

Comments on the Draft EIS and Responses

APPLICANT

PUBLIC

Transwestern Pipeline Company, LLC
5444 Westheimer Road, Houston, TX 77056-5396
P.O. Box 4967, Houston, TX 77210-4967

June 18, 2007

Ms. Kimberly D. Bose, Secretary
Office of the Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Transwestern Pipeline Company, LLC
Phoenix Expansion Project
FERC Docket No. CP06-459-000
OEP/DG2E/Gas 2

Dear Ms. Bose:

A1-1

On September 15, 2006, Transwestern Pipeline Company, LLC ("Transwestern"), filed an application under Section 7(c) of the Natural Gas Act, and Parts 157 and 284 of the Federal Energy Regulatory Commission's ("Commission" or "FERC") regulations, seeking authority to construct and operate: (i) approximately 25 miles of 36-inch diameter pipeline loop in two segments on its existing San Juan Lateral in New Mexico ("San Juan 2008 Expansion Project"), (ii) a new 259 mile pipeline consisting of 36-inch and 42-inch diameter pipe in Arizona ("Phoenix Pipeline"), and (iii) customer laterals, meter stations, and ancillary facilities ("Phoenix Pipeline Project"). In addition, Transwestern seeks authority to acquire an undivided interest in the El Paso Natural Gas Company's East Valley Lateral and to use such facilities to render service in conjunction with the Phoenix Pipeline Project. The projects are collectively known as the Phoenix Expansion Project.

Enclosed herewith for filing with the Commission is Transwestern's Response to the Draft Environmental Impact Statement dated April 2007 ("draft EIS"). This filing includes information that Transwestern is required to file during the draft EIS comment period.

This filing is comprised of two (2) parts under separate tabs:

- **Public Information**
- **Non-Internet Public Information (NIP)**

All pages in each part are marked with the appropriate designation pursuant to Order 630 and 18 CFR § 388.112 of the Commission's regulations.

Several filings have recently been made in this docket requesting, among other things, the withdrawal of the draft EIS, and/or an extension of the comment period.

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See the responses to comments PM3-2, PM3-3, PM3-12, and PM3-13.

A1-1
(cont'd)

- Stardust-Tartesso W-12 Inc. ("Stardust") and Pulte Home Corporation ("Pulte") filed jointly requesting the withdrawal of the draft EIS. Stardust and Pulte in its Preliminary Comments and Request for Withdrawal of the draft EIS ("Preliminary Comments") have cited substantial concerns as to the adequacy of the draft EIS and state that the Commission's draft EIS has not provided a sufficient NEPA review of the alternative routing in the Buckeye area, safety, and proposed infrastructure.
- The Town of Buckeye ("Buckeye") has also filed a Motion for withdraw of the draft EIS, or the alternative, motion to extend the comment period ("Motion for Withdrawal and Motion to Extend") and have an independent review conducted, and extend the deadline for comments an additional 120 days, and that Commission staff provide interested parties with comments and/or analysis 60 day prior to the end of the extended comment period. Buckeye in its Motion for Withdrawal has stated its concern with the draft EIS due to the lack of meaningful discussion of routing alternatives, human health and environmental affects on minority populations, and threats of terrorism. Buckeye also states that it was denied its right to public participation.
- In addition, comments were filed by Betts and Holt, LLP on behalf of WVSU Holdings, LLC and related entities ("WVSU") which includes comments presented by H. Pike Oliver and Jerry Witt during the public comment draft EIS meetings regarding the properties of Sun Valley, Enterprise, Midway, and Elaine Farms. These comments echo those from another commenter who question the adequacy of the draft EIS Alternative Analysis, especially costs required for set back zones, safety and risk concerns, and economic impact to proposed developments.

The draft EIS was prepared by the environmental staffs of the FERC; the U.S. Department of the Interior, Bureau of Land Management ("BLM"); the U.S. Department of Agriculture, Forest Service ("FS"); the U.S. Department of Transportation, Office of Pipeline Safety ("OPS"); the U.S. Department of the Interior, Bureau of Indian Affairs ("BIA"); and the Navajo Nation (collectively referred to as "Agency Staffs") who have prepared this draft EIS to address Transwestern's Phoenix Expansion Project. A discussion of each agency's duties and responsibility in the preparation is found in the transmittal letter to the draft EIS. This draft EIS was prepared to satisfy the requirements of the National Environmental Policy Act ("NEPA").

These Agency Staffs have concluded that if the project is constructed and operated in accordance with applicable laws and regulations, with Transwestern's proposed mitigation, and the Agency Staffs' additional mitigation measures, it would have limited adverse environmental impact. The draft EIS includes an analysis of geology, soils, water resources, vegetation, wildlife and aquatic resources, land use, socioeconomic resources, cultural resources, air quality and noise, reliability and safety, cumulative impacts, and routing alternatives.

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Transwestern states that it has complied with the Commission's rules and regulations in fulfilling the requirements of NEPA process by, among other things, has complied with the certificate filing requirements under NEPA, has responded to all data requests from Commission staff, has provided service to all interveners, and has cooperated with all Federal, state, and local agencies. In regards to pipeline routing, Transwestern is required by Commission guidelines to site its proposed pipeline route either within or abutting existing utility corridors. As stated in the draft EIS, 86 percent of the proposed pipeline facilities will be constructed within or adjacent to existing rights-of-ways. Eight route alternatives to the proposed alignment of the Phoenix Lateral were considered. All of these route alternatives were eliminated because they are not environmentally preferable, will pose significant constructability constraints, or will create additional safety and reliability concerns when compared to their corresponding segments of the Phoenix Lateral. Specifically, in regards to the routing in the Buckeye area, the draft EIS provides an analysis of the Buckeye Alternative under Section 3.4.2.5 on Page 3-12. The draft EIS Table 3.4.2-1 shows that the Buckeye Alternative would impact an additional 33 miles of right-of-way, and 521 acres. The draft EIS Table 3.4.2-1 also shows that existing and planned developments crossed or abutted for the proposed Phoenix Lateral and customer laterals is approximately 5 miles less than those of the Buckeye Alternative. The Stardust Companies map which was given out at meetings for this docket shows the Buckeye Alternative Route either abutting or crossing within the developments of Festival Ranch, Sun City, Sun Valley, Douglass Ranch, and Belmont. Clearly the Stardust/Pulte and Town of Buckeye filings are requesting the Commission to shift environmental and human impacts to the developments west of the Buckeye area ("trading impacts"). Furthermore, Transwestern is submitting under Appendix B of this filing, a map provided by Ms Doris Heliser, Project Director for the Tonopah Valley Association during the FERC Draft EIS comment meeting held in Buckeye. This map shows additional developments west of the Buckeye area that were omitted from the Stardust Companies map.

Transwestern opposes the withdrawal of the draft EIS and opposes any extension of time to respond to the draft EIS and respectfully requests the Commission deny any and all requests for withdrawal of the draft EIS and extension of time to respond to the draft EIS and recommends that the Agency Staffs continue with the NEPA process as scheduled.

A1-2

In addition, Transwestern has received questions regarding the requirement for compression if the Buckeye Alternative is built rather than the proposed route. As discussed in its Data Response filed with the Commission on March 16, 2007, Transwestern stated that "Due to the additional 19.04 miles for the Buckeye Alternative, additional compression will be required on the Phoenix Pipeline at a cost of approximately \$30 million. The additional pipeline length will cause a drop in pressure that will impact deliveries to customers. In order to serve these contractual obligations, compression will be required at a new facility at the Gila River location at MP 180. This additional compression of approximately 15,000 HP would result in an additional increase of approximately \$30 million dollars to the APS Variation Reroute." In each of Transwestern's Expansion Agreements which have been executed with its five (5) anchor shippers, Transwestern is obligated to provide a pressure guarantee to deliver gas at each contractual delivery point at no less than 600 psi. Due to the additional mileage necessary for the Buckeye Alternative Reroute as well as the manner in which service will be provided, in particular to power plants, compression is required to make both the delivery point pressure obligation and to maintain pipeline line pack in order to make contractual deliveries.

A1-2

Transwestern's reaffirmation that approval of either of the Buckeye Alternatives would require the construction of a new compressor station near MP 180 of the Phoenix Lateral at an estimated cost of \$30 million is noted.

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Finally Transwestern notes that Waste Management Arizona Landfills, Inc. ("Waste Management") has filed a Motion for Extension of Time to respond to Transwestern's supplemental filing that must be filed with the Commission prior to the end of the comment period of the draft EIS. Transwestern's filing will include a report for the proposed alignment, including a description of the specific construction and operational measures that will be implemented to alleviate Waste Management's concern about the crossing of its Northwest Regional Landfill. Waste Management is requesting to extend the comment period at least 21 business days from the date that Transwestern makes its filing to allow for Waste Management to comment. Because Transwestern has consulted with Waste Management during the preparation of its report, Transwestern recommends that the deadline for a Waste Management response be no more than seven business days after the end of the comment period.

Transwestern is filing an original, and seven paper copies of the **Public Information and Non-Internet Public Information**. Transwestern respectfully requests that only the information designated as **Public** be placed on the Internet. Also, this filing includes Large Format maps and drawings which Transwestern is filing only an original copy. Transwestern is also filing a CD that contains the electronic version of the same **Public** information as the enclosed pursuant to 18 CFR § 385.2011.

Two sets of this filing are being sent directly to Mr. Douglas Sipe, OEP staff, and to Mr. William Braun, Natural Resource Group, Inc. A copy of this filing is being provided to the person at the agency as listed below. Transwestern has enclosed four (4) additional copies of this transmittal cover letter to be date stamped and returned to the messenger. Any questions or comments regarding this filing should be directed to the undersigned.

Respectfully submitted,

Kelly Allen, Manager
Certificates and Reporting
(713)-989-2023

- cc: Mr. Douglas A. Sipe, Office of Energy Projects, Room 62-54
Mr. William Braun, Natural Resource Group, Inc
Mr. Mark Mackiewicz, U.S. Bureau of Land Management
Ms. Camille Champion, U.S. Bureau of Land Management
Ms. Mary Jo Albin, U.S. Bureau of Land Management
Mr. Tom Mutz, U.S. Department of Agriculture, Kaibab National Forest
Ms. Linda Jackson, U.S. Department of Agriculture, Prescott National Forest
Ms. Vicki Clay, U.S. Department of Agriculture, Prescott National Forest
Mr. Ron Maldonado, Navajo Nation
Ms. Ann Howard, Arizona State Historical Preservation Office
Ms. Rebecca Procter, New Mexico Department of Cultural Affairs

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WMA filed its responses on the date that the formal comment period closed, which was June 18, 2007.

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Mr. Larry Koontz, Bureau of Reclamation
Ms. Herrilene Yazzie, Bureau of Indian Affairs
Ms. Amy Heuslein, Bureau of Indian Affairs
Mr. Mike Martinez, U.S. Fish and Wildlife Service
Ms. Melissa Kreutzian, U.S. Fish and Wildlife Service

Enclosure: Data Response to the Draft Environmental Impact Statement

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OATH STATEMENT

Kelly Allen, being duly sworn on his oath, deposes and says that he has read the foregoing information and that the facts and statements contained therein are true and correct to the best of his knowledge, information, and belief.

Kelly Allen, Manager
Certificates and Reporting
Transwestern Pipeline Company, LLC
(713)-989-2023

Subscribed and sworn to before me this 15th day of June 2007.

Name: _____
Title: Notary Public in the State of Texas

My Commission Expires:

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Certificate of Service

I herby certify that I have this day caused a copy of the foregoing document to be served upon each person designated on the official service list compiled by the Commission's Secretary in this proceeding in accordance with the requirements of Section 385.2010 of the Federal Energy Regulatory Commission's Rules of Practice and Procedures.

Kelly Allen, Manager
Certificates and Reporting
Transwestern Pipeline Company, LLC
(713)-989-2023

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Transwestern Pipeline Company, LLC
Phoenix Expansion Project
FERC Docket No. CP06-459-000
Response to Draft Environmental Impact Statement dated April 2007
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Request No. 10

Transwestern shall prepare a report of the land requirements, other potentially affected landowners, and impacts that the Waste Management Arizona Variation would have on cultural, biological, and other resources. Transwestern shall include in the report further justification for the proposed alignment, including a detailed description of the specific construction and operational measures that would be implemented to alleviate WMA's concern about the crossing of its Northwest Regional Landfill and ensure the integrity of the pipeline if the proposed alignment is approved. This report shall be filed with the Secretary during the draft EIS comment period for the analysis in the final EIS. (Page 3-38)

A1-4 | Response to No. 10

Submitted under Appendix A, is Table 10-1 which compares the currently proposed alignment to the Waste Management Arizona Variation. Submitted under Appendix B, Figures and Drawings, is the Aerial Drawing of the Waste Management Arizona Variation. Also, submitted under Appendix C, Plans and Procedures, is Transwestern's Waste Management Arizona Variation Plan.

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A1-4 Section 3.5.2.4 pertaining to the Waste Management Arizona Variation has been revised in response to the additional information provided by Transwestern and WMA.

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Transwestern Pipeline Company, LLC
Phoenix Expansion Project
FERC Docket No. CP06-459-000
Response to Draft Environmental Impact Statement dated April 2007
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Request No. 11

Transwestern shall work with EPNG to develop variations of the Phoenix Lateral that would avoid the placement of permanent right-of-way on platted lots within the Terrazo, Solano Ranch North, Maratea, and Vista Canyons developments. Transwestern shall file alignment sheets depicting the variations with overlays of the plat plans for each development with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 3-49)

A1-5 Response to No. 11

In response to the above request, Transwestern is submitting under Appendix B, Figures and Drawings, aerial drawings depicting alternative routing for the Terrazo, Solano Ranch North, Maratea, Vista Canyons, and Verano developments (*Large Format documents*).

