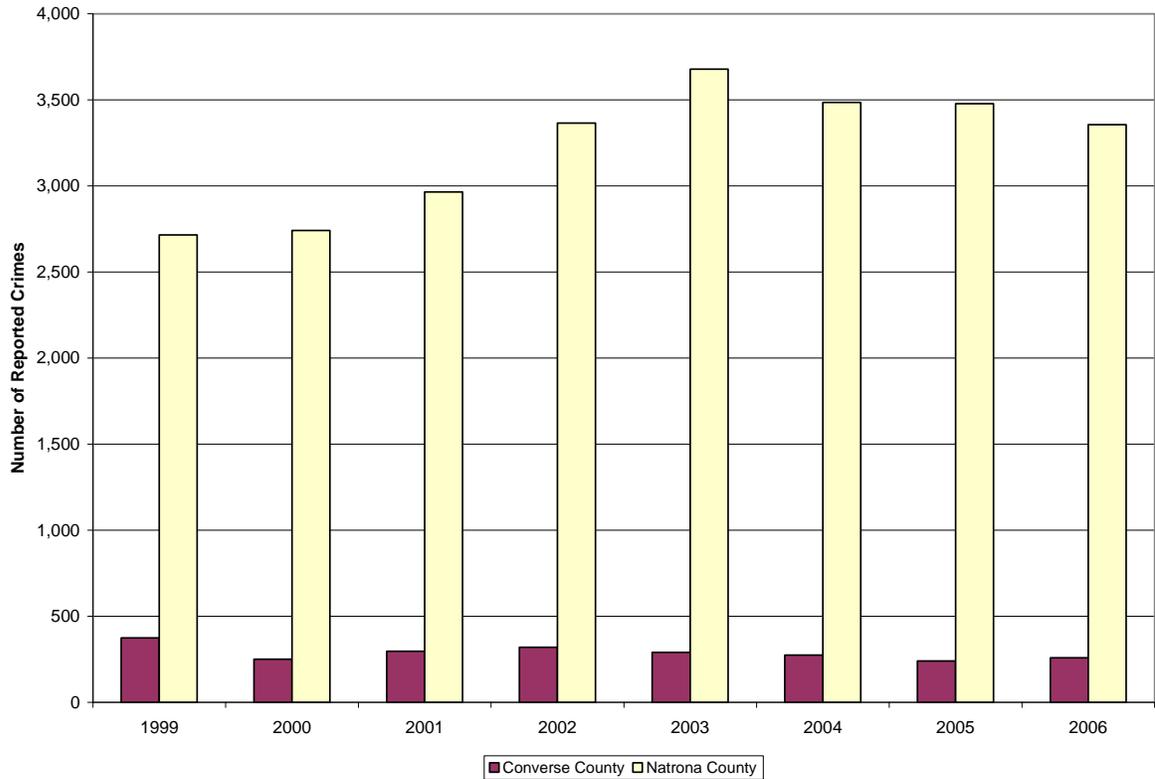


FIGURE 4-36  
 Number of Index Crimes by County (1999 through 2006)

Crime rates also exhibit a similar pattern over the period, but in recent years, the trend has been downward as can be seen from Table 4-37 and Figure 4-37. In 2006, crime rates increased slightly in Converse County. Index crimes are highly influenced by crimes against property because these types of crime are much more prevalent than violent crimes. As can be seen from the information presented in Figure 4-38, the violent crime rate has generally declined through 2004 after which time it has leveled off or increased.

TABLE 4-37  
Index (Part 1) Crime Rates by County (1999 through 2006)

<b>Violent Crime</b>								
	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
Converse County	15.5	10.8	35.7	22.0	23.6	15.2	16.7	15.5
Natrona County	23.8	35.3	30.0	27.1	23.3	19.1	23.5	23.8
State of Wyoming	23.5	26.9	25.9	27.1	26.1	22.9	22.5	23.5
<b>Property Crime Rate</b>								
	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
Converse County	274.2	196.6	209.9	238.4	212.0	204.7	174.0	184.4
Natrona County	360.9	380.4	419.5	477.4	525.5	489.5	477.8	451.5
State of Wyoming	299.0	305.7	329.9	332.9	332.4	335.2	313.3	294.2
<b>Index Crime Rate</b>								
	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
Converse County	289.7	207.4	245.6	260.4	235.6	219.9	190.7	199.9
Natrona County	384.7	415.7	449.5	504.6	548.7	508.6	501.2	475.3
State of Wyoming	322.5	332.6	355.8	360.1	358.5	358.1	335.8	317.7

Source: Crime in Wyoming, Annual Report, State of Wyoming Office of Attorney General, 1999 through 2006

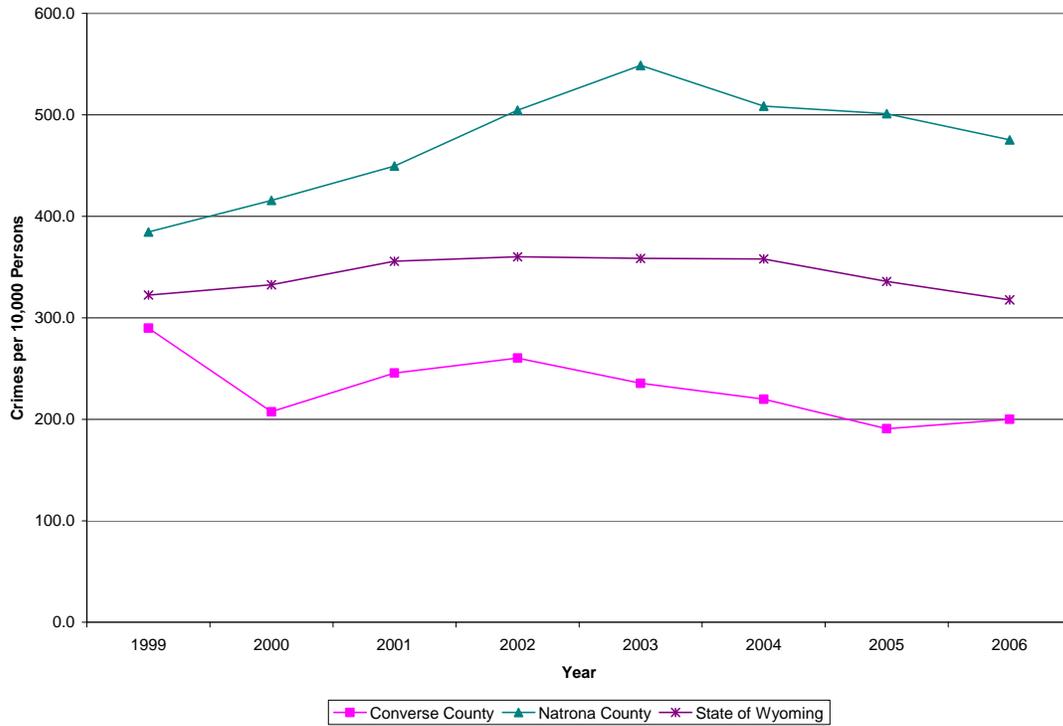


FIGURE 4-37  
Index Crime Rate by County and State of Wyoming (1999 through 2006)

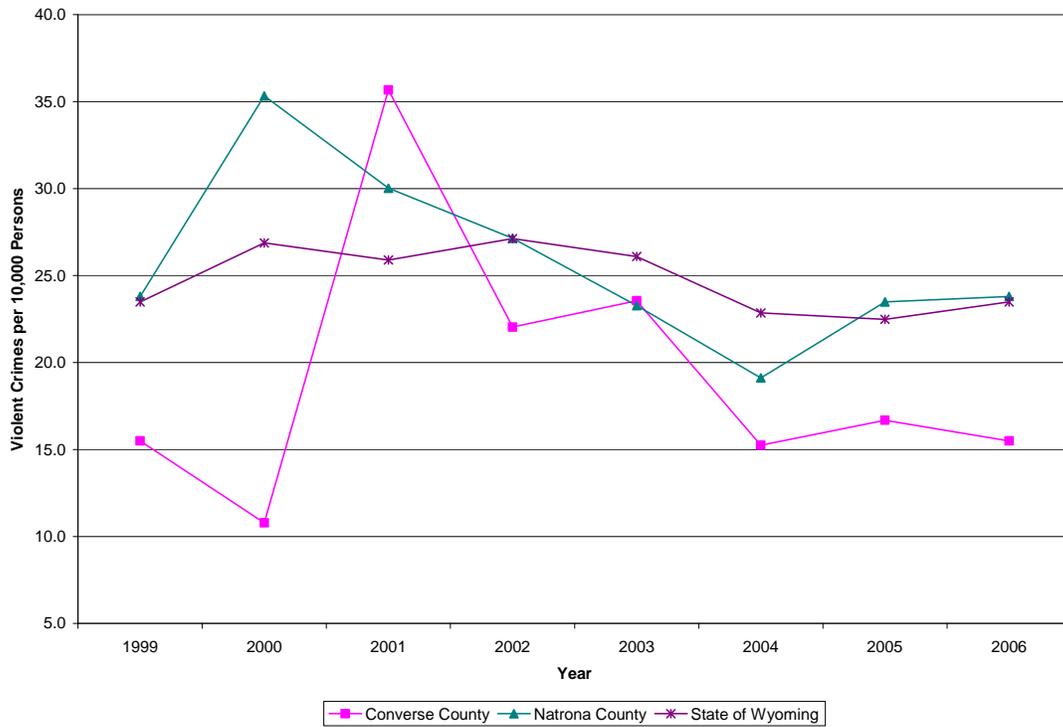


FIGURE 4-38  
Violent Crime Rate by County and State of Wyoming (1999 through 2006)

### 4.3.6 Health Care

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 two hospitals in the study area: one located in each of the two counties as illustrated in Figure 4-39. They are Memorial Hospital of Converse County located in Douglas and Wyoming Medical Center located in Casper in Natrona County. Both hospitals are located in the major community and county seat of their respective counties. Natrona County has a larger number of hospital beds compared to Converse County, and the LOS ratio (beds per 10,000 residents) is also higher, as presented in Table 4-38 and Figure 4-40. The admissions LOS and inpatient surgery LOS for Natrona County are substantially higher than for Converse County, while the outpatient visits and outpatient surgery ratios are lower. These differences are explained by differences in the type and function of the hospitals. The Wyoming Medical Center offers a wider range of specialties and functions as a regional medical center compared to the more restricted range of services offered by the Memorial Hospital of Converse County. The emergency room visit LOS values are similar for both facilities.

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

	Converse County	Natrona County
Number of Beds	25	205
Admissions	810	9,867
Inpatient Surgeries	219	3,364
Outpatient Visits	24,075	69,594
Outpatient Surgeries	850	2,119
Emergency Room Visits	4,335	32,556
<b>Level of Service Ratios (per 10,000 residents)</b>		
Number of Beds	19	29
Admissions	630	1,397
Inpatient Surgeries	170	476
Outpatient Visits	18,721	9,851
Outpatient Surgeries	661	300
Emergency Room Visits	3371	4,608

Sources:

Wyoming Healthcare Commission, Statistical Handbook 2006, <http://hptc.unmc.edu/wy/handbook.html>

[http://health.usnews.com/usnews/health/hospitals/directory/glance\\_6830080.htm](http://health.usnews.com/usnews/health/hospitals/directory/glance_6830080.htm).

Wyoming Office of Rural Health, Wyoming Medical Professional Survey: <http://wdh.state.wy.us/Media.aspx?mediaId=928>

<http://eadiv.state.wy.us/pop/wyc&sc20.htm>

<http://www.wmcnet.org/nursing/index.php>

<http://www.conversehospital.com/>

<http://www.ccmh.net/>

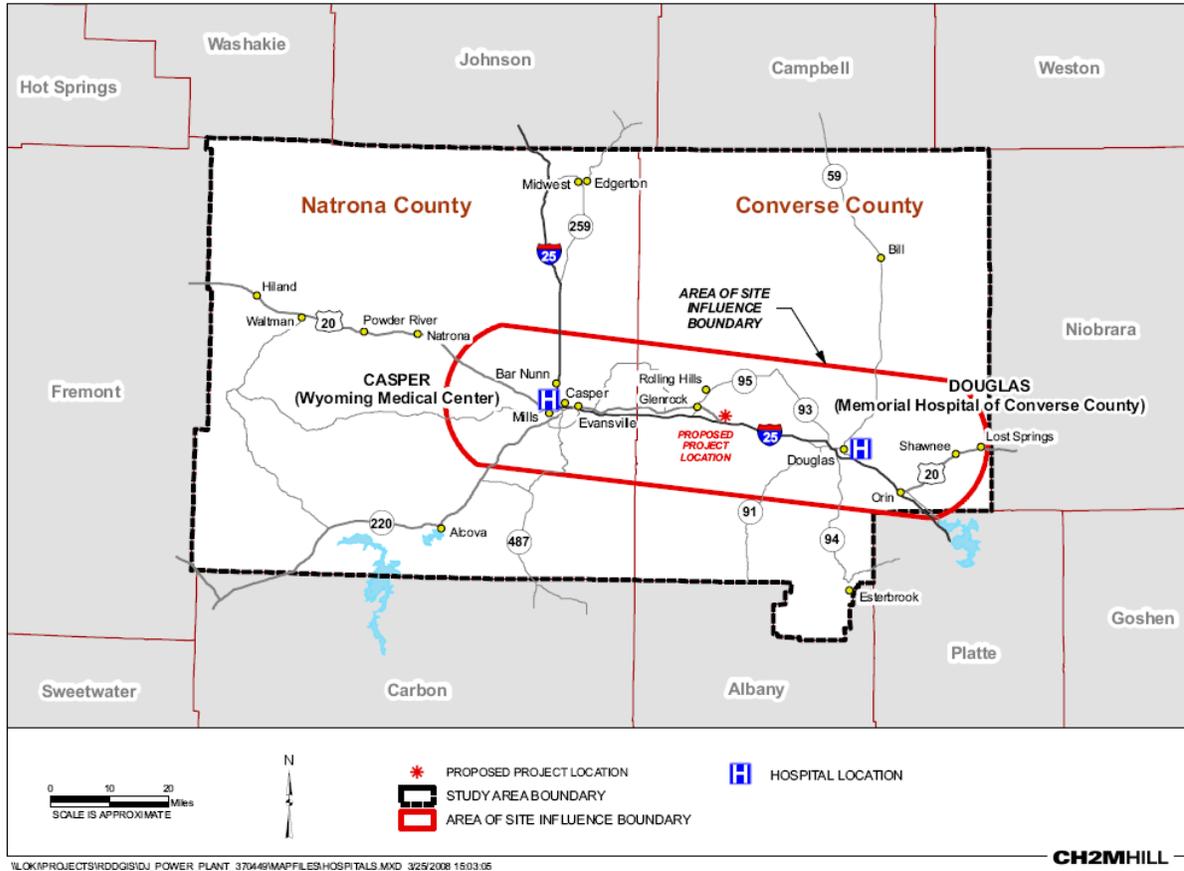
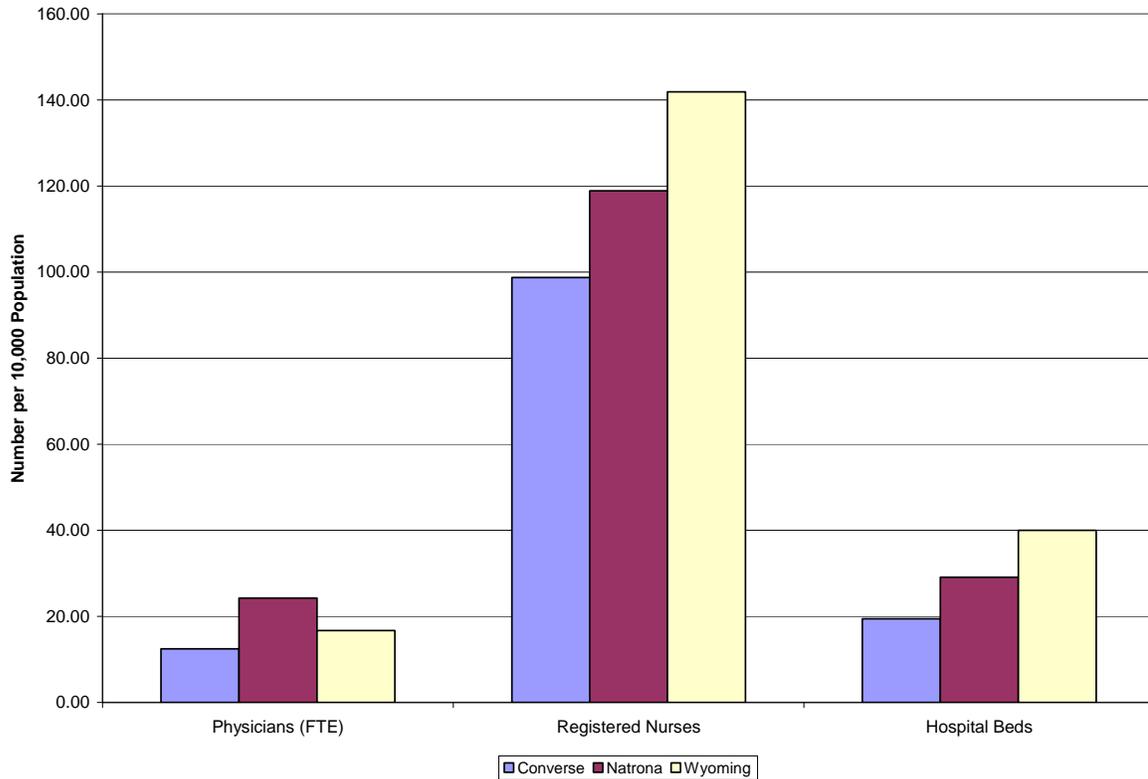


FIGURE 4-39  
Location of Hospitals in the Study Area



**FIGURE 4-40**  
Level of Service Ratios for Health Care Professionals

The physician LOS for Natrona County is higher than for the state while that of Converse County is below as can be seen from the information presented in Table 4-39. Natrona County has higher LOS values than Converse County for registered nurses and dentists. However, the ratio is less than that of the state for registered nurses. Converse County exhibits the lowest ratio for physicians (12.4) and nurses (98.8) compared to the study area (22.4 and 116.1, respectively) and to the state of Wyoming (16.7 and 253.9, respectively). A comparison of LOS ratios for each of the counties is presented in Figure 4-40.

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

County	Physicians			Nurses			Dentists		Pharmacists	
	Full-time Equivalents	Number of Professionals	Total	Registered Nurse	Licensed Practical Nurse	Certified Nurse Assistant	Full-time Equivalents	Number of Professionals	Full-time Equivalents	Number of Professionals
Converse	16	18	254	127	14	113	3	4	7	6
Natrona	171	160	1,638	840	99	699	36	41	64	73
Study Area	187	178	1,892	967	113	812	39	45	71	79
Wyoming	858	961	13,076	7,306	1,260	4,510	232	266	342	399
<b>Level of Service Ratios (per 10,000 residents in 2006)</b>										
Converse	12.4	14.0	197.5	98.8	10.9	87.9	2.3	3.1	5.4	4.7
Natrona	24.2	22.6	231.8	118.9	14.0	98.9	5.1	5.8	9.1	10.3
Study Area	22.4	21.3	227.2	116.1	13.6	97.5	4.7	5.4	8.5	9.5
Wyoming	16.7	18.7	253.9	141.9	24.5	87.6	4.5	5.2	6.6	7.7

Sources:  
Wyoming Healthcare Commission, Statistical Handbook 2006, <http://hptc.unmc.edu/wy/handbook.html>  
[http://health.usnews.com/usnews/health/hospitals/directory/glance\\_6830080.htm](http://health.usnews.com/usnews/health/hospitals/directory/glance_6830080.htm)  
Wyoming State Board of Nursing, 2007  
2006 Population: <http://eadiv.state.wy.us/pop/wyc&sc20.htm>

The majority of physicians in each of the counties and the state of Wyoming are full-time: 88 percent in Natrona County and 100 percent in Converse County. The state rate is 89 percent, as presented in Table 4-40. General medical staff vacancies include three staff in Converse County and 37 staff in Natrona County.

TABLE 4-40  
Physician Staffing Levels by County

	Converse County	Natrona County	State of Wyoming
Total Number of Physicians	18	120	836
Full-Time Employed Physicians	16	91	637
Part-Time Employed Physicians	0	8	52
Full-Time Contract Physicians	2	14	108
Part-Time Contract Physicians	0	7	56
Number of General Medical Staff Vacancies	3	37	140

Source: Wyoming Medical Professional Survey. Prepared for Wyoming Office of Rural Health by Wyoming Health Resource Network, Inc. and Wyoming Center for Business & Economic Analysis, LLC. October 2004.

Table 4-41 provides information on the types of physicians in each county within the study area and LOS ratios. Natrona County had the higher LOS for both total physicians and specialist physicians compared to Converse County along with having higher levels of service than the state as a whole.

TABLE 4-41  
Physician Level of Service Ratios by County

<b>Staff and Contract Physicians: Number and Per Capita Ratio</b>	<b>Converse County</b>	<b>Natrona County</b>	<b>State of Wyoming</b>
Total Number of Physicians (full- and part-time)	18	120	836
Number of Specialists (full- and part-time)	11	94	576
Number of Family Practice and Internal Medicine Physicians (full- and part-time)	7	26	260
Physicians (per 1,000 Residents)	1.38	1.67	1.60
Specialists (per 1,000 Residents)	0.84	1.31	1.10
Family Practice Physicians (per 1,000 Residents)	0.54	0.36	0.50

Source: Wyoming Medical Professional Survey. Prepared for Wyoming Office of Rural Health by Wyoming Health Resource Network, Inc. and Wyoming Center for Business & Economic Analysis, LLC. October 2004.  
<http://eadiv.state.wy.us/pop/wyc&sc20.htm> Accessed September 20, 2007

In 2002, the study area contained 587 certified emergency medical service (EMS) providers, 42 certified ambulance attendants, and seven ambulances, as can be seen from the information presented in Table 4-42. Natrona County had a higher certified ambulance attendant LOS that Converse County with a value of 3.3 versus 1.1.

TABLE 4-42  
Emergency Medical Services by County

	<b>Converse County</b>	<b>Natrona County</b>
Certified EMS Providers	154	433
Certified Ambulance Attendants	13	29
Per 1,000 residents	1.1	3.3
Square Mile per Attendant	329	73.2
Number of Service Providers	1	3
Number of Ambulances (vehicles)	3	4
Ambulance Runs	548	8921

Source: Wyoming Department of Health. 2002. *Wyoming Emergency Medical Services System Quick Stats*.  
1 Only two services reported.

#### 4.3.6.2 Health Needs of the Existing Population

This section discusses a report prepared for the Wyoming Health Care 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 impact 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

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 four primary suppliers of electricity and three of natural gas in the two-county study area, as shown in Table 4-43.

TABLE 4-43  
Electric and Gas Utility Company Service Areas

Company	Counties Served
<b>Electricity</b>	
Rocky Mountain Power	Converse County, Natrona County
High Plains Power	Natrona County
Niobrara Electric	Converse County
Wheatland REA	Converse County
<b>Gas</b>	
Kinder Morgan	Converse County, Natrona County
MGTC Inc.	Converse County
Source Gas	Converse County, Natrona County

Sources: 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 24 community water purveyors: five in Converse County and 19 in Natrona County, as shown in Table 4-44. The majority are small community water systems serving a small number of residents. Exceptions are the City of Casper serving 54,000 residents with a use of 9.2 million gallons per day (gpd) and the Town of Douglas serving 5,300 residents with a use of almost 1.4 million gpd.

TABLE 4-44  
Community Water Systems in the Study Area

Water System Name	Population Served	Primary Water Source Type	Total Maximum Capacity (gpm)	Average Day Use (gpd)	Peak Day Use (gpd)
<b>Converse County</b>					
Town of Douglas	5,300	Surface water	3,900	1,395,600	3,760,140
Fairway Estates	100	Groundwater	115	17,000	43,500
Town of Glenrock	2,283	Groundwater	1,700	600,000	1,400,000
Ridgewater Improvement Distr.	143	Purchased surface water	1,500	28,173	74,015
Town of Rolling Hills	440	Groundwater	400	70,349	387,168
<b>Natrona County</b>					
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
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 Evansville	2,200	Surface water	NA	NA	NA
Lakeview Improvement & Service District	45	Purchased surface water	NA	NA	NA
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

Source: EPA Enviromapper. <http://www.epa.gov/enviro/> Accessed July 9, 2007. State of Wyoming, Wyoming Water Development Commission, 2004 Water System Survey Report

Note: gpm is gallons per minute; and gpd is gallons per day.

### 4.3.7.3 Wastewater

The study area contains six wastewater treatment facilities located, for the most part, in the larger communities as shown in Table 4-45. The facilities range from small wastewater lagoon systems to complex treatment facilities such as those serving major population centers such as Casper and Douglas.

