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LEVEL II STUDY
TOWN OF GREYBULL
RAW WATER SUPPLY PROJECT

ENVIRONMENTAL REPORT

PREPARED FOR:
WYOMING WATER DEVELOPMENT COMMISSION

JUNE 10, 2003
TOWN OF GREYBULL
RAW WATER SUPPLY PROJECT

ENVIRONMENTAL REPORT

June 10, 2003
A. PURPOSE AND NEED FOR PROJECT

PROJECT DESCRIPTION

Engineering Associates has been retained by the Wyoming Water Development Commission to conduct the Level II Study to evaluate the feasibility of constructing a buried raw water system to serve the Town of Greybull. Initially, the intent of this study was to determine if providing irrigation water to “Green Areas” in the Town such as parks and schools was feasible. However, after developing initial raw water demands for those areas, it became apparent that this would not resolve water shortage problems in the Town in the near future. Therefore, this study was revised to further evaluate the potential for constructing a raw water system to serve “Green Areas” and the remaining portions of the Town. Evaluations were made to determine the costs per EDU for both the complete distribution system and a distribution system to serve only those “Green Areas” within the Town.

Preliminary designs and costs were presented to the Greybull Town Council in November relating to the five preliminary design options deemed feasible. Based on preliminary designs the Council selected Option 3 and Option 5 for further development and evaluation.

1. Option 3 – Pump Station on Lower Shell Creek
   This Option consists of installing a new 12-inch transmission line from a new pump station located on Shell Creek northeast of Town running to a new steel tank located on a ridge above Shell Creek and under the Big Horn River. Approximately 19,500 feet of 12-inch pipe and associated fittings will need to be installed. Another 28,000 feet of 6-inch pipe is proposed to be installed in conjunction with the raw water distribution system. Approximately 400 taps of various sizes are anticipated. The majority of these facilities fall within existing easements and right-of-ways.

2. Option 5 – New Potable Water Transmission Line from Shell
   This option consists of installing a new 8-inch transmission line from the existing infiltration gallery northeast of Shell to the existing potable water storage tank located east of and then crossing the river near the river bridge on Highway 14A. This new line will be used to carry potable water from the Shell wells to the distribution system. Approximately 94,000 feet of 8-inch pipe, pressure reducing stations, and associated fittings will need to be installed. The existing 12-inch and 14-inch asbestos cement transmission line from the infiltration gallery northeast of Shell will be used to carry Shell Creek water to a new raw water system in Greybull. Components of the raw water system in Town are similar to those proposed under Option 3. Option 5 is proposed to follow the alignment of the existing water transmission pipeline. Doing so will reduce the need for new easements and consolidate facilities into one general location.

Capital construction costs estimates have been prepared for the various alternatives based on previous bids for similar facilities. Revisions were made to the preliminary
designs to fully identify costs that may be incurred. Annual cost is estimated at about $20,000. Operation and maintenance (O&M) costs associated with Option 3 included costs for sediment removal and pumping. O&M costs associated with Option 5 included primarily costs associated with maintaining the longer pipeline.

Assumed funding for Option 3 includes a grant from WWDC for almost 29% of the project total, a loan at 2.5% interest from the State Revolving Fund Loan Program for 50% of the project total, an in-kind contribution from the Town of 1%, and an OSLIB grant for 21% of the project total.

Proposed funding for Option 5 includes an RUS grant for 16% of the project total, an RUS loan for 16%, a WWDC grant for 40%, an OSLIB grant for 10%, and an SRF loan for 18% of the project cost.

Depreciation cost estimates, or estimated fees that need to be charged to pay for the depreciation, are included in the operation and maintenance costs. Depreciation costs are based on an estimated 50-year average life for the facilities. They include costs for a complete replacement of all facilities constructed under the project. Project Costs shown in the tables below relate to the proposed improvements previously discussed.

<table>
<thead>
<tr>
<th>PROJECT FEATURE</th>
<th>OPTION 3 COST - LOWER SHELL CREEK</th>
<th>OPTION 5 COST - SHELL PIPELINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSTRUCTION</td>
<td>$1,987,710</td>
<td>$4,243,113</td>
</tr>
<tr>
<td>CONSTRUCTION PHASE ENG</td>
<td>$198,771</td>
<td>$424,311</td>
</tr>
<tr>
<td>CONSTRUCTION COST SUBTOTAL</td>
<td>$2,186,481</td>
<td>$4,667,424</td>
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<td>CONTINGENCY</td>
<td>$327,972</td>
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<td>CONSTRUCTION COST TOTAL</td>
<td>$2,514,453</td>
<td>$5,367,538</td>
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<tr>
<td>FINAL DESIGNS AND SPECIFICATIONS</td>
<td>$251,445</td>
<td>$536,754</td>
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<tr>
<td>PERMITTING AND MITIGATION</td>
<td>$75,434</td>
<td>$161,026</td>
</tr>
<tr>
<td>LEGAL FEES</td>
<td>$50,289</td>
<td>$107,351</td>
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<tr>
<td>ACCESS AND RIGHTS-OF-WAY</td>
<td>$75,434</td>
<td>$161,026</td>
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<tr>
<td>TOTAL PROJECT COST</td>
<td>$2,967,055</td>
<td>$6,333,695</td>
</tr>
</tbody>
</table>

The following table summarizes the projected annual costs for the two options. It includes operation and maintenance, capital construction, and depreciation. The total projected costs per customer or equivalent dwelling unit are shown for each option.

These costs were developed to allow a direct comparison of the two alternatives. Costs for Option 3 were developed assuming only in-town users would pay for the raw water
system. The monthly cost assuming only in-town users will pay for Options 3 is projected at $12.54 per month per EDU. If water rates were increased for all users the monthly cost per water customer would be about $7.60 per month per EDU.

Costs for Option 5 were developed assuming all users would pay for the system since all would benefit from a new transmission pipeline. Monthly cost for this alternative is about $12.50 per month.