The Commission staff has requested Transwestern to work with certain developers in the Casa Grande area to resolve routing issues by placing its pipeline alignment into the existing EPNG pipeline easements to preserve residential lot lines of potential developments. Transwestern conducted extensive surveys to verify the locations of EPNG's rights of way and the locations of its multiple pipelines within those rights of way. Transwestern obtained planning documents for the proposed affected developments. Transwestern combined the residential lot line information with the survey data of the EPNG lines and the Phoenix Expansion Project. Transwestern and EPNG reviewed the available data, pipeline status, construction issues and future replacement requirements for each preferred development. EPNG informed Transwestern of recent developer requests for right of way strip trades and swaps to rearrange the conflicting lot lines from current rights of way.

Transwestern's review of the available information indicates planned residential development encroachment on the EPNG rights of way has left insufficient space for current and future construction, operation and maintenance of multiple interstate pipelines without some redesign of certain Conditional Tentative Plats approved by Pinal County.

Transwestern believes that locating the Phoenix lateral adjacent to the existing EPNG alignment, is consistent with the requirements of the draft EIS, Pinal County's Comprehensive Land Use Plan, Pinal County Subdivision Regulations and the current state of development along the proposed route. Submitted under Appendix D is a letter from EPNG to Transwestern regarding collocation issues for the Phoenix Expansion Project.

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A1-5 See the responses to comment letters CO7, CO9, CO10, CO12, CO14, CO22, and CO30. See also section 3.5.2.5 that has been revised to include additional information provided by Transwestern and other commentors pertaining to the Pinal County EPNG Collocation Variations. The FERC's recommended mitigation measure number 11 in the draft EIS has also been revised in response to the new information (see mitigation measure number 12 in section 5.3 of the final EIS).

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Response to No. 11 (cont.)

Transwestern would like to clarify that none of the above mentioned Planned Area Developments (PAD) have received approval by the State of Arizona, Pinal County, or the Arizona Department of Real Estate as buildable, platted lots. The developers have not obtained approval of any final plat, recorded plat, or obtained the ability to issue a public report to market any lot to the public. Due to the developers encroachment up to and in fact into EPNG's easement thus eliminating the possibility for Transwestern to avoid placement of our easement outside of the PAD platted lots, and the preliminary nature of the development approvals, Transwestern requests that FERC's recommended mitigation measure number eleven in the draft EIS be withdrawn.

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Request No. 12

Transwestern shall work with the developer of Desert Creek to develop measures to avoid or minimize impacts on the Desert Creek development. A report describing these measures shall be filed with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 3-44)

A1-6 | Response to No. 12

Transwestern has contacted the management of Desert Creek and has requested engineering drawings so that Transwestern may develop measures to mitigate impact to this property as requested in the draft EIS. To this date, Desert Creek has not provided any drawings or information that will allow Transwestern to revise its routing or develop measures to mitigate impact to this property.

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A1-6 The recommendation in section 3.6 that Transwestern work with the developers of Desert Creek to minimize impacts on the proposed project has been revised in response to comments (see mitigation measure number 13 in section 5.3 of the final EIS).

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Transwestern Pipeline Company, LLC
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Response to Draft Environmental Impact Statement dated April 2007
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Request No. 13

Transwestern shall continue to coordinate with the BLM and the FS and revise its Restoration Plan to address the concerns of these agencies regarding restoration of the areas disturbed by construction. The revised Restoration Plan shall be filed with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 4-30)

A1-7

Response to No. 13

Transwestern's Revised Restoration Plan dated May 2007 was filed with the Commission on May 31, 2007 which includes all comments regarding restoration received from the BLM and Forest Service. Submitted under Appendix D is correspondence between Transwestern and the Forest Service regarding the clearing of lands and restoration.

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A1-7

Sections 4.2.2, 4.4.3, and 4.5.1.3 have been updated to include information from Transwestern's revised Restoration Plan.

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Transwestern Pipeline Company, LLC
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Response to Draft Environmental Impact Statement dated April 2007
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Request No. 14

Transwestern shall prepare a revised HDD Plan that specifies the corrective action and cleanup procedures that would be followed and the agencies that would be notified in the event a frac-out occurs in the water during the HDD crossing of the San Juan River. The revised HDD plan shall also specify the documentation that Transwestern would maintain to describe the events leading up to the HDD failure should a failure occur and agencies that would be provided with the documentation. Transwestern shall file the revised HDD Plan with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 4-50)

A1-8 | Response to No. 14

Submitted under Appendix C, Plans and Procedures, is Transwestern's Revised Horizontal Directional Drill (HDD) Plan.

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A1-8 A discussion of Transwestern's revised HDD Plan has been incorporated into the applicable sections. The revised HDD Plan is included in Appendix I.

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Transwestern Pipeline Company, LLC
Phoenix Expansion Project
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Response to Draft Environmental Impact Statement dated April 2007
Filed June 18, 2007

Request No. 15

Transwestern shall prepare a revised site-specific HDD crossing plan for the San Juan River that depicts no more than a 10-foot-wide extra workspace between the HDD entry and exit locations. Transwestern shall file the revised HDD Plan with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 4-51)

A1-9

Response to No. 15

As noted in the draft EIS, an HDD utilizes a guidance system or steering tool that allows the HDD driller to control the location of the drill head throughout the drilling process, thus ensuring that the drill path follows the original design of the HDD. The tools utilized to monitor and steer the drill are a steering probe attached to the drill head and a surface tracking coil that is placed on the top of the ground. The surface tracking coil produces a magnetic field of known intensity that works in conjunction with the steering probe to track the X, Y and Z coordinates of the drill head and consists of two cables that are installed on both sides of the drill path. Ideally, the width between the two cables is no less than the designed depth of the HDD to ensure accurate triangulation calculations used in steering the drill head. The HDD of the proposed San Juan River is approximately 70 feet deep at the high bank of the river. Therefore the optimal spacing for the two cables for the surface tracking coil is a minimum width of 70 feet.

Based on the above, a 10-foot-wide right-of-way will be insufficient to allow accurate triangulation of the drill head. However, Transwestern has modified the construction alignment drawing for the San Juan River HDD crossing to eliminate the extra work space across the San Juan River and reduce the construction right-of-way to 70 feet to accommodate the installation of the surface tracking coil. While some hand clearing will be necessary to install the tracking system, Transwestern will not clear the entire 70 feet and will minimize the impacts of clearing when installing the surface tracking coil along the HDD path. Submitted under Appendix B, Figures and Drawings, is Transwestern's Site Specific Crossing Drawing of the San Juan River. In addition, submitted under Appendix C, Plans and Procedures, is Transwestern's Revised Horizontal Directional Drill (HDD) Plan.

Applicant

A1-9

Section 4.3.2.3 has been revised to discuss the optimal spacing for the HDD contractor's aboveground guidance system (i.e., 70 feet). Section 4.3.2.3 has also been revised to include the recommendation that Transwestern revise its site-specific HDD crossing plan for the San Juan River to include a prominent note that only minimal hand clearing as needed to install the aboveground HDD guidance system shall be conducted between the HDD entry and exit locations (see also mitigation measure number 15 in section 5.3 of the final EIS). In accordance with the recommendation, Transwestern shall file the revised site-specific HDD crossing plan with the Secretary for the review and written approval of the Director of OEP before construction of the San Juan Lateral Loop A.

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Request No. 17

Transwestern shall continue to consult with the FS and prepare a site-specific crossing and restoration plan for the Verde River. The plan shall specify the crossing method, crossing schedule, and specific restoration measures that would be used. The plan shall filed be with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 4-52)

A1-10 | Response to No. 17

Transwestern filed with the Commission on May 10, 2007 its site-specific crossing and restoration plan for the Verde River which includes details for the crossing method and crossing schedule. Please refer to Transwestern's Revised Restoration Plan dated May 2007 which was filed with the Commission on May 31, 2007 for restorations measures that will be used at the Verde River. Also, submitted under Appendix B, Figures and Drawings, is Transwestern's Verde River Crossing Drawing. Transwestern is also submitting under Appendix D, correspondence between Transwestern and other agencies regarding the Verde River crossing.

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A1-10 Section 4.3.2.3 has been revised to include a discussion of Transwestern's site-specific crossing plan for the Verde River.

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Request No. 19

Transwestern shall revise its UECRM Plan to incorporate its proposed vegetation maintenance practices. The revised UECRM Plan shall be filed with the Secretary **during the draft EIS comment period** for analysis in the final EIS. *(Page 4-68)*

A1-11 | Response to No. 19

Submitted under Appendix C, Plans and Procedures, is Transwestern's Revised FERC Upland Erosion Control Restoration and Maintenance Plan (see revisions under *Post Construction Activities* on Page 13).

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A1-11 Section 4.4.2 has been revised to include a discussion of Transwestern's revised UECRM Plan. The revised UECRM Plan is included in Appendix F.

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Response to Draft Environmental Impact Statement dated April 2007
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Request No. 20

Transwestern shall continue to consult with the FS regarding the agency's request for additional clearing on Forest System lands beyond the construction right-of-way in areas of juniper woodland/grassland communities. Transwestern shall state whether it has agreed to any additional clearing beyond the construction right-of-way and quantify the acreage that would be affected. This information shall be filed with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 4-68)

A1-12 Response to No. 20

In meetings with the Forest Service, a verbal agreement was reached between both parties that there would be no additional clearing beyond the construction right-of-way in areas of juniper woodland/grassland communities on Forest Service lands. Transwestern is also submitting under Appendix D, correspondence between Transwestern and the Forest Service regarding the clearing of lands and restoration.

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A1-12 Sections 4.4.2, 4.5.1.2, and 4.6.7 have been revised to remove the discussion regarding the FS' request for additional clearing of junipers on Forest System lands.

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Request No. 21

Transwestern shall revise its WWCM Procedures to incorporate its proposed vegetation maintenance practices in riparian areas. The revised WWCM Procedures shall be filed with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 4-71)

A1-13 | Response to No. 21

Submitted under Appendix C, Plans and Procedures, is Transwestern's Revised FERC Wetland Waterbody Construction and Mitigation Procedures that incorporate the proposed vegetation maintenance practices in riparian areas (see revisions under *Post Construction Maintenance* on Page 14).

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A1-13 Section 4.4.3 has been revised to include a discussion of Transwestern's revised WWCM Procedures. The revised WWCM Procedures is included in Appendix G.

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Request No. 22

Transwestern shall develop a comprehensive Noxious Weed Management Plan that includes the specific species and locations of noxious weeds identified throughout the entire project area; a description of all control measures that would be implemented during and after construction, including the specific locations along the construction right-of-way where weed wash stations would be located; and a definition of the level of infestation that would require treatment. The Noxious Weed Management Plan shall also address all weed-related concerns expressed by the land management agencies. The Noxious Weed Management Plan may be a stand-alone document or incorporated into the Restoration Plan. The Noxious Weed Management Plan shall be filed with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 4-75)

A1-14 | Response to No. 22
Submitted under Appendix C, Plans and Procedures, is Transwestern's Noxious Weed Management Plan.

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A1-14 Section 4.4.4 has been revised to include a discussion of Transwestern's Noxious Weed Management Plan. The Noxious Weed Management Plan is included in Appendix R.

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Transwestern Pipeline Company, LLC
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Request No. 23

Transwestern shall continue to consult with the FWS and prepare a plan to protect migratory bird species during construction that includes specific details of the measures that would be implemented to protect nesting migratory birds. The plan and documentation of FWS concurrence with the plan shall be filed with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 4-83)

A1-15

Response to No. 23

Submitted under Appendix C, Plans and Procedures, is Transwestern's Migratory Bird Plan. Transwestern is also submitting under Appendix D, correspondence between Transwestern and the U.S. Fish and Wildlife Service regarding its Migratory Bird Plan.

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A1-15

Section 4.5.1.3 has been revised to include a discussion of Transwestern's Migratory Bird Plan. The Migratory Bird Plan is included in Appendix S.

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Transwestern Pipeline Company, LLC
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Request No. 27

Transwestern shall consult with the BLM and prepare an access management plan that conforms to agency standards. The BLM access management plan shall include maps that show how roads on BLM-managed lands would be improved and maintained during and after construction and the transportation crossings and any necessary deterrents to prevent increase OHV use. The plan shall also include a commitment to develop and implement a post-construction schedule of maintenance of access roads on BLM-managed lands. In addition, Transwestern shall update its Forest Service Access Management Plan to include maps similar to those to be included in the BLM access management plan and stipulations for restricting vehicles access during construction if determined necessary by the FS. The plans shall be with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 4-143)

A1-16 Response to No. 27

Per BLM consultation, additional time is necessary to provide direction to Transwestern on an access management plan for BLM lands. The BLM is in the process of preparing a travel management plan and anticipates having a draft plan by September 30, 2007. The travel management plan would not become final before the Hassayampa-Bradshaw Resource Management Plan is final – scheduled for June 2008. BLM will provide examples to Transwestern of other BLM access management plans that can be used as a template for the access management plan.

BLM does not anticipate any off-highway vehicles (OHV) trails or other permanent road closures. Transwestern will need some temporary road closures during construction for public safety purposes and will include these closures as part of the access management plan. BLM will need to know which road closures are needed in advance. With regard to permanent OHV deterrents, Transwestern will offer options, based on data provided by the BLM, for access management where existing OHV trails cross the proposed pipeline. These locations will be indicated on the project maps to be submitted for filing in mid July 2007.

BLM will request that the plan identify roads by legal descriptions noting every road that Transwestern intends to use and the work to be done to upgrade roads to the appropriate standards.

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A1-16 Transwestern's comments regarding the FERC staff's recommended mitigation measure number 27 of the draft EIS regarding the Access Management Plan on BLM lands are noted. The discussion of these plans in section 4.7.4.1 has been revised.

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(cont'd)

Response to No. 27 (cont.)

Once Transwestern receives direction and the example plans from the BLM, a consistent access management plan will be prepared for BLM and Forest Service lands. Additionally, supporting maps will be prepared depicting key elements of the access management plan including OHV deterrent locations, road closures (temporary and permanent), new project access, road improvements, and road reclamation, if necessary. Transwestern will submit for filing the BLM access management plan and revised Forest Service access management plan by mid July 2007.

Submitted under Appendix D, is a copy of meeting notes between Transwestern and BLM held on June 6, 2006 that discussed various issues, including the access management plan.