TABLE 4-45  
Wastewater Treatment Facilities Within the Study Area

County	Facility Name
<b>Converse County</b>	
	Glenrock Wastewater Lagoon
	City of Douglas
<b>Natrona County</b>	
	Camp Sacajawea
	City of Casper
	Sam Hobbs Regional Wastewater Facility
	Tribal A Tensleep Battery #1

Source: U.S. Environmental Protection Agency. Quick Start <http://www.epa.gov/enviro/index.html>. Accessed September 20, 2007

### 4.3.7.4 Non-Hazardous Waste Disposal

Table 4-46 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 4-46  
Waste Disposal Facilities Within the Study Area

Facility Name	Facility Type	Facility Status
<b>Converse County</b>		
Dave Johnston Plant	Industrial Landfill	Active
Douglas San #1	Type I Municipal	Active
Glenrock #1	Type II Municipal	Active
Glenrock #2 - Proposed	Type II Municipal	Proposed
<b>Natrona County</b>		
Land Treatment Facility, Casper (20.570)	Industrial Landfill	Active
Naval Petroleum Reserve Ind. #2 (20.416)	Industrial Landfill	Active
Baler/Transfer Facility (50.145)	SW TSD	Active
Black Hills Trucking-Casper Terminal (51.008)	SW TSD	Active
Mobile Concrete (51.011)	SW TSD	Active
Robinson Contracting - UST (50.613)	SW TSD	Active

TABLE 4-46  
Waste Disposal Facilities Within the Study Area

Facility Name	Facility Type	Facility Status
True Drilling (51.010)	SW TSD	Active
Wyoming Tire, Inc. (50.721)	SW TSD	Active
PCS Treatment Facility-Casper (50.543)	SW TSD	Proposed

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

Natrona County has nine waste disposal facilities, while Converse County has a total of four facilities. The predominant type of waste disposal facility in the study area is the SWTSD facility. There are a total of seven SWTSDs in the study area, all of which are located within Natrona County.

Community size and activities, such as construction, influence both the quantity and composition of solid waste. As seen from the information in Table 4-47, Natrona County generates the greatest quantity of solid waste at 123,440 tons annually as well as the largest per capita generation of 9.7 pounds per person per day.

TABLE 4-47  
Solid Waste Generation by County

County/Area	Tons per Year	Pounds per Person per Day *	Percent of State Total
Converse County	12,752	5.5	2.1
Natrona County	123,440	9.7	2.0

Source: Wyoming Business Council, 2007 <http://www.wyomingbusiness.org/business/energy.aspx> Accessed March 21, 2008

\* Based on 2000 population

### 4.3.8 Transportation Facilities

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 4-41 shows the major road transportation corridors within the study area. Interstate 25 (I-25) extends in an east-west direction through Converse County. Upon reaching Casper in Natrona County, the interstate highway turns abruptly north. From Douglas in Converse County, State Route 59 runs directly north into Campbell County. Table 4-48 details the major roads and highways in each of the counties of the study area and their general direction.

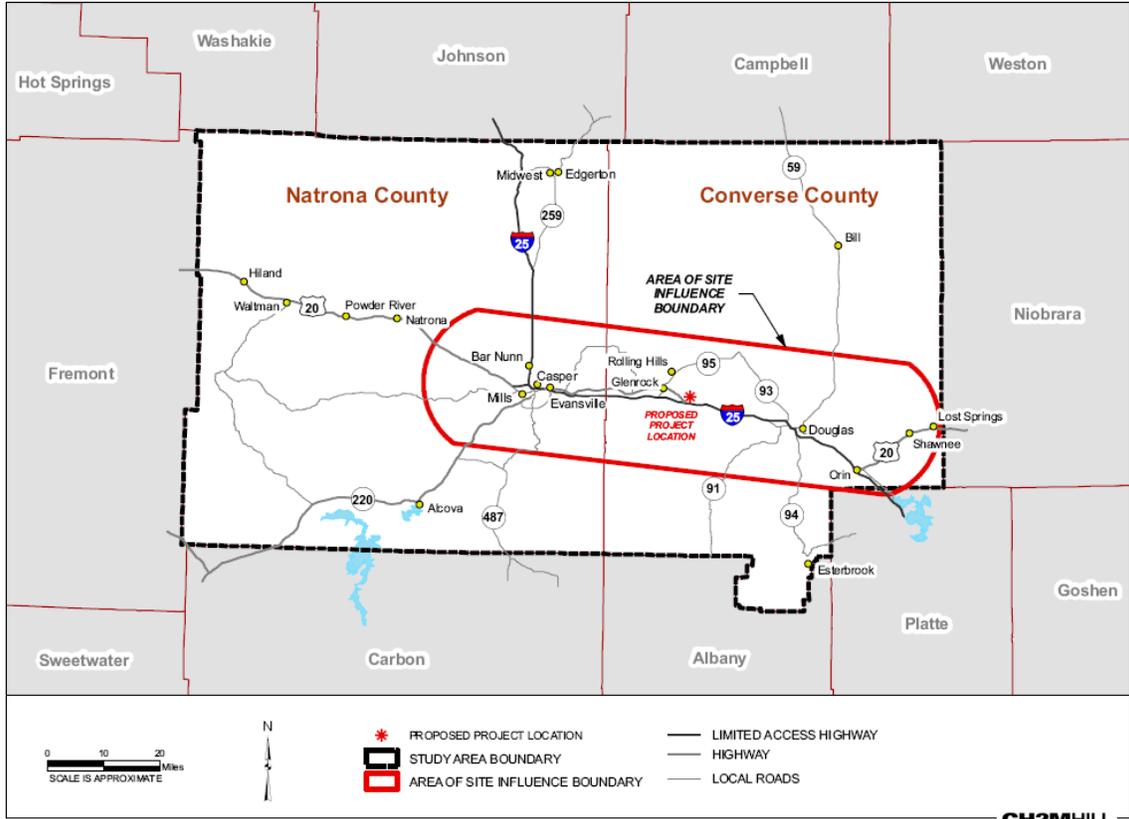


FIGURE 4-41  
Major Roads and Highways in the Study Area

TABLE 4-48  
Road Systems within the Study Area

County	Road	Type	General Direction
Converse	I-25	Interstate	East-West
Converse	SR 59	State Highway	North-South
Natrona	I-25	Interstate	North-South
Natrona	US 87	US Highway	East-West
Natrona	SH 255	State Highway	East-West
Natrona	US 20 & 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

Source: CH2M HILL, 2008

Traffic counts are recorded at a number of locations throughout the state, and those that fall within the two-county study area are shown on Figure 4-42. The highest traffic volumes are generally on I-25, followed by SR 220 just southwest of Casper as can be seen from the information presented in Table 4-49. The highest proportion of trucks (measuring between 20 and 25 percent in places) is recorded on SR 220 just southwest of Casper. Interstate highway segments also have generally high (10 to 15 percent) proportions of truck traffic.

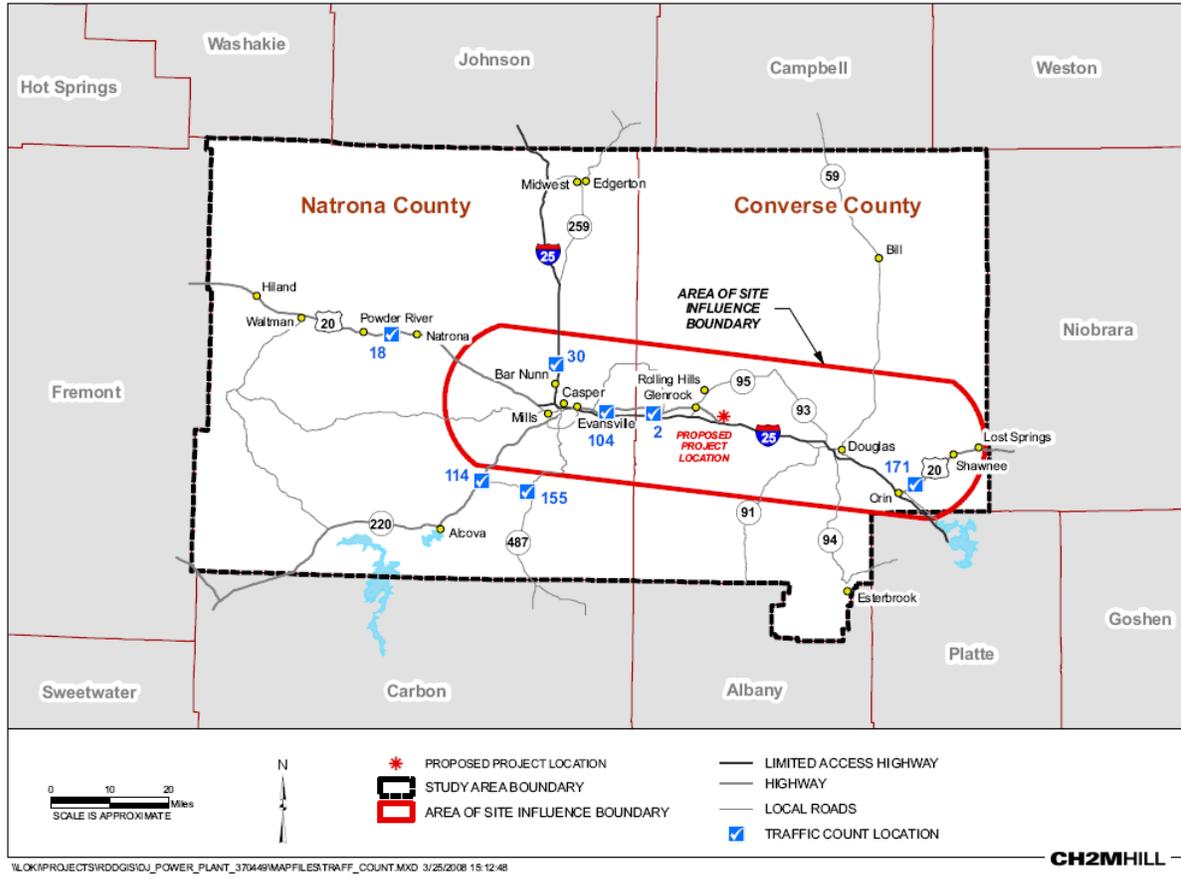


FIGURE 4-42  
Traffic Counts in the Study Area

TABLE 4-49

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	
2	Casper East	Interstate 25	Converse	6,671	6,906	6,889	7,192	7,361	8,325	7,138	Not Available
171	Orin Station	US 18/20	Converse	2,148	1,845	1,763	1,890	1,972	2,321	2,079	15-20%
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%
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	SR 487	Natrona	783	571	517	519	576	855	781	5-10%

Source: CH2M HILL, 2008

Figure 4-43 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. The Union Pacific Railroad operates approximately 880 miles of track in the State of Wyoming and serves the coal-rich Powder River Basin in north central Wyoming with more than 60 coal trains a day traveling to and from the basin. This branch line passes through Converse County as shown in Figure 4-43. Union Pacific's transcontinental main line across southern Wyoming hosts as many as 65 trains a day. A main line of the Burlington Northern Railroad from Denver (Colorado) passes through Converse County and extends north to the Powder River Basin by using joint trackage beyond Orin in Converse County.

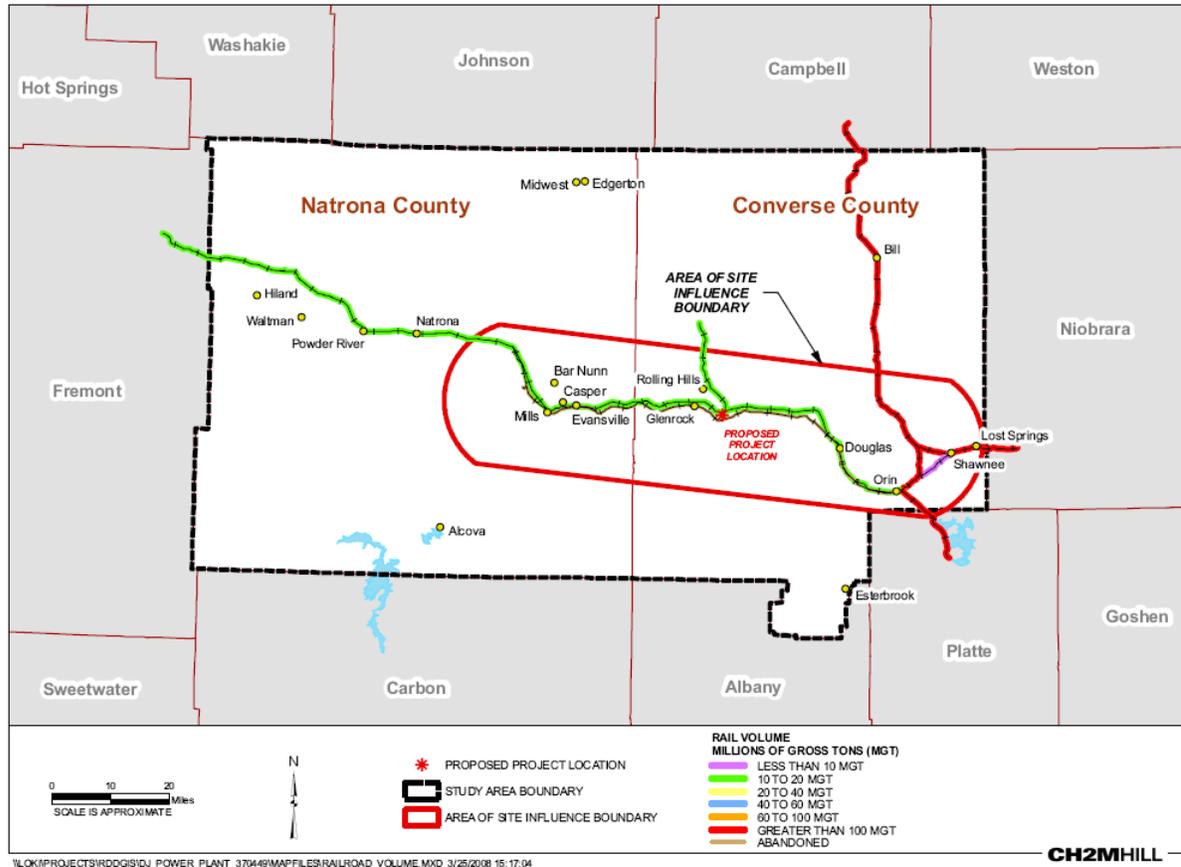


FIGURE 4-43  
Rail Volume in the Study Area

#### 4.3.8.2 Review of Transportation Plans to Identify Planned Improvements

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 retrofit project is located approximately 8 miles east of Glenrock. The site is accessed via Tank Farm Road, a two-lane gravel surface road. About 1 mile east of the Plant, the road crosses a stream on a wooden, weight- and width-restricted one-lane bridge. The WYDOT plans to replace this bridge in fall 2008. Converse County prefers no construction truck traffic use this portion of Tank Farm Road during the bridge construction period.

To the west of the Plant, Tank Farm Road tees into US 20/26/87, a Major Collector Road, from the east. This tee intersection is adjacent to the US 20/26/87 interchange with Interstate 25 and is approximately 6 miles east of Glenrock. Another Major Collector Road in the area is WYO 95, which tees into US 20/26/87 from the north in the town of Glenrock. A review of the current WYDOT's 2008 *State Transportation Improvement Program* indicates that there are no planned roadway improvements for any of these facilities in the near future.

#### 4.3.8.4 Potentially Affected Roads and Highways

US 20/26/87 and WYO 95 are the two highways that may be affected by the Project during the construction period. Personnel traffic from Rolling Hills will use WYO 95 to access US 20/26/87. Personnel from Rolling Hills and Glenrock will use US 20/26/87 to access Tank Farm Road from the west. Personnel from Casper and Douglas will use US 20/26/87 between Interstate 25 and Tank Farm Road. This portion of US 20/26/87 is not expected to be affected by the Project because it is in the interchange with I- 25. Although this interchange and I-25 itself will be used during Project construction, they are higher facility classifications with higher capacities and, therefore, are not expected to be affected by the Project.

**Personnel Access Routes.** It is expected that there will be approximately 442 personnel working at the site during the peak construction period. These personnel are expected to live in various locations and use the following access routes:

- Casper/Bar Nunn/Evansville/Mills - I-25 to US 20/26/87 to Tank Farm Road (322 personnel)
- Douglas - I-25 to US 20/26/87 to Tank Farm Road (51 personnel)
- Glenrock - US 20/26/87 to Tank Farm Road (61 personnel)
- Rolling Hills - WYO 95 to US 20/26/87 to Tank Farm Road (eight personnel)

**Truck Access Routes.** It is expected that the needed construction materials will be trucked to the site. The construction trucks are all expected to access US 20/26/87 at the I-25 interchange east of Glenrock and then travel to Tank Farm Road. The truck deliveries will be restricted to the off-peak hours between 9:00 a.m. and 3:00 p.m. to avoid conflicts with construction personnel traveling to 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 employment benefits.

The analysis of impacts includes effects on the following resources:

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

## 4.4.1 Impact Analysis for Planning (IMPLAN) Model

A widely used approach for estimating the secondary effects of a project is through input-output (I-O) models and one such 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 Bureau of Land Management (BLM) to assist in land and resource management planning.

### 4.4.1.1 Regional Economic Analysis

Regional economics 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 branches that are defined in terms of the resources they require as inputs and what they produce as outputs. The quantities of I-O for a given 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.

### 4.4.1.2 Regional Economic Model

The region of influence (ROI), as defined by IMPLAN inputs for the proposed Project, is synonymous with the study area, i.e., Converse and Natrona counties, Wyoming. Thus, an IMPLAN I-O model was built for the region comprising these two 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.

### 4.4.1.3 Regional Economic Model Construction and Operation Impacts

In addition to providing 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 much of their income (referred to as personal consumption expenditures or 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 by construction workers (both local and non-local), 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 were used in the IMPLAN I-O model and are addressed here.

Expenditures made by temporarily re-locating construction workers in the local economy comprised the following categories: 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: \$76 and \$49, respectively. The average round trip daily commute is assumed to be 72 miles. This is a weighted average based on an assumed allocation of workers to surrounding places of temporary residence: 73 percent of workers commuting from the Casper area, 14 percent from Glenrock, and 12 percent from Douglas. Fuel consumption is assumed to be 15 miles per gallon (mpg) with a fuel price of \$2.81 per gallon.

#### 4.4.1.4 Direct Benefits

It is anticipated that the Project would employ about 60 FTE workers during 2008, 275 FTE during 2009, and 65 FTE during 2010. During the operations phase of the Project, employment associated directly with the upgrades made to the facility would number 12 jobs.

#### 4.4.1.5 Secondary Benefits

Construction of the Project would result in secondary economic impacts (indirect and induced impacts) within the two-county study area. The Project is expected to result in annual indirect and induced employment within the study area of 35 and 16 jobs, respectively, in 2008; 122 jobs and 56 jobs, respectively, in 2009; and 17 jobs and 16 jobs, respectively, in 2010. These additional jobs result from Project-related procurements in the study area as well as local and 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 4-50.

TABLE 4-50  
IMPLAN Model Output Values

<b>Construction Phase:</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Employment (FTE):			
Direct	60	275	65
Indirect	35	122	17
Induced	16	56	16
<b>TOTAL</b>	<b>111</b>	<b>453</b>	<b>98</b>

Source: CH2M HILL, 2008

Following completion of the Project, it is anticipated that annual operations and maintenance of the newly installed equipment would require 12 new positions. It is likely that these positions would be filled by local workers already resident in the study area. Of the annual expenditures for materials made directly by the Plant of over \$3 million, only about 5 percent will be sources locally, i.e., about \$155,000. Much of the maintenance activity would be performed by a local contractor at an annual cost of almost \$1.2 million. It is anticipated that the contractor will hire local workers and source materials locally. Secondary employment effects would include the generation of six indirect jobs and 13 induced jobs for a total employment effect of 31 jobs within the study area as shown in Table 4-51.

TABLE 4-51  
Operation Phase Secondary Employment Effects

	Indirect Employment	Induced Employment
Annual Procurements	6	2
Payroll PCE	NA	11

NA: Not Applicable  
Source: PacifiCorp and CH2M HILL,2008

#### 4.4.1.6 Wage and Benefits for Construction and Operations

The Research and Planning section of the Wyoming Department of Employment, in cooperation with the Bureau of Labor Statistics (BLS), conducts an Occupational Employment Statistics (OES) Wage Survey. The OES program 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).

#### 4.4.1.7 Employee Wage Estimates

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 4-52 provides a breakdown of these hourly wages.

TABLE 4-52  
Average 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 Percentile	50th Percentile (median)	75th Percentile
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

TABLE 4-52

Average 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 Percentile	50th Percentile (median)	75th Percentile
Crane and Tower Operators	19.37	15.02	21.54	16.45	18.90	21.07
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
1 <sup>st</sup> 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 4-52 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 extracted 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 reported in the 2005 report and to prepare an estimate of salary for a full year of employment.

#### 4.4.1.8 Project Employee Benefits Estimates

Table 4-53 provides a statewide analysis of relationships of compensation components for both the private sector and local government in Wyoming.

TABLE 4-53

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

TABLE 4-53  
 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
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 Account	45.5	17.7	15.9	1.5	40.4	11.1
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 Labor, 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 4-53, benefits paid to employees are expected to vary by contractor/subcontractor and status of full-time versus part-time positions.

#### 4.4.2 Housing Impact Analysis

The construction phase of the Project would span almost 3 years. For purposes of this housing analysis, a number of assumptions are made regarding the proportion of workers likely to come from outside the study area. This proportion will vary with the type of activity as shown in Table 4-54. The proportion of non-local workers will vary over the construction period since the mix of labor categories or skills will vary. The percent of the total workforce that is comprised of non-local workers would vary from a low of 30 percent to a high of 75 percent. The average monthly level over the 3-year period would be about 50 percent.

TABLE 4-54  
Proportion Non-Local Workers by Labor Category

Labor Category	% Non-Local Workers
Civil - Concrete	60
Structural Steel Crew	60
Electrical Crew	60
Mechanical Crew	100
Piping Crew	60
Indirect	40
Chimney	100
Painting	0
Insulation	30
Piling	100
Building Sheeting/Finishes	100
Sitework	30
Switchyard	100
Start-Up	0

Source: PacifiCorp, 2008

#### 4.4.2.1 Number of Units Required

Estimates of selected characteristics of the peak-month workforce are shown in Table 4-55. It is estimated that a total of 305 single non-local construction workers and 33 construction workers with families would relocate to the area of site influence. Based on an average household size of 2.4, an estimated peak monthly number of 385 persons would temporarily relocate and require housing. It is assumed that all workers would secure temporary housing accommodations for the duration of their involvement in the Project.

TABLE 4-55  
Estimate of Local and Non-Local Construction Worker Breakdown During Peak Month

Peak Monthly Workforce	442
Local Workers	104
Non-Local Workers	338
Non-local Workers Bringing Families	34
Non-local Single Workers	304
Average Household Size	2.4
Estimated Number of Accompanying Family Members	47
Estimated Number of Children Relocating	16
Total Persons Re-locating at Peak (including families) <sup>a</sup>	385

Source: CH2M HILL, 2007

It is assumed that half of the single non-local workers will share accommodations (hotel/motel room, apartment, mobile home, or single-family rental house) with the remaining half occupying units singly. Non-local workers with accompanying family members would most likely find accommodations in apartments or single-family rental houses. The aggregate demand by the non-local workers and family members would total 260 units.

#### 4.4.2.2 Effects on Vacancies of Local Motel/Hotels and Recreational Vehicles

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 4-56, it is estimated that there would be about 265 hotel/motel rooms available in Glenrock, Douglas, and Casper in addition to about 54 RV sites for a total of 254 temporary accommodation units. Using temporary housing close to the construction site, the potential supply of temporary accommodation units would be adequate to fulfill the demand.

TABLE 4-56  
Potentially Available Hotel and RV Accommodations

City	County	No. of RV Sites	No. Available RV Sites	No. of Hotel Rooms	No. Available Hotel Rooms
Glenrock	Converse	50	5	21	2
Douglas	Converse	87	9	343	34
Casper	Natrona	402	40	2,292	229
<b>TOTAL</b>		<b>539</b>	<b>54</b>	<b>2,656</b>	<b>265</b>

Source: CH2M HILL, 2007

#### 4.4.2.3 Effects on Apartments and Rental Homes Vacancy Rates

The 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: 0.5 in Converse County and 1.1 in Natrona County. In addition, of the apartment complexes recently contacted in Casper, Douglas, and Glenrock for this report, no units were available for rent. Many of them had waiting lists; therefore, if a unit became available, it was immediately rented. Although no apartments were available to rent, the City planning staff in Casper identified a 1 percent vacancy rate for rental units (including homes for rent).

Specifically for this report, solicitations were made to all major hotels and motels in the area of site influence regarding commitments to make accommodations available to construction workers employed at the Project site. Commitments received are summarized for Year 2009 in Table 4-57. Year 2009 is the peak construction workforce year for the Project. Similar hotel commitments were made for Years 2008 and 2010. These commitments are adequate to accommodate all single non-local workers expected to work onsite at the Project. Appendix C has a list of all hotels contacted by CH2M HILL in Douglas, Glenrock, and Casper with an estimate of rooms that could be made available for the Project. Copies of emails and letters from area hotels with preliminary commitments are also included in Appendix C.