### ANNUAL COST SUMMARY

<table>
<thead>
<tr>
<th>Description of Cost</th>
<th>Option 3 Lower Shell Creek</th>
<th>Option 5 Shell Pipeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Construction Costs</td>
<td>$94,212.00</td>
<td>$134,033.00</td>
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<tr>
<td>Operation &amp; Maintenance Cost Increase</td>
<td>$20,260.00</td>
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<tr>
<td>Facility Depreciation</td>
<td>$0.00</td>
<td>$33,400.00</td>
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<tr>
<td>Total</td>
<td>$114,471.00</td>
<td>$187,433.00</td>
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</table>

<table>
<thead>
<tr>
<th>Proposed Monthly Cost for a Residential User (1 EDU)</th>
<th>Option 3</th>
<th>Option 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Construction Cost</td>
<td>$10.34</td>
<td>$8.94</td>
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<tr>
<td>Operation &amp; Maintenance Cost Increase</td>
<td>$2.22</td>
<td>$1.33</td>
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<tr>
<td>Facility Depreciation</td>
<td>$0.00</td>
<td>$2.23</td>
</tr>
<tr>
<td>Total</td>
<td>$12.54</td>
<td>$12.50</td>
</tr>
</tbody>
</table>

### PURPOSE AND NEED OF PROJECT

The Town of Greybull has been concerned about the availability of water supply for its potable water supply system for nearly a decade. In the early 1990's, the Town was informed by the EPA that without further treatment, their infiltration gallery on Shell Creek was no longer an acceptable source of supply for their potable water system. At that time, the Town requested assistance from the Wyoming Water Development Commission (WWDC) to study options for providing potable water for their system. In 1995, Nelson Engineering, Inc., performed a study to determine the supply quantity available through the Town’s Shell Pipeline, and provided recommendations for finding additional supplies. As a result of that study, the WWDC drilled a well on White Creek. Unfortunately, the production from that well has been less than anticipated.

During the last two years, the Town of Greybull has implemented water rationing requirements during the summer to reduce demand on the system. This has been required because draw from the tank exceeds the supply to the Town. As a result, the storage volume in the tank has been lowered below acceptable levels for fire fighting purposes. Since drawing at peak flows from the wells has the potential of reducing well life and reducing the production of those wells in the long term, the Town intends to limit flows from the wells to no greater than 750 gpm.
B. ALTERNATES TO PROPOSED ACTION

The following preliminary designs were evaluated for completing this project:

1. OPTION 1 – ALLUVIAL WELL SYSTEM
2. OPTION 2 - BIG HORN RIVER SYSTEM
3. OPTION 3 - SHELL CREEK DIVERSION SYSTEM
4. OPTION 4 - SHELL CREEK DIVERSION TO SERVE GREEN AREAS
5. OPTION 5 - REPLACEMENT OF THE SHELL PIPELINE

The following table summarizes the preliminary costs for the five options. It includes operation and maintenance, capital construction, and depreciation. The total projected costs per customer or equivalent dwelling unit are shown for each option. These costs were developed to allow a direct comparison of the alternatives. More refined cost estimates were prepared for Concept Level Designs for Option 3 and Option 5 based on input from the Town and WWDC.

User costs for Option 1, 2, and 3 were developed under the assumption that the users benefiting from the raw water system would pay all costs associated with it. Costs for option 4, the “green area” system, were developed assuming the schools and parks would pay all system costs separate from other users. Costs for Option 5 were developed assuming all users would pay for the system since all would benefit from a new transmission pipeline.

<table>
<thead>
<tr>
<th>PRELIMINARY ANNUAL COST SUMMARY</th>
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<tbody>
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<td>Description of Cost</td>
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<tr>
<td>----------------------</td>
</tr>
<tr>
<td>Capital Construction Costs</td>
</tr>
<tr>
<td>Operation &amp; Maintenance Cost Increase</td>
</tr>
<tr>
<td>Facility Depreciation</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proposed Monthly Cost for a Residential User (1 EDU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of Cost</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>Capital Construction Cost</td>
</tr>
<tr>
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</tr>
<tr>
<td>Facility Depreciation</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

OPTION 1 – ALLUVIAL WELL SYSTEM

This option includes a raw water system utilizing alluvial wells or an infiltration gallery as the source of supply. This system is shown graphically on Sheet 1 of 4 in Appendix A.
System components include:
1. Wells spaced at a 500-foot minimum spacing along the Big Horn River with pitless adapters and submersible pumps.
2. Telemetry controls and electrical installations for system pumping and controls.
3. A water storage tank located southeast of Town above the Big Horn River.
4. A transmission line extending from the storage tank, across the Big Horn River and through Town, in the east-west direction with spurs running along the river dike in the north-south direction.
5. Service lines in the alleys extending from the transmission lines to serve residential areas, parks, and schools.

OPTION 2 - BIG HORN RIVER SYSTEM

This option evaluates construction of a raw water system using the Big Horn River as the source of supply. This system is shown graphically on Sheet 2 of 4 in Appendix A.

The system configuration includes construction of the following:
1. A diversion structure on the Big Horn River.
2. A sedimentation basin.
3. A pump station with controls and electrical component.
4. A transmission line extending from a new concrete storage tank constructed in the old sedimentation facility near the Town water tank, across the Big Horn River, and through Town, in the east-west direction with spurs running along the river dike in the north-south.
5. Service lines in the alleys extending from the transmission lines to serve residential areas, parks, and schools.

OPTION 3 - SHELL CREEK DIVERSION SYSTEM

This option evaluates construction of a raw water system using Shell Creek as a source of supply. This system is shown graphically on Sheet 3 of 4 in Appendix A. This systems configuration is similar to the one outlined under Option 2, except construction of a steel storage tank would be proposed rather than utilizing the old sedimentation location. The location proposed for the tank is a ridge above Shell Creek.

OPTION 4 - SHELL CREEK DIVERSION SYSTEM TO SERVE GREEN AREAS ONLY

This option is identical to the one presented under Option 3, except that the system would only serve “Green Areas” such as parks, schools and sports fields. No service lines would be constructed under this option. It is unlikely that construction of this option would resolve the Town’s water shortage problem. This system is shown graphically on Sheet 4 of 4 in Appendix A.
OPTION 5 - REPLACEMENT OF THE SHELL PIPELINE

This option involves replacing the existing potable water pipeline from the wells above Shell with a new transmission line. The existing asbestos cement transmission line from the Shell Creek Infiltration Gallery to Greybull would then be incorporated into the raw water system. A concrete storage tank would be constructed in the old sedimentation basin to allow the system to meet peak demands. The transmission and service line layouts would be similar to those identified under Option 2.

The existing asbestos cement water transmission line from Shell to the Town was constructed in 1972 and supplies water to residents along the pipeline, the Town of Shell, and the Town of Greybull. The pipeline is 31 years old and has provided the Town with a reliable and economical water supply. It is believed to be generally in good shape although many of the metal fittings and connections are nearing the normal useful life.

The final alternative considered for this project was a “do nothing approach.” Since it is apparent that the Town needs more water to fully meet the needs of their citizens, this option was not investigated in any depth. Installing a water treatment plant on Shell Creek is the equivalent of the “do nothing” approach since work is proposed to be completed in a previously disturbed area.

C. AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES

1. Land Use/Important Farmland/Formally Classified Lands

a) Affected Environment

Areas affected by this project potentially include the Town of Greybull and areas east of Greybull along the Shell pipeline between Greybull and Shell. No information or comments were received that indicate that there is the potential to significantly impact these resources.

The project area includes the developed areas and proposed development areas within the incorporated Town of Greybull. The irrigable area likely to be served by the proposed buried raw water system was determined to include approximately 281 acres. This was determined from data developed in the study of the City of Cody Raw Water System which indicated that fifty percent of the total area served by the system is irrigable land. The remaining land areas are composed of streets, houses, driveways, etc., that affect demands. There are no anticipated developments in the Town of Greybull. The Town Zoning District Map dated January 3, 1996 was used to determine the current total acreage within the Town limits. Basic descriptions of the zoning categories and typical land uses are described below.
Town of Greybull Zoning Categories

<table>
<thead>
<tr>
<th>Code</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDR</td>
<td>Low Density Residential</td>
<td>Residential Housing</td>
</tr>
<tr>
<td>MDR</td>
<td>Medium Density Residential</td>
<td>Residential housing, trailers, apartments, etc.</td>
</tr>
<tr>
<td>CBD</td>
<td>Commercial Business District</td>
<td>Retail stores, restaurants, banks, etc.</td>
</tr>
<tr>
<td>HBD</td>
<td>Highway Business District</td>
<td>Grocery stores, gas stations, schools, etc.</td>
</tr>
</tbody>
</table>

All the land within Greybull is essentially developed except for approximately 80 acres located southwest of the existing development. This area is owned by the Town. If growth occurs, it is assumed that it will occur on this 80 acres. For our current study, this area has been assumed to grow at a rate of 0.6% per year.

b) Environmental Consequences
The nature of this project is such that it will have minimum impact on farmland and formally classified lands. The pipelines will be buried in and adjacent to previously disturbed areas which will be reclaimed after project completion. The sedimentation basin, pump station and tank associated with Option 3 will result in an impact on about 0.5 acres of grazing land adjacent to lower Shell Creek and will result in a tank being located above Greybull on a ridge located on BLM Land. The land in the vicinity of the proposed tank site for Option 3 has been previously disturbed.

c) Mitigation
Normal restoration and reclamation activities associated with buried utility activities will mitigate the impacts on these areas.

2. Floodplains

a) Affected Environment
Option 3 may result in construction work being performed in areas that encroach on floodplains. Specifically, the pump station and associated facilities may be located in special flood hazard areas. Buried facilities will have no impact on the floodplain once completed.

b) Environmental Consequences
Consequences of performing this work could include increasing flood hazards in the area of the pump station and associated facilities.

c) Mitigation
The proposed options were reviewed by the Office of Homeland Security (Federal Emergency Management Agency – FEMA). Flood Insurance Rate Map information delineates Special Flood Hazard Areas within Greybull. During siting of the project, if a pump facility or structure is located in a special flood hazard area, the project will need to conform to the Flood Hazard Prevention Ordinance adopted by the Town or County.
3.  Wetlands

a) Affected Environment
Both Option 3 and Option 5 will result in construction work being performed in areas that may include wetlands, river crossings, and construction of fills during the project during construction of the pipeline and associated facilities.

b) Environmental Consequences
Consequences of performing this work could include discharge of sediment into waterways or disturbing existing wetlands.

c) Mitigation
Much of the work associated with this project will be performed under nationwide permit (NWP) number 12 for “Utility Line Activities” or NWP number 33 for “Temporary Construction Access and Dewatering.” During design of the project, specific areas that may contain wetlands will be identified and wetland areas delineated so that areas can be avoided where practical where permanent facilities will be located. Other work will need to comply with NWP requirements and Project specific recommendations from the Army Corps of Engineers.

The U.S. Army Corps of Engineers, under Section 404 of P.L. 92-500 (the Clean Water Act), requires permits to authorize dredging or placement of fill in the waters of the United States. An individual 404 Permit, Nationwide Permit authorization, or both, will be required to permit pipeline crossings of rivers. Generally, a permit is required to place fill material or to dredge material from a river channel or other body of water.

The Wyoming Department of Environmental Quality (DEQ), under Section 401 of the Clean Water Act, will review the application for 404 Permit activities with the intent to certify project activities in accordance with the Act. Normally, no additional requirements over and above the 404 Permit are required by the DEQ and, if they are, these requirements are incorporated into the 404 Permit. Processing of the 401 Certification is concurrent with the 404 Permit process.

In areas where permanent facilities will be located that may affect a jurisdictional wetland, a wetland delineation survey will need to be performed. Efforts shall be taken to avoid constructing any facilities that will reduce the area or quality of the wetland area. Where this is not practical, additional wetlands may need to be developed.

4.  Cultural Resources

a) Affected Environment
Clearance from the State Historical Preservation Officer (SHPO) is required before ground-disturbing activities occur. In order to receive SHPO clearance, a
cultural resources survey of pipeline routes which are located in relatively undisturbed rural areas must be made.

b) Environmental Consequences
The response from SHPO indicates that most of the areas have not be surveyed for cultural resources and that a survey meeting the Secretary of Interior’s Standards for Archaeology and Historic Preservation should be conducted. A report detailing the results of the cultural resource survey will need to be prepared and submitted to SHPO.

c) Mitigation
If archaeological sites which are considered eligible for the National Register are located, two options are available:
- The site can be mitigated by archaeological excavation, or;
- The site can be avoided by re-routing the pipeline.

5. Biological Resources

a) Affected Environment
The majority of the project area for both Option 3 and Option 5 will be in areas that could impact wildlife and fisheries. Comments from the United States Fish and Wildlife Service (USFWS) and Wyoming Game and Fish Department indicate that there is the potential for the project to impact biological resources.

b) Environmental Consequences
Potential concerns identified by commenting agencies due to the proposed options include impacts on threatened and endangered species and impacts on the Fishery in Shell Creek. The USFWS identified Black-footed ferrets and mountain plover as two species that could be impacted by the project. Any impacts on migratory birds will also need to be mitigated.