Applicant

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PUBLIC

Transwestern Pipeline Company, LLC
Phoenix Expansion Project
FERC Docket No. CP06-459-000
Response to Draft Environmental Impact Statement dated April 2007
Filed June 18, 2007

Request No. 28

Transwestern shall complete a visual resource study and develop site-specific visual mitigation measures for BLM-managed lands. The visual resources study and site-specific visual mitigation measures shall be filed with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 4-152)

A1-17

Response to No. 28

Submitted under Appendix C, Plans and Procedures, is Transwestern's Visual Resource Technical Report which includes measures for BLM managed lands. Transwestern's Revised Restoration Plan dated May 2007 which was filed with the Commission on May 31, 2007 contains site-specific visual mitigation measures.

Applicant

A1-17

Transwestern's comments regarding the FERC staff's recommended mitigation measure number 28 of the draft EIS regarding the Draft Visual Resource Study Technical Report, including measures for BLM-managed lands, and the revised Restoration Plan are noted. The results of the Draft Visual Resource Study Technical Report have been incorporated into the discussion in section 4.7.7. The report is included in Appendix T.

PUBLIC

Transwestern Pipeline Company, LLC
Phoenix Expansion Project
FERC Docket No. CP06-459-000
Response to Draft Environmental Impact Statement dated April 2007
Filed June 18, 2007

Request No. 29

Transwestern shall complete a visual resources study and develop site-specific visual mitigation measures for the Kaibab National Forest, including those for Little Hell Canyon Reservoir. The visual resources study and site-specific visual mitigation measures shall be filed with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 4-153)

A1-18

Response to No. 29

Submitted under Appendix C, Plans and Procedures, is Transwestern's Visual Resource Technical Report which includes measures for Forest Service managed lands. Transwestern's Revised Restoration Plan dated May 2007 which was filed with the Commission on May 31, 2007 contains site-specific visual mitigation measures.

Applicant

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A1-18

Transwestern's comments regarding the FERC staff's recommended mitigation measure number 29 of the draft EIS regarding the Draft Visual Resource Study Technical Report, including measures for FS-managed lands, and the revised Restoration Plan are noted. The results of the Draft Visual Resource Study Technical Report have been incorporated into the discussion in section 4.7.7. The report is included in Appendix T.

PUBLIC

Transwestern Pipeline Company, LLC
Phoenix Expansion Project
FERC Docket No. CP06-459-000
Response to Draft Environmental Impact Statement dated April 2007
Filed June 18, 2007

Request No. 30

Transwestern shall complete a visual resource study and develop site-specific visual mitigation measures for the Prescott National Forest, including those for Hell Canyon. The visual resources study and site-specific visual mitigation measures shall be filed with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 4-155)

A1-19

Response to No. 30

Submitted under Appendix C, Plans and Procedures, is Transwestern's Visual Resource Technical Report which includes measures for Forest Service managed lands. Transwestern's Revised Restoration Plan dated May 2007 which was filed with the Commission on May 31, 2007 contains site-specific visual mitigation measures.

Applicant

A1-19

Transwestern's comments regarding the FERC staff's recommended mitigation measure number 30 of the draft EIS regarding the Draft Visual Resource Study Technical Report, including measures for FS-managed lands, and the revised Restoration Plan are noted. The results of the Draft Visual Resource Study Technical Report have been incorporated into the discussion in section 4.7.7. The report is included in Appendix T.

PUBLIC

Transwestern Pipeline Company, LLC
Phoenix Expansion Project
FERC Docket No. CP06-459-000
Response to Draft Environmental Impact Statement dated April 2007
Filed June 18, 2007

Request No. 33

Transwestern shall provide information related to the revision of the SIP addressing attainment with the federal 8-hour ozone standard in the Phoenix-Mesa Planning Area that includes the following:

- a. a commitment letter from the ADEQ to the EPA addressing the requirements contained in Title 40 CFR Part 51.858(a)(5)(i)(B) and Title 40 CFR Part 93.158(a)(5)(i)(B); and/or
- b. documentation from the ADEQ demonstration that the total of the direct and indirect emissions from the portion of the proposed action to which the general conformity review applies, together with all other emissions in the nonattainment area, would not exceed the emissions budgets specified in the approved SIP.

Transwestern shall file documentation supporting conformity with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 4-186)

A1-20

Response to No. 33

Transwestern has been in contact with representatives of the Maricopa Association of Governments (MAG) and the Arizona Department of Environmental Quality (ADEQ) concerning the requirements in this condition. The MAG has developed the "Draft Eight-Hour Ozone Plan for the Maricopa Nonattainment Area (draft SIP) dated May 2007." The MAG and ADEQ have been working together closely to ensure that an approvable plan for the area will be developed in time to submit to the U.S. Environmental Protection Agency (EPA) by the June 15-, 2007 deadline.

The draft SIP (<http://www.mag.maricopa.gov/detail.cms?item=7377>) explicitly identified non-road construction equipment emissions of NO_x and VOC associated with the Transwestern Pipeline – Phoenix Expansion Project as having been included in the 2008 summer emissions inventories that were used in modeling to demonstrate attainment with the 8-hour ozone standard (see Attachment 33-1 for excerpts from this plan). Therefore, the Project construction emissions are part of the emissions inventory upon which the draft plan is based. It is expected that the draft plan will be approved and submitted to the EPA by the June 15, 2007 deadline since all parties have been working together closely and there are no known issues. It is not known when the EPA will approve the SIP.

Transwestern has been informed that ADEQ intends to provide a letter to FERC following their expected submittal of the final SIP to EPA on June 14, 2007. The letter will state that the final SIP includes the non-road construction emissions for the Project in the emissions inventories for the modeled 2008 episodes that demonstrate attainment. However, until the SIP is approved by EPA, there will not be a SIP in place to which the Project can demonstrate conformity.

Applicant

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A1-20

See the response to comment FA4-11.

PUBLIC

Transwestern Pipeline Company, LLC
Phoenix Expansion Project
FERC Docket No. CP06-459-000
Response to Draft Environmental Impact Statement dated April 2007
Filed June 18, 2007

Request No. 34

Transwestern shall provide an analysis of the existing background noise levels and estimated drilling noise contributions at the nearest NSAs to the HDD entry location at the San Juan River and the measures it would implement to control noise from the HDD. Transwestern shall file this analysis and proposed mitigation measures with the Secretary during the draft EIS comment period for analysis in the final EIS. (Page 4-190)

A1-21

Response to No. 34

Submitted under Appendix C, Plans and Procedures, is Transwestern's noise survey and acoustical assessment for the planned horizontal directional drilling at the San Juan River HDD site. Results showed that noise attributable to the HDD activities at the nearest noise sensitive area (NSA), approximately 600 feet north of the entry point, are calculated to be 59.5 dBA, which would exceed a nighttime goal of 55 dBA L_n. The calculated noise level at the second nearest NSA is below 55 dBA L_n. While it is unlikely that setup and pilot hole drilling activities would occur between 10 PM and 7 AM, the pipe pullback would likely occur for 24 hours per day until completion. To mitigate any potential noise impact at the nearest NSA during any 10 PM to 7 AM operating periods, Transwestern will propose financial compensation or alternative lodging arrangements for those affected residents.

Applicant

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A1-21

Section 4.10.2.3 has been revised to include the results of the HDD noise survey.

II-854

PUBLIC

APPENDIX A

Tables

Applicant

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Appendix A Index of Tables		
Figure No.	Description	Response No.
Table 10-1	Waste Management Arizona Variation	Response No. 10

Applicant

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Transwestern Pipeline Line, LLC
Phoenix Expansion Project
Table 10-1
Waste Management Arizona Variation

Landfill Variation Adjacent to South Side of Landfill Property Refer to PRP-125			Currently Proposed Alignment Refer to PRP-125		
Lengths of Specific Areas	Feet	Miles	Lengths of Specific Areas	Feet	Miles
Impacted Landowners			Impacted Landowners		
SANFILL OF ARIZONA (MA-095) (ON PERRYVILLE RD. EASEMENT)	4,808	0.91	SANFILL OF ARIZONA (MA-095)	7,829	1.48
SANFILL OF ARIZONA (503-76-015) (ON PERRYVILLE RD. EASEMENT)	6,549	1.24			
SANFILL OF ARIZONA (503-77-014) (ON PERRYVILLE RD. EASEMENT)	2,502	0.47			
Total	13,859	2.62	Total	7,829	1.48
BIOLOGICAL IMPACTS			BIOLOGICAL IMPACTS		
VEGETATION Desert Shrub: Creosote-bursage-mixed cacti			VEGETATION Desert Shrub: Creosote-bursage-mixed cacti		
Washes along Proposed Route - 2			Washes along Proposed Route - 2		
Landfill Variation			Proposed Alignment		
	Square Feet	Acres		Square Feet	Acres
SANFILL OF ARIZONA (MA-095) (ON PERRYVILLE RD. EASEMENT)			SANFILL OF ARIZONA (MA-095) (ON PERRYVILLE RD. EASEMENT)		
Permanent ROW	238,882.24	5.48	Permanent ROW	394,481	9.06
Temporary Workspace	238,965.56	5.49	Temporary Workspace	383,668	8.81
Extra Temporary Workspace	33,598.21	0.77	Extra Temporary Workspace	65,205	1.50
CITY OF SURPRISE (503-75-033M) Extra Temporary Workspace	17,477,286.6	0.40			
SANFILL OF ARIZONA (503-77-015) (ON PERRYVILLE RD. EASEMENT)					
Permanent ROW	327,446.06	7.52			
Temporary Workspace	322,446.92	7.40			
Extra Temporary Workspace	12,493.73	0.29			
UNKNOWN LANDOWNER Extra Temporary Workspace	10,005.58	0.23			
WYATT PACIFIC GENERAL LLC (503-76-014B) Extra Temporary Workspace	5,069.66	0.12			
JASTRZAB ROBERT J/REGINA S (503-76-014K) Extra Temporary Workspace	2,421.45	0.06			
SANFILL OF ARIZONA (503-77-014) (ON PERRYVILLE RD. EASEMENT)					
Permanent ROW	124,967.26	2.87			
Temporary Workspace	120,783.70	2.77			
Extra Temporary Workspace	5,417.12	0.12			
BALUCO TRUST ET AL (503-77-008) Extra Temporary Workspace	2,438.19	0.06			
SANFILL OF ARIZONA (MA-096) Extra Temporary Workspace	20,131.91	0.46			
Total Impacted Permanent ROW	691,295.56	15.87	Permanent ROW	394,481	9.06
Total Impacted Temporary Workspace	682,196.08	15.66	Temporary Workspace	383,668	8.81
Total Impacted Extra Temporary Workspace	109,053.14	2.50	Extra Temporary Workspace	65,205	1.50
Total	1,482,544.78	34.03	Total	843,354	19.36

II-857

PUBLIC

APPENDIX B

Figures and Drawings

Applicant

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Applicant

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Figure No.	Description	Response No.
Figure 10-1	Aerial Drawing of Waste Management Arizona Variation	Response No. 10.
Figure 11-1a	Aerial Drawing for Terrazo Alternative Route <i>(Large Format document)</i>	Response No. 11.
Figure 11-1b Figure 11-1c	Aerial Drawings for Solana Ranch North Alternative Route <i>(Large Format document)</i>	Response No. 11.
Figure 11-1d Figure 11-1e	Aerial Drawings for Maratea Alternative Route <i>(Large Format document)</i>	Response No. 11.
Figure 11-1f Figure 11-1g	Aerial Drawings for Vista Canyons Alternative Route <i>(Large Format document)</i>	Response No. 11.
Figure 11-1h Figure 11-1i Figure 11-1j	Aerial Drawings for Verano Alternative Route <i>(Large Format document)</i>	Response No. 11.
Figure 15-1	Aerial Drawing for HDD Crossing of the San Juan River Sheet, P4-1 <i>(Large Format document)</i>	Response No. 17.
Figure 17-1	Aerial Drawing for Verde River Crossing Sheet, P4-1U <i>(Large Format document)</i>	Response No. 17.
Tonopah Map	Drawing of the Tonopah, AZ area west of Buckeye, AZ <i>(Large Format document)</i>	

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Figures 10-1, 11-1, 15-1, and 17-1 are designated as
Non-Internet Public Information

Figures 10-1, 11-1, 15-1, and 17-1 have been removed and are located under
the tab **NON-INTERNET**.

Figures 10-1, 11-1, 15-1, Figure 17-1 and the Tonopah Map are Large Format documents.
Only one copy will be filed with the Commission.

Public access for the above information is available only through the Public Reference Room, or by
e-mail at public.reference.room@ferc.gov.

Applicant

LARGE-FORMAT IMAGES

One or more large-format images (over 8½" X 11") go here. These images are available in E-Library at:

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Security/Availability:

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File Date: 6/18/07 Docket No.: CP06-459

Parent Accession No.: 20070625-0123

Set No.: 1 of 1

Number of page(s) in set: 1

Applicant

II-861

PUBLIC

APPENDIX C
Plans and Procedures

Applicant

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Appendix C
Index of Plans and Procedures

Attachment No.	Description	Response No.
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Attachment 14-1	Revised Horizontal Directional Drill Plan	Response No. 14
Attachment 19-1	Revised FERC Upland Erosion Control Restoration and Maintenance Plan	Response No. 19
Attachment 21-1	Revised FERC Wetland and Waterbody Construction and Mitigation Procedures	Response No. 21
Attachment 22-1	Noxious Weed Management Plan	Response No. 22
Attachment 23-1	Migratory Bird Plan	Response No. 23
Attachment 28-1	Visual Resource Technical Report	Response No. 28
Attachment 34-1	Noise Survey for the HDD at the San Juan River	Response No. 34

Applicant

II-863

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Attachment 10-1
Waste Management Arizona Variation Plan

Applicant

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Transwestern Pipeline Company, LLC
Waste Management Arizona Variation Plan

During construction Transwestern will provide Waste Management access, at agreed to locations, across the construction ROW in order not to interfere with the day to day operations of their facility. This will require Transwestern to, not string pipe, open trench, or park equipment on or across Waste Managements designated access roads. Transwestern will need to coordinate with Waste Management during the installation of the pipeline across these access roads in order to minimize or eliminate any temporary disruption to the flow of traffic to and from the north and south sides of the property during the installation of pipe across these roads. As can be seen in the current aerial drawing submitted under Appendix B, defined roads exist where Waste Management currently accesses the north and south sides of the property underneath the power lines through the existing utility corridor. The entire construction footprint of Transwestern proposed route through Waste Managements property is within the existing utility corridor and thereby eliminates any other disturbance to Waste Management current and future use of their property due to either Transwestern's construction or operations.