TABLE 4-57  
Temporary Housing Unit Commitments for 2009

Facility	No. of Rooms	No. Occupants per Room	Total No. Persons Accommodated
<b>Glenrock</b>			
Oregon Trails Motel (under construction), expected to open 10/1/08	20	2	40
<b>Douglas</b>			
1 <sup>st</sup> Interstate Inn	35	2	70
Alpine Inn	20	2	40
Best Western Douglas Inn	35	2	70
Sleep Inn (under construction)	33	1	33
	30	2	60
<b>Casper</b>			
1 <sup>st</sup> Interstate	60	2	120
Comfort Inn	20	2	40
Courtyard Marriott	25	2	50
National 9 Inn Showboat	7	2	14
Parkway Plaza Hotel	15	1	15
	15	2	30
Quality Inn	20	2	40
Ramada Plaza (formerly Holiday Inn)	30	2	60
Ramkota Casper	10	2	20
Sage and Sand	15	2	30
Shilo Inn	50	2	100
Skyler Inn	6	1	6

TABLE 4-57  
Temporary Housing Unit Commitments for 2009

Facility	No. of Rooms	No. Occupants per Room	Total No. Persons Accommodated
Super 8 West – Timberline Hotels Inc	20	2	40
Super 8 East – Timberline Hotels Inc.	10	2	20
Days Inn – Timberline Hotels Inc.	30	2	60
<b>TOTAL</b>	<b>506</b>	<b>-</b>	<b>895</b>

Source: CH2M HILL, 2008

#### 4.4.3 Educational Facilities

With 34 workers likely to bring family members to the area of impact, the potential number of children entering the local public schools would not be significant and would not result in a significant increase in school enrollment or require additional facilities or staff.

#### 4.4.4 Public Safety (Law Enforcement and Fire Services)

Based on a national LOS ratio of 2.3 full-time law enforcement officers per 1,000 residents, the addition of 385 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. With an index crime rate of 2,629 per 100,000 residents in Converse County and 5,000 per 100,000 residents in Natrona County, the addition of construction workers and their family members could account for an increase of between 8 and 18 crimes annually.

The influx of a peak number of 385 residents associated with the construction phase of the Project would have negligible effect on the existing level of service provided by fire protection agencies.

#### 4.4.5 Health Care

Converse and Natrona counties have an LOS of 1.38 and 1.67 physicians per 1,000 residents, respectively. For the purposes of this analysis, an estimate for the year-round construction workforce FTE of 275 could be responsible for between 100 and 125 emergency room visits annually. This potential increase would have a negligible effect on the provision of physician services.

#### 4.4.6 Municipal Services

It is expected that in-migrating construction workers would reside in the housing stock of the area of site influence in addition to hotel/motels and RVs located at established sites. The addition of 385 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 suitable disposal sites.

#### 4.4.6.2 Hazardous Wastes

Any potentially hazardous wastes associated with operation of the emission control equipment will be disposed of in 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. 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. The balance of plant general contractor will be responsible for obtaining approval of a spill prevention and counter-measures control plan.

#### 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

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: existing, construction, and 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 the highways and the intersections were assessed using *Highway Capacity Manual* two-lane highway and unsignalized 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. US 20/26/87 is multi-lane roadway in the town of Glenrock; however, the two-lane rural sections represent the worst-case scenario for evaluating traffic operations. For unsignalized 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

Volumes and roadway/intersection geometries are inputs to the analysis methodologies. WYDOT provided 2006 and 2016 average daily traffic volumes and truck percentages for the highways. An annual growth factor was calculated from these two volumes and applied to the 2006 volumes to determine the 2007 volumes. The directional distribution 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 all roadways. Based on this assumption, the peak-hour volume on the highways will be the same for both the morning and evening peak hour. Therefore, one peak hour is analyzed.

WYDOT provided peak-hour roadway volumes for 2001 and 2021 for Tank Farm Road in the vicinity of their bridge project. The growth factor calculated from these two volumes was used to estimate the 2008 volume, which is assumed to be the same in the vicinity of the Plant for the non-Plant, or background, traffic. The portion of the road between the Plant and US 20/26/87 is assumed to carry the estimated 2008 volume plus the Plant-related traffic. The Plant manager provided the peak-hour traffic volumes generated by the Plant, which are assumed to travel on Tank Farm Road between US 20/26/87 and the access road to the Plant (referred to as Access Road). This information was combined with the WYDOT volume information to estimate the total turning movement volumes for the Access Road intersection. Because no counts are available at the Tank Farm Road intersection with US 20/26/87, the turning movement volumes are estimated based on the volume information provided by WYDOT and the Dave Johnston Power Plant manager.

WYDOT also provided daily turning movement volumes at the US 20/26/87 intersection with WYO 95 and the interchange ramp terminal intersections. Table 4-58 shows the existing highway and intersection volumes and corresponding LOS. The intersection LOS is shown for both morning and evening peak hours.

TABLE 4-58  
Existing Peak Hour Operating Conditions (Year 2007)

Transportation Facility	Average Daily Volume	Peak-Hour Volume	Percent Trucks	Peak-Hour LOS
<b>Highways</b>				
US 20/26/87	1370	137	9	B
WYO 95	1890	189	3	B

TABLE 4-58  
Existing Peak Hour Operating Conditions (Year 2007)

Transportation Facility	Average Daily Volume	Peak-Hour Volume	Percent Trucks	Peak-Hour LOS
<b>Intersections</b>				
US 20/26/87 & WYO 95				
Eastbound Left	N/A	19/19	6	A/A
Southbound Left	N/A	37/37	3	B/B
US 20/26/87 & Tank Farm Road				
Southbound Left	N/A	44/27	11	A/A
Westbound Left	N/A	27/60	8	A/A
Tank Farm Road & Access Road				
Eastbound Left	N/A	50/0	0	A/NA
Southbound Right	N/A	0/50	0	NA/A

Source: CH2M HILL, 2008  
NA = Not Applicable

All of the transportation facilities operate at 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. 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 highways and intersections were analyzed with and without the Project to determine impacts to the transportation facilities due to the construction of the Project. The peak construction month will occur in the year 2009.

**Background Analysis.** For the purpose of the background analysis, the highway volumes were increased by the same annual growth rate to obtain 2009 background volumes. It is assumed the truck percentage and the number of Plant employees remain constant. Table 4-59 shows the estimated 2009 background highway and intersection volumes and corresponding LOS. The intersection LOS is shown for both morning and evening peak hours.

TABLE 4-59  
Construction Period Peak-Hour Background Operating Conditions (Year 2009)

Transportation Facility	Average Daily Volume	Peak-Hour Volume	Percent Trucks	Peak-Hour LOS
<b>Highways</b>				
US 20/26/87	1400	140	9	B
WYO 95	1940	194	3	B
<b>Intersections</b>				
US 20/26/87 & WYO 95				
Eastbound Left	N/A	20/20	6	A/A
Southbound Left	N/A	38/38	3	B/B
US 20/26/87 & Tank Farm Road				
Southbound Left	N/A	45/28	11	A/A
Westbound Left	N/A	28/61	8	A/A
Tank Farm Road & Access Road				
Eastbound Left	N/A	50/0	0	A/NA
Southbound Right	N/A	0/50	0	NA/A

Source: CH2M HILL, 2008  
NA = Not Applicable

All of the transportation facilities operate at 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. With very little volume growth over the 1 year from 2008, there is little change in operating conditions.

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

- Construction will occur in one shift between 7:00 a.m. and 5:30 p.m.
- The workers all arrive in the morning peak hour and depart in the evening peak hour.
- No workers leave the construction site between the peak hours.
- The average vehicle occupancy is 1.3 people per vehicle.
- No truck trips occur during the peak hours.

These assumptions result in the estimation of six additional cars per peak hour traveling on WYO 95 to its intersection with US 20/26/87. From this intersection, an estimated 53 additional cars per peak hour travel on US 20/26/87 to its intersection with Tank Farm Road. An additional 287 cars per peak hour travel on Interstate 25 through its interchange with US 20/26/87 to the Tank Farm Road intersection. From this intersection, a total of 340 additional cars per peak hour travel on Tank Farm Road to access the Project site.

Table 4-60 shows the 2009 total highway and intersection volumes and corresponding LOS. Some of the truck percentages decrease because the additional construction-generated traffic is only cars during the peak hours. The intersection LOS is shown for both morning and evening peak hours.

TABLE 4-60  
Construction Period Peak-Hour Total Operating Conditions (Year 2009)

Transportation Facility	Average Daily Volume	Peak-Hour Volume	Percent Trucks	Peak-Hour LOS
<b>Highways</b>				
US 20/26/87	1500	193	7	B
WYO 95	1950	200	3	B
<b>Intersections</b>				
US 20/26/87 & WYO 95				
Eastbound Left	N/A	20/20	6	A/A
Southbound Left	N/A	91/38	3	B/B
US 20/26/87 & Tank Farm Road				
Southbound Left	N/A	98/28	5	A/A
Westbound Left	N/A	28/348	1	B/B
Tank Farm Road & Access Road				
Eastbound Left	N/A	390/0	0	A/NA
Southbound Right	N/A	0/390	0	NA/B

Source: CH2M HILL, 2008  
NA = Not Applicable

All of the transportation facilities operate at desirable levels of service during the peak hours. The additional cars on US 20/26/87 and WYO 95 do not affect the operations of the two highways or the intersection between them.

At the US 20/26/87 intersection with Tank Farm Road, the additional southbound left-turn volume generated by the construction Project causes the westbound left-turn movement average delay to increase and the corresponding LOS to decrease to B in the morning peak hour. However, the additional average delay per left-turn vehicle is less than 1 second, suggesting the impact to drivers will be minimal. The delay for the background volume for this movement is near the LOS A/LOS B threshold, so even a minor delay increase like this one causes the LOS to decrease one letter designation.

At this same intersection, the additional westbound left turn traffic volume increases significantly in the evening peak hour due to the construction Project. However, the increase in average delay for this movement is less than 2 seconds because the conflicting southbound through and left-turn volumes are minor. This delay increase is enough to cause the drop in LOS from A to B for this movement in the evening peak hour because the background volume average delay is near the LOS A/LOS B threshold.

The other movement that experiences a decrease in LOS from A to B in the evening peak hour is the southbound right turn at the Access Road intersection with Tank Farm Road. This movement, wholly composed of Plant traffic, experiences an average delay increase of 2 seconds. This volume then travels along Tank Farm Road and most of it becomes the westbound left turn that experiences a drop in LOS at the US 20/26/87 intersection. Once again, the delay for the background volume for this movement is near the LOS A/LOS B threshold, so even a minor delay increase causes the LOS to decrease one letter designation.

The eastbound left turn from Tank Farm Road to the Access Road increases significantly during the morning peak hour as construction workers access the Project site. The opposing westbound through volume on Tank Farm Road is so minor that this left-turn movement essentially operates as a free-flow movement and experiences very little delay and LOS A operations.

#### **4.4.7.3 Operations Period**

It is estimated that operation of the pollution control equipment will require a total of 12 additional personnel on a long-term basis. Such an increase in personnel at the Plant, spread over all shifts, will have an imperceptible effect on traffic conditions and service levels on highways and at intersections in proximity to the Plant. A detailed traffic analysis and impact assessment is, therefore, not performed.

#### **4.4.7.4 Impact Analysis**

The volume demand for the existing roadway network is minor, and the network provides desirable operations to this demand. There is excess capacity on the facilities, so the additional vehicle trips generated by the construction of the Project will have a minimal impact on the operations of the adjacent roadway network. Some of the facilities will experience a temporary decrease in level of service by one letter designation during the peak construction period. However, at a delay increase of less than 2 seconds, this decrease in operations will be barely perceptible to drivers. The resultant increased travel times will not be a permanent condition. The facilities all operate at acceptable levels of service even with these increased travel times. After the construction period is over, the facilities will operate at desirable levels of service as they do currently. Thus, no roadway capacity improvements are recommended for US 20/26/87, WYO 95, Tank Farm Road, or the intersections.

During construction of the Project, 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.

### **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. In addition, 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**

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 that 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 which then applies the property tax levy (for the tax district within which each Project is located) to calculate the annual property taxes due.

The proposed site is located in rural Converse County where the 2007 tax levy is 61.87 mills. Thus for every \$1,000 of assessed value of real property (land and improvements), Carbon County will levy property taxes of \$61.87 annually. The property tax revenues received by the county are distributed across a number of taxing entities as shown in Table 4-61 with the majority supporting the public school districts.

TABLE 4-61  
Tax Levy Distribution for Rural Glenrock, Converse County

<b>Taxing Entity</b>	<b>% of Mileage</b>
State School	19.39
County School	9.70
County General	13.84
County Airport	0.34
County Library	1.41
Hospital	1.51
Health Department	0.44
Parks and Recreation	0.29
Weed and Pest	1.58
Conservation	0.32
Special School	40.40
Co-op Ed	0.81
School Recreation	1.62
Municipalities	0.00
Pool Bond	0.00
Pool Interest	0.00
Glenrock Hospital	4.85
Glenrock Cemetery	1.94
Rural Fire	1.56

Source: Converse County, Wyoming Treasurer, 2007

For the period 2008 through 2012, it is estimated the total ad valorem tax revenue generated will be \$195,000. The annual ad valorem tax estimate is shown in Table 4-62.

TABLE 4-62  
Estimate of Ad Valorem Taxes Paid Per Year

	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>Total</b>
Annual	\$	\$	\$65,000	\$65,000	\$65,000	\$195,000

Source: PacifiCorp. Estimate based on equipment value of \$15,000,000. When installed, this additional equipment will generate approximately \$65,000 in annual, additional property tax revenue.

#### 4.4.8.2 Sales, Use, and Lodging Taxes

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 that will be paid on the materials purchased for the construction of this Project total \$6,667,000. The estimate for each quarter is shown in Table 4-63.

TABLE 4-63  
Estimate of Sales and Use Taxes Paid Per Year

	2008	2009	2010	2011	2012
1 <sup>st</sup> Quarter	\$760,000	\$760,000	\$136,000	\$19,000	\$19,000
2 <sup>nd</sup> Quarter	\$760,000	\$760,000	\$136,000	\$19,000	\$19,000
3 <sup>rd</sup> Quarter	\$760,000	\$613,000	\$564,000	\$19,000	\$208,000
4 <sup>th</sup> Quarter	\$760,000	\$317,000	\$19,000	\$19,000	\$0
<b>Annual Total</b>	<b>\$3,040,000</b>	<b>\$2,450,000</b>	<b>\$855,000</b>	<b>\$76,000</b>	<b>\$246,000</b>

Source: PacifiCorp. Estimate includes state sales and use tax and county option tax.

**Lodging Taxes.** Lodging tax revenues could accrue to the counties in which Project-related construction workers temporarily reside. It is not possible to estimate these potential tax revenues by county because (1) the actual distribution of construction workers is not known at this time, and (2) the durations of their stays are not known and these taxes are levied on sleeping accommodations for guests staying less than 30 days.

## 4.5 Cumulative Impacts

Cumulative projects addressed in this section include the Glenrock-Rolling Hills Wind Energy Projects. They are comprised of two adjacent 99-MW wind energy generation facilities developed by PacifiCorp that are proposed for a site that includes PacifiCorp's former Dave Johnston mine property north of Glenrock in Converse County, Wyoming. PacifiCorp anticipates that the combined construction workforces for the Projects will vary from a low of six in the first few months of 2008 to a high of 187 construction workers during the peak of construction activities in July and August 2008. PacifiCorp anticipates an approximate 9-month construction period for the Projects during which the majority of the work will be concentrated in a 6-month period from May through October. Over the 9 month construction period, there would be an average of almost 129 workers onsite. During the period of most intense activity, from May through October, there would be an average of 173 workers onsite.

There could be limited overlap of the workforce schedules for the Project and the Glenrock-Rolling Hills Wind Energy Projects as illustrated in Figure 4-44 as the former Project ramps up and the latter project tails off. This overlap has the dual effects of increasing the number of workers on-site in Converse County and extending the first peak construction period. Assuming the workforce schedules are as proposed, there would be a period extending from April, 2008 through March, 2010 when a workforce in excess of 100 can be expected in the county. During this 25-month period, the workforce could exceed 300 during 11 months as can be seen from Figure 4-44.

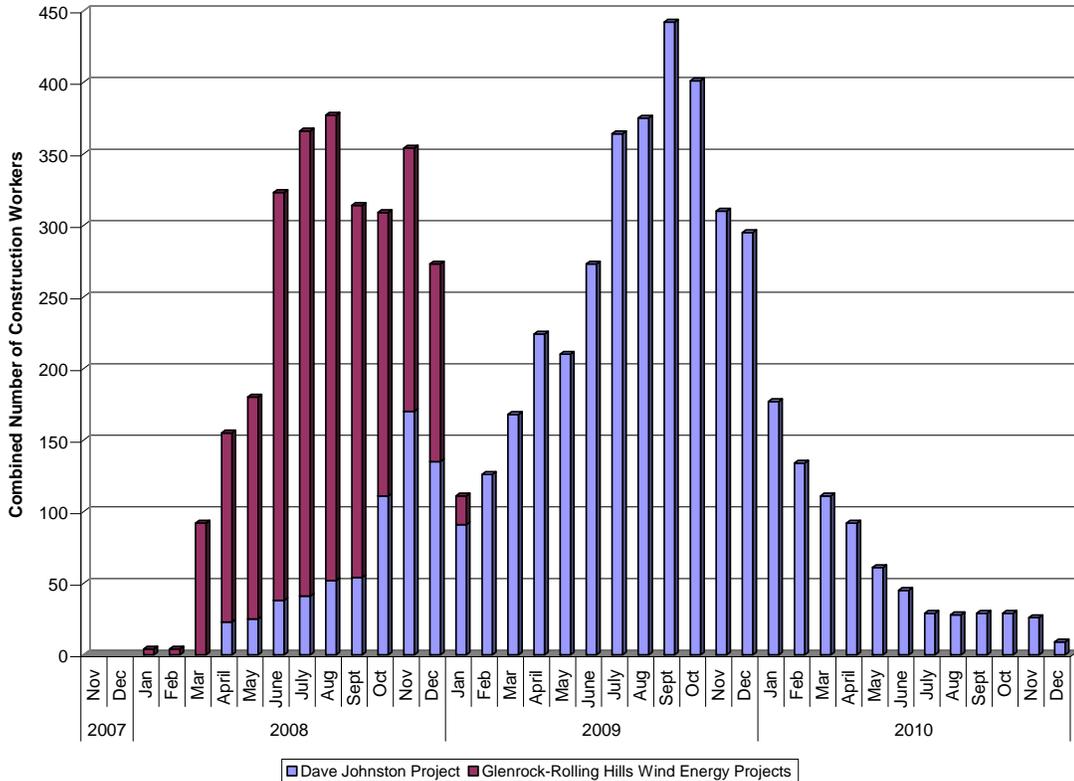


FIGURE 4-44  
Cumulative Number of Construction Workers in Converse County

Potentially adverse impacts to community facilities and services relate more directly to the number of non-local workers who would temporarily relocate to Converse and Natrona counties. As can be seen from Figure 4-45, over the 24-month period from March 2008 through February 2010, the number of temporary residents could exceed 200 in 13 of these months.

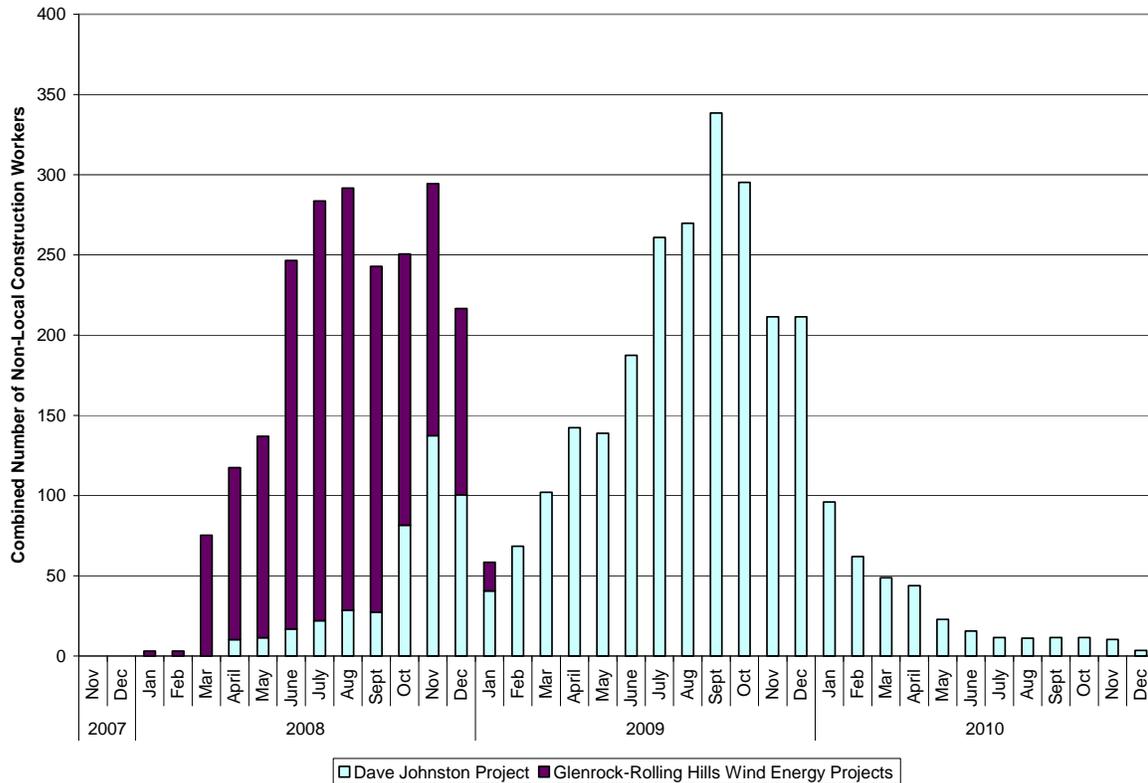


FIGURE 4-45  
Cumulative Number of Non-Local Construction Workers in Converse County

## 4.6 Trade-Off Analysis

The proposed Project is expected to create significant and ongoing tax benefits, a considerable temporary increase in employment, and 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.

Implementation of the Project would create both primary and secondary cumulative employment opportunities, contribute significant 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 Converse 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 coal bed methane 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 continued operation of the Dave Johnston Power Plant can have both positive and negative impacts on the quality of life of residents and on environmental and socioeconomic resources.

#### 4.6.1 Benefits Compared to Impacts

The proposed Project is expected to create long-term tax benefits, especially to Converse County, 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: 60 FTE jobs in 2008, 275 FTE jobs in 2009, and 65 FTE jobs in 2010. Many of these jobs would be filled by local workers.
- The creation, during the construction phase of the Project, of about 50 temporary secondary jobs during 2008, about 180 jobs in 2009, and about 35 jobs in 2010.
- The creation of a total of 31 jobs annually attributable to operations and maintenance.
- Ad valorem (property) taxes accruing to Converse County would increase as a result of an increase in the fair market value (and assessed value) of the real property comprising the site applicable to the Project. Ad valorem taxes would be approximately \$65,000 annually upon completion of the Project.
- Sales and use tax revenues attributable to the Project could total over \$3 million in 2008 and almost \$2.5 million in 2009.
- Temporary construction workers are expected to reside in local hotels and motels. It is likely, depending on their length of stay, that Converse and Natrona counties could gain revenues from the lodging tax levied on room expenditures.

#### 4.6.2 Impacts to Community Services

During the construction phase of the Project, the number of non-local workers (and any accompanying family members) entering the area temporarily would peak at 385. Only a small proportion of these workers would be accompanied by family members or occupy permanent housing. The potential impacts this inflow 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.

There is excess capacity on the transportation facilities serving the Plant, so the additional vehicle trips generated by the construction of the Project will have a minimal impact on the operations of the adjacent roadway network. Some of the facilities will experience an increased delay, but at less than 2 seconds, this decrease in operations will be barely perceptible to drivers. These increased travel times will be temporary, and the facilities all operate at acceptable levels of service even with these increased travel times. Thus, no

roadway capacity improvements are recommended for US 20/26/87, WYO 95, Tank Farm Road, or the intersections.

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.

## **4.7 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 and motels and, to this end, the balance of plant contractor is in the process of acquiring letters of commitment from hotels and motels in the Casper-Glenrock-Douglas area to provide accommodations for these workers at pre-negotiated rates. A survey completed with local hotels and letters of intent are shown in Appendix C.

# 5.0 Public Involvement

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PacifiCorp fulfilled the Industrial Siting Act (ISA) permit application requirements to conduct meetings with state agencies and local officials. A summary of these activities is detailed below, along with a brief description of the meeting discussions.