Wyoming Game and Fish (WG&F) indicated that Shell Creek has historically suffered from being dewatered and that they would support options that would minimize the water drawn from Shell Creek. Neither of the proposed options will result in an increase in the water historically drawn from Shell Creek under the Town’s water right. WG&F requested the opportunity to provide input on proposed river crossings to minimize impacts.

c) Mitigation
A Threatened and Endangered Species Survey will need to be completed to fully identify species that may be impacted by the project. In some cases facilities may need to be relocated to avoid significant impacts on critical species. Mitigating impacts due to dewatering of Shell Creek are beyond the scope of activities that would be appropriate on this project. This issue will need to be resolved between the State Engineer’s Office and WG&F. If the Town does not utilize their water right, another junior appropriator will likely utilize the water.
6. Water Quality Issues

a) Affected Environment
During construction of either of the proposed options there will be several river crossings that will have the potential of discharging or disturbing sediment in waterways resulting in a highly turbid condition. The USFWS, WG&F, and Army Corps of Engineers all commented on this potential. The Water Quality Division DEQ is responsible to review project construction plans and specifications relating to water quality issues. DEQ approval and issuance of a Permit to Construct is required before construction can begin. The DEQ also requires an Engineer’s Design Report be prepared documenting design calculations and assumptions. The DEQ will review the plans and specifications to confirm that DEQ design standards and regulations have been met of Option 5. Option 3 does not fall under WQD jurisdiction.

A General Storm Water Permit for construction activities issued by the Wyoming Department of Environmental Quality is normally required for construction activities that disturb more than a 5 acre area.

b) Environmental Consequences
Construction activities associated with both options have the potential of disturbing large areas resulting in a discharge of sediment into waterways. Additionally, the water generated during dewatering activities, pipeline testing, and disinfection activities have the potential to adversely affect waters of the state.

c) Mitigation
The Army Corps of Engineers requires that projects comply with NWP number 12, NWP, number 33, and NWP number 404. A general storm water permit should be obtained by the Contractor which requires the Contractor to detail how runoff from the construction site will be handled so as not to degrade the water quality of natural waterways on or adjacent to the construction site. The Contractor will have to discharge water used for hydrostatic pipeline testing and pipeline disinfection. The DEQ typically handles this type of discharge through a letter of permission to allow discharge. The Contractor will be responsible to apply for and obtain a DEQ letter of permission. Obtaining and complying with these permits and any other project specific permits that may be required will assure that there are minimal impacts from completing the proposed work.

7. Socio-Economic/Environmental Justice Issues

a) Affected Environment
No major issues associated with socio-economic or environmental justice issues were identified in conjunction with the proposed options. The ability-to-pay of
users is questionable as discussed in previous chapters.

b) Environmental Consequences
None Identified.

c) Mitigation
The Town plans to investigate other alternatives for supplementing their water supply to try to identify the least cost option to insure an adequate supply of water for irrigation and domestic uses.

8. Air Quality/Transportation/Noise Issues

a) Affected Environment
This project will have no long-term impacts on air quality, traffic flow, traffic volumes, or auditory senses. In the vicinity of the project, temporary impacts are anticipated relating to all issues as a result of construction activities.

b) Environmental Consequences
No long-term negative impacts are anticipated as a result of completing work on either option. Property owners in the vicinity of the project may be temporarily impacted by these issues.

c) Mitigation
Impacts on air quality will be limited by applying water to the project area during activities creating significant dust. Impacts of increased traffic flows and volumes will be limited by posting signs and using appropriate traffic control devices as identified in the Manual on Traffic Control Devices Work Zone Traffic Control Procedures Manual. Noise impacts will be limited by identifying the work hours that the contractor is allowed to work in the specifications for the project.

9. Addition Permitting and Access Issues

a) Mining Permit
The Land Quality Division of DEQ is responsible for administering the permit process for mining operations. The Contractor will require a material source for granular pipe bedding, riprap, and other aggregates. The Contractor will be assigned the responsibility to locate, secure, and obtain permits for borrow areas as required. The Contractor may elect to purchase these materials from a local supplier and avoid the need for this permit.

b) Burning Permit
Permits will be required from the Air Quality Division of DEQ to burn selected construction debris and materials cleared from the right-of-way if the Contractor chooses to dispose of these materials by burning. The Contractor should obtain this permit.
c) Easements
Construction of some of the proposed pipelines will require acquisition of easements and authority to occupy existing easements or rights-of-way. Where any new easement is required, it is recommended that a 30-foot wide permanent easement and a 20-foot wide construction easement be obtained. In areas with existing utilities, such as along the Shell Pipeline, an additional 10-foot wide easement may be needed for maintenance activities.

d) Wyoming Department of Transportation (WDOT)
WDOT requires permits for the installation of buried pipelines within highway rights-of-way. The Town and Engineer should work together to obtain these licenses and permits.

e) County Roads
Pipelines constructed within Big Horn County road rights-of-way or easements also require a permit for construction. The Town and Engineer should work together to obtain these permits.

f) Private Lands
In locations where pipelines will be constructed on privately owned land, easements from each landowner will be required. Easement documents will include a legal description and map for each parcel.

g) Transportation and Utility Systems and Facilities Permit on Federal Lands
In locations where pipelines or other facilities will be constructed on government lands, easements or leases will be required. Documents required will include a permit describing the project, financial and technical capabilities to construct and operate, alternate routes considered, and impacts on wildlife and the environment. A legal description and map needs to be attached for each parcel.

D. SUMMARY OF MITIGATION

Three significant issues will need to be mitigated in conjunction with this project during preliminary design and routing. These include completing the following:

- Threatened and Endangered Species Survey
- Cultural Resource Survey
- Wetland Delineation Survey

The Threatened and Endangered Species Survey will need to be completed to fully identify species that may be impacted by the project. Facilities may need to be relocated to avoid significant impacts on critical species. Mitigating impacts due to dewatering of Shell Creek will need to be resolved between the State Engineer's Office and WG&F during the preliminary design process.
The cultural resource survey will evaluate the potential that a project will impact culturally significant facilities. Any archaeological sites that are identified which are considered eligible for the National Register will require either:

- The site can be mitigated by archaeological excavation, or;
- The site can be avoided by re-routing the pipeline.

A wetland survey will need to be completed to identify areas where permanent facilities will be located in a jurisdictional wetland. Any wetlands identified near facilities that are not covered under nationwide permits will require either:

- Efforts shall be taken to avoid constructing facilities in the wetland, or;
- Additional wetlands may need to be developed.

E. CORRESPONDENCE AND COORDINATION

Correspondence relating to environmental issues that need to be addressed are included in the appendix to this report.

F. EXHIBITS

Drawings showing the Option 3 and Option 5 are included in the appendix to this report.