Transwestern will continue to work with Waste Management to identify current and future points of their equipment crossings in the utility corridor. Transwestern will incorporate during the design and construction of its pipeline facility proper load protection over its pipeline which will allow for the load stresses of the equipment crossing over the pipeline from Waste Managements operations to be within acceptable and safe limits. Transwestern has looked into the design of a subsurface reinforced concrete slab that would protect the pipe from the large stresses of Waste Management's equipment loads at these specific crossing locations. Transwestern is not only committed to performing this work at the existing approved locations of their crossings but at any future locations that can identify during the time of the design of our facility.

To date Waste Management has considered only a total reroute around the perimeter of their facility and have not identified the current or future crossing locations to Transwestern.

The existing utility corridor through Waste Management's property consists of several powerline company easements and license agreements. The current license agreement Salt River Project (SRP) holds across the property has an expiration date of November 2, 2043. In discussions with SRP concerning this expiration date they have indicated to Transwestern that prior to the year 2043 that SRP will seek to renew the license or obtain an easement which will allow their facilities to remain in place. SRP has indicated they will be filing comments with FERC to this effect during the draft EIS comment period.

Transwestern has submitted under Attachment A, Table 10-1 which compares Transwestern's currently proposed alignment to an alternative that is adjacent to the south side of the Landfill property. The alternative will add approximately 14.7 miles to the route.

II-865

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Attachment 14-1
Revised Horizontal Directional Drill Plan

Applicant

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Transwestern's Revised Horizontal Directional Drill Plan
is included as Appendix I of this final EIS.

Applicant

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Attachment 19-1
Revised FERC Upland Erosion Control
Restoration and Maintenance Plan

II-867

Transwestern's Revised Upland Erosion Control, Revegetation, and Maintenance Plan is included as Appendix F of this final EIS.

Applicant

698-II

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Attachment 21-1
Revised FERC Wetland and Waterbody
Construction and Mitigation Procedures

Applicant

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Transwestern's Revised Wetland and Waterbody Construction and Mitigation Procedures is included as Appendix G of this final EIS.

Applicant

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**Attachment 22-1
Noxious Weed Management Plan**

Applicant

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II-871

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Transwestern's Noxious Weed Management Plan is included as Appendix R of this final EIS.

II-872

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**Attachment 23-1
Migratory Bird Plan**

Applicant

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II-873

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Transwestern's Migratory Bird Plan is included as Appendix S of this final EIS.

II-874

PUBLIC

Attachment 28-1
BLM Visual Mitigation Plan

Applicant

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II-875

Transwestern's Visual Resource Study Technical Report is included as Appendix T of this final EIS.

Applicant

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Attachment 34-1
Noise Survey for the HDD at the San Juan River

II-877

**PHOENIX EXPANSION PROJECT:
SAN JUAN LATERAL LOOP A
(SAN JUAN COUNTY, NEW MEXICO)**

ACOUSTICAL ASSESSMENT OF THE PLANNED HORIZONTAL
DIRECTIONAL DRILLING (HDD) AT THE SAN JUAN RIVER
ASSOCIATED WITH THE PHOENIX EXPANSION PROJECT

H&K Report No. 2103

H&K Job No. 3935

Date of Report: June 14, 2007

Prepared for: **Transwestern Pipeline Company, LLC**
5444 Westheimer Road
Houston, Texas 77056

Submitted by: Paul D. Kiteck, P.E. (primary author)
Hoover & Keith Inc.
11391 Meadowglen, Suite D
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Applicable FERC Docket Number for the Project: CP06-459-000

Hoover & Keith Inc.
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11391 Meadowglen, Suite D, Houston, TX 77082 Phone: (281) 496-9876

Applicant

REPORT SUMMARY

This report provides the results of an acoustical assessment of the planned HDD operations at the San Juan River (San Juan County, New Mexico) associated with the **San Juan Lateral Loop A** for the **Phoenix Expansion Project**. In addition, the results of an ambient sound survey conducted at the site of the planned HDD operations are included.

The purpose of the acoustical assessment is to estimate the sound contribution at nearby noise-sensitive areas (NSAs) resulting from HDD operations. In addition, the report presents noise mitigation measures to minimize the noise impact of HDD activities if the assessment indicates that the noise of HDD operations could exceed a nighttime A-wt. sound level of **55 dBA** (i.e., L_n) at any nearby NSA, which is considered the "benchmark" sound level requirement for the project HDD construction activities.

In summary, if no additional noise control measures are employed at the planned HDD construction sites, the noise assessment indicates that the noise generated by HDD operations at the HDD entry site for the San Juan HDD Crossing could exceed **55 dBA** (L_n) at the closest NSA surrounding the HDD site (i.e., NSA #1). Consequently, it will be necessary to employ additional noise mitigation measures at the HDD entry site to meet the benchmark sound requirement or as an alternative, offer temporarily relocating or compensating people residing in the areas affected by the drilling activities.

The following table summarizes the projected A-wt. sound level at the closest NSA(s) attributable to the HDD operations (i.e., peak operating conditions) at the HDD entry site and HDD exit site, and assumes that additional noise mitigation measures are employed to reduced the noise of HDD operations at the closest NSA (i.e., NSA #1) to the HDD entry site. The results in the table are defined as the "Noise Quality Analysis" for the planned HDD construction activities for the project.

Noise Quality Analysis of the Planned HDD Construction Site associated with the Project

Planned HDD Sites	Nearest NSAs	Distance & Direction of Closest NSA	Est'd A-Wt. Sound Level due to HDD Drilling Operations	Ambient L_n	A-Wt Level of HDD Operations plus Ambient L_n	Increase Above Ambient
HDD Entry Site	NSA #1	600 feet (North)	52.8 dBA*	52.3 dBA	55.6 dBA*	3.3 dB
HDD Entry Site	NSA #2	1,200 feet (West)	52.5 dBA	52.3 dBA	55.4 dBA	3.1 dB
HDD Exit Site	NSA #3	1,600 feet (South)	37.9 dBA	45.0 dBA	45.8 dBA	0.8 dB

*Assumes additional noise mitigation measures (e.g., noise barrier along the North Side of HDD entry site) are employed at the HDD Entry Point to reduce the potential HDD operational noise at the closest NSA (i.e., NSA #1).

The results of the noise assessment indicates that if adequate additional noise mitigation measures are employed at the HDD entry site, the noise due to planned HDD drilling operations at these HDD entry sites and HDD exit sites should be below **55 dBA** (L_n).

Hoover & Keith Inc.

Transwestern: San Juan Lateral Loop A for Phoenix Expansion Project
 Sound Survey and Acoustical Assessment of Planned HDD at the San Juan River H&K Job No. 3935
 H&K Report No. 2103 (06/14/07)

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Hoover & Keith Inc.

Transwestern: San Juan Lateral Loop A for Phoenix Expansion Project
 Sound Survey and Acoustical Assessment of Planned HDD at the San Juan River

H&K Job No. 3935

H&K Report No. 2103 (06/14/07)

1.0 INTRODUCTION

In this report, we present the results of an acoustical assessment of the planned horizontal directional drill (HDD) construction techniques at the San Juan River for the **San Juan Lateral Loop A** for the **Phoenix Expansion Project**. In addition, a summary of the results of an ambient sound survey around the HDD site are included. The purpose of the acoustical assessment is to estimate the sound contribution at nearby noise-sensitive areas (NSAs), such as schools, hospitals and residences, resulting from HDD operations. In addition, the report present noise mitigation measures to minimize the noise impact of HDD activities if the analysis indicated that the noise of HDD operations could exceed the sound level guideline/criteria. The purpose of the ambient sound survey is to quantify the existing ambient noise environment near the sites of the HDD activity and verify NSAs located near the HDD construction site. For the reader's information, a summary of applicable acoustical terminology in this report and description of typical metrics used to measure and regulate environmental noise is provided at the end of the report (i.e., **Appendix B**, pp. 11–13).

2.0 SOUND LEVEL CRITERIA

For reference, a recent Federal Energy Regulatory Commission (FERC) Order 686 related to Docket No. RM06-7-000, dated October 19, 2006, stated the following noise goal for HDD drilling operations: "Any horizontal directional drilling or drilling of wells which will occur between 10 p.m. and 7 a.m. local time must be conducted with the goal of keeping the perceived noise from the drilling at any pre-existing noise sensitive area (such as schools, hospitals, or residences) at or below a night level (i.e., L_n) of **55 dBA**." Consequently, the nighttime A-wt. sound level (i.e., L_n) of **55 dBA** will be defined as the "benchmark" sound requirement for the project HDD drilling operations, noting that HDD operations may occur for 24 hours/day. If it is projected that the noise attributable to the HDD drilling operations could exceed the benchmark sound requirement, noise mitigation (e.g., noise barrier) will be proposed to reduce the potential noise impact of the HDD drilling operations to below **55 dBA** (L_n) or as an alternative, offer temporarily relocating or compensating people residing in the areas affected by the drilling activities.

3.0 DESCRIPTION OF PROJECT AND HDD SITE**3.1 Description of the Planned HDD Site**

Figure 1 (Appendix A, p. 7) shows an overview layout of the pipeline route, the location of the planned HDD site (i.e., HDD entry and HDD exit sites) and the NSAs located near the HDD entry/exit point. The San Juan Lateral Loop A will require one (1) horizontal directional drill segment (i.e., HDD segment consisting of both an entry point and exit point) for crossing the San Juan River, located in San Juan County, New Mexico and within the city limits of Bloomfield, NM. For this specific HDD segment, the HDD operations are assumed to occur for 24 hours/day, and restricting the HDD operations to only daytime hours may not be a practical option.

Hoover & Keith Inc.

Transwestern: San Juan Lateral Loop A for Phoenix Expansion Project H&K Job No. 3935
 Sound Survey and Acoustical Assessment of Planned HDD at the San Juan River H&K Report No. 2103 (06/14/07)

The North Side of the San Juan River HDD will be utilized for the HDD entry side, and the nearest NSA to the HDD entry point is a residence located approximately 600 feet north of the HDD entry point. There is also a nearby NSA (i.e., residence) on the West Side of the HDD entry site that are located approximately 1,200 feet west from the HDD entry point. The South Side of the San Juan River HDD will be utilized for the HDD exit side, and the nearest NSA to the HDD exit point consists of a residence located approximately 1,600 feet south of the HDD exit point. Verification of the NSAs surrounding the HDD site was determined by Hoover & Keith Inc. (H&K) during an ambient sound survey on May 16 ('07).

3.2 Brief Description of the HDD Site Equipment

Figure 2 (Appendix A, p. 8) shows the conceptual layout of equipment associated with a typical HDD entry side and HDD exit side. The largest amount of HDD equipment (i.e., most significant amount of HDD noise-generating equipment) will be located at the entry side. The following summarizes the anticipated equipment associated with the HDD entry side:

- > Drilling rig & associated engine-driven hydraulic power unit (e.g., 400-700 HP CAT engine);
- > EW triplex centrifugal main mud pumps (e.g., 350-450 HP CAT engine);
- > Engine-driven electric generator sets (e.g., CAT 350 HP & 200 HP gen sets);
- > Mud mixing/cleaning equipment [e.g., ditch pumps (50 HP), mud tank pumps (75-90 HP)];
- > Fluid systems shale shakers (associated with the mud mixing/cleaning equipment);
- > Crane(s) & boom truck(s), loader(s), backhoe and/or forklift;
- > Engine-driven light plants (i.e., used for nighttime operation).

The following summarizes the anticipated equipment associated with the HDD exit side:

- > EW triplex centrifugal main mud pump (e.g., engine-driven or motor-driven);
- > Engine-driven electric generator set if mud pumps employed;
- > Mud tank with miscellaneous motor-driven pumps;
- > Backhoe, Sideboom and/or engine-driven light plants (i.e., used for nighttime operation).

4.0 MEASUREMENT LOCATIONS, METHODOLOGY AND RESULTS

4.1 Sound Measurement Locations

Ambient sound measurements around the site were performed by Tom McMahon of H&K in the daytime of May 16, 2007, and ambient sound levels were measured near the nearest NSAs to planned HDD entry or exit point. The following is a description of the sound measurement positions selected during the ambient sound survey, list of the nearest NSAs and the distance/direction from each NSA to either the HDD entry site or HDD exit site:

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Pos. 1: Near NSA #1, consisting of residences on the North Side of U.S. Hwy. 64, and the closest of these residences is a residence located approximately 600 feet north of the HDD entry point, which is the NSA closest to the HDD entry site.

Pos. 2: Near NSA #2 (closest NSA on the West Side of the HDD entry point), consisting of a residence located approximately 1,200 feet west of the HDD entry point.

Pos. 3: Near NSA #3, consisting of a residence located approximately 1,600 feet south of the HDD exit point, which is the NSA closest to the HDD exit site.

4.2 Measurement Equipment and Data Acquisition

For the sound measurement positions, A-wt. equivalent sound levels (i.e., L_{eq}) and unweighted octave-band (O.B.) sound pressure levels (i.e., L_{eq} SPLs) were measured at five (5) feet above ground. Typically, several sample periods of the noise (e.g., 5 to 20 minutes in length) were measured at each sound measurement position. The sound measurements attempted to exclude "extraneous and intermittent sound" such as a car or truck passing immediately by the sound measurement location. The acoustical measurement system consisted of a Rion Model NA-27 Sound Level Meter (a Type 1 SLM per ANSI S1.4 & S1.11) equipped with a Rion Model UC-53A microphone and a windscreen was utilized. The SLM was calibrated with a microphone calibrator (calibrated within 1 year of the sound test date).