## 5.1 Required Activities

Meetings were held by PacifiCorp as part of the regulatory statute requirements to meet with and receive comments from state agencies and local government officials. The impact area, as identified by the ISD, defined those local government officials to whom PacifiCorp sent meeting invitations and sought to engage. Contacts with these agencies and any subsequent meetings are listed below:

- Wyoming Game and Fish Department was contacted by Project representatives. Department staff indicated that they did not have any concerns and did not think the Project had any impacts relevant to their agency. They declined a meeting.
- Meeting with Wyoming State Historical Preservation Office was held in Cheyenne, Wyoming, on March 13, 2008.
- Meeting with Wyoming Department of Transportation was held in Cheyenne, Wyoming, on March 13, 2008.
- Meeting with Wyoming State Engineer's Office was held in Cheyenne, Wyoming, on March 13, 2008.
- Meetings with local government staff of Town of Glenrock were held on March 12, 2008, and local government elected officials on March 24, 2008. Both meetings were held in Glenrock, Wyoming.
- Meeting with local government officials of City of Douglas as well as with Converse County, on March 12, 2008, in Douglas, Wyoming.
- Meeting with local government officials of City of Casper and Natrona County were held on March 14, 2008, in Casper, Wyoming.

The information presented in Table 5-1 is a summary list of public involvement activities/meetings.

TABLE 5-1  
Local Government and State Agency Meetings

Organization	Date	General Discussion
Wyoming Department of Environmental Quality, Industrial Siting Division	First Quarter 2008, various dates	Introduce Project/overview of purpose, scope, timing, etc; Discuss applicability of Project's jurisdiction under Industrial Siting Act. Attorney General's Office is considering the jurisdictional matter. Discussed ISD view on impact area and local agencies to contact.
Wyoming State Engineer's Office	March 13, 2008	Meetings with state agencies and local governments provided an overview of the Project; purpose, timing, workforce estimates, and other aspects. PacifiCorp representatives addressed issues, concerns, and questions.
Wyoming Department of Transportation (WYDOT)	March 13, 2008	
Wyoming State Historic Preservation Office	March 13, 2008	
Town of Glenrock –Department Staff	March 12, 2008	
City of Douglas and Converse County – Local Government and Elected Officials	March 12, 2008	
City of Casper and Natrona County - Local Government and Elected Officials	March 14, 2008	
Town of Glenrock – Elected Officials and General Public	March 24, 2008	

Source: PacifiCorp, 2008

### 5.1.1 Meeting Format / Information Provided

The format and the information provided at the meetings was generally the same for both the state agencies and local officials. The format and information consisted of the following:

- After brief introductions, the meeting was called to order, and PacifiCorp representatives introduced themselves.
- PacifiCorp representatives gave a PowerPoint presentation, which provided an overview on the Project. General items of discussion included the following:
  - Project purpose, air pollution control requirements, and pollutants addressed
  - A map of the general footprint of facilities on the site, and description of the retrofits
  - Information on benefits (pollution reduction and jobs/revenue from construction)
  - A tentative schedule, with projected start dates, major milestones, and anticipated construction labor needs
  - Brief review of the ISA permit application process
- A question-and-answer session followed the presentation.
- An overview Project fact sheet was handed out as a take-away piece for agencies and officials (included in Appendix B).

### 5.1.2 Meeting Notices and Attendees

The state agencies and local entities notified of the meeting were those specified by statute in the ISA permit regulations and based on discussions with ISD staff. Invitees were contacted through verbal contact by PacifiCorp Community and Government Relations staff. The names/entities and meeting notes from the state and local government meetings are included in Appendix B. The March 24, 2008, meeting with the Town of Glenrock occurred as part of the Town Council meeting; therefore, attendees also include residents of the town.

### 5.1.3 Questions and Answers

A summary of the questions received at each meeting is included in Appendix B, organized by meeting location and date. 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
- Socioeconomic issues, including jobs/employment, housing, transportation, tax revenue, and community partnerships
- Technical aspects of the pollution controls being installed
- Project schedule and details on construction activities

## 5.2 Local Agency Service and Infrastructure Survey

A phone/mail survey of local governments and local entities in the Converse County and Natrona County areas had been conducted during 2007 for the PacifiCorp Glenrock and Rolling Hills Wind Energy projects. The purpose of the survey was to gather general information and to assess area resources, services, needs, and perceptions. The information and feedback contained in that survey were tools for the ISD and ISA permit applicants. PacifiCorp used and considered this infrastructure survey in their baseline socioeconomic analysis included in the ISA application. A copy of the survey questions and responses is on file with the WDEQ ISD.

## 6.0 Potential Environmental Impacts

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Potential environmental impacts associated with the construction, operation, and maintenance of the air pollution control equipment retrofit on Units 3 and 4 of the Dave Johnston Power Plant are discussed in this section. The Project will include the installation of a new spray dryer absorber flue gas desulfurization (FGD) system and baghouse for both Units 3 and 4, along with a new 500-foot concrete stack (with flues for Units 3 and 4). The existing Unit 4 particulate matter wet venturi scrubber and metal stack will be removed. The existing 500-foot concrete stack (with flues for Units 1 and 2) will remain.

Data were collected for some resources, while other resources relied on existing information and studies. In addition, impact analyses were conducted to evaluate impacts on the natural environment. Methods of mitigating potential impacts will be implemented as part of the retrofit and have been incorporated into the impact analysis. Unless otherwise stated, the area of analysis on the Dave Johnston Power Plant site for the various resources evaluated consisted of the Construction Laydown area, the Construction Fabrication Yard, the Construction Trailer Area, and areas of the Plant for the retrofit of Units 3 and 4.

There are no anticipated radiological discharges associated with the retrofit and operation of the site.

### 6.1 Air Quality

PacifiCorp proposes to construct control equipment on Dave Johnston Units 3 and 4 to reduce emissions of sulfur dioxide (SO<sub>2</sub>) and particulate matter (PM).

The Dave Johnston Power Plant operates in compliance with state and federal air emission requirements. The facility is an existing major stationary source of air emissions under both the New Source Review and Title V programs.

Within the federal New Source Review regulations, a subset of rules applicable to major sources and major modifications within attainment areas is referred to as the Prevention of Significant Deterioration (PSD) program. The facility is located in an area classified as attainment for all criteria pollutants and is a listed PSD Source Category (fossil fuel-fired steam electric plant of more than 250 million Btu/hr heat input) [40 CFR Part 52.21(b)(1)(i)(a)]. Therefore the requirements of the federal PSD program, as administered by the Wyoming Department of Environmental Quality (WDEQ) and the Wyoming Division of Air Quality, will apply to this Project. The facility, after completing the planned projects, will continue to meet all National Ambient Air Quality Standards (NAAQS) and the Class I and Class II PSD increments in the vicinity of the Plant.

The Dave Johnston Power Plant currently operates under Title V operating permit #31-148. The operating permit expired January 1, 2008; however a Title V operating permit renewal application was submitted on June 28, 2007 thereby allowing the facility to continue operating under the existing permit until the renewal permit is issued. The WDEQ - Air

Quality Division is currently working to incorporate the new SO<sub>2</sub> and particulate matter emission limits in this Title V renewal permit.

### 6.1.1 SO<sub>2</sub> Emission Control

Currently Unit 3 is without SO<sub>2</sub> emission controls and has an SO<sub>2</sub> emission limit of 1.20 lb/MMBtu. Installation of a dry FGD system will achieve an emission rate of 0.15 lb/MMBtu. A dry FGD system will also be installed on Unit 4, replacing the existing venturi scrubber. The SO<sub>2</sub> emission limit will be reduced from 0.50 lb/MMBtu to 0.15 lb/MMBtu.

Table 6-1 provides a summary of current and proposed SO<sub>2</sub> control equipment and emission limits for Units 3 and 4.

TABLE 6-1  
Summary of SO<sub>2</sub> Emission Limits and Control Equipment for Units 3 and 4

Control Technology	SO <sub>2</sub> Emission Rate
Current Unit 3 SO <sub>2</sub> Controls: None	1.20 lb/MMBtu
Proposed Unit 3 SO <sub>2</sub> Controls: Dry FGD system	0.15 lb/MMBtu
Current Unit 4 SO <sub>2</sub> Controls: venturi scrubber with lime injection	0.50 lb/MMBtu
Proposed Unit 4 SO <sub>2</sub> Controls: Dry FGD system	0.15 lb/MMBtu

### 6.1.2 PM Emission Control

Unit 3 has a current PM emission limit of 0.23 lb/MMBtu. A new fabric filter will replace the existing ESP, with a new PM emission limit of 0.015 lb/MMBtu.

Unit 4 is currently equipped with a venturi scrubber with a PM emission limit of 0.214 lb/MMBtu. A fabric filter will replace the venturi scrubber. The new PM emission limit will be 0.015 lb/MMBtu.

Table 6-2 provides a summary of current and proposed PM control equipment and emission limits for Units 3 and 4.

TABLE 6-2  
Summary of PM Emission Limits and Control Equipment for Units 3 and 4

Control Technology	PM Emission Limit
Current Unit 3 PM Controls: ESP	0.23 lb/MMBtu
Proposed Unit 3 PM Controls: Fabric Filter	0.015 lb/MMBtu
Current Unit 4 PM Controls: venturi scrubber	0.214 lb/MMBtu
Proposed Unit 4 PM Controls: Fabric filter	0.015 lb/MMBtu

### 6.1.3 Construction

Section 3.1 discusses the construction procedures for the Project including the general construction equipment and types of construction activities. Construction-related dust may occur from earthmoving equipment during site preparation activities. Construction equipment and support staff light trucks will emit exhaust gases.

### 6.1.4 Air Quality Impacts

During this Project, PacifiCorp proposes to construct control equipment on Dave Johnston Units 3 and 4 to reduce emissions of SO<sub>2</sub> and particulates. This retrofit will result in a reduction of the SO<sub>2</sub> emission limit on Unit 3 from 1.2 lb/MMBtu to 0.15 lb/MMBtu, and 0.50 lb/MMBtu to 0.15 lb/MMBtu on Unit 4. The particulate matter emission limits will decrease from 0.23 lb/MMBtu to 0.015 lb/MMBtu and 0.21 lb/MMBtu to 0.015 lb/MMBtu on Unit 3 and Unit 4, respectively.<sup>1</sup>

Construction-related air impacts will only be temporary in nature.

## 6.2 Noise

Industrial Siting 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. In addition, there are no existing Converse County regulations that directly address sound levels.

### 6.2.1 Construction

During construction, equipment operation may produce noise levels at or above the 85 decibels; however, these impacts will be primarily limited to 50 feet from operating equipment and are not expected to affect any local residents. Onsite noise exposures for Project personnel will be managed within Occupational Safety and Health Administration standards.

### 6.2.2 Operation

According to aerial photographs and the site reconnaissance, there are no residences within 1 mile of the site that will be impacted by the operation of the Project.

## 6.3 Soil Resources/Geologic Hazards

The base elevation of the site near the coal-fired units is approximately 4,950 feet above mean sea level (ft-msl). Elevations on the property vary from 4,940 to 5,040 ft-msl. The terrain immediately surrounding the site is relatively flat and varies from 4,880 to 5,250 ft-msl. Terrain to the south of the site gradually rises for approximately 8 kilometers

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<sup>1</sup> After the planned projects are complete, the Plant will continue to meet all NAAQS and the Class I and Class II PSD increments in the vicinity of the Plant. At the request of the WDEQ, an NAAQS impact analysis for all criteria pollutants has been performed. The Plant will continue to meet the applicable New Source Performance Standards (NSPS) defined in the federal regulations at 40 CFR Part 60, Subpart D and WAQSR Chapter 5, Section 2.

(km) and then increases more dramatically. Elevations of approximately 6,500 ft-msl can be found at a distance of approximately 10 km from the site.

Data from the Wyoming State Geological Survey and the Soil Survey Geographic Database (SSURGO) were reviewed for information on soil characteristics and earthquake hazards in the vicinity of the site. The results from the literature reviews are summarized below.

### 6.3.1 Landslides

The SSURGO for Converse County, Wyoming, was used to confirm soil characteristics on the site. Soil present on the site includes two soil complexes with loamy sand characteristics. Soils are typically well-drained and are generally present on 3 to 15 percent slopes. No soils present on the site meet the state and federal criteria of prime farmland soils. No soils exceed the K-factor limit of 0.37 set by the Natural Resource Conservation Service (NRCS) as a limiting factor for erosion hazard. Wyoming does not maintain a list of soils of statewide concern.

The proposed Project site is within previously disturbed property, and only minimal disturbance of the soil will occur within the laydown area, the fabrication yard, and trailer yard. Mitigation measures will be implemented during construction to ensure that excessive erosion and other adverse impacts on area soils will not occur.

### 6.3.2 Faults

There are no exposed or deeply buried faults within the site. The nearest fault system to the Project site is the South Granite Mountains fault system, which is located approximately 68 miles southwest of the Plant site in Carbon County. There has been no recent (since the Quaternary Period) history of earthquake activity associated with this fault system.

### 6.3.3 Impacts

No impacts associated with geologic hazards are expected to occur as a result of retrofitting either Unit 3 or 4. Neither unit retrofit will contribute to increased risks of seismic events, subsidence, flooding, or landslides.

## 6.4 Cultural Resources

Cultural resources consist of prehistoric and historic archaeological sites that are either listed on or are eligible to be listed on the National Register of Historic Places (NRHP). Prehistoric archaeological resources are those materials relating to prehistoric human occupation and use of an area. Historic-period resources are those materials, both archaeological and architectural, that are usually associated with Euro-American exploration and settlement of an area and the beginning of a written historical record.

The National Historic Preservation Act (NHPA) (enacted in 1966) is the principal federal law with respect to the treatment of cultural, archaeological, and historic resources. Section 106 (16 United States Code [USC] 470f) of the NHPA requires federal agencies, prior to taking action to implement an undertaking, to take into account the effects of such undertaking on historic properties. The criteria used to evaluate the NRHP eligibility of properties affected by federal agency undertakings are contained in 36 CFR 60.4.

Development of any area that is predominantly federal surface or federal minerals requires a complete cultural resource inventory in compliance with Section 106 of the NHPA.

The Dave Johnston Power Plant is neither owned nor operated by a federal agency. In addition, construction of the power Plant began in 1956, and the first coal-fueled steam-electric generating unit (Unit 1) of the Dave Johnston Power Plant went into service in 1958. The remaining three units went into operation between 1960 and 1972.

As an existing facility with already disturbed areas, it does not appear that any part of the five areas to be used for the retrofit of Units 3 and 4 have been surveyed historically, according to the Wyoming State Historical Preservation Office (SHPO) database. This is consistent with the date of construction being prior to the enactment of the NHPA. The Wyoming SHPO has indicated that no specific documents or surveys will be required for the retrofit of Units 3 and 4. At a meeting with PacifiCorp and CH2M HILL on March 13, 2008 in Cheyenne, Mary Hopkins, Deputy SHPO, said that she would provide a letter to the Industrial Siting Division stating that the Wyoming SHPO had no concerns.

### 6.4.1 Impacts

Due to previous disturbance, no impacts to cultural resources are expected to occur as a result of retrofitting either Unit 3 or 4.

## 6.5 Vegetation Resources

The Dave Johnston Power Plant is located within the Wyoming Basins ecoregions. The Wyoming Basin ecoregion is a broad intermontane basin dominated by arid grasslands and shrublands supporting bunchgrasses and sagebrush, interrupted by high hills and low mountains. However, due to the current industrial use of the area, the Dave Johnston Power Plant site contains little natural vegetation. The proposed Project site is within previously disturbed property and no natural vegetation remains on site. No federally listed plant species are found within the construction footprint.

### 6.5.1 Impacts

Due to previous disturbances, little to no natural vegetation remains onsite. Therefore, construction and operation of the proposed project will not result in any impact to vegetation resources.

## 6.6 Surface Water and Groundwater Resources

### 6.6.1 Surface Water

The principal surface water resource in the project area is the North Platte River. The North Platte River flows from west to the east through Casper, Glenrock, Douglas, and eventually reaches the Glendo Reservoir. The river flows south of the Project site, approximately 7 miles downstream of Glenrock. Sand Creek is a major ephemeral tributary to the North Platte River within the project area and is fed by spring snow melt, summer thunderstorms, and groundwater.

The North Platte River within the project area is classified by the State of Wyoming as Class 2AB waters and is protected for the following beneficial uses: drinking water, game fish, non-game fish, fish consumption, other aquatic life, recreation, wildlife, agriculture, industry, and scenic value. Additionally, Sand Creek is a Class 3B water body and designated for the following uses: other aquatic life, recreation, wildlife, agriculture, industry, and scenic value (WYDEQ, 2001). According to the WYDEQ, water bodies within the project area support all designated beneficial uses. These waters have not been listed on the 303(d) list of impaired waters, and a Total Maximum Daily Limit (TMDL) has not been established (Newton, 2008).

All drainage from diked and undiked areas is retained onsite until it is discharged through the NPDES permitted outfalls. Drainage systems, such as oil skimmer pits, oil sumps, or ash pond oil skimmers, accumulate stormwater and trap oil. After this preliminary treatment, site drainage is routed to the Water Treatment Building and then to a series of two ash settling ponds. The two existing bottom ash settling ponds receive waste from various floor and surface (including coal pile) runoff drains, which are located inside and outside of the Plant; Water Treatment Plant backwash water; effluent from the sewage treatment plant; metal cleaning wastewater; and wet scrubber blowdown. Discharge from these settling ponds into the North Platte River is permitted through WYPDES Permit No. WY0003115.

According to the Federal Emergency Management Agency (FEMA) flood insurance rate maps (FIRM) for the North Platte River, the Dave Johnston Power Plant is within a Zone A regulatory floodplain and has a 1 percent annual chance of receiving a 100-year flood event (FEMA, 1988). The northern portion of the facility property is within the Zone X regulatory floodplain, which has a 1 percent annual chance of receiving sheet flow flooding. The facility has flood control structures in place to protect against flood hazards.

The existing facility currently operates under a Spill Prevention Control and Countermeasures (SPCC) Plan to identify potential sources of oil spills, establish measures of spill prevention, and delineate spill control, cleanup, and reporting procedures and responsibilities at the Dave Johnston Power Plant (PacifiCorp, 2006). Additionally, the facility has an industrial stormwater pollution prevention plan (SWPPP) in place to reduce the risk of discharging pollutants associated with industrial activities to State waters (PacifiCorp, 2008).

## 6.6.2 Surface Water Impacts

Land surface disturbance activities related to this Project will include construction of a temporary laydown area, construction of a fabrication yard, realignment of an ash haul road, and construction of a trailer area. These surface disturbance activities present the potential for increased erosion and sediment runoff into the existing stormwater system (catch basin, wastewater sump, and holding ponds), which eventually drain into the North Platte River and Sand Creek. In addition, any potential for accidental release of hazardous materials used during construction or any discharges related to construction activities will be to the existing drainage system. Site drainage at the facility is routed to the Water Treatment Building and then to two ash settling ponds prior to discharge to the North Platte River. Retaining all construction-related drainage onsite will reduce or eliminate any possible water quality impacts from construction-related soil erosion and stormwater discharge from the site. Local regulations will not require a General Stormwater

Construction Permit because the onsite drainage will be treated by existing stormwater controls at the facility. No impacts to surface waters are expected from construction-related activities.

Petroleum products such as gasoline, diesel fuel, crankcase oil, lubricants, and cleaning solvents would be present and used within the Project area during construction. These products would be used in compliance with the facility's existing Industrial Stormwater Permit No. WYR001128 and SPCC Plan guidelines. These facility plans will be updated to reflect the addition of the new Project area activities, such as the lime system. During construction, implementation of the Industrial SWPPP and SPCC Plan guidelines for spill prevention, material handling practices, and spill response and notification will reduce the potential for spills and prevent pollutants from migrating into stormwater and eventually reaching nearby waterbodies. No impacts to surface waters are expected from the use of petroleum products during construction.

Once the retrofit of Units 3 and 4 are complete, the volume of scrubber water going to the onsite settling ponds will be reduced. No modifications to the existing WYPDES Permit No. WY0003115 are expected.

No impacts to surface resources are anticipated from activities, use of materials, or waste generated during construction.

There will be a reduction in water intake of approximately 410 gpm with the removal of the existing Unit 4 wet particulate venturi scrubber. The current scrubber consumption is approximately 902 gpm. The new lime preparation system and dry FGD systems on Units 3 and 4 will have a total makeup water need of approximately 492 gpm. At a meeting with PacifiCorp, CH2M HILL and ISD on March 13, 2008, the State Engineer's Office (SEO) did not identify any significant issues.

### 6.6.3 Groundwater

The Madison Limestone Formation is the prominent source aquifer in the project area and for several surrounding municipalities such as Glenrock, Douglas, and Gillette. This formation is hydraulically connected to the overlying Casper Formation (USGS, 1991). Beneficial uses of groundwater from this aquifer include municipal, industrial, irrigation, aquatic-habitat, stock-watering, and domestic supplies (USGS, 1991). Recharge to the principal aquifer system is from infiltration of surface water, precipitation, and irrigation. Depth to groundwater in the project area varies from 15 to 50 feet (WYDEQ, 1998).

The Dave Johnston Power Plant has existing appropriate and beneficial use of groundwater at the facility through Permits P19107W, P1539W, and P1540W obtained from the SEO. Estimated depths of these permitted wells are 36, 28.5, and 15 feet, respectively.

### 6.6.4 Groundwater Impacts

The existing groundwater permits will not be used during construction or operation of the new equipment. Water usage will be from surface water only. As a result, there are no expected impacts to groundwater as a result of the retrofit of Units 3 and 4.

## **6.7 Land Use/Recreation (including Mineral Resources)**

Land in the vicinity of the Project is characterized as rural; the community of Glenrock, with a population of approximately 2,231 in the year 2000, is roughly 6 miles to the west of the Dave Johnston Power Plant. Converse County generally classifies the lands near the Project as agricultural, with uses including rangeland and livestock grazing.

### **6.7.1 Consistency with Land Use Plans**

The Project would affect only the construction fabricating yard and the construction laydown area, which total less than 10 acres adjacent to the existing Dave Johnston Power Plant. There are no Land Use Plans that apply to the existing project and surrounding property. In addition, there is no zoning district applied to the subject property (Musselman, 2008).

The Dave Johnston Power Plant retrofit will be located on land owned by PacifiCorp and PacifiCorp also owns the mineral rights for the land. Therefore, the Project will not conflict with any applicable Land Use Plan, policy, or regulation of an agency with jurisdiction over the project; disrupt or divide the physical arrangement of the established community; contribute to a cumulative adverse effect on land use; preclude or unduly restrict existing or planned future uses; or convert agricultural land or resources to nonagricultural uses.

### **6.7.2 Consistency with Land Quality Division Mine Permit**

The Project does not include any mining activities. Therefore, the Project would not require a Land Quality Division Mine Permit.

### **6.7.3 Recreational Resources**

A number of recreational resources are located in the general vicinity of the Project and include a mixture of city, county, and state parks. Other recreational resources within the area include numerous museums and cultural attractions, hiking, big game hunting, and various fishing opportunities at local reservoirs. The nearest recreational resources to the Project are located in Glenrock, 6 miles to the west, which has two municipal parks and two museums. Several reservoirs are located within 10 miles of the Project, and Ayers Natural Bridge, a Converse County Park, is located 16 miles to the southeast.

Given that the temporary construction workforce represents only a very small percentage of the total population of the area of primary impact, any additional use of local recreational resources would not result in a significant net increase in usage and visitation. Therefore, it is concluded that no significant impacts would occur to recreational resources in the general vicinity of the Project from the small incremental increase in usage by the temporary construction workforce.

### **6.7.4 Land Use/Recreational Impacts**

As described above, no significant impacts to land use or recreational resources would result from the retrofit of Units 3 and 4.

## 6.8 Wetlands Resources

The U.S. Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI) did not indicate any wetland resources within any of the areas used for the retrofit of Units 3 and 4 at the Dave Johnston Power Plant. Wetland and riparian resources are concentrated along the adjacent North Platte River. This database is used as a preliminary indicator of wetland habitats (e.g., wetlands identified in this database require field verification). The proposed Project areas are within previously disturbed property, and the project site has no water features qualifying as jurisdictional wetlands. Furthermore, no other water resources are present based on a site visit conducted in February 2008.

### 6.8.1 Impacts

A review of the NWI, as well as a site visit did not detail any wetlands within the areas of the site. As a result, there will be no impacts to wetlands from construction activities or operations of the retrofit to Units 3 and 4.

## 6.9 Visual/Scenic Resources

The Project includes the construction of one stack in addition to the existing five stacks. No other notable changes to the appearance of the Dave Johnston Power Plant would occur. Converse County does not have any ordinances regulating the aesthetics of the proposed Project (Musselman, 2008).

### 6.9.1 Visual/Scenic Impacts

The Project will not cross any significance threshold and will not result in a significant visual impact.

## 6.10 Wildlife Resources

European starlings (*Sturnus vulgaris*) and other wildlife species habituated to high levels of human activities are found at the Power Plant site. Human presence, industrial activities, noise, the limited amount of cover and food available onsite, and a perimeter fence discourages wildlife from inhabiting the Power Plant facility area. No federally listed wildlife species are found at the Dave Johnston Power Plant site.