G. LANDOWNER CONSENTS

Due to the fact that two options were investigated and the extensive area covered by the proposed projects, landowner consents were not obtained at this time. The consents will need to be obtained after a final option is selected when the pipelines and facilities are sited.
April 14, 2003

Applicant: Town of Greybull
P.O. Box 271
Greybull, WY 82426

Wyoming Emergency Management Agency
5500 Bishop Boulevard
Cheyenne, WY 82009-3320

ATTN: Alisa Sauvageot

RE: Compliance with Federal Authorities to obtain a State Revolving Loan Fund Loan for Treated Water & Raw Water Facilities - Town of Greybull

Dear Ms. Sauvageot:

The enclosed maps show the location of two alternatives, Option #3 and Option #5, for a proposed project for the Town of Greybull Raw Water System. The Town of Greybull has a Latitude N44° 29.335' and a Longitude W108° 3.265'. Option #3 will primarily be constructed in previously disturbed areas within Town. Option #5 involves constructing a new treated water pipeline that will follow the route of the existing Shell Treated Water Line from the Town of Greybull to the Town of Shell. As detailed below, work within the Town on Option #5 will be similar to that of Option #3.

Option #3:
This project includes constructing a pump station on Shell Creek, a steel storage tank located at a new site, a transmission line extending from the pump station to the storage tank, across the Big Horn River, and then through the Town of Greybull, and the service lines within the Town.

Option #5:
This project includes building a new potable water pipeline, a concrete storage tank, transmission lines, and the service lines within the Town. The proposed potable water pipeline will be offset from the existing asbestos cement pipe and extend from the Shell Creek Infiltration Gallery across the Big Horn River to Greybull. The old potable water pipeline is asbestos cement pipe and would be incorporated into the Raw Water System.

The State of Wyoming is committed to comply with the State Environmental Review Process as it relates to federal requirements and Executive Orders that apply in federal financial assistance. We are contacting you to ensure this project complies with applicable authorities under your agency's jurisdiction.

Please review this project with respect to your agency's concerns and provide a response to me. If your agency has concerns and will not issue a clearance, please contact me at your earliest convenience concerning what steps must be taken to address your concerns.

If you require additional information or require clarification, please contact me at 307 587-4911. Thank you for your attention to this matter.

Sincerely,
ENGINEERING ASSOCIATES

Travis Conklin, PE

Enclosures

c: File: 02038
May 19, 2003

Travis Conklin, PE
Engineering Associates
902 13th Street
Cody, WY  82414

Re: Treated Water and Raw Water Facilities, Town of Greybull (SHPO File # 0503SES022)

Dear Mr. Conklin:

Sara Sheen of our staff has received information concerning the aforementioned project. Thank you for giving us the opportunity to comment.

A file search by our staff on May 15, 2003 for the project areas indicated for options #3 and #5 shows that numerous sites are located within the proposed project boundaries. While some of the locations have been previously surveyed many areas have not yet been surveyed for cultural resources. Prior to any ground disturbing activity, an on-site cultural resource survey meeting the Secretary of Interior's Standards for Archaeology and Historic Preservation (48FR44716) should be conducted and adverse impacts to any significant cultural resource sites must be mitigated. The survey and any necessary mitigation measures must be conducted by a professionally qualified archeologist or historian. A report detailing the results of these efforts must be reviewed by SHPO staff prior to our commenting on the project's effects on cultural resource sites.

Please refer to SHPO project control number 0503SES022 on any future correspondence dealing with this project. If you have any questions, contact Sara Sheen at 307-777-7498 or me at 307-777-6311.

Sincerely,

Judy K. Wolf
Review and Compliance Program Manager
May 22, 2003

Travis Conklin, PE
Engineering Associates
P. O. Box 1900
902 13th Street
Cody, WY 82414

Dear Mr. Conklin:

Thank you for your recent letter requesting comment on the Town of Greybull, Wyoming Project. The Town of Greybull participates in the National Flood Insurance Program (NFIP) and FEMA has published a Flood Insurance Rate Map (FIRM), which delineates the Special Flood Hazard Area (SFHA) for select areas of the community. It would be advisable to refer to the FIRM for the community in question to see if the proposed project is in a SFHA. FIRMS can be ordered by calling 1-800-358-9616.

Should the proposed project be located in a SFHA, then the project will need to conform to the Flood Damage Prevention Ordinance adopted by the Town for participation in the NFIP. Please be advised that implementation of the NFIP construction requirements resides at the local government through enforcement of the local Flood Damage Prevention Ordinance. The proposed project will need to be coordinated with local governments.

Sincerely,

Bonnie G. Heddin
Program Specialist
May 22, 2003

Travis Conklin, PE
Engineering Associates
P.O. Box 1900
Cody, WY 82414

RE: Greybull

Air Quality Concerns

Dear Mr. Conklin:

Regarding your April 14, 2003 letter requesting a compliance determination for the Town of Greybull Water Facilities Project, the Air Quality Division has no concerns at this time and will not require any permitting. In order to maintain compliance with our general opacity and public nuisance standards, however, the contractor should be advised to minimize fugitive dust emissions during construction. This normally includes watering access roads and staging areas, particularly during dry, windy conditions. In addition, diesel generators should not be left running all night, unless absolutely necessary.

Please call me at 307-332-6755 if you have questions concerning this matter.

Sincerely,

Greg Meeker
District 4 Program Principal
Air Quality Division
Dear Mr. Conklin,

Thank you for your letter of April 14, 2003 requesting comment on the proposed Treated Water and Raw Water Facilities for the Town of Greybull. Greybull participates in the National Flood Insurance Program (NFIP) and FEMA has published a Flood Insurance Rate Map (FIRM) that delineates the Special Flood Hazard Area (SFHA) for select areas of the Town.

It would be advisable to refer to the FIRM for the Town to see if the proposed project is in a SFHA. Should the proposed project be located in a SFHA then the project will need to conform to the Flood Damage Prevention Ordinance adopted by the Town of Greybull for participation in the National Flood Insurance Program. The proposed project will need to be coordinated with the Town and meet permit requirements.

Please contact me at 307-777-4918 should you need any assistance.

Sincerely,

Leo A. Pando
National Flood Insurance Program Coordinator
Based on the information provided, it has been determined that both options #3 and #5 have the potential to impact waters of the U.S., including wetlands. Fills, including temporary fills such as cofferdams, associated with the construction of the waterline across the Big Horn River as well as other creeks and waterways in conjunction with construction of the potable waterline between the Town of Greybull and the Shell Creek infiltration gallery will require authorization. In addition, authorization will be required if there are fills associated with the construction of the proposed storage tanks and pumping station in any waterways.