4.3 Measurement Results and Observations

The following **Table A** summarizes the measured ambient L_d/L_n and calculated L_{dn} (via the measured L_d and L_n) at the nearest NSAs, noting that the measured sound data at Meas. Pos. 1 (near NSA #1) was also determined to be typical of the ambient sound level at NSA #2.

Meas. Pos.	Description of Sound Measurement Location And Associated NSA	Meas'd Ambient L_d	Meas'd Ambient L_n	Calc'd L_{dn} (via the L_d & L_n)
Pos. 1	NSA #1: 600 feet north of the HDD entry point	56.2 dBA	52.3 dBA	59.5 dBA
Pos. 1	NSA #2: 1,200 feet west of the HDD entry point	56.2 dBA	52.3 dBA	59.5 dBA
Pos. 2	NSA #3: 1,600 feet south of the HDD entry point	55.6 dBA	45.0 dBA	55.4 dBA

Table A: Summary of the Meas'd L_d , Meas'd/Est'd L_n and Calc'd L_{dn} at the NSA Measurement Positions

At the NSAs on the North Side of the HDD entry site (i.e., NSA #1 & NSA #2), the noise of vehicle traffic noise along U.S. Hwy. 64 was the noise source that significantly influenced both the daytime and nighttime sound levels. At the sound measurement position near the NSA on the South Side of the HDD exit site (i.e., NSA #3), the noise of vehicle traffic noise along County Road 4990 was the noise source that influenced both the measured daytime and nighttime sound levels. Other audible sounds included the occasional noise of distant aircraft.

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5.0 ACOUSTICAL ASSESSMENT

The acoustical assessment considers noise produced by HDD equipment typically employed at the HDD entry site or exit site that could impact the sound contribution at nearby NSAs. The estimated sound contribution of the HDD operations is based on measured sound data at other similar type of HDD sites. The estimated sound contribution of HDD operations was performed only for the nearest NSAs to each HDD entry/exit point since the sound contribution of the HDD operations at more distant NSAs should be less than the sound contribution at the nearest NSAs.

5.1 Significant Sound Sources

The following sound sources (i.e., equipment) at the HDD entry side were considered significant:

- > Drilling rig & associated engine-driven power unit;
- > Engine-driven mud pump(s) and engine-driven generator sets;
- > Mud mixing & mud cleaning equipment;
- > Cranes, boom trucks, backhoe, loaders, forklifts and trucks;
- > Engine-driven light plants (used for nighttime operation).

The following sound sources at the HDD exit side were considered significant, and the noise generated at the HDD exit side is typically lower than the noise generated at the entry side:

- > Engine-driven mud pump(s), and an engine-driven generator set;
- > Backhoe, Sideboom and/or engine-driven light plants (used for nighttime operation).

5.2 Sound Level Contribution of the HDD Operations

The spreadsheet analyses/calculations of the estimated sound contribution of HDD operations (i.e., HDD entry site and HDD exit site) at the nearest NSAs are provided in the **Appendix A** (i.e., **Tables 1, 2 & 3**; p. 9). A description of the acoustical analysis methodology for estimating the sound contribution due to HDD operations and source of sound data are provided in the **Appendix A** (p. 10). The following **Table B** summarizes the estimated A-wt. sound level at the closest NSAs during peak operation of HDD equipment assuming no additional noise mitigation measures are employed as compared to the ambient nighttime sound level (i.e., L_n), noting that the HDD could be employed for a 24-hour workday.

Planned HDD Site	Nearest NSA	Distance & Direction of Closest NSA	Calc'd A-Wt. Sound Level due to HDD Operations	Ambient Ln	A-Wt. Level of HDD plus Ambient Ln	Increase Above Ambient Ln	Reference Table in the Appendix
Entry Site	NSA #1	600 ft. (North)	59.5 dBA	52.3 dBA	60.3 dBA	8.0 dB	Table 1 (p. 9)
Entry Site	NSA #2	1,200 ft. (West)	52.5 dBA	52.3 dBA	55.4 dBA	3.1 dB	Table 2 (p. 9)
Exit Site	NSA #3	1,600 ft. (South)	37.9 dBA	45.0 dBA	45.8 dBA	0.8 dB	Table 3 (p. 9)

Table B. Est'd A-Wt. Sound Level Contribution of HDD Operations at the Closest NSA(s) to either the Entry Site or the Exit Site for the Planned HDD Operation assuming no Added Noise Mitigation.

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In summary, if no additional noise mitigation measures are employed, the acoustical assessment indicates that the noise generated by HDD operations at the HDD entry site for the San Juan HDD crossing could exceed the benchmark sound requirement at the closest NSA (i.e., NSA #1).

6.0 NOISE MITIGATION MEASURES

Since the acoustical assessment indicates that the noise generated by HDD operation at the HDD entry point could exceed the benchmark sound requirement at the closest NSA (i.e., NSA #1), the following section describes noise mitigation measures that could be employed to reduce the noise of HDD operations to below the benchmark sound requirement.

Initially, employ an adequate temporary noise barrier would be installed along the North Side of the HDD equipment area since the location of the closest NSA is located north of the HDD entry side. For example, the temporary noise barrier could be constructed of ¾-in. thick plywood panels (e.g., barrier height should be at least 16 feet). In addition, diesel engines used to drive generators and/or pumps should include an adequate exhaust muffler (e.g., minimum, residential grade exhaust silencer). As an alternative to employing noise mitigation measures, temporary housing or equivalent monetary compensation could be offered to the affected land owners.

The following **Table C** summarizes the revised projected A-wt. sound level of HDD operations at the closest NSA for the HDD site in which the sound level requirement could be exceeded (i.e., HDD entry site), assuming that a temporary noise barrier is employed successfully.

Planned HDD Site	Nearest NSA	Distance & Direction of Closest NSA	Est'd A-Wt. Level if Added Noise Mitigation Employed	Ambient Ln	A-Wt. Level of HDD plus Ambient Ln	Increase Above Ambient	Reference Table in the Appendix
HDD Entry Site	NSA #1	600 ft. (North)	52.8 dBA	52.3 dBA	55.6 dBA	3.3 dB	Table 1 (p. 9)

Table C. Summary of Est'd A-Wt. Sound Level Contribution of HDD Operations at the Closest NSA assuming a Temporary Noise Barrier is Employed along the North Side of the HDD Entry Side.

7.0 FINAL COMMENT

The acoustical assessment indicates that if additional noise mitigation measures are not employed, the noise attributable to the drilling operations at HDD entry site at the San Juan HDD crossing could be greater than the "benchmark" sound level requirement of **55 dBA** (L_n) at the closest NSA (i.e., NSA #1). As a result, feasible and cost-effective noise mitigation measures (e.g., noise barrier) are discussed to reduce the noise associated with HDD operations to below the benchmark sound requirement. The results of the noise assessment indicates that if adequate additional noise mitigation measures are employed at the HDD entry point, the noise due to planned HDD drilling operations at the HDD entry/exit site should be below **55 dBA** (L_n).

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APPENDIX A

- **DRAWINGS/FIGURES**

- **RESULTS OF SPREADSHEET ACOUSTICAL ANALYSES
OF HDD SITES (Tables 1, 2 & 3)**

- **DESCRIPTION OF THE ACOUSTICAL ANALYSIS
METHODOLOGY FOR HDD SITES AND THE SOURCE OF
SOUND DATA**

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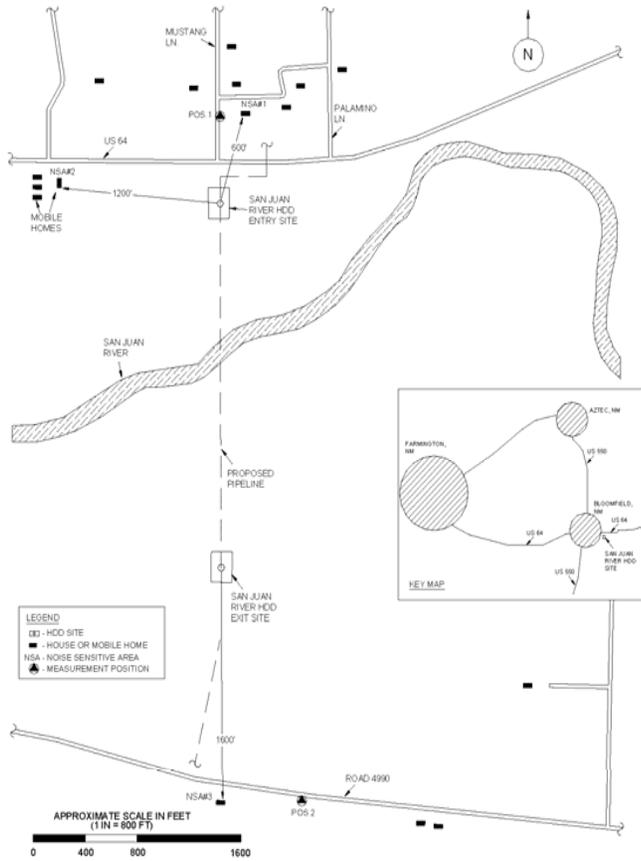
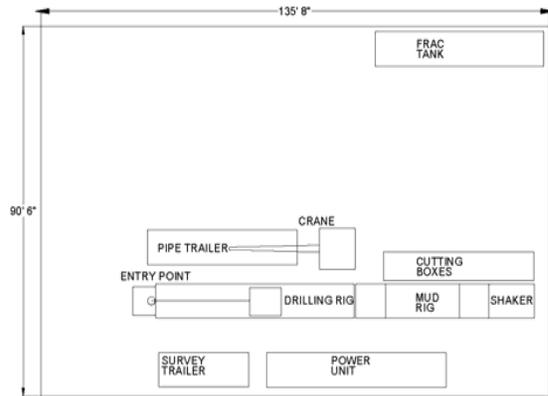
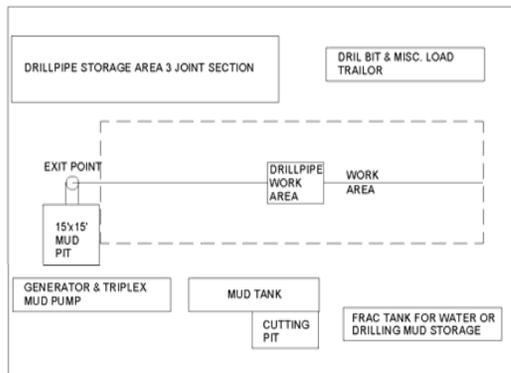


Figure 1: San Juan Lateral Loop A (Phoenix Expansion Project): Drawing showing an Overview of the Project, Location of Planned HDD Site and Nearest NSAs.

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HDD ENTRY SIDE (RIG SIDE)
(PLAN VIEW)



HDD EXIT SIDE (PLAN VIEW)

Figure 2: San Juan Lateral Loop A (Phoenix Expansion Project): Conceptual Layout of Equipment at the HDD Entry Side and HDD Exit Side.

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Dist (Ft) or Calculation	Noise Source and Other Conditions/Factors associated with Acoustical Analysis	SPL or PWL in dB Per Octave-Band Center Freq. (Hz)									A-Wt. Level
		31.5	63	125	250	500	1000	2000	4000	8000	
600	Peak PWL of HDD Operation/Equipment at Entry Point	118	115	112	114	112	109	108	106	98	115
	Attenuation by Forest, Land Contour and/or Buildings	0	0	0	0	0	-1	-2	-3	-4	
	Hemispherical Radiation	-53	-63	-53	-53	-53	-53	-53	-53	-53	
	600 Atm. Absorption (50% R.H., 80 deg F)	0	0	0	0	0	-1	-2	-5	-8	
Est'd Total Sound Contribution with No Additional NC		65	62	59	60	58	54	50	45	32	59.5
Meas'd N-time Ambient Sound Level (i.e., Ln) in dBA											52.3
Sound Contribution of HDD Noise plus Ambient (dBA)											60.3
Potential Increase above the Ambient Level (dB)											8.0
Attenuation due to Added Temporary Noise Barrier		-1	-2	-3	-5	-6	-8	-10	-12	-12	
Est'd Sound Level of HDD + Added NC Measures		64	60	56	55	52	46	40	33	20	52.8
Meas'd N-time Ambient Sound Level (i.e., Ln) in dBA											52.3
Sound Contribution of HDD Noise plus Ambient (dBA)											55.6
Potential Increase above the Ambient Level (dB)											3.3

Table 1: Phoenix Expansion Project (San Juan River HDD Crossing Entry Point): Est'd Sound Contribution of HDD Operations at the Closest NSA (i.e., NSA #1, located approx. 600 Ft. North of Entry Point), including the Est'd Sound Level if a Temporary Noise Barrier Employed.

Dist (Ft) or Calculation	Noise Source and Other Conditions/Factors associated with Acoustical Analysis	SPL or PWL in dB Per Octave-Band Center Freq. (Hz)									A-Wt. Level
		31.5	63	125	250	500	1000	2000	4000	8000	
1200	Peak PWL of HDD Operation/Equipment at Exit Point	118	115	112	114	112	109	108	106	98	115
	Attenuation by Forest, Land Contour and/or Buildings	0	0	0	0	0	-1	-2	-3	-4	
	Hemispherical Radiation	-59	-59	-59	-59	-59	-59	-59	-59	-59	
	1200 Atm. Absorption (50% R.H., 80 deg F)	0	0	0	-1	-1	-2	-5	-10	-17	
Est'd Total Sound Contribution with No Additional NC		59	56	52	54	52	46	42	34	18	52.5
Meas'd N-time Ambient Sound Level (i.e., Ln) in dBA											52.3
Sound Contribution of HDD Noise plus Ambient (dBA)											55.4
Potential Increase above the Ambient Level (dB)											3.1

Table 2: Phoenix Expansion Project (San Juan River HDD Crossing Entry Point): Est'd Sound Contribution of HDD Operations at Closest NSA on West Side of Site (i.e., NSA #2, located approx. 1,200 Ft. West of the Entry Point).