### 6.10.1 Impacts

Due to previous disturbances and regular human activity, few wildlife species are found at the Power Plant site. The few wildlife species that may be present near the construction area would be temporarily displaced during construction. However, construction and operation of the proposed project is not likely to affect local or regional wildlife populations.

## 6.11 Waste

No substantial quantities of industrial materials will be brought onto or removed from the Power Plant site during the retrofit of Units 3 and 4. The only materials that will be brought

onto the Power Plant site will be those related to installation of new components (e.g., desulfurization systems and baghouses), replacement of older components, and general construction materials. The retrofit of Units 3 and 4 will not increase the quantity of fly ash generated historically at the site and the volume of scrubber water generated will decrease.

## **6.11.1 Solid Waste**

### **6.11.1.1 General Solid Waste**

Solid waste (e.g., trash, excess construction materials, packaging, sewage, and removed components) will be generated during construction. Construction waste will primarily consist of concrete, wood, and steel beams. When feasible, these wastes will be recycled. Trash, office-waste, paper/ cardboard, and packaging material generated during construction will be disposed of onsite in the industrial landfill, consistent with current operations.

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

The operations personnel will be responsible for the waste management program, ensuring that solid waste is disposed of in dumpsters, and any hazardous wastes are properly disposed of in accordance with applicable rules.

### **6.11.1.2 Operational Solid Waste**

Industrial wastewater from the scrubbers has historically been generated and managed in onsite settling ponds that eventually discharge to the North Platte River under WYPDES Permit No. WY0003115. However, after the retrofit of Units 3 and 4, there will no longer be any scrubber wastewater generated from these two units.

Fly ash from the air quality control system has historically been stored in onsite silos with eventual placement into the onsite industrial landfill. After the retrofit of Units 3 and 4, lime will be added to the spray dryer absorbers, and collected with the fly ash in the fabric filter dust collectors for each unit. This fly ash is primarily recycled in an ash storage silo where it is transferred into a recycled ash slurry storage tank and is pumped back into the spray dryer absorbers. Once the ash is no longer recycled, it is transferred to the waste ash storage silo and then to the onsite industrial landfill. The same quantity of fly ash (as historically generated quantities) will be generated after the retrofit of Units 3 and 4. However, in addition to the fly ash, spent reagent will also be generated. The fly ash waste and spent reagent will be similar to the fly ash waste currently generated on Unit 4 and disposed of in the onsite industrial landfill. The onsite industrial landfill has a volume capacity expected to last the next 10 years.

The Dave Johnston Plant site operates under a solid waste permit, which regulates the industrial landfill as well as historical landfills that have since been closed. Pursuant to this permit, there are approximately 30 groundwater monitoring wells (on the Power Plant site) used to monitor the quality of groundwater for any potential impacts from any of these landfills. These wells are sampled twice per year.

### 6.11.2 Hazardous Materials and Wastes

Hazardous materials used onsite include lubricating oils, cleaners, and solvents. These materials will be used primarily during operations and could also potentially be used during construction. These materials are stored within the Plant Operations and Maintenance building(s).

Currently the Dave Johnston Power Plant generates quantities of used solvent and used oil. The solvent is shipped offsite for treatment and disposal, and the used oil is burned onsite. The quantities of these wastes will not increase as a result of construction activities or the operation of the retrofitted Units 3 and 4. In addition to these existing waste streams, paint waste containing lead may be generated during construction and retrofit operations. Quantities are not expected to impact their existing storage regulatory limits, and this waste will be shipped offsite for treatment and disposal.

The Plant general contractor will operate a diesel storage container onsite during construction activities to fuel heavy equipment. The diesel will be stored in an aboveground, mobile tank. To address construction contractor needs, the tank will be provided with secondary containment to prevent any diesel contamination caused by leaks or spills. The small amounts of lubricating oils and greases necessary for equipment maintenance will also be stored in the containment area.

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, and used primarily within the heavy equipment themselves. 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. Spill kits, containing items such as absorbent pads, will be located on equipment and in onsite temporary storage facilities 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. The Plant general contractor will be responsible for obtaining an SPCC Plan.

### 6.11.3 Waste Impacts

As described above, all waste generated during the retrofit of Units 3 and 4 will either be shipped offsite or managed onsite in state-approved units such as a holding pond or the industrial landfill. The waste generated during and after construction activities are consistent with historically generated waste at the Power Plant, and no modifications to the onsite units or permits will be required.

## 7.0 Plans for Alleviating Impacts

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Various mitigation measures will be implemented to alleviate impacts related to construction and operation of the Dave Johnston Unit 3 and 4 retrofit Project. These mitigation measures are described in the following paragraphs and are organized by resource topic.

### 7.1 Air Quality

The installation and operation of the new dry FGD and baghouse systems on Units 3 and 4 will ensure that the new permit limits for SO<sub>2</sub> and particulates will be achieved.

Construction-related dust disturbance shall be controlled by the periodic application of water or dust suppressants to all disturbed areas along the right-of-way and access roads. Vehicles and other equipment showing excessive emission of exhaust gases due to poor engine adjustments or other inefficient operating conditions shall not be operated until corrective adjustments or repairs are made. Any stationary sources associated with construction requiring permits will be controlled in accordance with relevant regulations.

### 7.2 Noise

Construction vehicles and equipment shall be maintained in proper operating condition and shall be equipped with manufacturers' standard noise control devices or better (e.g., mufflers and engine enclosures).

Noise-attenuating materials will be incorporated into the design of the Plant equipment and structure to minimize impacts during operation.

### 7.3 Soil Resources/Geologic Hazards

During construction, erosion control measures will be implemented to minimize the impacts to soils during and after construction. The primary control method will be to use berms or other water-channeling measures to direct water to the existing onsite storm drain system. In addition, the limits of construction and areas to be disturbed will be defined and managed by onsite construction managers. In addition, side slopes created by grading will not exceed the soil characteristic limits, as prescribed by a soils engineer. As may be necessary in steep slope conditions, a retaining wall may be installed.

## 7.4 Cultural Resources

Should any cultural resources be discovered during construction, the Wyoming SHPO 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

The Project site is previously disturbed and would continue to be used for industrial purposes after Project construction. All construction materials and debris shall be removed from the construction site in a timely manner.

## 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 sources. Such pollutants and wastes include, but are not limited to, refuse, garbage, cement, concrete, sanitary waste, industrial waste, oil, petroleum products, and hazardous waste. Implementation of standard construction Best Management Practices in combination with the facility's Industrial SWPPP and SPCC Plan will reduce the potential for accidental release of pollutants to surface and groundwater resources. No impacts to surface and groundwater resources are anticipated from the use of materials or generated waste during construction.

No dewatering work for structure foundations is anticipated because measures have been taken into the design to avoid groundwater. Earthwork operations adjacent to, or encroaching on, streams or water shall not be performed without prior approval by the applicable land managing agency or landowner and a dewatering permit from WYDEQ.

Appropriate permit modifications to WYPDES Permit No. WY0003115 will be obtained from WYDEQ, if necessary, to allow increased discharge to the existing bottom ash settling ponds. Discharges to the North Platte River from the facility will be in compliance with monitoring requirements and effluent limits specified by WYDEQ.

## 7.7 Land Use/Recreational Resources

The contractor shall limit movement of crews, vehicles, and equipment to the right-of-way and approved access roads to minimize damage to property and disruption of normal land use activity.

The contractor shall maintain all fences and gates during the construction period. Any fence or gate damaged during construction will be repaired immediately by the contractor. Damage to ditches, tile drains, culverts, terraces, local roads, and other similar land use features shall be corrected, as necessary, by the contractor.

## 7.8 Wetlands Resources

The Project construction and laydown areas are within previously disturbed properties on the PacifiCorp Dave Johnston Power Plant site and are not in the vicinity of any wetland resources. The construction contractor shall exercise care to stay within the designated construction areas, laydown areas, and access roads.

## 7.9 Visual Resources

PacifiCorp and its contractors shall exercise care to preserve the natural landscape and shall conduct construction operations (including all construction-related activities and PacifiCorp's designated access roads/trails and staging areas) to prevent any unnecessary damage to, or destruction of, natural features.

## 7.10 Wildlife Resources

The Project site is previously disturbed and would continue to be used for industrial purposes after Project construction. All construction materials and debris shall be removed from the construction site in a timely manner.

## 7.11 Waste Management

All onsite waste is managed in accordance with the Dave Johnston Solid and Hazardous Waste Management Plan, dated April 1987 and Revised April 5, 2006. This plan provides the Plant with the tools to identify any waste generated; provides programs and specific procedures for managing solid waste, hazardous waste, universal waste, Toxic Substances Control Act (TSCA) waste, and used oil; and it provides the specific plans that may be required for ensuring compliance with applicable hazardous waste regulations.

This Plan outlines clear waste characterization practices and identifies how any waste generated at the Dave Johnston Power Plant should be managed. This Plan will alleviate any potential impacts related to waste management activities during the construction and operation of this Project.

## 8.0 References

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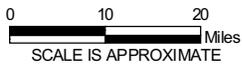
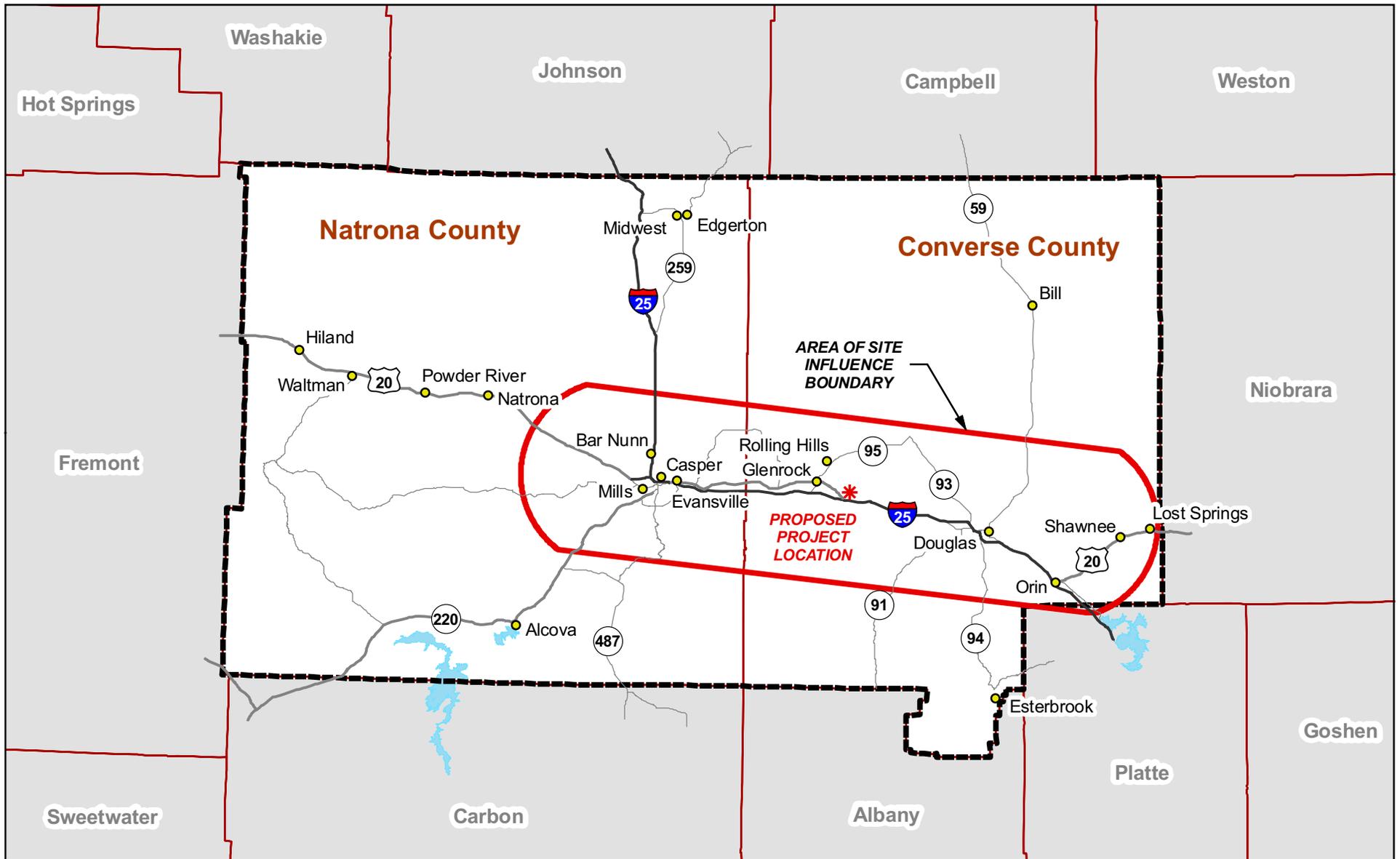
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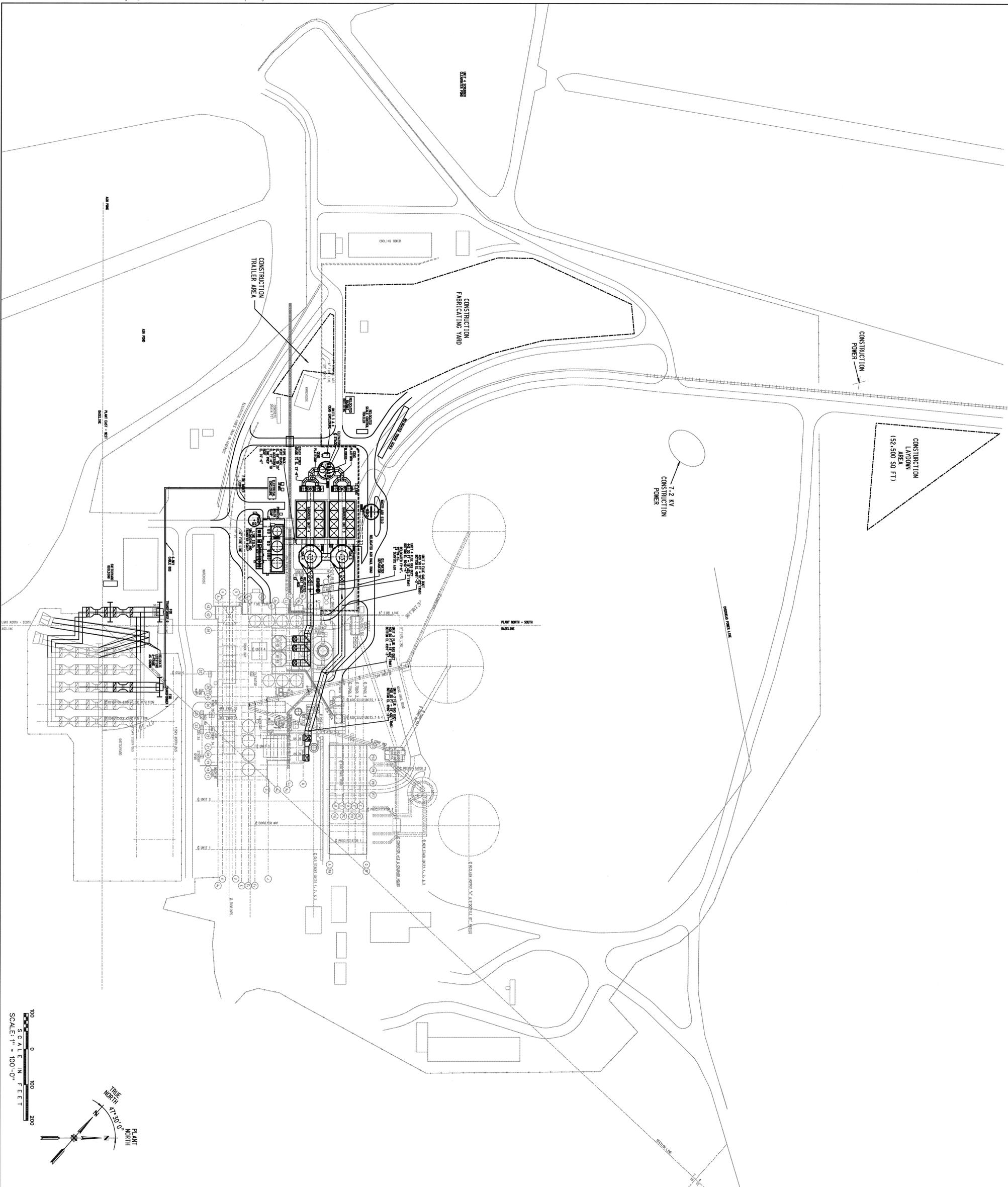
APPENDIX A

# Site and Project Information

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- \* PROPOSED PROJECT LOCATION
- STUDY AREA BOUNDARY
- AREA OF SITE INFLUENCE BOUNDARY



- PRELIMINARY -  
NOT FOR CONSTRUCTION  
CONFIDENTIAL

REV	DESCRIPTION	DATE	BY	CHK	APP
E	ISSUED FOR CONTRACT	01-02-08	CEJ	BDP	AKH
D	ISSUED FOR CONTRACT REVIEW	12-12-07	CEJ	BDP	AKH
C	REVISED STACK ENCL-0403 TWO BLENDS- MOVED CENS	09-21-07	CEJ	JJA	AKH
B	MOVED LINE PREP AND ELECTRICAL EQUIP	08-17-07	CEJ	JJA	AKH
A	ISSUED FOR BID PROPOSAL	08-17-07	CEJ	JJA	AKH
	PRELIMINARY	06-27-07	CEJ	JJA	AKH

KIC/TIC/BIIB  
JOINT VENTURE  
PACIFICORP ENERGY

PLUE GAS DESULFURIZATION PROJECT  
DAVE JOHNSTON STATION - UNITS 3 & 4

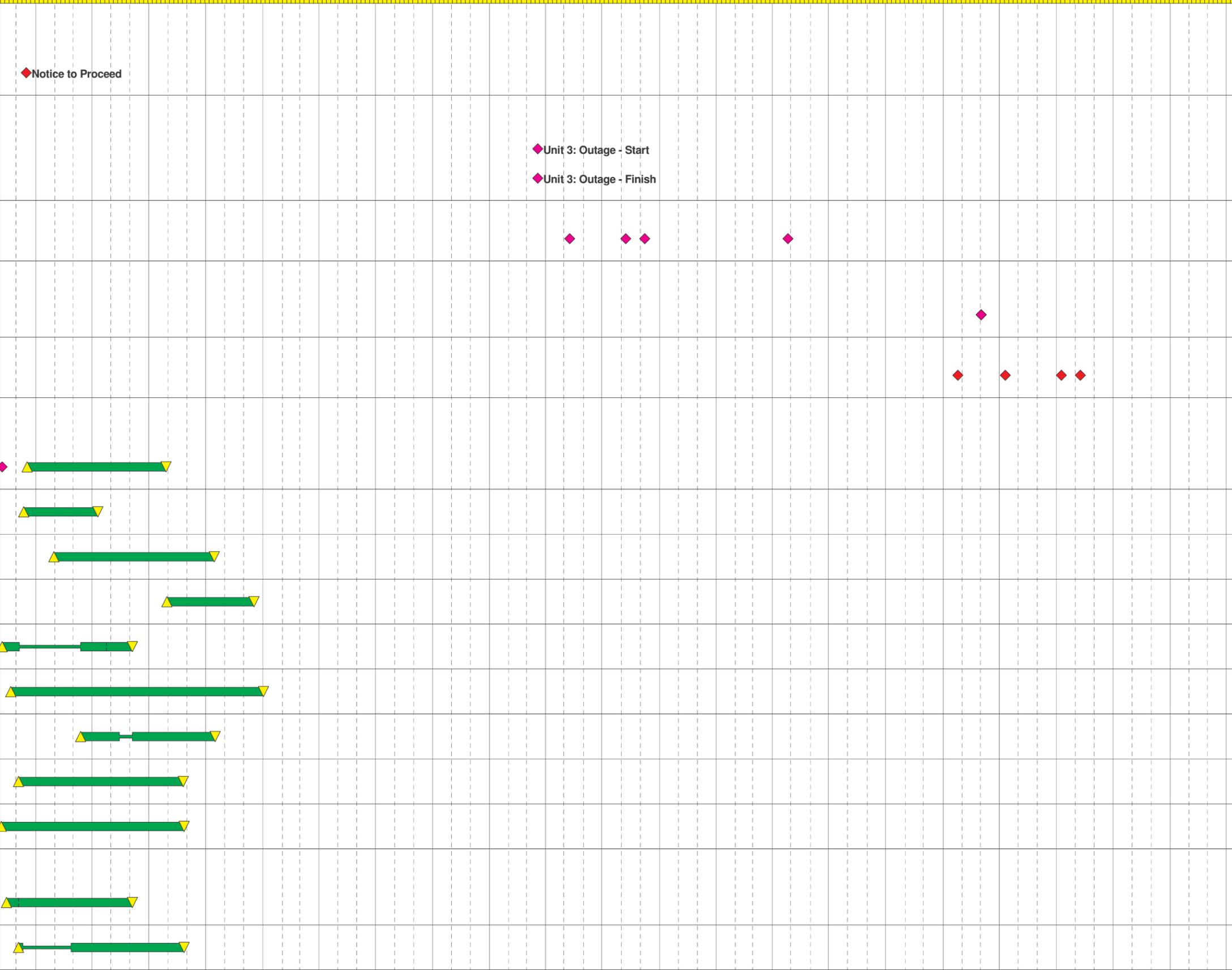
Kiewit  
Kiewit Power Plant  
Lenexa, Kansas 66214

DATE	BY	DESCRIPTION
01-02-08	CEJ	DESIGNED
06-07-07	NSG	DRAWN
08-17-07	AKH	CHECKED
08-17-07	AKH	APPROVED

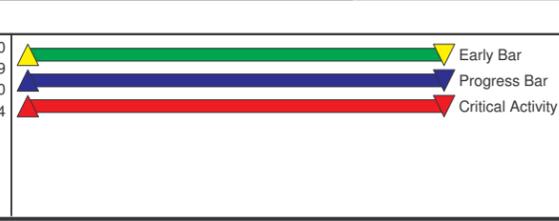
DRAWING NUMBER  
**2007-035-SP-001**

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float	2007				2008				2009				2010				2011				2012				2013									
								N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A

<b>Key Milestones</b>							
<b>Project</b>							
<b>Owner</b>							
Overall Project / Milestones							
9010	Notice to Proceed	0	0	0	17DEC07 18:00*		0
<b>Unit 3</b>							
<b>Owner</b>							
Overall Project / Milestones							
9931A	Unit 3: Outage - Start	0	0	0	20MAR10 07:00*		8,327
9931B	Unit 3: Outage - Finish	0	0	0		20MAR10 06:59	10,379
<b>The Industrial Company Wyoming</b>							
+ Overall Project / Milestones							
		2,520	2,520	0	10MAY10 07:00	26APR11 17:59	2,650
<b>Unit 4</b>							
<b>Owner</b>							
+ Overall Project / Milestones							
		0	0	0	03MAR12 07:00	03MAR12 06:59	1,427
<b>The Industrial Company Wyoming</b>							
+ Overall Project / Milestones							
		1,410	1,410	0	25JAN12 07:00	08AUG12 17:59	-710
<b>Engineering</b>							
<b>Project</b>							
<b>Bibb &amp; Associates</b>							
+ Overall Project / Milestones							
		1,880	1,880	0	08NOV07 07:00	28JUL08 17:59	6,138
+ Civil / Site Work							
		850	850	0	13DEC07 07:00	09APR08 17:59	10,590
+ Concrete Foundations							
		1,850	1,850	0	30JAN08 07:00	14OCT08 17:59	9,250
+ Structural Steel							
		1,001	1,001	0	30JUL08 07:00	17DEC08 07:59	7,277
+ Buildings							
		1,500	1,500	0	08NOV07 07:00	04JUN08 17:59	10,190
+ Electrical							
		2,920	2,920	0	22NOV07 07:00	02JAN09 17:59	8,670
+ Instrumentation							
		1,550	1,550	0	13MAR08 07:00	15OCT08 17:59	9,240
+ Mechanical Installation							
		1,890	1,890	0	05DEC07 07:00	25AUG08 17:59	7,879
+ Pipe Installation							
		2,100	2,100	0	07NOV07 08:00	27AUG08 07:59	9,599
<b>Unit 3</b>							
<b>B&amp;W</b>							
+ Mechanical Installation							
		1,441	1,441	0	15NOV07 07:00	04JUN08 07:59	10,199
+ Spray Dry Absorber							
		1,900	1,900	0	05DEC07 07:00	26AUG08 17:59	9,600



Start Date	01NOV07 07:00
Finish Date	10AUG12 17:59
Data Date	01NOV07 07:00
Run Date	31MAR08 10:34