The construction activities proposed might qualify for authorization under Nationwide Permit No. 12 (NWP 12) for “Utility Line Activities” and Nationwide Permit No. 33 (NWP 33) for “Temporary Construction Access and Dewatering.” Information on NWP 12 and NWP 33 can be obtained by visiting our web site at the location described above. I’ve also enclosed a copy of NWP 12 and NWP 33 for your immediate reference. We would encourage you to provide us with project-specific information in accordance with the Preconstruction Notifications procedure enclosed when that information becomes available.

This determination does not eliminate the requirement to obtain any other applicable federal, state, tribal, or local permits that may be required. If you have any questions regarding this determination, please contact me at (307) 772-2300 and reference file No. 200340059.

Sincerely,

Matthew A. Bilodeau
Program Manager
Wyoming Regulatory Office

Copies Furnished:
✓ Travis L. Conklin, P.E.
Engineering Associates
P.O. Box 1900
902 13th Street
Cody, Wyoming 82414
Dear Mayor Emmett:

This is in response to a letter dated April 14, 2003, that we received on April 18th from Mr. Travis L. Conklin, P.E. with Engineering Associates of Cody, Wyoming. In his letter Mr. Conklin described the Town of Greybull's proposed raw water facilities project. The project involves two options. Option #3 was described as the construction of a pump station on Shell Creek, a steel storage tank at a new site, a transmission line from the storage tank across the Bighorn River to the Town of Greybull and service lines in town. Option #5 was described as construction of a new potable water pipeline from the Shell Creek infiltration gallery across the Bighorn River to the Town of Greybull, a new concrete storage tank, transmission lines and service lines within the town. Mr. Conklin asked us to review the project relative to Corps authorities. The project is located in various sections potentially Townships 52 and 53 North, Ranges 91, 92, and 93 West, Big Horn County, Wyoming.

The U.S. Army Corps of Engineers regulates the placement of dredged and fill material into wetlands and other waters of the United States as authorized primarily by Section 404 of the Clean Water Act (33 U.S.C. 1344). The term "waters of the United States" has been broadly defined by statute, regulation, and judicial interpretation to include all waters that were, are, or could be used in interstate commerce such as rivers, streams (including ephemeral streams), reservoirs, and lakes as well as wetlands adjacent to those areas. The Corps regulations were published in the November 13, 1986, edition of the Federal Register (Vol. 51, No. 219) at 33 CFR Parts 320 through 330. Information on Section 404 program requirements in Wyoming can be obtained by visiting our web site at http://www.nwo.usace.army.mil/html/od-rwy/Wyoming.htm.

Wetlands are defined as areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are characterized by growth of vegetation such as bulrush, cattails, rushes, sedges, and willows. Wetlands not only provide wildlife habitat but also improve water quality by holding sediment and taking up nutrients. In many cases, wetlands decrease flooding by storing surface water and recharging ground water in flood plains.
May 5, 2003

WER 9702.01
EA Engineering Associates
Town of Greybull Raw Water System
Big Horn County

Travis Conklin, PE
EA Engineering Associates
P.O. Box 1900
902 13th Street
Cody, WY 82414

Dear Mr. Conklin:

The staff of the Wyoming Game and Fish Department has reviewed the proposed Town of Greybull Raw Water System Project in Big Horn County. We offer the following comments.

The impacts from both of the proposed options will be on Shell Creek. Water for the raw water system will come either from a site near the Town of Shell or closer to the mouth of Shell Creek (near the Town of Greybull). Historically, the Shell Creek fishery has suffered from dewatering conditions. We would support an option that minimizes dewatering Shell Creek. Unfortunately, details of the project that we received do not explain the existing and/or proposed water demand for either option; therefore, we cannot make an adequate impact assessment.

The Shell Creek fishery, near the Town of Shell, is primarily a trout fishery composed of brook trout, rainbow trout, brown trout and occasionally Yellowstone cutthroat trout. Other species found in the fishery are longnose dace, longnose sucker, mountain whitefish, and white sucker. Only a small brown trout fishery exists near the mouth of Shell Creek, giving way to some cool and warm water sport fish, but mostly non-game species. Additional fish species found at the mouth of Shell Creek are carp, flathead chub, longnose dace, longnose sucker, northern redhorse, river carpsucker, stonecat, walleye, and white sucker.

Both options will require a pipeline crossing the Big Horn River. The River’s fishery at this point consists of numerous sensitive species, including sauger, plains minnow, western silvery minnow, and sturgeon chub. Additional game and non-game species found in this area are burbot, brown trout, channel catfish, carp, longnose dace, mountain sucker, northern redhorse, sand shiner, stonecat, walleye, and white sucker. We would like to be involved with the planning of this crossing to minimize impacts to the Big Horn River. Please contact Steve Yekel, our Cody Region Fish Supervisor, at (307) 527-7322, Ext. *816, in this regard.
Thank you for the opportunity to comment.

Sincerely,

Bill Wichers
BILL WICHERS
DEPUTY DIRECTOR

BW:TC:as
cc: USFWS
May 12, 2003

Applicant: Town of Greybull; P.O. Box 271; Greybull, Wyoming 82426

Mr. Bill Wichers – Deputy Director
Habitat Protection Program
Wyoming Game and Fish Department
5400 Bishop Boulevard
Cheyenne, Wyoming 82006-0001

Re: Town of Greybull Raw Water - WER 9702.01

We have received your letter dated May 5, 2003 relating to the proposed project in Greybull. Based on your request for additional information we have spoken to Steve Yekel, to try to make sure we provide the data necessary for you to comment fully on this project.

The Town of Greybull has been concerned about the availability of water supply for its potable water supply for several years. In the early 1990’s, the Town was informed by the EPA that without further treatment, their infiltration gallery on Shell Creek was no longer an acceptable source of supply for their potable water system. A few years ago, the Town stopped using the supply for potable water.

The Town has an 1893 direct flow water right of 595 gpm (1.326 cfs) from Shell Creek for Municipal purposes. The two raw water system options proposed would utilize the Town’s water rights as has been done in the past. Option 5 would result in water being drawn from 2 miles east of Shell as has been done in the past while option 3 would result in water being diverted near the confluence of Shell Creek with the Big Horn River, as shown on maps sent previously.

The Town is currently trying to decide between the Raw Water options and another option of treating the Shell Creek water at the infiltration gallery using a water filtration plant. Regardless of the option selected, it is likely that the Town’s Shell Creek water right will be fully utilized. The Town isn’t currently looking at expanding the amount of water diverted from Shell Creek.

Please call if you have any future questions.