Dist (Ft) or Calculation	Noise Source and Other Conditions/Factors associated with Acoustical Analysis	SPL or PWL in dB Per Octave-Band Center Freq. (Hz)									A-Wt. Level
		31.5	63	125	250	500	1000	2000	4000	8000	
1600	Peak PWL of HDD Operation/Equipment at Exit Point	110	108	105	102	100	98	95	92	88	103
	Attenuation by Forest, Land Contour and/or Buildings	0	0	0	0	0	-1	-2	-3	-4	
	Hemispherical Radiation	-62	-62	-62	-62	-62	-62	-62	-62	-62	
	1600 Atm. Absorption (50% R.H., 80 deg F)	0	0	0	-1	-1	-3	-6	-13	-22	
Est'd Total Sound Contribution with No Additional NC		48	46	43	39	37	32	25	14	0	37.9
Meas'd N-time Ambient Sound Level (i.e., Ln) in dBA											45.0
Sound Contribution of HDD Noise plus Ambient (dBA)											45.8
Potential Increase above the Ambient Level (dB)											0.8

Table 3: Phoenix Expansion Project (San Juan River HDD Crossing Exit Point): Est'd Sound Contribution of HDD Operations at Closest NSA to Exit Point (i.e., NSA #3, located 1,600 Ft. South of Exit Point).

Notes: Est'd sound power levels (PWLs) of HDD operation based on field tests by H&K on similar type of HDD rigs anticipated for this Pipeline Project. Est'd PWL at HDD exit point should be typically 12 to 14 dB lower than PWL at HDD entry point, noting that there should not be any stationary equipment, such as generators, at the exit point.

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Description of Acoustical Assessment Methodology and Source of Sound Data

In general, the predicted sound level contributed by drilling operations at each HDD site was calculated as a function of frequency from estimated unweighted octave-band (O.B.) sound power levels (PWLs) and A-wt. PWL of the respective equipment operations at either the HDD entry site or HDD exit site. The following summarizes the acoustical analysis procedure:

- Initially, unweighted O.B. PWLs of the HDD operations were determined from actual sound level measurements by H&K on similar type of HDD operations/equipment expected for this project. Estimated PWL values of the HDD operations were calculated from sound measurements at different distances/directions from HDD operations (e.g., sound measurements at 100 ft., 200 ft. and 400 ft. from HDD equipment during operation).
- Then, expected attenuation in dB per O.B. frequency due to hemispherical sound propagation (discussed in more detail below**), atmospheric sound absorption (discussed in more detail below**) and sound shielding (e.g., attenuation due to foliage and land contour, if appropriate) were subtracted from the unweighted O.B. PWLs to obtain the unweighted O.B. sound pressure levels (SPLs) of the drilling operations.
- Finally, the resulting estimated total unweighted O.B. SPLs for the HDD operations, including sound attenuation effects, were logarithmically summed and corrected for A-weighting to provide the estimated overall A-wt. sound level contributed by the drilling operations at the specified distance(s).

*Attenuation due to hemispherical sound propagation: Sound propagates outwards in all directions (i.e., length, width, height) from a point source, and the sound energy of a noise source decreases with increasing distance from the source. In the case of hemispherical sound propagation, the source is located on a flat continuous plane/surface (e.g., ground), and the sound radiates hemispherically (i.e., outward, over and above the surface) from the source. The following equation is the theoretical decrease of sound energy when determining the resulting sound pressure level (SPL) of a noise source at a specific distance ("r") of a receiver from a source sound power level (PWL):

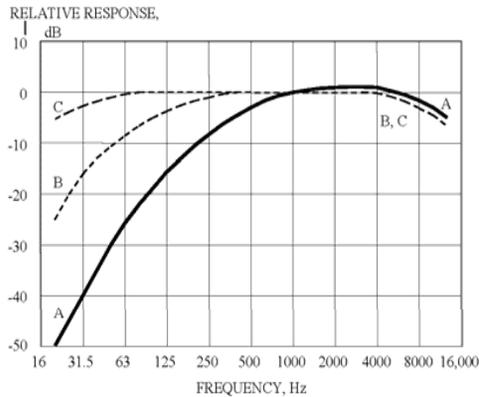
Decrease in SPL ("hemispherical propagation") from a noise source = $20 \cdot \log(r) - 2.3 \text{ dB}$
 where "r" is distance of the receiver from the noise source.

Attenuation due to air absorption: Air absorbs sound energy, and the amount of absorption ("attenuation") is dependent on the temperature and relative humidity (R.H.) of air and frequency of sound. For example, the attenuation due to air absorption for 1000 Hz O.B. SPL is approximately **1.5 dB per 1,000 feet for standard day conditions (i.e., no wind, 60 deg. F. and 70% or 50% R.H.).

APPENDIX B: SUMMARY OF TYPICAL METRICS FOR REGULATING ENVIRONMENT NOISE AND ACOUSTICAL TERMINOLOGY

- (1) Decibel (dB): A unit for expressing the relative power level difference between acoustical or electrical signals. It is ten times the common logarithm of the ratio of two related quantities that are proportional to power. When adding dB or dBA values, the values must be added logarithmically. For example, the logarithmic addition of **35 dB plus 35 dB is 38 dB**.
- (2) A-Weighted Sound Level (dBA): The A-wt. sound level is a single-figure sound rating, expressed in decibels (Re 20 μPa), which correlates to the human perception of the loudness of sound. The dBA level is commonly used to measure industrial and environmental noise since it is easy to measure and provides a reasonable indication of the human annoyance value of the noise. The dBA measurement is not a good descriptor of a noise consisting of strong low-frequency components or for a noise with tonal components. The A-weighted curve approximates the response of the average ear at sound levels of 20 to 55 decibels (dB). The following are the relative response of A-weighted filter per octave band frequency, and a graph/curve is provided that shows a graphical representation of the A-wt. filter response per frequency (in Hz).

31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1,000 Hz	2,000 Hz	4,000 Hz	8,000 Hz	16,000 Hz
-39.4 dB	-26.2 dB	-16.1 dB	-8.6 dB	-3.2 dB	0 dB	+1.2 dB	+1.0 dB	-1.1 dB	-6.6 dB



- (3) Background (Ambient) Noise: The total noise produced by all other sources of a given environment in the vicinity of a specific source of interest, and includes any residual noise.

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- (4) Human Perception of Change in Sound Level
- > A **3 dB** change of sound level is barely perceivable by the human ear
 - > A **5 or 6 dB** change of sound level is noticeable
 - > If sound level increases by **10 dB**, it appears as if the sound intensity has doubled.
- (5) Sound Pressure Level (L_p or SPL): Ten times the common logarithm to the base 10 of the ratio of the mean square sound pressure to the square of a reference pressure. Therefore, the sound pressure level is equal to 20 times the common logarithm of the ratio of the sound pressure to a reference pressure (20 micropascals or 0.0002 microbar).
- (6) Octave Band (O.B.) Sound Pressure Level (SPL): Sound is typically measured in frequency ranges (e.g., high-pitched sound, low-pitched sound, etc.) that provides more meaningful sound data regarding the sound character of the noise. When measuring two noise sources for comparison, it is better to measure the spectrum of each noise, such as in octave band (O.B.) SPL frequency ranges. Then, the relative loudness of two sounds can be compared frequency range by frequency range. As an illustration, 2 noise sources can have the same dBA rating and yet sound completely different. For example, a high-pitched sound at a frequency of 2000 Hz could have the same dBA rating as a much louder low-frequency sound at 50 Hz.
- (7) Daytime Sound Level (L_d) & Nighttime Sound Level (L_n): L_d is the equivalent A-weighted sound level, in decibels, for a 15 hour time period, between 07:00 to 22:00 Hours (7:00 a.m. to 10:00 p.m.). L_n is the equivalent A-weighted sound level, in decibels, for a 9 hour time period, between 22:00 to 07:00 Hours (10:00 p.m. to 7:00 a.m.).
- (8) Equivalent Sound Level (L_{eq}): The equivalent sound level (L_{eq}) can be considered an average sound level measured during a period of time, including any fluctuating sound levels during that period. In this report, the L_{eq} is equal to the level of a steady (in time) A-weighted sound level that would be equivalent to the sampled A-weighted sound level on an energy basis for a specified measurement interval. The concept of the measuring L_{eq} has been used broadly to relate individual and community reaction to aircraft and other environmental noises.
- (9) Day-Night Average Sound Level (L_{dn}): The L_{dn} is an energy average of the measured daytime L_{eq} (L_d) and the measured nighttime L_{eq} (L_n) plus **10 dB**. The **10-dB** adjustment to the L_n is intended to compensate for nighttime sensitivity. As such, the L_{dn} is not a true measure of the sound level but represents a skewed average that correlates generally with past sound surveys which attempted to relate environmental sound levels with physiological reaction and physiological effects. For a steady sound source that operates continuously over a 24-hour period and controls the environmental sound level, a L_{dn} is approximately **6.4 dB** above the measured L_{eq} . Consequently, a L_{dn} of **55 dBA** corresponds to an L_{eq} of **48.6 dBA**. If both the L_d and L_n are measured, then the L_{dn} is calculated using the following formula:

$$L_{dn} = 10 \log_{10} \left(\frac{15}{24} 10^{L_d/10} + \frac{9}{24} 10^{(L_n+10)/10} \right)$$

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- (10) L-Percent Sound Levels: The L percent levels (e.g., L₅₀, L₅₀ & L₁₀) refer to the A-weighted sound levels that are exceeded for 90, 50 and 10 percent of the time, respectively, during a sound measurement period. For example, the 50-percentile exceeded sound level is designated to as L₅₀ and is sometimes described as the median sound level. The range between the L₁₀ and L₉₀ values usually provides a good indication of the variability of the sound levels during the period of measurement.
- (11) Sound Level Meter (SLM): An instrument used to measure sound pressure level, sound level, octave-band SPL, or peak sound pressure level, separately or in any combinations thereof. The measured weighted SPL (i.e., A-Wt. Sound Level or dBA) is obtained by the use of a SLM having a standard frequency-filter for attenuating part of the sound spectrum.
- (12) Sound Power Level (L_w or PWL): Ten times the common logarithm of the ratio of the total acoustic power radiated by a sound source to a reference power. A reference power of a picowatt or 10⁻¹² watt is conventionally used.
- (13) Relevant Standards, associated Standards Institute(s) and References

American National Standards Institute (ANSI): ANSI is the national coordinator of voluntary standards development and the clearinghouse in the U.S.A. for information on national and international standards.

American National Standards Institute (ANSI) S1.4: Specification for SLM:

Type I SLM: Sound level meters (SLM) that meet this specification have a tolerance of +/- 0.5 dB from 22.4 to 11,200 Hz.

Type II SLM: Sound level meters that meet this specification have a tolerance of +/- 0.5 dB from 63 to 2,000 Hz and +/- 1.0 dB from 22.4 to 11,200 Hz.

ANSI S1.11-1971 (R-1976): Specifications for Octave, Half-Octave and Third-Octave Filter Sets. Includes a method to convert SPLs in the "old octave bands" to SPLs in the "new octave bands".

ASTM Standard E1014-84: Standard Guide for the Measurement of Outdoor A-Weighted Sound Level. This guide covers the measurement of A-weighted sound levels outdoors at specified locations or along particular site boundaries, using a general-purpose sound level meter.

End of Report

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ATTACHMENT D

Correspondence

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Appendix D
Index of Correspondence

Description	Response No.
Email sent from J. Kolb to Agencies regarding Verde River Crossing Plan, pages 1-6.	Response No. 17
Email follow-up from J. Kolb to K. Simeral, Forest Service regarding the Verde River Crossing Plan, pages 1-3.	Response No. 17
Email between B. Osborne and T. Mutz, Forest Service	Response No. 20
Email from B. Osborne to K. Simeral, Forest Service concerning meeting with Forest Service discussing the clearing of lands and restoration	Response No. 20
Meeting Summary between Transwestern and Forest Service regarding clearing of lands and restoration, pages 1-4	Response No. 20
Correspondence between B. Osborne and the U.S. Fish and Wildlife Service regarding its Migratory Bird Plan.	Response No. 23
Meeting Notes between Transwestern staff and BLM held June 6, 2007	Response No. 27
Letter from EPNG to Transwestern regarding collocation	Response No. 11

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From: Joe Kolb/Houston/URSCorp
To: Kenneth Simeral <ksimeral@fs.fed.us>
cc: Joe_Kolb@URSCorp.com, Linda L Jackson <lljackson@fs.fed.us>, Jerry W Bradley <jwbradley@fs.fed.us>, Albert U Sillas <asillas@fs.fed.us>, David Moore <dmoore05@fs.fed.us>, Mark_Mackiewicz/PFO/UT/BLM/DOI.BLM <Mark_Mackiewicz/PFO/UT/BLM/DOI.BLM@fs.fed.us>, James M Mckie <jmckie@fs.fed.us>, bill.osborne@SUG.com, dlmacphee@commspeed.net, nwgirard@npgcable.com

Date: Monday, May 14, 2007 01:22PM

Subject: Re: Fw: Verde River - modified crossing plan

Ken and others:

Thanks for the quick responses. I've attached a drawing that is part of the material we provided to FERC related to the Biological Assessment. It shows the crossing layout and profile for the Verde River. Also, let me respond to some of the comments.

1. The proposed modification to the crossing procedure does not involve changes to the project footprint. We will be addressing archaeological properties in the same way that has been proposed.
2. The pipeline will be installed so that there is a minimum of 4 feet of cover. In other words, the top of the pipe will be at least 4 feet below the top of the river bottom, i.e., below the thalweg. If this requires that bedrock be broken to allow the pipe to be buried lower, this will be done. After installation the pipe will not be exposed at any point. Debris collection is not a concern.
3. The pipeline is not expected to restrict the lateral movement of the river. If over the years the river moves or cuts lower sufficiently to expose the pipeline, it will be lowered to a depth that sufficient pipe cover is re-established.
3. The pipe will be weighted to prevent the pipe from floating/lifting in saturated soils. This is a standard procedure. It is not related to preventing an exposed pipe from lifting during high flows.
4. It is not feasible for us to direct the river to any of its old channels as part of this pipeline construction project. The environmental impacts of such work would have to be evaluated. It is not likely that FERC would initiate this kind of review, since redirecting the river is not a necessary part of this project.
5. The flume pipe will only be used during construction to minimize turbidity and sedimentation downstream of the crossing. We hope this helps all in their review. If there are still questions, please let me or Bill Osborne know and we'll arrange a meeting or conference call. We will be in your area for the DEIS meeting on the evening of June 4th. It would be easy to meet with you or your staff late on that Monday.