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PacifiCorp Energy

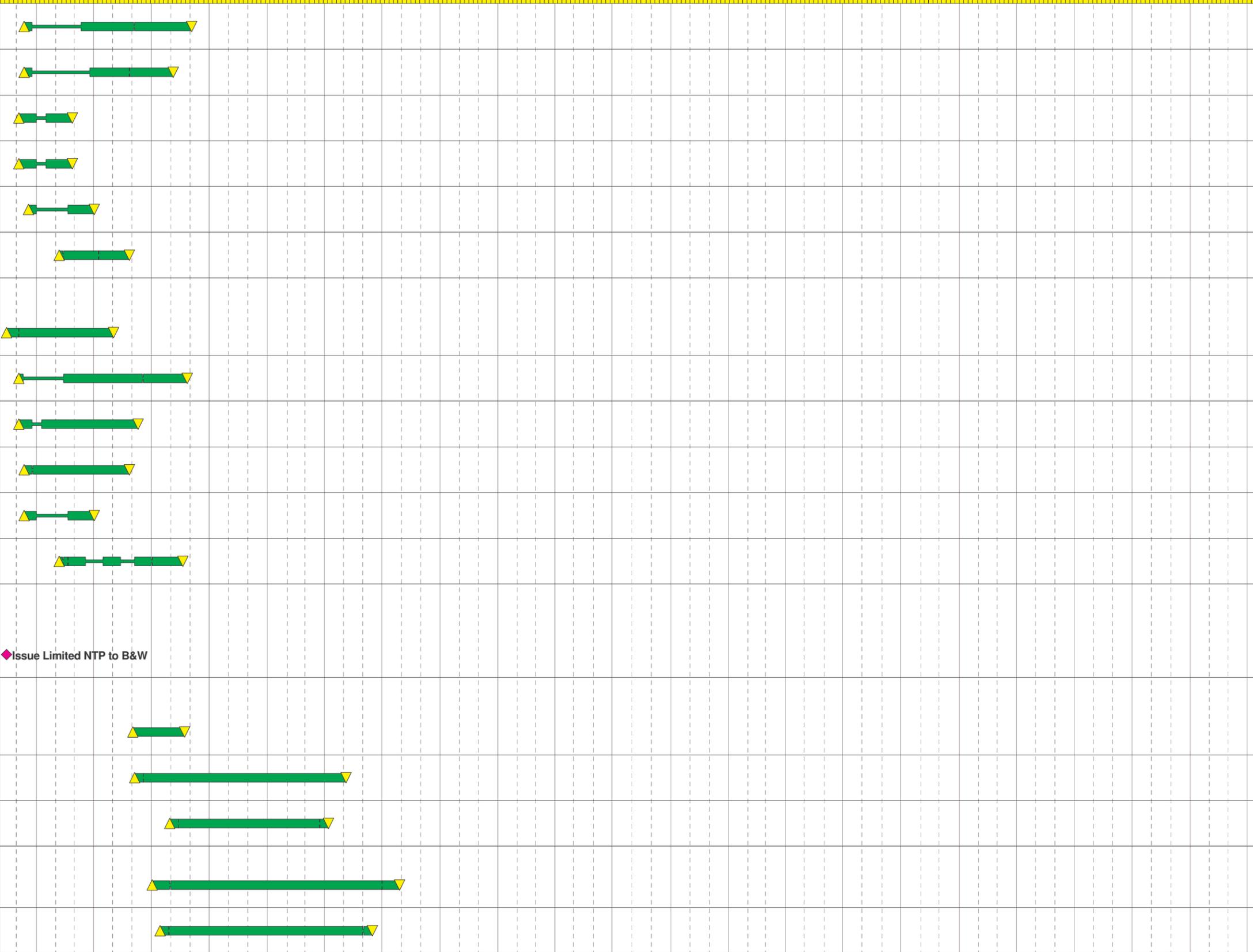
Dave Johnson - Units 3/4 FGD System

Classic Schedule Layout

Sheet 1 of 4

Date	Revision	Checked	Approved

<b>Unit 4</b>							
<b>B&amp;W</b>							
+ Baghouse							
		1,900	1,900	0	12DEC07 07:00	02SEP08 17:59	6,659
+ AQCS Flue & Duct							
		1,700	1,700	0	12DEC07 07:00	05AUG08 17:59	6,600
+ Lime Prep System							
		600	600	0	05DEC07 07:00	26FEB08 17:59	7,595
+ Ash Recycle System							
		600	600	0	05DEC07 07:00	26FEB08 17:59	7,455
+ Atomisers / Atomizer Motors							
		750	750	0	19DEC07 07:00	01APR08 17:59	10,650
+ Atomizer Head Tank / Agitator							
		800	800	0	06FEB08 07:00	27MAY08 17:59	7,446
+ Mechanical Installation							
		1,220	1,220	0	15NOV07 07:00	02MAY08 17:59	10,420
+ Spray Dry Absorber							
		1,900	1,900	0	05DEC07 07:00	26AUG08 17:59	5,264
+ Baghouse							
		1,350	1,350	0	05DEC07 07:00	10JUN08 17:59	6,126
+ AQCS Flue & Duct							
		1,200	1,200	0	12DEC07 07:00	27MAY08 17:59	10,250
+ Atomisers / Atomizer Motors							
		800	800	0	12DEC07 07:00	01APR08 17:59	10,650
+ Atomizer Head Tank / Agitator							
		1,400	1,400	0	06FEB08 07:00	19AUG08 17:59	6,800
<b>Procurement</b>							
<b>Project</b>							
<b>The Industrial Company Wyoming</b>							
Mechanical Installation							
B001	Issue Limited NTP to B&W	0	0	0	15NOV07 07:00*		700
<b>Unit 3</b>							
<b>The Industrial Company Wyoming</b>							
+ Concrete Foundations							
		600	600	0	02JUN08 07:00	22AUG08 17:59	9,220
+ Structural Steel							
		2,391	2,391	0	05JUN08 07:00	06MAY09 07:59	7,799
+ Mechanical Installation							
		1,800	1,800	0	30JUL08 07:00	07APR09 17:59	7,669
<b>Bibb &amp; Associates</b>							
+ Electrical							
		2,800	2,800	0	03JUL08 07:00	29JUL09 17:59	6,790
+ Mechanical Installation							
		2,400	2,400	0	15JUL08 07:00	15JUN09 17:59	7,363



Start Date	01NOV07 07:00		Early Bar
Finish Date	10AUG12 17:59		Progress Bar
Data Date	01NOV07 07:00		Critical Activity
Run Date	31MAR08 10:34		

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PacifiCorp Energy

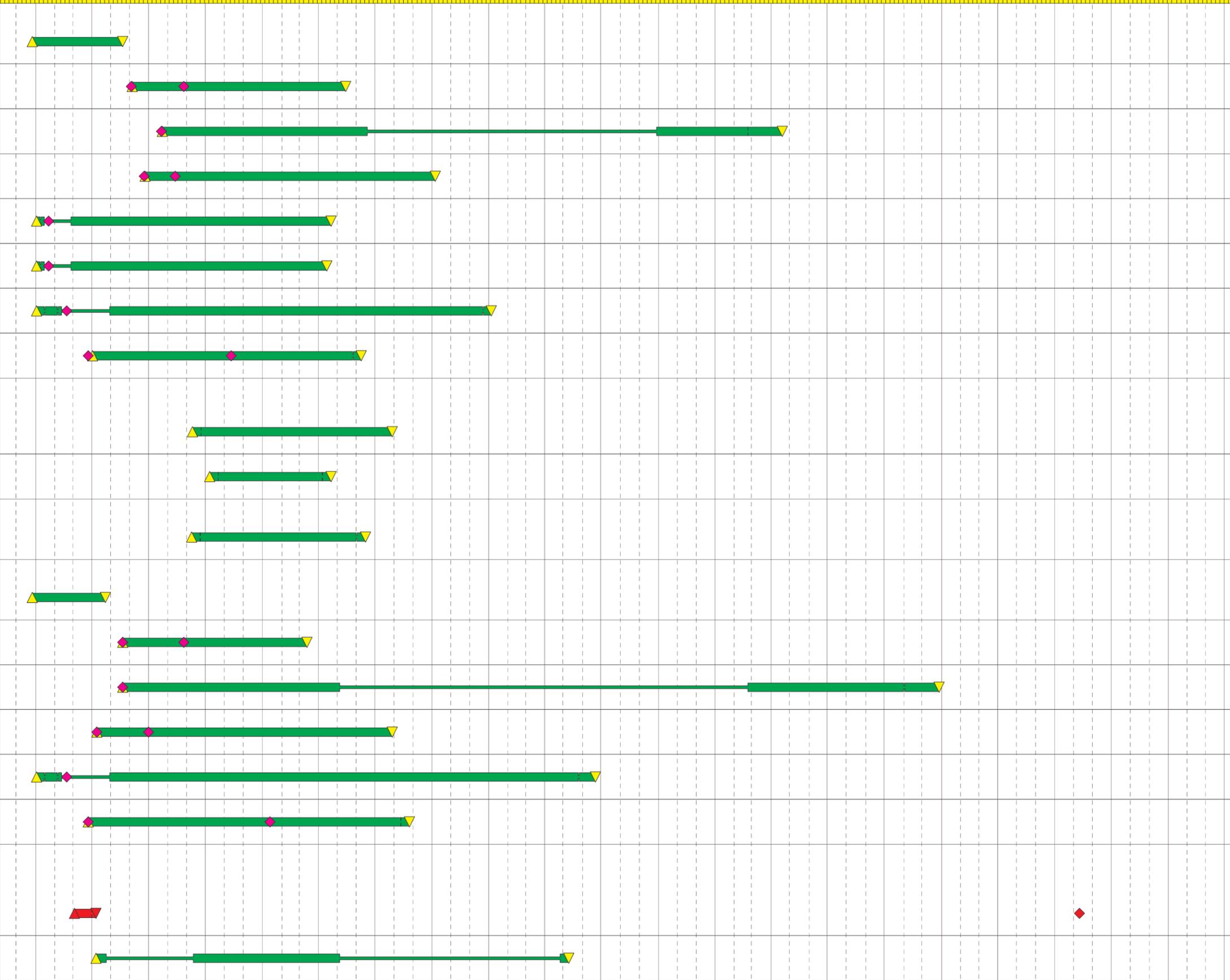
Dave Johnson - Units 3/4 FGD System

Classic Schedule Layout

Sheet 2 of 4

Date	Revision	Checked	Approved

B&W							
+ Mechanical Installation							
		1,050	1,050	0	26DEC07 07:00	20MAY08 17:59	10,300
+ Spray Dry Absorber							
		2,480	2,480	0	04JUN08 07:00	15MAY09 17:59	5,284
+ Baghouse							
		7,150	7,150	0	23JUL08 07:00	19APR11 17:59	2,670
+ AQCS Flue & Duct							
		3,350	3,350	0	25JUN08 07:00	06OCT09 17:59	6,700
+ Lime Prep System							
		3,400	3,400	0	02JAN08 07:00	21APR09 17:59	7,900
+ Ash Recycle System							
		3,350	3,350	0	02JAN08 07:00	14APR09 17:59	7,950
+ Atomisers / Atomizer Motors							
		5,250	5,250	0	02JAN08 07:00	05JAN10 17:59	5,988
+ Atomizer Head Tank / Agitator							
		3,150	3,150	0	26MAR08 07:00	09JUN09 17:59	7,500
Unit 4							
The Industrial Company Wyoming							
+ Structural Steel							
		2,301	2,301	0	10SEP08 07:00	29JUL09 07:59	7,099
+ Mechanical Installation							
		1,400	1,400	0	08OCT08 07:00	21APR09 17:59	7,010
Bibb & Associates							
+ Mechanical Installation							
		2,000	2,000	0	09SEP08 07:00	15JUN09 17:59	6,172
B&W							
+ Mechanical Installation							
		850	850	0	26DEC07 07:00	22APR08 17:59	10,500
+ Spray Dry Absorber							
		2,130	2,130	0	21MAY08 07:00	13MAR09 17:59	5,234
+ Baghouse							
		9,400	9,400	0	21MAY08 07:00	27DEC11 17:59	700
+ AQCS Flue & Duct							
		3,400	3,400	0	09APR08 07:00	28JUL09 17:59	6,658
+ Atomisers / Atomizer Motors							
		6,440	6,440	0	02JAN08 07:00	21JUN10 17:59	4,778
+ Atomizer Head Tank / Agitator							
		3,700	3,700	0	26MAR08 07:00	25AUG09 17:59	6,854
Construction							
Project							
The Industrial Company Wyoming							
+ Overall Project / Milestones							
		1,590	1,590	0	04MAR08 07:00	10AUG12 17:59	-730
+ Civil / Site Work							
		5,441	5,441	0	08APR08 07:00	10MAY10 07:59	5,169



Start Date	01NOV07 07:00		Early Bar
Finish Date	10AUG12 17:59		Progress Bar
Data Date	01NOV07 07:00		Critical Activity
Run Date	31MAR08 10:34		

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PacifiCorp Energy  
Dave Johnson - Units 3/4 FGD System  
Classic Schedule Layout

Sheet 3 of 4

Date	Revision	Checked	Approved



**APPENDIX B**

# **Public Involvement**

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## DAVE JOHNSTON POWER PLANT EMISSION CONTROL PROJECT

### **OVERVIEW - PROJECT DESCRIPTION**

PacifiCorp plans to replace outdated pollution control equipment to reduce pollutants from its existing Dave Johnston Power Plant (Units 3 & 4) located near Glenrock, Wyoming, about 30 miles from Casper. The retrofits will reduce emissions of sulfur dioxide (SO<sub>2</sub>) and particulate matter (PM), in order to meet the State of Wyoming's requirements for best available retrofit technology controls. Dry flue gas desulfurization (DFGD) and baghouses will be used. These pollution controls also address probable requirements for future regulations, and demonstrate PacifiCorp's commitment to reducing the environmental impact of the company's facilities.



A jurisdictional review is currently being conducted by the Wyoming Industrial Siting Council and construction of the replacement may require approval of an industrial siting permit application for the project.

### **BACKGROUND AND NEED**

Dave Johnston Unit 3 (DJ3) is not currently equipped with SO<sub>2</sub> removal equipment. DJ3 is equipped with an electrostatic precipitator (ESP) for control of particulate matter. Unit 4 (DJ4) is currently equipped with a wet venturi scrubber for particulate control. Additionally, lime is added to the scrubber for SO<sub>2</sub> control and to prevent scaling.

The State of Wyoming, in 2006, issued an order requiring all major coal fueled units built between 1962 and 1978 to conduct a best available retrofit technology (BART) review. The BART review process analyzes various control equipment retrofit options versus the emissions reductions achieved. The recommended emission controls in this replacement project are consistent with the BART reports as submitted to the State of Wyoming.

### **BENEFITS, POSSIBLE IMPACTS AND MITIGATIONS**

The project's air quality improvements will benefit the environment and people of the region. Construction employment and the spending by those so employed will provide general benefits to the businesses and communities in the area.

PacifiCorp will work with the Wyoming Industrial Siting Council, as required, to identify potentially adverse impacts associated with construction and operation of the proposed facility, and to design and implement measures, where necessary, to alleviate such impacts. Potential areas of concern include:

- construction workforce housing
- public schools, healthcare services & facilities, law enforcement, and other community services
- traffic impacts associated with materials hauling and worker commuting
- other socio-economic or environmental concerns

### **SCHEDULE**

Industrial Siting Application (ISA) Preparation and Submittal	April 2008
ISA Review Period	April - May 2008
Industrial Siting Council Hearing	May - June 2008 (TBD)
Start of Major Construction	Summer/Fall 2008
Peak of Construction (2 year process)	Fall 2009
Completion of Project	2010 (DJ3) and 2012 (DJ4)

## **PacifiCorp Dave Johnston Power Plant Emission Control Project Industrial Siting Application Local Government Meetings - Town of Glenrock**

ATTENDEES: Kathy Patceg, Town of Glenrock Planning/Zoning Director  
David Andrews, Town of Glenrock Public Works Director  
Donna Geho, Town of Glenrock Clerk/Treasurer  
Alan Dugan, PacifiCorp Dave Johnston Power Plant  
Greg Hager, PacifiCorp Dave Johnson Power Plant  
Leslie Blythe, Rocky Mountain Power Customer & Community Manager  
Ryan Henning, CH2M HILL  
Joe Hammond, CH2M HILL

LOCATION Glenrock, Wyoming, Town Hall

MEETING DATE: March 12, 2008, 0930

A meeting was held with local government officials from the Town of Glenrock on March 12, 2008 to discuss the PacifiCorp Dave Johnston Unit 3 and Unit 4 emission control projects.

### **I. Dave Johnston Power Plant Emission Control Project**

A. Alan provided an overview of Dave Johnston emission control project via a prepared PowerPoint presentation. The project site plan was discussed. Locations of the new Units 3 and 4 scrubbers, baghouses and common stack were shown. The required workforce and schedule were discussed. A fact sheet on the project was distributed to all attendees.

### **II. Summary of primary questions**

**Dave Andrews Q1:** What is the workforce crew for the scheduled maintenance outages?

**A1:** The Unit 2 boiler maintenance outage is scheduled for April to May 2008 timeframe and will require an approximate peak 100 person workforce. The average workforce will be approximately 50 persons and anticipated to be a 50:50 local to non-local workforce ratio.

The Unit 1 boiler/turbine maintenance outage is scheduled for the fall of the 2008 and will have an approximate 200 person workforce.

**Dave Andrews Q2:** Are these workforce anticipated to be local?

**A2:** The turbine contractor will be the same as selected for previous overhauls. The contractor will be likely to use boilermakers that are staffed out of the Denver union office. Millwrights likely to be employed will primarily be local and from Wyoming.

**Dave Andrews Q3:** What is the construction timeframe for the Dave Johnston emission control project and are you awaiting any additional approvals?

**A3:** The construction process will start upon issuance of the Wyoming Department of Environmental Quality – Air Quality Division Air Permit and the Industrial Siting Council’s Industrial Siting Act Permit.

**Kathy Patceg Q:** Can we get a copy of the presentation?

**A:** We prefer not to give out since the workforce estimates are preliminary. Also, PacifiCorp offered to come back to give another presentation to the Mayor and four council persons.

**Dave Andrews Q1:** Dave commented that there was not a clear distinction in either the Glenrock – Rolling Hills application or hearing about the cumulative effect of the overhauls on the local communities.

**A1:** We will attempt to make a clear distinction in this application about the details of the planned outages. However, the issue of ISA cumulative effects would need to be further explored with ISD staff.

*[The topic then focused on the cumulative effects of the Glenrock – Rolling Project, scheduled outages, transmission substation, and overhaul of Big Muddy Fields projects.]*

**Dave Andrews Q2:** What type of landfill volume do you anticipate and where are you likely to deposit the solid waste?

**A2:** The intent is to use the existing Dave Johnston permitted landfill at the site. If a landfill would be required, it is likely they will convey to Casper. In addition, it is likely that the recyclable steel and other materials will go to Casper for separation and salvage.

**Kathy Patceg Q1:** Are you still exploring the possibility of a recreational vehicle (RV) park on Dave Johnston fee lands?

**A1:** PacifiCorp is evaluating the feasibility and implementation of an RV park. PacifiCorp is not interested in competing with private industry. In addition, the property management aspect of the enterprise is outside of PacifiCorp’s interest. However, PacifiCorp is currently looking for a business partner. A composite sketch of a 100 space RV park has been completed and they are still evaluating siting locations.

*[Topic of conversation then focused on prime locations within Dave Johnston lands and also issues of sandy soils and areas within the 100 year floodplain. Also, CH2M HILL passed along the contact information of Bob West at Granite Peak Development (Granite is also looking into an RV park in the Glenrock area).]*

**Kathy Patceg Q2:** What is the breakdown of where your Dave Johnston workforce lives?

**A2:** Based on a past plant survey, approximately 1/3 was Glenrock, 1/3 Douglas and 1/3 Casper.

**Other Issues:**

**Wastewater issue:** PacifiCorp and CH2M HILL need to coordinate with Dave Andrews about potential impacts to the local wastewater system. The wastewater lagoon system is at maximum capacity and is strained in winter months due to ice layer.

**Action Item:** Once the local and non-local estimates are more developed, follow up with Dave to see if the Public Works Department has any concerns.

**Public Works Capital Projects:** North Birch Redevelopment will likely occur in 2009 or 2010. There will be road, water and sewer construction. There may overlap between the project and Dave Johnston emission control project.

It was stated on several occasions that the Town of Glenrock is very supportive of the Dave Johnston power plant and the planned emission control project.

## **PacifiCorp Dave Johnston Power Plant Emission Control Project Industrial Siting Application Local Government Meetings - City of Douglas and Converse County**

ATTENDEES: Jim Anderson, State Senator  
Pamela Anderson, Glenrock  
Dave Edwards, State Representative  
Jim Willox, Converse County Commission Chairman  
Joe Coyne, CANDO  
Ed Werner, Converse County Commission Vice Chairman  
Mike Roy, City of Douglas Community Development Director  
Mark Cash, Converse County Commissioner  
Chad Rupe, Douglas City Councilman  
Alan Dugan, PacifiCorp Dave Johnston Power Plant  
Greg Hager, PacifiCorp Dave Johnson Power Plant  
Leslie Blythe, Rocky Mountain Power Customer & Community Manager  
Wendy Lowe, Rocky Mountain Power Government Relations  
Ryan Henning, CH2M HILL  
Joe Hammond, CH2M HILL

LOCATION Douglas, Wyoming, City Hall

MEETING DATE: March 12, 2008, 1330

A meeting was held with local government officials including elected state legislative members from Douglas and Glenrock on March 12, 2008 to discuss the PacifiCorp Dave Johnston Unit 3 and Unit 4 emission control projects.

### **I. Dave Johnston Power Plant Emission Control Project**

A. Alan provided an overview of Dave Johnston emission control project via a prepared PowerPoint presentation. The project site plan was discussed. Locations of the new Units 3 and 4 scrubbers, baghouses and common stack were shown. The required workforce and schedule were discussed. A fact sheet on the project was distributed to all attendees.

### **II. Summary of primary questions**

**Representative Dave Edwards Q:** Is there pollution coming out of the stacks (prefaced by telling story of steam cloud rather than pollution cloud)?

**A:** Some pollution is in the air stream; however, the portion you see is primarily steam.

**County Commission Vice Chairman Ed Werner Q:** What about mercury control?

**A:** Alan discussed that the new bag houses being installed can be retrofitted in the future for mercury control. In addition, Greg Hager also discussed that the Dave Johnston power plant

will most likely install mercury control technology in the future. The Dave Johnston power plant has conducted initial mercury testing and monitoring.

**Councilman Chad Rupe Q:** What is the number of the workforce?

**A:** Alan provided an overall total, but referenced that a slide later in presentation would provide detail.

**Senator Jim Anderson Q:** What is a typical overhaul workforce on the DJ project? (Jim inferred that it is not a huge impact and the local communities were used to the local influxes).

**A:** Highly dependent upon the project and type of overhaul. Alan provided detail on both the Unit 1 and 2 overhaul schedules and preliminary estimates of workforce.

**Joe Coyne Q1:** Will there be retooling of Unit 1 and 2 in the near future?

**A:** Low NOx burners will be installed in the 2013 or 2014. However, the current Unit 3 and 4 emission control project construction schedules do not overlap these anticipated schedules.

**Joe Coyne Q2:** Is this a moving target for the construction start, or is this a firm initiation point?

**A:** Construction will initiate after obtaining air quality and Industrial Siting Act permits. However, the construction schedule is highly dependent upon the timing of the outage for Unit 3 in 2010 to tie in the new controls. The Unit 4 outage and tie in will not occur until 2012.

**Joe Coyne Q3:** Does the cumulative workforce graphic in the presentation include outage workforce estimates?

**A3:** No, the presentation cumulative workforce graphic shows only the Dave Johnston and Glenrock - Rolling Hills Wind projects.

**County Commissioner Chairman Jim Willox Q:** Based upon a review of the Glenrock - Rolling Hills and Unit 3 and 4 retrofits, it appears that the majority of the workforce will be non-local over an 18 to 20 month period. Is this true?

**A:** The average workforce for the Unit 3 and 4 retrofits is approximately a 50:50 local to non-local ratio. TIC, which is one of the Dave Johnston Power Partners, and the contractor primarily responsible for construction has approximately 2,300 staff divided between Colorado and Wyoming. TIC is currently preparing to draw upon construction staff primarily located in the Casper region. However, if we add in the workers needed for the Unit 4 maintenance outage in 2009 along with the Glenrock - Rolling Hills project and the Dave Johnston emission control project, then we potentially have an extended period of 18 months that we would expect to see over 300 to 350 workers on the various projects. Of that number, we don't have definitive local and non-local breakdowns.

A conversation focused on the issue of the cumulative impacts of the ISA projects (Dave Johnston Emission Control and Glenrock - Rolling Hills) and the regularly scheduled maintenance outages on Units 1 and 2 in 2008 and Unit 4 in 2009. The project team will discuss the issue with Tom Schroeder of ISD.

**Chad Rupe Q:** Will the application take into consideration the development currently prepared in Converse County including commercial and residential development in both Douglas and Glenrock?

**A:** We will incorporate any specific information the local communities can provide that is outside of any confidential agreements.