Sincerely,
ENGINEERING ASSOCIATES

Travis Conklin, PE

cc: Steve Yekel
File: 02038
Dear Mr. Conklin:

Thank you for your letter of April 14, 2003 regarding your request for our concerns regarding the proposed project for the Town of Greybull Treated Water and Raw Water Facilities.

In accordance with section 7(a)(2) of the Endangered Species Act of 1973 (Act), as amended (50 CFR §402.13), my staff has determined that the following threatened or endangered species, or species proposed for listing under the Act, may be present in the project area.

**LISTED AND PROPOSED SPECIES**

<table>
<thead>
<tr>
<th>Species</th>
<th>Status</th>
<th>Expected Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black-footed ferret</td>
<td>Endangered</td>
<td>Potential resident in prairie dog (Cynomys sp.) colonies.</td>
</tr>
<tr>
<td>(Mustela nigripes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain plover</td>
<td>Proposed</td>
<td>Grasslands statewide</td>
</tr>
<tr>
<td>(Charadrius montanus)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Black-footed ferret:** Black-footed ferrets may be adversely affected if prairie dog towns are impacted. If black-tailed prairie dog (Cynomys ludovicianus) towns or complexes greater than 79 acres or white-tailed prairie dog (C. leucurus) towns or complexes greater than 200 acres will be disturbed, surveys for ferrets are recommended in order to determine if the action will result in an adverse effect to ferrets. Surveys are recommended even if only a portion of the town or complex will be disturbed. A white-tailed prairie dog town or complex consists of two or more neighboring prairie dog towns each less than 7 kilometers (4.3 miles) from each other (Black-footed Ferret Survey Guidelines, USFWS 1989). If a field check indicates that prairie dog towns may be affected, you should contact this office for guidance on ferret surveys.

**Mountain plover:** In the Federal Register dated February 16, 1999, the U.S. Fish and Wildlife Service (Service) gave notice of a proposal to list the mountain plover as a threatened species pursuant to the Act. The mountain plover is a small bird associated with shortgrass prairie,
plains, alkali flats, agricultural lands, cultivated lands, sod farms, prairie dog towns, and shrub-stepped landscapes at both breeding and wintering locales. Plovers may nest on sites where vegetation is sparse or absent, or near closely cropped areas, manure piles or rocky areas. Mountain plovers are rarely found near water and show a preference for previously disturbed areas or modified habitat. It occupies suitable breeding habitat in many of the great Plains states from Canada south to Texas from late March through July.

The Service recommends surveys for mountain plovers in all suitable habitat as well as avoidance of nesting areas to minimize impact to plovers in a site planned for development. While the Service believes that plover surveys, avoidance of nesting and brood rearing areas, and timing restrictions (avoidance of important areas during nesting) will lessen the chance of direct impacts to and mortality of individual mountain plovers in the area, these restrictions do nothing to mitigate indirect effects, including changes in habitat suitability and habitat loss. Surveys are, however, a necessary starting point. In some cases, activities can be conducted between August 15 and March 15 to avoid affecting this species.

**Consultation:** Section 7(c) of the Act requires that a biological assessment be prepared for any Federal action that is a major construction activity to determine the effects of the proposed action on listed and proposed species. If a biological assessment is not required (i.e., all other actions), the lead Federal agency is responsible for review of proposed activities to determine whether listed species will be affected. We would appreciate the opportunity to review any such determination document. If it is determined that the proposed activities may affect a listed species, you should contact this office to discuss consultation requirements. If it is determined that any Federal agency program or project "is likely to adversely affect" any listed species, formal consultation should be initiated with this office. Alternatively, informal consultation can be continued so we can work together to determine how the project could be modified to reduce impacts to listed species to the "not likely to adversely affect" threshold. If it is concluded that the project "is not likely to adversely affect" listed species, we should be asked to review the assessment and concur with the determination of not likely to adversely affect.

For those actions where a biological assessment is necessary, it should be completed within 180 days of receipt of a species list, but can be extended by mutual agreement between the lead agency and the Service. If the assessment is not initiated within 90 days of receipt of a species list, the list of threatened and endangered species should be verified with this office prior to initiation of the assessment. The biological assessment may be undertaken as part of the agency's compliance of section 102 of NEPA, and incorporated into the NEPA documents. The Service recommends that biological assessments include:

1. a description of the project;
2. a description of the specific area potentially affected by the action;
3. the current status, habitat use, and behavior of threatened and endangered species in the project area;
4. discussion of the methods used to determine the information in item 3;
5. direct and indirect impacts of the project to threatened and endangered species, including impacts of interrelated and interdependent actions;
6. an analysis of the effects of the action on listed and proposed species and their habitats including cumulative impacts from Federal, State, or private projects in the area;
7. measures that will reduce or eliminate adverse impacts to threatened and endangered species;
8. the expected status of threatened and endangered species in the future (short and long term) during and after project completion;
9. determination of "is likely to adversely affect" or "is not likely to adversely affect" for listed species;
10. determination of "is likely to jeopardize" or "is not likely to jeopardize" for proposed species;
11. Alternatives to the proposed action considered, a summary of how impacts of those alternatives on listed and proposed species would differ from the proposed action, and the reasons for not selecting those alternatives;
12. citation of literature and personal contacts used in the assessment.

A Federal agency may designate a non-Federal representative to conduct informal consultation or prepare biological assessments. However, the ultimate responsibility for section 7 compliance remains with the Federal agency, and written notice should be provided to the Service upon such a designation. We recommend that Federal agencies provide their non-Federal representatives with proper guidance and oversight during preparation of biological assessments and evaluation of potential impacts to listed species.

Section 7(d) of the Act requires that the Federal agency and permit or license applicant shall not make any irreversible or irrevocable commitment of resources which would preclude the formulation of reasonable and prudent alternatives until consultation on listed species is completed.

Regarding species proposed for listing or listed as an experimental, non-essential population, Federal agencies (other than the Fish and Wildlife Service and National Park Service) must determine whether any of their proposed activities are likely to jeopardize the continued existence of the species. If jeopardy is likely, that agency must confer with the Service.

We will work with the lead Federal agency in the section 7 consultation process. The analysis of project impacts must assess direct impacts of the project, as well as those impacts that are interrelated to or interdependent with the proposed action. Impacts to listed species on non-Federal lands must be evaluated along with such impacts on Federal lands. Any measures that are ultimately required to avoid or reduce impacts to listed species will apply to Federal as well as non-Federal lands.

**Candidate Species**: Species that are candidates for listing as threatened or endangered that may occur within the project area are identified below. Many Federal agencies have policies to protect candidate species from further population declines. We would appreciate receiving any information available on the status of these species in or near the project area. In addition, if one or more of these species is listed prior to the completion of your project, unnecessary delays may be avoided by considering project impacts to candidates now.