Joe W. Kolb
Senior Environmental Planner
URS Corporation
9801 Westheimer, Suite 500

Applicant

Houston, Texas 77042
713.914.6444
713.301.3026 cell phone
joe_kolb@urscorp.com

-----Kenneth Simeral <ksimeral@fs.fed.us> wrote: -----

To: Joe_Kolb@URSCorp.com
From: Kenneth Simeral <ksimeral@fs.fed.us>
Date: 05/11/2007 05:24PM
cc: Linda L Jackson <lljackson@fs.fed.us>, Jerry W Bradley <jwbradley@fs.fed.us>, Albert U Sillas <asillas@fs.fed.us>, David Moore <dmoore05@fs.fed.us>, Mark_Mackiewicz/PFO/UT/BLM/DOI.BLM <Mark_Mackiewicz/PFO/UT/BLM/DOI.BLM@fs.fed.us>, James M McKie <jmckie@fs.fed.us>
Subject: Fw: Verde River - modified crossing plan

Joe,
Here are a couple of comments thus far on the modified crossing plan. Ken

----- Forwarded by Kenneth Simeral/R3/USDAFS on 05/11/2007 03:16 PM -----

Ken,

1. Please make sure that Transwestern is aware of, and thus avoids, any archaeological properties in the area of this work. This also includes avoiding sites by any indirect effects that might occur.

jim

James McKie
Forest Archaeologist
Prescott National Forest
(928)443-8231

2.

Linda L Jackson/R3/USDAFS	Kenneth Simeral/R3/USDAFS@FSNOTES	To
05/10/2007 03:46 PM	Linda L Jackson/R3/USDAFS@FSNOTES, Alvin L Medina/RMRS/USDAFS@FSNOTES	cc
	Subject	Subject
	Fw: Verde River - modified crossing plan	

II-897

Ken, I asked a research scientist with Rocky Mtn. Research Station to look this over. He is intimately knowledgeable about the upper Verde River. He also attended a couple of the field trips that we had with Transwestern and was communicating and working with their engineer concerning the Verde River crossing situation up until the engineer's death last year. I agree with the statements made in his review of the crossing plan. Please share these with Joe Kolb as my position on this matter. Thanks. Linda

LINDA L. JACKSON
District Ranger
Chino Valley Ranger District
Prescott National Forest
928.777.2230 (voice)
928.925.2998 (cell)
lljackson@fs.fed.us

----- Forwarded by Linda L Jackson/R3/USDAFS on 05/10/2007 03:40 PM -----

Alvin L
Medina/RMRS/USDAF
S

05/08/2007 06:27
PM

To
Linda L Jackson/R3/USDAFS@FSNOTES
cc
Mark L Johnson/R3/USDAFS@FSNOTES,
Mike R Leonard/R3/USDAFS@FSNOTES
Subject
Re: Fw: Verde River - modified
crossing plan(Document link: Linda
L Jackson)

Linda

Took a few quick moments to expedite your request. Probably most obvious point is that the present location of the river IS NOT where it should be. It's old channel is to the south, but was cut off by the woody debris in previous floods. Hence, the present location causes the engineering to amend their installation as originally intended owing to strict angles on the north end. these could be alleviated by relocating the active channel to the south in the old channel. Least costly for the engineer and most likely best option for the river.

(See attached file: REVIEW OF TRANSWESTERN REVISED PROPOSAL TO CROSS THE VERDE RIVER AND INSTALLATION OF GAS PIPELEINE.doc)

868-II

Applicant

Alvin L. Medina
 Rocky Mountain Research Station
 2500 S. Pine Knoll Drive, Flagstaff, AZ 86001
 Office (928)-556-2180 Fax: (928)-556-2130
 MOBILE: (928)-853-1391 Email: almedina@fs.fed.us
 "To Serve, Consult, Assist and Educate"

Linda L
 Jackson/R3/USDAFS

05/08/2007 09:48
 AM

To
 Alvin L Medina/RMRS/USDAFS@FSNOTES
 cc
 Mike R Leonard/R3/USDAFS@FSNOTES,
 Mark L Johnson/R3/USDAFS@FSNOTES
 Subject
 Fw: Verde River - modified crossing
 plan

Al, the attached document explains what Transwestern proposes for the Verde River crossing. I'd like you to read this and tell me if something needs to be changed. I don't know when they'll be sending this to FWS but they tend to do things relatively quickly.

 LINDA L. JACKSON
 District Ranger
 Chino Valley Ranger District
 Prescott National Forest
 928.777.2230 (voice)
 928.925.2998 (cell)
 lljackson@fs.fed.us

----- Forwarded by Linda L Jackson/R3/USDAFS on 05/08/2007 09:46 AM -----

Kenneth
 Simeral/R3/USDAFS

05/07/2007 04:04
 PM

To
 Linda L Jackson/R3/USDAFS@FSNOTES,
 Jerry W Bradley/R3/USDAFS@FSNOTES,
 David Moore/R3/USDAFS@FSNOTES,
 Albert U Sillas/R3/USDAFS@FSNOTES,
 Larry R Bright/R3/USDAFS@FSNOTES,
 James M Mckie/R3/USDAFS@FSNOTES,
 Ann May/R3/USDAFS@FSNOTES
 cc

668-II

Applicant

1

Subject
Fw: Verde River - modified crossing
plan

Please see the proposed revised Verde Crossing plan from TW. ken

----- Forwarded by Kenneth Simeral/R3/USDAFS on 05/07/2007 04:01 PM -----

Joe_Kolb@URSCorp.
com
05/07/2007 08:48 AM
ksimeral@fs.fed.us
bill.osborne@SUG.com
Subject
Verde River - modified crossing
plan

Ken,

Thanks for your time on Thursday. As I indicated there, the plan for crossing the Verde River has been revised as described in the attached. We will be providing this document to the FERC as part of their consultation with the USFWS. If you have comments or questions concerning this plan, please let us know. Thanks again.

Joe W. Kolb
Senior Environmental Planner
URS Corporation
9801 Westheimer, Suite 500
Houston, Texas 77042
713.914.6444
713.301.3026 cell phone
joe_kolb@urscorp.com

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006-II

distribute, disclose or use any of this information and you should destroy the e-mail and any attachments or copies.

(See attached file: Verde River Revised Crossing Plan, May 3, 2007.doc)

[attachment "REVIEW OF TRANSWESTERN REVISED PROPOSAL TO CROSS THE VERDE RIVER AND INSTALLATION OF GAS PIPELINE.doc" removed by Joe Kolb/Houston/URSCorp]
[attachment "Verde River Revised Crossing Plan, May 3, 2007.doc" removed by Joe Kolb/Houston/URSCorp]

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Attachments:

Appendix 4D_Verde River.pdf

I06-II

Applicant

1

Applicant

From: Joe Kolb/Houston/URSCorp
To: Kenneth Simeral <ksimeral@fs.fed.us>
cc: bill.osborne@SUG.com, mschwartz@epgaz.com, ppatterson@trcsolutions.com
bcc: nwgirard@npgcable.com, dlmacphee@commspeed.net

Date: Friday, May 18, 2007 08:02AM
Subject: Re: Fw: Verde River - modified crossing plan

Ken,

There will be no additional area of disturbance due to the proposed, modified crossing plan. I should have made that clearer in the plan statement.

Joe W. Kolb
 Senior Environmental Planner
 URS Corporation
 9801 Westheimer, Suite 500
 Houston, Texas 77042
 713.914.6444
 713.301.3026 cell phone
 joe_kolb@urscorp.com

-----Kenneth Simeral <ksimeral@fs.fed.us> wrote: -----

To: Joe_Kolb@URSCorp.com
 From: Kenneth Simeral <ksimeral@fs.fed.us>
 Date: 05/17/2007 01:03PM
 Subject: Fw: Verde River - modified crossing plan

Joe,
Here is Ann May's comment.

----- Forwarded by Kenneth Simeral/R3/USDAPS on 05/17/2007 11:03 AM -----

Ann May/R3/USDAPS
 05/17/2007 07:19 AM To
 Kenneth Simeral/R3/USDAPS@FSNOTES cc
 Subject
 Re: Fw: Verde River - modified crossing plan(Document link: Kenneth Simeral)

II-902

Applicant

1

It is not exactly clear to me how much disturbance will be involved with this new plan. As long as they are not disturbing any more of the existing riparian area than they originally planned I guess I am OK with it. If they are disturbing more ground then I assume the restoration of the area will be covered in the revised restoration plan which we are still awaiting.

Ann May, Forest Landscape Architect
Prescott National Forest
344 S. Cortez Street
Prescott, AZ 86303
Phone: (928) 443-8017 Fax: (928) 443-8008
Email: amay@fs.fed.us

Kenneth
Simeral/R3/USDAFS

05/07/2007 07:04
PM

To
Linda L Jackson/R3/USDAFS@FSNOTES,
Jerry W Bradley/R3/USDAFS@FSNOTES,
David Moore/R3/USDAFS@FSNOTES,
Albert U Sillas/R3/USDAFS@FSNOTES,
Larry R Bright/R3/USDAFS@FSNOTES,
James M Mckie/R3/USDAFS@FSNOTES,
Ann May/R3/USDAFS@FSNOTES

cc

Subject
Fw: Verde River - modified crossing
plan

Please see the proposed revised Verde Crossing plan from TW. ken

----- Forwarded by Kenneth Simeral/R3/USDAFS on 05/07/2007 04:01 PM -----

Joe_Kolb@URSCorp.
com

05/07/2007 08:48
AM

To
ksimeral@fs.fed.us
cc
bill.osborne@SUG.com
Subject
Verde River - modified crossing
plan

II-903

Applicant

1

II-904

Ken,

Thanks for your time on Thursday. As I indicated there, the plan for crossing the Verde River has been revised as described in the attached. We will be providing this document to the FERC as part of their consultation with the USFWS. If you have comments or questions concerning this plan, please let us know.
Thanks again.

Joe W. Kolb
Senior Environmental Planner
URS Corporation
9801 Westheimer, Suite 500
Houston, Texas 77042
713.914.6444
713.301.3026 cell phone
joe_kolb@urscorp.com

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(See attached file: Verde River Revised Crossing Plan, May 3, 2007.doc)

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Attachments:

Verde River Revised Crossing Plan, May 3, 2007.doc

Osborne, Bill

From: Kenneth Simeral [ksimeral@fs.fed.us]
Sent: Tuesday, April 03, 2007 4:25 PM
To: Osborne, Bill
Subject: RE:



PNF_KNF_022007
Meeting Summary...

Bill,
Consider this a confirmation. Ken

"Osborne, Bill"		
<Bill.Osborne@SUG.com>		To
04/03/2007 10:56 AM	"Kenneth Simeral" <ksimeral@fs.fed.us>	cc
		Subject
	RE:	

Ken - Thank you for the message. EPG had forwarded that response to me. We are looking for concurrence from Prescott National Forest of the items discussed during our meeting with the staffs of both Forests on February 20, 2007 regarding antelope corridor and related topics (meeting notes attached). This especially involved discussions that resulted in our understanding that the Kaibab and Prescott National Forests would not require additional clearing to improve the antelope migration corridor.

A confirmatory response to this email would be sufficient.

Thanks for your help.

Bill Osborne

-----Original Message-----

From: Kenneth Simeral [mailto:ksimeral@fs.fed.us]
Sent: Tuesday, April 03, 2007 12:42 PM
To: Osborne, Bill
Subject:

Bill,

I neglected to include you in the email that was sent to EPG. Below is Ann's and Larry's response to the antelope question. Ken

To clarify and consolidate previous e-mails on this subject, the Forest Service is in

agreement that the following guidelines for proposed restoration of the Transwestern Pipeline project be explored for the selected areas listed below.

Hell Canyon

Preserve some individual trees, limbed to a height of 5' from grade, on the southern slope of Hell Canyon in-between the existing EL Paso right-of-way and the proposed project. Only prickly pear, propagated vegetatively or from nursery stock, will be planted on the north and south slopes of Hell Canyon where appropriate and in small groupings widely spaced so as to allow easy access by antelope to the river. Location of plantings shall not be located at breaks in erosion control structures which are being provided to allow easy access to water for antelope. Verde River On the north and south slopes between the riparian restoration area and the top of the slope, plant native plants in groups that achieve a height of no more than 3'-5' with gaps in-between them that will not impede access for antelope to the river. Cliff rose and four-wing salt brush were suggested plant materials that might have a reasonable success rate on these slopes.