**Joe Coyne Q:** Will there be detailed costs in the application that break out pollution exemption costs?

**A:** We will provide the best available cost information in the application. However, PacifiCorp may not have the complete cost estimates at this point in the process. Wendy Lowe, PacifiCorp Government Relations detailed that all pollution control are not exempted from sales and use taxes, rather it is an ad valorem tax exemption. Senator Jim Anderson also confirmed the idea behind the exemption was to help out the utilities by providing relief at the property tax level.

**County Commission Vice Chairman Ed Werner Q:** What type of materials will require shipment and in what manner will they be shipped?

**A:** Approximately 400 trucks will deliver the majority of the required major construction materials. The transformers will likely be railed onto the site and offloaded using Dave Johnston existing facilities. TIC is currently exploring the dual use of the Glenrock - Rolling Hills concrete batch plant and also using the existing abandoned rail road right-of-way to minimize concrete truck traffic.

## **PacifiCorp Dave Johnston Power Plant Emission Control Project Industrial Siting Application Local Government Meetings - City of Casper and Natrona County**

ATTENDEES: Kit Jennings, State Senator (SD 28)  
Drew Perkins, State Senator (SD 29)  
Linda Witko, City of Casper  
Tom Forslund, City Of Casper  
Phil Hinds, Mayor, Town of Evansville  
Keith Goodenough, Casper City Council  
Bill Landen, State Senator (SD 27)  
Tim Stubson, State Representative (HD 56)  
Alan Dugan, PacifiCorp Dave Johnston Power Plant  
Greg Hager, PacifiCorp Dave Johnson Power Plant  
Leslie Blythe, Rocky Mountain Power Customer & Community Manager  
Wendy Lowe, Rocky Mountain Power Government Relations  
Ryan Henning, CH2M HILL  
Joe Hammond, CH2M HILL

LOCATION Casper, Wyoming, Petroleum Club

MEETING DATE: March 14, 2008, 1130

A meeting was held with local government officials including City of Casper, Town of Evansville, Natrona County and elected state legislative members from Casper on March 14, 2008 to discuss the PacifiCorp Dave Johnston Unit 3 and Unit 4 emission control projects.

### **I. Dave Johnston Power Plant Emission Control Project**

A. Alan provided an overview of Dave Johnston emission control project via a prepared PowerPoint presentation. The project site plan was discussed. Locations of the new Units 3 and 4 scrubbers, baghouses and common stack were shown. The required workforce and schedule were discussed. A fact sheet on the project was distributed to all attendees.

### **II. Summary of primary questions**

**Tom Forslund Q1:** Do you know the demographics of the workforce?

**A1:** We don't readily have those statistics, but the application will provide estimates of local to non-local ratios, marital status, locations of origin.

**Linda Witko Q1:** Who is responsible for completing the housing plan?

**A1:** TIC is the starting point, since they are the selected general contractor that will be responsible for the retrofit construction. However, the responsibility is PacifiCorp's because they are the entity submitting the ISA application.

**Tom Forslund Q2:** Where is the wind project housing going to occur?

**A2:** The housing plan developed for the Glenrock – Rolling Hills project will primarily occur in the Casper area. TetraTech initiated contracts with the Shiloh Inn, Sleep Inn, and Aspen Apartment Complex in Casper.

**Tom Forslund Q3:** Do you have any estimate of the impact assistance funding for the retrofit projects?

**A3:** We do not. However, Dr. Tom Schroeder of the ISD will prepare an estimate of the potential amount of impact assistance funds. The application will provide Dr. Schroeder's impact assistance fund estimate.

*[Tom Forslund discussed his view of the two primary impacts from the Project: 1) roads; and 2) social impacts. Tom asked that the application detail workforce demographics (average age, sex, marital status, etc.) to better help the City of Casper understand the potential social impacts that may be attributed to the Project workforce.]*

**State Representative Tim Stubson Q1:** Over the long-term, do the retrofits change the capacity of the power plant?

**A1:** No. However, the equipment used for the retrofits will require the use of more station power, thus the net generation to the grid from each unit (3 and 4) will be less.

**State Senator Drew Perkins Q1:** Has PacifiCorp completed the rate impact of the retrofits costs on the rate payers?

**A1:** Wendy answered that the rate case was currently being prepared. However, the final costs will be determined upon completion of the construction processes.

**Linda Witko Q2:** What type of demolition will be required on-site? And will it impact the Casper Landfill?

**A2:** There will be demolition at the site. However, PacifiCorp will use its existing landfill and will not use other regional landfills. Materials will be recycled and sold for scrap as practical.

**Mayor Phil Hinds Q1:** Will there be increased truck traffic from the Casper railroad off-loading site?

**A1:** The only railed components currently anticipated are the electric substation transformers.

## **PacifiCorp Dave Johnston Power Plant Emission Control Project Industrial Siting Application Meeting with Wyoming Department of Transportation**

ATTENDEES: Mark Wingate, WYDOT Ryan Henning, CH2M HILL  
Alan Dugan, PacifiCorp Energy Joe Hammond, CH2M HILL

LOCATION Cheyenne, Wyoming, WYDOT Office

MEETING DATE: March 13, 2008, 0930

A meeting was held with the Wyoming Department of Transportation on March 13, 2008 to discuss the PacifiCorp Energy Dave Johnston Emission Control Project.

Alan gave an overview of the project. A fact sheet on the project was provided. From a transportation perspective, the following major items were discussed:

- Estimate of approximately 400 truck deliveries for major equipment deliveries.
- Truck deliveries will likely occur in fall 2008 or early spring 2009.
- Interstate commuting workforce traffic will exit at 160 interchange and proceed to Dave Johnston project site. PacifiCorp is currently working on traffic and parking logistics.
- Concrete is likely to be produced by the Glenrock Rolling Hills concrete batch plant. The concrete trucks are anticipated to use the reclaimed rail road right-of-way and will avoid local and state roads.

### **Summary of Questions**

**Q1:** When will the project initiate?

**A1:** Initiate mobilization in April, with construction workforce peaking in August – September 2009. Also, provided detail on the scheduled outages in 2008 and 2009.

**Q2:** Who is going to supply your concrete and are they going to use a batch plant?

**A2:** Mobile Concrete out of Casper. Mobile is also the selected concrete supplier for the Glenrock Rolling Hills project; therefore, both projects will benefit from existing batch plant and proximity to the site.

**Q3:** Does WYDOT have additional Interstate 25 projects planned in proximity to the Dave Johnston project site?

**A3:** The State Transportation Improvement Planner was out of the office (Peru). However, Mark provided details that the Hat 6 improvements will continue in the summer of 2008. In addition, the Douglas to Hat Bridge improvements have been approved and are set for construction.

**Action Items:**

1. WYDOT recommended early coordination with Port of Entry for super/oversized loads.
2. WYDOT recommended submitting a letter summarizing the meeting. WyDOT will issue letter to Dr. Tom Schroeder at the Industrial Siting Division stating that they have no concerns.
3. Jack Bell, District Engineer and Mark Williams, District Traffic Engineer are the local district contacts in Casper. Mark will notify them via e-mail to alert them about the additional traffic related to the Project and outages.
4. Provide a new vicinity transportation map to Mark.

## **PacifiCorp Dave Johnston Power Plant Emission Control Project Industrial Siting Application Meeting with Wyoming State Engineer's Office**

ATTENDEES: John Harju, SEO  
Todd Parfitt, ISD  
Alan Dugan, PacifiCorp Energy

Ryan Henning, CH2M HILL  
Joe Hammond, CH2M HILL

LOCATION Cheyenne, Wyoming, SEO Office, Herschler Building

MEETING DATE: March 13, 2008, 1100

A meeting was held with the Wyoming State Engineer's Office (SEO) on March 13, 2008 to discuss the PacifiCorp Energy Dave Johnston Emission Control Project. John Harju is the SEO Assistant Administrator and Todd Parfitt is the Industrial Siting Division (ISD) Administrator and Deputy Director of Wyoming DEQ.

Issues discussed included:

- I. Todd Parfitt provided points of clarification on the Dave Johnston project and jurisdiction under the Industrial Siting Act.
  - a. Issue of jurisdiction related to new facility versus retrofit of existing facility.
  - b. Attorney General will issue an opinion, but likely after initiation of emission control project construction.
  - c. Current resolution is to move forward with Industrial Siting Act process and submit a Section 107 Waiver of Permit application.
- II. John inquired about water requirements for the project and asked if the SEO will have to issue an opinion on the water use?
  - a. Todd stated the reason we are meeting with the SEO is the defined Unit 3 and 4 emission control project and not the entirety of the Dave Johnston power plant.
- III. Alan gave an overview of the project. A fact sheet on the project was provided. The project site plan was discussed. Locations of the new Units 3 and 4 scrubbers, baghouses and common stack were shown. The project construction schedule was also discussed.
- IV. Alan provided water usage requirements of Unit 3 and Unit 4 processes.
  - a. Current Unit 3 and 4 wet scrubber water usages are estimated at approximately 3000 gpm.
  - b. Net reduction of approximately 2,500 gpm at the plant due to retrofits.

V. John's Questions and Comments

Q1: Do you divert directly from the Platte River?

A1: Yes. Process water directly from the Platte River through surface impoundment.

Q2: Do you have existing groundwater wells?

A2: Yes, two groundwater wells are active at the site.

1. Operate a potable horizontal well.
2. Operate a well for the coal handling facility.

The DJ site also had 4 additional groundwater wells, but they have all been abandoned due to inadequate flows.

Q3: Do you know the required gpm's of the new Unit 3 and 4 processes?

A3:  $260 \text{ gpm} + 240 \text{ gpm} = \pm 500 \text{ gpm} \times 1440 \times 365 \text{ days} / 325851 = > 800 \text{ acre-feet/year}$

Q4: How do interpret 35-12-108 in light of statutory rule confounded by reduction in water usage of 3,000 gpm to 500 gpm?

A4: Todd Parfitt was going to have John Burbridge – ISD Attorney General coordinate with Pete Michael – SEO Attorney General to determine appropriate jurisdiction.

Comment 1: Outside of the 35-12-108 jurisdiction issue, the SEO did not identify any significant issues or perceive the application as problematic.

Comment 2: SEO suggested revisiting permits to check for areas of construction to be covered by issued terms.

*Note: After the meeting, Todd Parfitt discussed the 35-12-108 jurisdiction issue with the Attorney General staff for ISD and SEO. It was determined that the 800 acre-feet/year applicability for a new project would not apply relative to this project because there was an overall significant water use reduction by going from the existing wet scrubber operation to the new lime spray dryer scrubbers.*

**PacifiCorp Dave Johnston Power Plant Emission Control Project  
Industrial Siting Application  
Meeting with Wyoming State Historic Preservation Office**

ATTENDEES: Mary Hopkins, SHPO  
Richard Currit, SHPO  
Alan Dugan, PacifiCorp Energy  
Ryan Henning, CH2M HILL  
Joe Hammond, CH2M HILL

LOCATION Cheyenne, Wyoming, SHPO Office

MEETING DATE: March 13, 2008, 1430

A meeting was held with the Wyoming Department of State Parks & Cultural Resources, State Historic Preservation Office on March 13, 2008 to discuss the PacifiCorp Energy Dave Johnston Emission Control Project. Mary Hopkins is the Deputy SHPO and Richard Currit is the Senior Archaeologist and Historic Preservation Specialist.

Alan gave an overview of the project. A fact sheet on the project was provided. The project site plan was discussed. Locations of the new Units 3 and 4 scrubbers, baghouses and common stack were shown. It was pointed out by the project team that the areas the construction contractor was going to use for equipment laydown and office trailers were existing areas within the plant site from previous construction and maintenance projects.

Mary Hopkins and Richard Currit said that they did not have any concerns with the project from a cultural or historic preservation perspective since work was being performed on an existing industrial site. Mary stated that she would provide a letter to Dr. Tom Schroeder at the Industrial Siting Division stating that they have no concerns.

**PacifiCorp Dave Johnston Power Plant Emission Control Project  
Industrial Siting Application  
Local Government Meetings - Glenrock Town Council**

## ATTENDEES:

**Community:**

Jim Williams  
Mary Leigh Williams  
LeeRoy Keim  
Helen. O. Keim  
Sibyl Walters  
Les Rookstool  
Carl Lembke  
Mike Velasquez  
Trish Hutchings  
Patricia Popovitch  
Kyle St. Clair  
Melody Dugan

**Town of Glenrock:**

Mayor Steve Cielinski  
Councilwoman Linda Care  
Councilwoman Rosalie Goff  
Councilman Fred Steinbach  
Councilman Bruce Vinnola  
Kathy Patceg, Town of Glenrock Planning/Zoning Director  
David Andrews, Town of Glenrock Public Works Director  
Donna Geho, Town of Glenrock Clerk/Treasurer

**RMP/PacifiCorp Energy:**

Alan Dugan  
Dwayne Schiffers  
Leslie Blythe

LOCATION Glenrock, Wyoming, Town Hall

MEETING DATE: March 24, 2008

A meeting was held with local government officials from the Town of Glenrock on March 24, 2008 to discuss the PacifiCorp Dave Johnston Unit 3 and Unit 4 emission control project.

## **I. Dave Johnston Power Plant Emission Control Project**

Alan Dugan provided an overview of Dave Johnston emission control project via a prepared PowerPoint presentation. The project site plan was discussed. Locations of the new Units 3 and 4 scrubbers, baghouses and common stack were shown. The required workforce and schedule were discussed. A fact sheet on the project was distributed.

## **II. Summary of primary questions**

**Carl Lembke Q:** What will be the total NO<sub>x</sub> reductions?

**A:** Our existing limitation on Units 3 and 4 is 0.75 lb/MMBTU. For Unit 3 we have applied for a new limit of 0.28 lb/MMBTU. For Unit 4 we have applied for a new limit of 0.17 lb/MMBTU. *[Note that the Dave Johnston Emissions Control Project only includes the sulfur dioxide and particulate retrofit controls]*

**Mayor Cielinski Q:** Will the stacks appear different?

**A:** The existing Unit 4 metal stack will be demolished and a new 500' concrete chimney with two flues inside will be constructed. After the project is fully completed there will be 5 concrete chimneys, two 500' and three 200'. The three 200' chimneys are no longer used and abandoned in place.

**Mike Velasquez Q:** Will the larger stack be gone?

**A:** No.

**Mayor Cielinski Q:** How long has the larger stack been in place? Since 1962?

**A:** No, it was constructed in 1975 with the first set of clean air projects at the plant. It will still have Units 1 & 2 flues in operation.

**Carl Lembke Q:** How many long-term jobs will result from this project?

**A:** PacifiCorp has not fully resolved this question yet. The initial project concept recommended 10-12 new full time positions.

**Councilman Steinbach Q:** Are you working on Units 1 & 2 now? If not now, eventually?

**A:** At this time the only clean air modifications planned for Units 1 & 2 are low NO<sub>x</sub> burners after 2012.

**Carl Lembke Q:** What are the mean wages for the project and afterwards? What is the wage level? What kind of positions, how many will be highly skilled trades?

**A:** I don't know, these are questions for TIC (the construction contractor) *[these issues will be discussed in the ISA application]*

**Carl Lembke Q:** How will the concrete work be accomplished?

**A:** TIC plans on bidding the concrete work and will use local contractors for this work.

**Trish Hastings Q:** How many union jobs?

**A:** TIC is a merit shop and typically does not use union labor.

**Trish Hastings Q:** Will union workers be the primary workforce?

**A:** After the project is complete yes, but not during construction.

**Trish Hastings Q:** Does TIC hire union workers? Is it a union shop?

**A:** TIC uses various labor pools to obtain their workforce. They are not a union shop.

**Mike Velasquez Q:** Do you foresee a time when you'll mine coal again at the old Glenrock Mine site?

**A:** No, PacifiCorp's decision to install wind turbines on the reclaimed mine site has solidified the mine closure.

APPENDIX C

# Housing Plan

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# Appendix C – Housing Plan

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In an effort to determine the availability of hotel/motel accommodations in the area of site influence, CH2M HILL undertook a telephone survey in March 2008. Solicitations were made to all major hotels and motels in the Glenrock/Douglas/Casper area regarding commitments to make accommodations available to construction workers employed at the Project site.

Table C-1 shows the total number of workers that can be accommodated in area hotels based on the commitment letters received for the construction period 2008 – 2010. Based on the peak construction month (September 2009), it is estimated that 340 workers will require temporary housing. Table C-1 shows that total accommodation of 895 can be achieved. Thus, these commitments are adequate to accommodate all single non-local workers expected to work onsite at the Project.

Table C-2 summarizes the information obtained from each of the hotels. Copies of commitment letters and emails are attached.

**Table C-1  
PacifiCorp Dave Johnston Units 3 and 4 Emission Control Project  
Temporary Housing Unit Commitments for 2008 through 2010**

Facility	No. of Rooms	No. Occupants per Room	Total No. Persons Accommodated
<b>Glenrock</b>			
Oregon Trails Motel (under construction), expected to open 10/1/08	20	2	40
<b>Douglas</b>			
1 <sup>st</sup> Interstate Inn	35	2	70
Alpine Inn	20	2	40
Best Western Douglas Inn	35	2	70
Sleep Inn (under construction)	33	1	33
	30	2	60
<b>Casper</b>			
1 <sup>st</sup> Interstate	60	2	120
Comfort Inn	20	2	40
Courtyard Marriott	25	2	50
National 9 Inn Showboat	7	2	14
Parkway Plaza Hotel	15	1	15
	15	2	30
Quality Inn	20	2	40
Ramada Plaza (formerly Holiday Inn)	30	2	60
Ramkota Casper	10	2	20
Sage and Sand	15	2	30
Shilo Inn	50	2	100
Skyler Inn	6	1	6
Super 8 West – Timberline Hotels Inc	20	2	40
Super 8 East – Timberline Hotels Inc.	10	2	20
Days Inn – Timberline Hotels Inc.	30	2	60
<b>TOTAL</b>	<b>506</b>	<b>-</b>	<b>895</b>

Source: CH2M HILL, 2008

**Table C-2  
PacifiCorp Dave Johnston Units 3 and 4 Emission Control Project  
Summary of Hotel Rooms Available for TIC Construction Period 2008 – 2010**

Hotel	Rates Quoted Nightly Unless Noted Otherwise	2008 Room Availability (single or double unless noted otherwise)	2009 Room Availability	2010 Room Availability	Proposal Letter Attached (email/letter)
<b>Casper</b>					
1 <sup>st</sup> Interstate	\$49.95, if all rooms reserved	60	60	60	Letter
Comfort Inn	\$74	20	20	20	Letter
Courtyard Marriott	\$99, if less than 100 rooms occupied on qtrly basis rate increases to \$109	25	25	25	Letter
National 9 Inn Showboat	\$53.95 Oct 2008 – Mar 2010	7 doubles	7 doubles	7 doubles	Email
Parkway Plaza Hotel	\$50/2008 \$55/2009 \$60/2010 (1-4 persons/room)	25-30, singles & doubles	25-30, singles & doubles	25-30, singles & doubles	Letter
Quality Inn	\$74.99/1 person \$79.99/2 persons	20	20	20	Email
Ramada Plaza (formerly Holiday Inn)	\$55/2008 \$58/2009 \$61/2010	30	30	30	Letter
Ramkota Casper	\$60/2008-2009	10-12	10-12	10-12	Letter
Sage and Sand	Oct 2008 – Feb 2009 \$280/weekly rate Mar-Sept 2009 \$350 weekly rate	Oct – Feb 25 rooms Mar – Sept 15 rooms	Oct – Feb 25 rooms Mar – Sept 15 rooms	Oct – Feb 25 rooms Mar – Sept 15 rooms	Letter

**Table C-2**  
**PacifiCorp Dave Johnston Units 3 and 4 Emission Control Project**  
**Summary of Hotel Rooms Available for TIC Construction Period 2008 – 2010**

Hotel	Rates Quoted Nightly Unless Noted Otherwise	2008 Room Availability (single or double unless noted otherwise)	2009 Room Availability	2010 Room Availability	Proposal Letter Attached (email/letter)
Shilo Inn	\$49.95/2008 \$51.95/2009 \$53.95/2010	50	50	50	Letter
Skyler Inn	\$38.10/day, \$1143/mo.	6 single rooms	6 single rooms	6 single rooms	Letter
Super 8 West – Timberline Hotels Inc	\$62/2008-2009 \$2,800/2008-2009/mo for bedroom apt 2010 rates determined last qtr 2009	20 rooms 1 – 1 bedroom apt	20 rooms 1 – 1 bedroom apt	20 rooms 1 – 1 bedroom apt	Letter
Super 8 East – Timberline Hotels Inc.	\$69/2008-2009 2010 rates determined last qtr 2009	10	10	10	Letter
Days Inn – Timberline Hotels Inc.	\$55/2008-2009, \$1,400/2008-2009 monthly \$1,800/2008-2009/mo for bedroom apt 2010 rates determined last qtr 2009	30 standard rooms 1 – 1 bedroom apt	30 standard rooms 1 – 1 bedroom apt	30 standard rooms 1 – 1 bedroom apt	Letter
<b>Douglas</b>					
1 <sup>st</sup> Interstate Inn	\$43/nightly \$301/monthly	35	35	35	Letter
Alpine Inn	\$50	20 double rooms	20 double rooms	20 double rooms	Letter

**Table C-2**  
**PacifiCorp Dave Johnston Units 3 and 4 Emission Control Project**  
**Summary of Hotel Rooms Available for TIC Construction Period 2008 – 2010**

Hotel	Rates Quoted Nightly Unless Noted Otherwise	2008 Room Availability (single or double unless noted otherwise)	2009 Room Availability	2010 Room Availability	Proposal Letter Attached (email/letter)
Best Western Douglas Inn	\$89.99 Oct 2008 – July 2010, except WY State Fair Week 8/7/08-8/15/08 rate will be \$119	35	35	35	email
Sleep Inn (new hotel under construction), see letter for info	\$79	33 single w/ king 30 double rooms	33 single w/ king 30 double rooms	33 single w/ king 30 double rooms	Letter
<b>Glenrock</b>					
Oregon Trails Motel (new under construction), expected to open 10/1/08	\$100	20 double rooms 1 ADA room available	20 double rooms 1 ADA room available	20 double rooms 1 ADA room available	Letter

1st Interstate Motel.  
20 S.E. Wyoming BLVD  
CASPER, WY 82609  
PH NO # (307) - 234-9125  
OR  
307-277-8494  
FAX # (307) - 265-0264

I am willing to provide you  
60 Rooms for 49.95 + TAX each night  
if you take all 60 Rooms for hole time  
for until your project is done and all my  
rooms are remodeled It has 1) new mattress.  
2) new bathrooms, Micro + Figer. TV + cable.  
Phone's in the room 60 chanles + HBO  
Free Brackfast (Coffe + Donit + and some more).

Thanks.

We have to provide you a service.

***Negotiated Rate Agreement***

On behalf of Tharaldson Lodging and the **Casper Comfort Inn**, we welcome the opportunity to become your lodging of choice. We specialize in providing superior service at a value driven rate.

**Hotel Features and Amenities**

- Complimentary Continental Breakfast
- Indoor Pool/Spa
- 24 Hour Coffee/Tea Service
- Free Local Telephone Calls
- Free High Speed Internet Access
- Fax/Copy Service
- Telephone w/Data Port
- In-Room Coffee Maker
- Iron & Ironing Board
- Hair Dryer
- Desk/Work Area
- Premium Movie Channel

This letter serves as a negotiated rate agreement between the **Casper Comfort Inn** and the **Dave Johnson Power Plant project**. The **Casper Comfort Inn** agrees to provide the **Dave Johnson Power Plant project** with a discounted rate of

**Negotiated Rate: \$74.00+ tax Standard Room w/two queens**

The **Casper Comfort Inn** agrees to provide 20 rooms nightly with the exception of the following dates on which the hotel is already booked to capacity as of April 4, 2008:

10/30-10/31/08      11/12-11/13/08      2/26-2/27/09      3/4/09-3/6/09  
3/11/09-3/13/09

This rate is valid for employees of the Dave Johnson Power Plant project only, is non-commissionable, and does not guarantee availability. The rate is not valid with any other offer. Reservations must be made directly with the hotel. Rate is not valid through Central Reservations Systems, Travel Agents, or internet bookings.

**This agreement will expire on 4/1/2010.** *Each party has the option to withdraw from this agreement, given they provide a written 30 day advance notice.*

We welcome you and look forward to hosting your company. Please sign this agreement and return at your earliest convenience. Please call if you have any questions or concerns regarding your negotiated rate.

\_\_\_\_\_  
**Dave Johnson Power Plant project**    Date

\_\_\_\_\_  
**Amy Likes, General Manager**    Date

*This agreement is not valid until all required signatures have been affixed.*

## Proposal Letter

March 28, 2008

Aynie Scott  
CH2M Hill  
Dave Johnston Power Plant Project  
9193 South Jamaica Street  
Englewood, CO.80112-5946  
(720) 286-1155

Dear Aynie,

Based on the information I have received, I am confident that our Courtyard by Marriott is the perfect choice for you. All of our guest rooms offer the following amenities.