<table>
<thead>
<tr>
<th>Species</th>
<th>Expected Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black-tailed prairie dog</td>
<td>Grasslands generally east of the continental divide</td>
</tr>
<tr>
<td><em>(Cynomys ludovicianus)</em></td>
<td></td>
</tr>
</tbody>
</table>
After reviewing all available scientific and commercial information, on February 4, 2000, the Service determined that listing of the black-tailed prairie dog as threatened throughout its range was warranted but precluded by other higher priority actions to amend the Lists of Endangered and Threatened Wildlife and Plants (50 CFR 17). Upon publication of this notice of 12-month petition finding, the black-tailed prairie dog was added to the Service's candidate species list. Questions concerning potential impacts to black-tailed prairie dog populations should be directed to our office at the letterhead address.

**Species of Special Interest:** The Service has received several petitions to list the greater sage-grouse (*Centrocercus urophasianus*) under the Act. The causes for the greater sage-grouse range wide decline are not completely understood, and may be influenced by local conditions. However, habitat loss and degradation, as well as loss of population connectivity are important factors (Braun 1998, Wisdom et al. 2002). Any activities that result in loss of sagebrush, or degrade important sage-grouse habitats, should be closely evaluated for their impacts to sage grouse.

Greater sage-grouse are dependent on sagebrush. Population and habitat analyses suggest that wintering habitat can be as limiting as mating and breeding habitats. Therefore, you should work with the local Wyoming Game and Fish biologist to identify important greater sage-grouse habitats within the project area, and appropriate mitigative measures to minimize potential impacts from the proposed project. The Service recommends surveys and mapping of important greater sage-grouse habitats where local information is not available. The results of these surveys should be used in project planning, to minimize potential impacts to this species. No project activities that may exacerbate habitat loss or degradation should be permitted in important habitats.

In 2000, the U.S. Forest Service, the Bureau of Land Management, and the Service signed a Memorandum of Understanding (MOU) with the Western Association of Fish and Wildlife Agencies to conserve the greater sage-grouse and its habitat. This MOU outlined the participation of Federal and State wildlife agencies, including the Wyoming Game and Fish Department, in greater sage-grouse conservation, and these commitments should be considered in project planning in sage-grouse habitat. Additionally, unless site-specific information is available, greater sage-grouse habitat should be managed following the guidelines by Connelly et al. (2000).

**Migratory Birds:** Since my staff has not visited the permit area, and without information on habitats present, we are unable to provide you with a comprehensive migratory bird species list. Attached to this letter is a list of Migratory Birds of High Federal Interest for Wyoming. If suitable habitat for any of these birds occurs on the permit area, or within a ½ mile perimeter, surveys should be conducted to determine if these species are present.

The Migratory Bird Treaty Act, 16 U.S.C. 703, enacted in 1918, prohibits the taking of any migratory birds, their parts, nests, or eggs except as permitted by regulations and does not require intent to be proven. Section 703 of the Act states, "Unless and except as permitted by regulations ... it shall be unlawful at any time, by any means or in any manner, to ... take, capture, kill, attempt to take, capture, or kill, or possess ... any migratory bird, any part, nest, or eggs of any such bird..." The Bald and Golden Eagle Protection Act, 16 U.S.C. 668, prohibits knowingly taking, or taking with wanton disregard for the consequences of an activity, any bald or golden
eagles or their body parts, nests, or eggs, which includes collection, molestation, disturbance, or killing.

Work that could lead to the take of a migratory bird or eagle, their young, eggs, or nests (for example, if you are going to mine or process material in the vicinity of a nest), should be coordinated with our office before any actions are taken. Removal or destruction of such nests, or causing abandonment of a nest could constitute violation of the above statutes. Removal of nests or nest trees is prohibited, but may be allowed once young have fledged and/or a permit has been issued. In either case, timing is a significant consideration and you need to allow for this in your project planning. We also recommend the project area be surveyed for raptor nests and roost areas.

**Wetlands/Riparian Areas:** The Service recommends measures be taken to avoid any wetland losses in accordance with Section 404 of the Clean Water Act, Executive Order 11990 (wetland protection) and Executive Order 11988 (floodplain management) as well as the goal of "no net loss of wetlands." If wetlands may be destroyed or degraded by the proposed action, those (wetlands) in the project area should be inventoried and fully described in terms of functions and values. Acreage of wetlands, by type, should be disclosed and specific actions outlined to minimize impacts and compensate for all unavoidable wetland impacts.

Riparian or streamside areas are a valuable natural resource and impacts to these areas should be avoided whenever possible. Riparian areas are the single most productive wildlife habitat type in North America. They support a greater variety of wildlife than any other habitat. Riparian vegetation plays an important role in protecting streams, reducing erosion and sedimentation as well as improving water quality, maintaining the water table, controlling flooding, and providing shade and cover. In view of their importance and relative scarcity, impacts to riparian areas should be avoided. Any potential, unavoidable encroachment into these areas should be minimized and quantitatively assessed in terms of functions and values, areas and vegetation type lost, potential effects on wildlife, and streams (bank stability and water quality). Measures to compensate for unavoidable losses of riparian areas should be developed and implemented as part of the project.

Plans for mitigating unavoidable impacts to wetland and riparian areas should include mitigation goals and objectives, methodologies, time frames for implementation, success criteria, and monitoring to determine if the mitigation is successful. The mitigation plan should also include a contingency plan to be implemented should the mitigation not be successful.

These comments are made pursuant to the National Environmental Policy Act, the Endangered Species Act, and the Fish and Wildlife Coordination Act. Please keep this office informed of any developments or decisions regarding this project. If you have any questions, please contact Darryl York of my staff at the letterhead address or phone (307) 772-2374, extension 24.
Literature cited:


Sincerely,

Jodi L. Bush
Acting Field Supervisor
Wyoming Field Office

cc: WGFD, Lander, Non-Game Coordinator (B.Oakleaf)
    WGFD, Cheyenne, Statewide Habitat Protection Coordinator (T.Collins)
    Town of Greybull
Engineering Associates  
Travis Conklin, PE  
902 13th Street  
P.O. Box 1900  
Cody, Wyoming 82414

Dear Mr. Conklin,  

The NRCS is in receipt of your information on the proposed project for the town of Greybull Raw Water System. The project has been reviewed by our staff and have no concerns or comments on the proposed project.

If you have any questions, or need to discuss this comment with us, please contact this office.

Sincerely,

LINCOLN "ED" BURTON  
State Conservationist