Customer Focused Design  
Spacious Room That Combines Comfort and Functionality  
Large Desk with Ergonomic Chair  
Free Wireless High Speed Internet Access  
Luxury Bedding  
Fridge and Microwave  
Iron & Ironing Board  
Hair Dryer  
Valet Dry Cleaning

**\$99.00 (Standard Room)**

**1 King or 2 Queen**

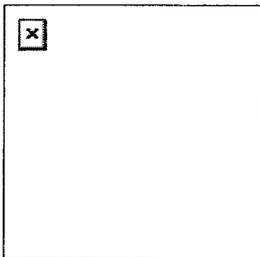
**We would provide up to 25 rooms per night (based on availability)**

**Upon the review at the end of each quarter, if (100) room nights are NOT produced, the rate will refer to \$109.00.**

To make your reservations, just call us at 307-473-2600. Again thank you for your interest. We look forward to being of service to you.

Sincerely,  
Monique de Moulin  
Sales Manager

**From:** Sherri Zimney [szimney@gmail.com]  
**Sent:** Thursday, April 03, 2008 9:21 AM  
**To:** Scott, Aynie/DEN  
**Subject:** Re: Dave Johnston Power Plant



National 9 Inn Showboat

100 W. F St.

Casper, Wy 82601

## HOTEL ROOMS PROPOSAL

I could commit 7 Doubles at the rate of 53.95 plus tax on a weekly basis for the dates of mid October 2008-March 2010.

Please feel free to call me with any questions @ 307-235-2711.

Thank You,

Sherri Zimney

On Thu, Apr 3, 2008 at 9:13 AM, <Aynie.Scott@ch2m.com> wrote:  
Sherri,

I received your email & the attachment, I am not sure what software was used to save the proposal but I am not able to open the document. Is it possible for you to just cut & paste it into the email?

Thanks,

Aynie



In the interest of the environment, please print only if necessary and recycle

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**From:** Sherri Zimney [mailto:[szimney@gmail.com](mailto:szimney@gmail.com)]

**Sent:** Wednesday, April 02, 2008 6:24 PM

**To:** Scott, Aynie/DEN

**Subject:** Re: Dave Johnston Power Plant

Proposal attached

On Mon, Mar 31, 2008 at 11:22 AM, <[Aynie.Scott@ch2m.com](mailto:Aynie.Scott@ch2m.com)> wrote:

Sherri,

I wanted to drop a note so you have my email address. I just left a message for you in relation to the Dave Johnston Power Plant, I have been asked to obtain a proposal letter with a commitment of rooms and rates for the project that will begin in mid October 2008 - appx March 2010.

Please let me know if you have any questions.

Thank you,

*Aynie Scott  
Project Delivery Assistant  
Industrial Systems Business Group  
CH2M HILL  
9193 South Jamaica Street  
Englewood, CO 80112-5946  
Office (720) 286-1155  
Fax (720) 286-9305  
Email [Aynie.Scott@ch2m.com](mailto:Aynie.Scott@ch2m.com)*



In the interest of the environment, please print only if necessary and recycle



**PARKWAY PLAZA**  
HOTEL & CONVENTION CENTRE

April 3, 2008

Aynie Scott  
CH2M

Dear Aynie,

The Parkway Plaza is pleased to submit this bid proposal for your upcoming project beginning in October of 2008 with completion in 2010.

**Guest Room Accommodations:**

Today the Parkway Plaza Hotel offers more than 285 guest rooms including a wide combination of options. We have 15 mid-level suites that we consider our Business or Extended Stay Suites and 8 Deluxe Suites.

We would block a mixture of 25-30 guest rooms per night for the duration of your project.

2008 Guaranteed Flat Rate of \$50.00 per night plus tax (1-4 people per room)

2009 Guaranteed Flat Rate of \$55.00 per night plus tax (1-4 people per room)

2010 Guaranteed Flat Rate of \$60.00 per night plus tax (1-4 people per room)

**Amenities:**

- Parkway Café
- Newly Remodeled "All That Jazz" Lounge
- Spa and Sauna
- Fitness Center
- Fax Service
- ATM Machine
- Free HBO & ESPN
- Bus Depot
- Barry's Pizzeria
- Old Town Family Fun Center
- Free High Speed Wireless Internet
- Poor Boy's Steakhouse (one block away)
- Heated Indoor Pool & Courtyard
- Gift Shop
- Guest Laundry
- On Sight Security
- 2 Hair Salons
- Free Local Calls
- Acres of Free Parking
- 24 Hour on Call Shuttle
- (3) Station Business Center
- Toll Free Reservations 1-800-270-7829

Please feel free to contact us with any questions or concerns you may have. We look forward to hearing from you and working with you in the future.

Sincerely,

*Dan Ridinger*

*Stephanie Tampellini*

**Dan Ridinger**  
Corporate Sales Manager

**Stephanie Tampellini**  
Director of Sales

**From:** Quality Inn and Suites [qisuite@tribcsp.com]  
**Sent:** Monday, March 31, 2008 1:08 PM  
**To:** Scott, Aynie/DEN  
**Subject:** bid

**Attachments:** sales sheet no rates.doc

Aynie,

We will offer a \$74.99 for one person and \$79.99 for two people per room. Please see attached sheet with the hotel amenities. Please let me know if I should block 20 rooms. We will need a rooming list two weeks prior to their stay.

Thank you Rhonda



## ***92 modern and extra clean rooms***

Located north of I-25 at Exit 188B  
821 N. Poplar, Casper, Wyoming 82601

307-266-2400 • 800-424-6423  
307-266-1146 fax • E-mail: [qisuite@trib.com](mailto:qisuite@trib.com)

- Close to downtown and Casper Events Center
- 3 miles to the unique and historic Ft. Caspar
- 7 miles to the city's Eastridge Mall
- 8 miles to Natrona County International Airport
- 1 mile to Federal, State, and County buildings

### ***Amenities and benefits include:***

- ✓ Newly remodeled rooms, suites and whirlpool suites available.
- ✓ Very quiet rooms with soundproof walls.
- ✓ New RCA 27" remote control color TVs with many cable channels and pay per view movies (free HBO).
- ✓ Voice mail and dataports available. Free credit card and local phone calls.
- ✓ New Serta Sleeper mattresses (queens and kings).
- ✓ Free deluxe continental breakfast with a variety of breads, juice, coffee, eggs, waffles, instant oatmeal, bagels, French toast, three cereals and donuts served from 5 to 9:30 a.m.
- ✓ Exercise room.
- ✓ High speed internet access in Guest Rooms/Business Office Center.
- ✓ Three local restaurants within walking distance.
- ✓ 10% discount off adjacent restaurant (JB's) bill – breakfast, lunch or dinner (6 a.m.-10 p.m./M-TH and 6 a.m.-11 p.m. Friday and Saturday.
- ✓ Pets allowed in designated rooms. Non-smoking rooms available.
- ✓ Vehicle plug ins available.
- ✓ Complimentary USA Today newspaper in lobby. Casper newspaper delivery to rooms daily.
- ✓ Refrigerator, microwave, cribs and rollaways available upon request.
- ✓ Meeting room available for up to 52 people.
- ✓ Irons, coffeemakers and hair dryers in rooms.

*We received extra high quality assurance scores on the recent  
Choice Hotels cleaning and maintenance inspection.*

**Our extra friendly staff will do all they can to make your stay as comfortable as possible.  
Try us once and we are certain you will want to come back.**

March 31,2008

CH2  
Annie Scott  
9121 South Jamaica  
Englewood, CO 80112

Dear Annie,

The staff and management at the RAMADA Plaza Riverside would like to take this opportunity to express our sincere appreciation to you and your company for giving us the opportunity to serve you. Our hotel has undergone extensive renovations this past year and we will continue even more changes in 2008. This project is taking place to ensure that your clients and employees will be assured a comfortable and pleasurable stay with us. We feel our property sets the benchmark for quality and service in Casper and you have our commitment that our employees will do everything to insure that this will be the standard during your stay

We would like to continue our relationship by offering the following preferred rate. This rate represents a considerable discount from our retail rate of \$129.00 per night. .

**2008 Preferred Rate = \$55.00 ( 30 Guaranteed )**  
**2009 Preferred Rate = \$58.00 (30 Guaranteed )**  
**2010 Preferred Rate = \$61.00( 30 Guaranteed )**

If this rate is acceptable to you, please sign below and fax this to the hotel at (307)-473-3111. This rate will then be loaded into our reservation system in order to provide you seamless reservation and billing. We will be contacting you within the next month to address any questions or concerns that you may have. Meanwhile, please feel free to contact me at any time at (307-235-2531) or my cell phone at (307)-258-3783.

We appreciate the opportunity to serve you and your colleagues and hope to be your preferred hotel in 2008.

Sincerely,

Roger Arndt  
Corporate Sales Manager

Karin East  
Director of Sales



# RAMKOTA HOTEL

*of Casper, Wyoming*

800 North Poplar Casper, WY 82601  
(307) 266-6000

April 5, 2008

**Aynie Scott**

Project Delivery Assistant  
Industrial Systems Business Group  
CH2M Hill  
9193 South Jamaica Street  
Englewood, CO 80112-5946

Dear Name,

I am pleased to inform you that the Best Western Ramkota Hotel is offering you a 2008-2009 room rate of **\$60** per night, single/double occupancy. This represents a considerable discount, as our standard best rate is \$109.99. This discounted rate is exclusive to **you** during the period of time you will be working here at the Dave Johnson Power Plant here in Wyoming. We will only be able to offer this rate for 10 to 12 rooms during this period of time. While these guests will be long term and we wish for their comfort and privacy, we do request access to guest rooms at least every 72 hours for cleaning.

As you know, we are continuing to make great changes to the hotel. Along with great meeting & convention space, we now feature High Speed Internet service in every room, on site restaurant and lounge, indoor pool and a new water play land coming soon!, exercise room and complimentary airport and city shuttle service. We are confident that we are creating an exclusive and quality product to offer those who visit Casper.

Our commitment to you is that you will enjoy the special attention we give to every aspect of your stay. We know that our property, staff, and management team sets the benchmark for quality and service. We hope to create a stay that is a wonderful experience for you and your colleagues.

If you agree to these rates, please sign and fax back to (307) 473-1010, attention Dave Greth. Please call with any questions. *Please note: All agreements expire on 12/31/2008.*

Sincerely,

Dave Greth  
*Director of Sales*

---

**Company Name**

**Signature**

**Date**

Each Best Western Hotel is independently owned and operated. ©2002-2007 Best Western International, Inc.  
All rights reserved.

To:- Aynie Scott      From: Sage & Sand Motel  
 901 W. Yellowstone  
 Casper WY 82601  
 (307) 237-2088  
 (307) 237-0054 Fax  
 (Paul)

Hi Aynie this the least of rooms that we can provide for 1 or 2 person in room.

Oct - Feb    25 rooms    \$280 + <sup>tax</sup> 22.40 = 302.40

March - Sep    15 rooms    \$350 + <sup>tax</sup> 28.00 = 378.00

Paul Chaudhavi

We provide WiFi - Large room for cooking - and some kitchenette room, Guest Laundry.



**SHILO MANAGEMENT CORPORATION**

11600 SW Shilo Lane  
Portland, OR 97225-5995  
(503) 641-6565  
[www.shiloinns.com](http://www.shiloinns.com)  
[scott.hartcorn@shiloinns.com](mailto:scott.hartcorn@shiloinns.com)

March 27, 2008

Ms. Aynie Scott  
CH2M Hill  
9193 S. Jamaica Street  
Englewood, CO 80112

RE: Shilo Inn/Casper/Evansville  
2008 – 10 Dave Johnson Power Plant Proposal

Dear Ms. Scott,

Thank you for the opportunity to submit a proposal for the Dave Johnson Power Plant renovation project. We feel that the Shilo Inn Casper/Evansville is the ideal choice and uniquely suited to meet all of your needs.

The Shilo Inn Casper/Evansville is a full service property with a restaurant, conveniently located off I-25 at Exit #185. Our location is approximately 5 minutes from the power plant. The Shilo Inn Casper/Evansville features the following amenities:

- Newly renovated guest rooms
- Free high-speed internet access in every room
- Complimentary expanded Continental Breakfast served daily
- Free large vehicle & truck parking area
- Full service restaurant
- Indoor pool, spa, sauna and steam room
- Guest laundry
- Fruit, popcorn and coffee are available in the lobby 24-hours a day
- In-room, first-run movies and entertainment,
- Complimentary airport shuttle
- Substantial retail businesses adjacent, including Eastridge Mall, Wyoming's largest mall
- View us online at <http://www.shiloinns.com/Wyoming/casper.html>

**The Shilo Inn Casper/Evansville is pleased to offer the following proposal:**

Guestroom Commitment: 50 rooms per day for duration of the project

Net Pricing: 2008 - \$49.95 single/double plus 8% tax  
2009 - \$51.95 single/double plus 8% tax  
2010 - \$53.95 single/double plus 8% tax

It's my hope that having a simplified pricing structure, whereby you have a single daily rate per year that is applicable to both single and double rooms works well within your system.

---



**SHILO MANAGEMENT CORPORATION**

11600 SW Shilo Lane  
Portland, OR 97225-5995  
(503) 641-6565  
[www.shiloinns.com](http://www.shiloinns.com)  
[scott.hartcorn@shiloinns.com](mailto:scott.hartcorn@shiloinns.com)

Upon review of this proposal please let me know if you have any questions or need further information. You may reach me by phone at 503-572 3626 or by email at [scott.hartcorn@shiloinns.com](mailto:scott.hartcorn@shiloinns.com). Finally, I would like extend an offer to you to come visit and stay with us as our guest should the opportunity arise. This would be the best way to experience our excellent *Shilo Hospitality* services firsthand.

Thanks once again for this opportunity. I look forward to hearing from you in the near future.

Kind Regards,

Scott Hartcorn  
Regional Director of Sales  
Shilo Management Corporation  
11600 S.W. Shilo Lane  
Portland, OR 97225  
503-572-36216  
[scott.hartcorn@shiloinns.com](mailto:scott.hartcorn@shiloinns.com)

**Skyler Inn**  
111 S. Wilson Steet  
Casper, WY 82601  
Voice 307-232-5100  
Fax 307-232-5197

March 31, 2008

CH2MHILL

Attn: Ms Aynie Scott

Ref: Room Reservation Proposal

Thank you for your inquiry about room reservations. We propose the following.

6 each: 1 Queen studio, w/full kitchen, monthly rate of \$38.10 per day,  
\$ 1143.00 per mo.  
Beginning mid-October (15<sup>th</sup>) for a period up to 18 months

We have blocked these rooms for you. We will need a written letter with a payment guarantee to hold these rooms for you after April 30, 2008.

Again, Thank You for your inquiry.

Respectfully,

C. Doug Walker  
Manager

**TIMBERLINE**  
HOSPITALITIES, LLC  
*Wyoming Owned & Operated*

---

March 31, 2008

Ms. Ayniee Scott  
CH2M Hill  
Dave Johnson Power Plant

Dear Aynie,

Timberline Hospitalities is proud to offer eight, **Wyoming owned** and operated hotels located in **Casper, Rock Springs, Gillette, Rawlins and Laramie**. Our new Holiday Inn in Laramie opened in September and we are scheduled to break ground on a Candlewood Suites in Gillette during the second quarter of 2008. The following rates are valid on standard room types only. One king size bed or two queen beds.

Super 8 West – Casper, WY (20 Standard Rooms)	\$62 – Per Night, Year Round
Super 8 West – Casper, WY (2 Bedroom Apartment)	\$2800 – Per Month, Year Round
There is only one apartment at Super 8 West	
Days Inn – Casper, WY (30 Standard Rooms)	\$55 – Per Night, Year Round
Days Inn – Casper, WY (Monthly Rate/Standard Room)	\$1400 – Per Month, Year Round
Days Inn – Casper, WY (1 Bedroom Apartment)	\$1800 – Per Month, Year Round
There is only one apartment at the Days Inn	
Super 8 East – Casper, WY (10 Standard Rooms)	\$69 – Per Night, Year Round

We feature:

**Complimentary Breakfast** --- *We take great pride in providing an exceptional breakfast.* Menus vary by hotel: Including eggs, sausage, bacon, biscuits and gravy, fresh cooked waffles, cinnamon rolls, yogurt and more. (Not available at the Holiday Inn of Laramie or the upcoming Candlewood Suites of Gillette.)

- Complimentary High Speed Internet**
- Restaurants on site or adjacent**
- Frequent Stay Club!** Stay 15 nights at any of our hotels and we will pay you **\$50.00**. Let our Front Desk Staff sign you up.
- Microwave and refrigerator in each guest room**

**These rates are available from January 1, 2008 to December 31, 2009.** We are currently holding the above number of rooms at each of our Casper hotels starting in October of 2008. Please let us know as soon as possible if you would like to contract for services at one or all of our Casper hotels. The number of rooms committed above will remain in place for 2010. The rates for rooms in 2010 will be determined by the fourth quarter of 2009. Please identify CH2M Hill or the Dave Johnson Power Plant when making reservations to ensure your employees these special Timberline rates. Should you need rates at any of our other locations, please give me a call.

Sincerely,

*Christine Hill - Corporate Sales and Marketing Manager*

BOOK YOUR ROOM ONLINE AT [www.timberlinehotels.com](http://www.timberlinehotels.com)

800 Werner Court, Suite 220 | Casper, WY 82601 | 307-473-8594 | Fax 307-473-2263 | [ksharp@timberlinehotels.com](mailto:ksharp@timberlinehotels.com)

**CASPER:** Days Inn • (888) 307-0959 | Super 8 East • (888) 888-3018 | Super 8 West • (888) 266-0497  
**GILLETTE:** Candlewood Suites • Opening 2008 | Holiday Inn Express • (866) 690-9800 | **LARAMIE:** Holiday Inn • (888) 259-9061  
**RAWLINS:** Holiday Inn Express • (866) 903-9608 | **ROCK SPRINGS:** Hampton Inn • (800) 963-3807 | **ROCK SPRINGS:** La Quinta • (888) 307-7890

HOLIDAY INN EXPRESS  
CASPER

April 3, 2008

DAVE JOHNSTON POWER PLANT PROJECT

Dear Madam:

WE ARE DELIGHTED TO AYNIE SCOTT OF YOUR INTEREST IN STAYING AT OUR HOTEL..

CURRENTLY, SPECIAL DATES ARE NEEDED IN ADVANCE ON A FIRST COME BASIS.

YOUR ATTENDEES WILL ENJOY THE FOLLOWING AMENITES AND SERVICES HERE AT HOLIDAY INN EXPRESS

- # convenient- exit 185 on I-25
- # spacious, beautifully appointed and business-friendly rooms
- # complimentary use of our exercise room
- # complimentary parking
- # laundry service
- # in room coffee service, iron and ironing board, hair dryers, wireless internet
- # great fishing in the north platte also minutes from casper mountain
- # also have a indoor pool and spa.
- # have a meeting room for up to 50 person.

We are pleased to offer you the following rates:

\$99 for one or two person per night

suites:\$109.00 per night

THESE RATES ARE SUBJECT TO WYOMING STATE TAXES OF 8%

aynie scott, your business is important and we are most interested in hosting your guest.

March 3, 2008  
Page 2

WE WOULD BE HAPPY TO SET UP A DIRECT BILL FOR THE STAYS SO YOUR  
EMPLOYEES WILL HAVE NO PROBLEMS AT CHECK-OUT.

AGAIN, THANK YOU! WE APPRECIATE YOUR CONSIDERATION AND LOOK FORWARD  
TO THE LPEASURE OF SERVING YOU SOON.

our letter here. For more details on modifying this letter template, double-click . To return to this  
letter, use the Window menu.

Sincerely,

A handwritten signature in cursive script that reads "Charlotte Pogroszewski". The signature is written in black ink and is positioned above the printed name.

CHARLOTTE POGROSZEWSKI GENERAL MANAGER

1ST INTERSTATE INN  
DOUGLAS, WY

Aynia Scott  
9193 S. Jamaica Street  
Englewood, CO 80112

Dear Ms. Scott,

First let me thank you for the opportunity to provide your employees with accommodations while working on the Dave Johnston Power plant project. Our facility offers coffee and pastries in the lobby each morning, laundry facilities on site. Each room is equipped with a microwave and refrigerator. We offer both smoking and non smoking rooms as well as single and double bedded rooms.

We can provide you with 35 rooms at the rate of \$43.00 per night plus tax. This is a weekly rate of \$301.00 plus tax. This rate is available to you for your project beginning in mid October thru project completion in 2010.

Direct billing is available. This will need to be set up in advance. If the employee is to pay for their own rooms, we will need to know this at the time the reservation is placed.

We will need to discuss further how your rooms will be reserved and billed. Currently we charge the company for 1 night on any rooms reserved and not canceled.

I look forward to working with you on this project. Please do not hesitate to contact me at anytime with questions or suggestions.

Sincerely,



Shelly R. Rutten  
Manager

## FAX COVER LETTER

---

**ALPINE INN**

2310 E RICHARDS STREET, DOUGLAS, WY 82633

TO,

Dave Johnston Power Plant

ATTN: Aynie Scott

FAX : 720 286 9305

# OF PAGES INCLUDING THIS 1

NOTE:

The Alpine Inn will commit to 20 double rooms at a rate of fifty dollars a night plus tax.

If you have any questions please call 307 38 4780

THANK YOU,

Wendy Huff

---

IF YOU DO NOT GET ALL PAGES PLEASE CALL US AT 307 358 4780

**From:** Patty Morrell [bwdiva@communicomm.com]  
**Sent:** Wednesday, April 02, 2008 6:22 PM  
**To:** Scott, Aynie/DEN  
**Subject:** good evening  
Hiya Miss Aynie...thank you for the visit today...

Unfortunately I couldn't get to the bid for the rates in proper form..but I can tell you that I will offer an \$89.99 rate plus 8% tax single or double occupancy, for the duration of TIC's stay, starting from October 2008 thru August 1, 2010...except for the Wyoming State Fair week for 2009 which rooms will be \$119.00 single or double occupancy from the first Friday of the Fair week thru the following Saturday...(tentative dates August 7-15)

We are allotting 35 rooms for TIC.

Again we understand that this is tentative and based on a sliding scale for personnel at the plant during that time frame. I'll also need to know form of payment before booking can take place. We do accept Direct Billing, but proper paperwork will need to be completed before an reservations can be accepted.

We would love to accommodate the group. Please check out our website at [bestwestern.com/prop\\_51062](http://bestwestern.com/prop_51062) I think you'll like what you see!

Take care..call me with any questions 307-358-9790 x504

Patty L. Morrell  
Director of Sales and Marketing  
Best Western Douglas Inn  
1450 Riverbend Drive  
Douglas, WY 82633  
Phone: 307-358-9790 x504  
Fax: 307-358-6251  
reservations only: 800-344-2113



**BY CHOICE HOTELS**  
Independently Owned and Operated By Braehead Lodging LLC

March 31, 2008

RE: Lodging proposal for Dave Johnston Power Plant Retrofit

Prepared for CH2M Hill by Braehead Lodging LLC, DBA Sleep Inn & Suites

Braehead Lodging LLC will be beginning construction on a 63 room property in Douglas, Wyoming in late spring of 2008. The estimated date of completion for construction will be fall of 2008. The Sleep Inn & Suites will have an indoor pool and hot tub, a complementary "Morning Medley" breakfast, microwaves and refrigerators in all rooms and high speed internet access.

Braehead Lodging LLC is willing to contract rooms for the purpose of housing workers on the Dave Johnston Power Plant Retrofit. There will be 33 king rooms and 30 two queen bed rooms available. All rooms are non smoking. Contracted price will be \$79 per room per night.

In the event that the construction on the Sleep Inn & Suites is not completed by the start date of the lodging contract, the same number of rooms will be provided at the same price at the Holiday Inn Express Hotel & Suites in Douglas, Wyoming until the Sleep Inn & Suites is completed.

If CH2M Hill is willing to set up a contract with Braehead Lodging LLC, the following areas of discussion will need to be agreed upon between the two parties and be included in the contract: cancellation policy, no show policy and billing/payment.

Until the Sleep Inn & Suites is built, contact information regarding this contract will go through the Holiday Inn Express Hotel & Suites in Douglas, Wyoming. Updated contact information will be provided when it is available.

Thank You

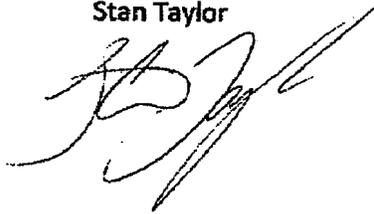
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To TIC and anyone it may concern this letter is being sent out per your request on 3-31-08. We are building a new motel in the Glenrock area. Providing there are no unforeseen delays we intend to be open for business by 10-1-08. At that time we would be able to offer 20 regular rooms and one ADA room all with two Queen sized beds each. Each room will have a small refrigerator and a microwave oven along with a coffee maker for our guests that are staying for long periods of time. We are to be located within walking distance of restaurants and other local businesses. We can offer these rooms to you at the rate of \$100.00 per night. That price does not include State or local Tax. If you have any further questions please let us know and we will do our best to answer them for you.

Thank You!

Stan Taylor

A handwritten signature in black ink, appearing to be 'Stan Taylor', written in a cursive style.