Ann May, Forest Landscape Architect
Prescott National Forest
344 S. Cortez Street
Prescott, AZ 86303
Phone: (928) 443-8017 Fax: (928) 443-8008
Email: amay@fs.fed.us

(Embedded image moved to file: pic28269.jpg)

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II-907

MEETING SUMMARY
 TRANSWESTERN PHOENIX EXPANSION PROJECT
 KAIBAB AND PRESCOTT NATIONAL FORESTS
 ANTELOPE CORRIDOR AND RELATED TOPICS
 February 20, 2007

List of attendees

Name	Organization, Title	Email
Larry Bright	Prescott NF	lbright@fs.fed.us
Chelsa Johnson	EPG	cjohnson@epgaz.com
Joe Kolb	URS, on behalf of Transwestern	joe_kolb@urscorp.com
Lauren Weinstein	EPG	lweinstein@epgaz.com
Richard Okenfels	AZ Game and Fish	rockenfels@azgfd.gov
John Holmes	Kaibab NF	jholmes01@fs.fed.us
Vicki Clay	Prescott NF	vclay@fs.fed.us
Bill Ough	AZ Game and Fish	
Dan Gaska	AZ Game and Fish	dgaska@azgfd.gov
Linwood Smith	EPG	lsmith@epgaz.com
Lee Luedeker	AZ Game and Fish	lluedeker@azgfd.gov
Tom Mutz	Kaibab NF	tmutz@fs.fed.us
Heather Reading	The Nature Conservancy (TNC)	hreading@tnc.org
Lara Davis	TNC, Univ. of New England	bonasiwolf@yahoo.com
Wes Girard	Transwestern (consultant)	wgirard@xpgcable.com
Ann May	Prescott NF	anmay@fs.fed.us
Doug MacPhee	Transwestern (consultant)	dmacphee@sedona.net
Karlynn Huling	Kaibab NF	khuling@fs.fed.us
Jeff Watters	Kaibab NF	jwatters@fs.fed.us

The purpose of the meeting was to discuss the possibility of additional clearing along the pipeline route for antelope corridors, as proposed by the Kaibab and Prescott National Forests and other antelope and wildlife/restoration specialists. Other issues discussed include vertical mulch, as it would affect antelope migration, feathering, and rock mulch. A brief review of the proposed project corridor affecting Forest Service lands, including permanent and temporary easements, was provided by Transwestern. The normal construction right-of-way affected would be 120 feet where vegetation would be removed or crushed to allow construction (with exception to noted specimens or areas of concern as provided by the agencies). The post-construction total corridor width will be approximately 180 feet. The 180 feet is comprised of the existing 70- to 75-foot-wide pipeline corridor plus a proposed additional 105 feet (plus 15 feet of overlap with the existing corridor) for the Phoenix Expansion Project construction corridor. This will result in the 180 feet in total corridor width.

The restoration plan will provide detailed treatments that will be implemented once construction has been completed. The permanent easement area will focus on restoration of grasses and small shrubs due to the maintenance requirements of the pipeline. In the future, large trees, such as mature juniper, are not desirable and would be removed by hand if naturally propagated. The temporary easement, however, would allow natural regeneration for all vegetation. Juniper and other large woody plants, of course, may be controlled as desired by the Forest Service.

The primary question concerning antelope corridors is the minimum width needed for use as a reasonably safe migration corridor. Predation becomes the major issue when a corridor is too narrow for migrating antelope. Transwestern is willing to comply with the Forests' request for additional clearing beyond the western edge of the construction corridor but no further than the 250 feet that was originally surveyed, if they can provide scientific evidence that additional clearing will benefit the local antelope populations. The antelope specialists indicated that there are no current studies on corridor migration or design other than the assumption that wider corridors are better. They believe the corridor will be primarily used for migration only and our efforts would be best suited to focus on treatments that would facilitate migration. Based on this discussion, Kaibab and Prescott National Forests have agreed that no additional clearing beyond the normal construction corridor will be required by Transwestern, with the exception of feathering at selected locations.

The antelope specialists do not want high rock density or high vertical mulch density as it will be a deterrent to antelope traveling in this corridor. The antelope specialists found that objects 18+ inches tall would be a visual obstruction for antelope and can be predator hiding spots. Migrating antelope prefer large, open areas with few obstructions to avoid predators. If vertical mulch were to be higher than 18 inches, specialists fear they would not use the right-of-way as a corridor or become easy prey for mountain lions. Vertical mulch that is patchy in its placement is preferred to an even carpet of mulch, again to allow for easy migration and aid in avoidance of predators. Larger junipers with a trunk diameter greater than 14 inches shall be manually limbed. Trunk, stumps, and larger pieces will be removed from the construction corridor. This is a preventative measure to

keep fuelwooders from traversing the restored right-of-way. The antelope specialists expressed concern that mulch was not to be chipped to a small "traditional mulch" size as it would be detrimental to the soils. Transwestern agreed that larger pieces of mulch would be beneficial to soils and the mulch size would be coarse. In areas of high tree density, it may be impossible to reasonably mulch and spread the entire biomass on site so as not to inhibit animal movement. Transwestern will manage the placement of mulch and limbed junipers so that it provides a suitable migration corridor.

Rock mulch recommendations by PNF followed similar advice for vertical mulch to allow antelope migration. Rocks should not be piled perpendicular to the right-of-way continuously. If needed for erosion and vehicle control, such as Hell Canyon, a gap should be provided near the edge for antelope to traverse (width not specified). Likewise, pipeline gates should be non-mesh fencing and preferably placed near the edge of the corridor rather than the middle to avoid becoming a deterrent to the antelope traveling the corridor. Rock mulch will be spread randomly throughout the right-of-way when the surrounding terrain is rocky. Excess rocks will be transported to pre-approved areas, as specified by the National Forests.

One final note, both Forests reminded Transwestern that they want all pinyon pines left when feathering the western edge.

February 20, 2007

Name	Affiliation	e-mail
Larry Bright	Prescott N.F.	lbright@fs.fed.us
Richard Ockenfels	Az Game & Fish Research	rockenfels@azgfd.gov
John Holmes	Kaibab NF	jholmes@fs.fed.us
Vicki Clay	PNF	vclay@fs.fed.us
Bill Ough	Az Game & Fish	wough@com.uspspeed.us
Dan Gaska	AGF	dgaaska@az.gfd.gov
Linwood Smith	EPG	lsmith@epgaz.com
Lee Huedeker	Az GFD	lhuedeker@azgfd.gov
Tom Mutz	Kaibab NF	tmutz@fs.fed.us
Lauren Weinstein	EPG	lweinstein@epgaz.com
Chelsea Johnson	EPG	cjohnson@epgaz.com
Hester Reading	TNC	hreading@trc.org
LARA DAVIS	TNC & ANTIOCH UNIV. NEW ENGLAND	larsaiv@antioch.edu
Wesley Girard	TW	wgirard@ryppable.com
Joe W. Kolb	URS Corp. for TW	joe_kolb@urscorp.com
Ann May	Prescott NF	amay@fs.fed.us
Doug MacPhee	for TW	dmacphee@sedone.net
Karlynn Huling	Kaibab NF	khuling@fs.fed.us
Jeff Walters	Kaibab NF	jwalters@fs.fed.us

Applicant

1

**INFORMATIONAL DISCUSSION SUMMARY
Phoenix Expansion Project
February 27, 2006**

Location: U.S. Fish & Wildlife Service (FWS)
Migratory Bird Permits Office
Albuquerque, New Mexico

Attendees: Bill Howe, U.S. Fish and Wildlife Service (FWS)
Kamile McKeever, FWS
Bill Osborne, Transwestern Pipeline Company, LLC
Joe Kolb, URS Corp.
Robyn Tierney, TRC
Patricia Patterson, TRC

Time: 9:00 – 11:00 a.m.

The purpose of the meeting was to discuss strategies to minimize impacts on migratory birds during upcoming construction of the Phoenix Expansion Project in Arizona and New Mexico. Transwestern explained that the construction schedule is dependent on receipt of all authorizations from federal and state agencies, as well as private landowner easements. Based on the current status of these approvals and the anticipated construction schedule, it is not possible to entirely avoid pipeline construction during the migratory bird nesting season. Further, because of the "moving assembly line" nature of pipeline construction, there are high costs associated with moving all of the equipment associated with a pipeline construction spread around restricted areas (a "move around") from both a practical and cost perspective. Discussion topics included:

- Use of selective hand clearing before the nesting season to discourage nesting within the construction work areas;
- The Migratory Bird Treaty Act (MBTA) does not differentiate between raptors and other migratory birds;
- Empty nests or nests under construction can be removed at any time;
- There are certain bird species that are relatively more imperiled from a conservation perspective, although all migratory birds are protected equally under the MBTA;
- There is no provision in the MBTA to allow for a "take" of nestlings or eggs;
- A "relocation" permit will be required to move a nest with eggs or nestlings;
- There are certain individuals that are approved to relocate nests with eggs or nestlings (most are non-profit);
- Some other companies have relocation permits in place in case maintenance or other activities require relocation of an occupied nest;
- We will need to refine a procedure for how to obtain a "relocation" permit should an active nest need to be relocated;
- The value of nest surveys was discussed; and
- Transwestern may want to discuss the project with FWS enforcement to let them know of construction plans and mitigation plan, when finalized.

The meeting concluded with the following:

- It is possible to minimize impacts on migratory birds and minimize the potential for move-arounds;
- Transwestern will incorporate the various discussion items into a "minimization plan" with further input from the Migratory Birds Permits Office (plan to include a table listing habitat types with appropriate maps) and
- The plan will be sent to the FWS, Ecological Services Offices in Phoenix and Albuquerque.

Applicant

1

Transwestern Pipeline Company, LLC

*5444 Westheimer Road, Houston, TX 77056-5396
P.O. Box 4967, Houston, TX 77210-4967*

**INFORMATIONAL DISCUSSION SUMMARY
Phoenix Expansion Project
April 16, 2006**

Location: Conference Call Between U.S. Fish & Wildlife Service (FWS) -
Migratory Bird Permits Office, Albuquerque, New Mexico and
Phoenix Expansion Project Team in various location

Participants: Bob Howe, U.S. Fish and Wildlife Service (FWS)
Kamile McKeever, FWS
Bill Osborne, Transwestern Pipeline Company, LLC
Joe Kolb, URS Corp.
Linwood Smith, EPG
Patricia Patterson, TRC

Time: 9:00 – 9:15 a.m. CDST

The purpose of the conference call was to discuss a draft letter to the FWS that proposes a migratory bird management strategy to minimize impacts on migratory birds during upcoming construction of the Phoenix Expansion Project in Arizona and New Mexico.

Bill Howe had reviewed the plan and asked a few questions of clarification. Bill asked that the associated tables be modified to focus only on those birds reasonably expected to nest within or in close proximity to the construction footprint. The team agree to make this modification.

Transwestern indicated that the letter-strategy would be provided to the Albuquerque and Phoenix law enforcement agents for their review. After receiving their comments, the letter would be submitted to the FWS for official review.

Applicant

1

Page 1 of 1

Osborne, Bill

From: Osborne, Bill
Sent: Wednesday, April 18, 2007 1:58 PM
To: Doug McKenna (doug_mckenna@fws.gov)
Subject: Transwestern Pipeline Company - Phoenix Expansion Project

Doug – thanks for your review of the plan. Mike Martinez is the point of contact in the Phoenix office for this project.

If you have any questions or if I can provide any information, please call or email me.

Thanks.

Bill Osborne

Transwestern Pipeline Company
Phone: 713.989.2079
Fax: 713.989.1135
Room: WT 1082

5/10/2007

II-914

**MEETING NOTES
BLM – Phoenix, Arizona
TRANSWESTERN PHOENIX PIPELINE PROJECT
June 6, 2007, 9:00am**

Transwestern, BLM, and consultants met to review the status and clarify several items associated with the visual study, noxious weed plan, restoration plan, access management, tortoise habitat compensation, SRP construction road and temporary slope breakers variance.

Attendees

BLM Mark Mackiewicz
Jim Anderson
Tim Hughes
Jack Ragsdale
Connie Stone
Rich Hanson

Transwestern Bill Osborne
Kelly Allen
Joe Kolb (URS)

EPG (Environmental Planning Group) –
Lauren Weinstein
Consultant – Doug MacPhee

Visual Study (future segment of Black Canyon Trail)

Revisions to the draft visual report, previously submitted to the agencies for review, are nearly complete with the exception of incorporating the proposed Black Canyon Trail segment. BLM indicated that the trail doesn't exist other than they have a corridor delineated. EPG does not have the full delineation of the corridor needed for the assessment. BLM will attempt to provide that within one week, if available, and will not require this analysis if EPG does not have the information.

BLM will require a visual specialist/landscape architect to be in the field for the purposes of visual mitigation in visually sensitive areas.

Noxious Weed Management Plan

BLM will provide comments on this plan. EPG will email an electronic version of the noxious weed plan to BLM.

Restoration Plan

BLM anticipates having comments to Transwestern on the restoration plan by the end of the DEIS comment period.

Access Management Plan

BLM will provide examples of other BLM access management plans. They will need additional time to provide direction on access management for BLM lands. They are in the process of preparing a travel management plan and anticipate a draft plan by September 30, 2007. The plan would not become final before the RMP is final – scheduled for June 2008.

Applicant

BLM does not anticipate any OHV or other road closures. Transwestern will need some road closures during construction for public safety purposes. BLM will need to know which road closures are needed in advance. With regard to permanent OHV deterrents, BLM will address this before the end of construction. Transwestern will offer options, based on data provided by the BLM, for access management where OHV trails cross the proposed pipeline and will indicate these locations on the restoration maps.

BLM will request that the plan identify roads by legal descriptions noting every road that Transwestern intends to use and the plan for upgrading roads to the appropriate standards.

Tortoise Habitat Compensation Fee

BLM clarified for Transwestern that they will provide Transwestern with a letter explaining the tortoise compensation fees.

SRP Construction Road

Transwestern explained that along the northern boundary of the Sonoran Desert National Monument, where Transwestern's proposed right-of-way is located, SRP intends to maintain a permanent access road for their planned transmission line within Transwestern's right-of-way. BLM indicated that Transwestern will not need to restore this portion of their right-of-way.

Transwestern will provide electronic version of Transwestern's planned access roads to the BLM.

Variance for Temporary Slope Breakers

Transwestern requested concurrence from the BLM to eliminate the requirement for temporary slope breakers during construction due to what is typically minimal precipitation in the arid West. BLM agreed that they would not be necessary with the exception that there is a provision requiring them if precipitation is expected. Transwestern agreed to that requirement and will likely amend/revise the Upland Erosion Control Plan to include this provision as well as tighter spacing for permanent slope breakers.

Other

Transwestern explained that the Arizona Cactus and Succulent Society is interested in collecting/rescuing plants prior to construction. The organization informed Transwestern that they have insurance. BLM indicated they are okay with using the Society for this purpose.

BLM noted that the restoration and access management plan are works in progress and will not be final by the end of the DEIS comment period.



June, 12, 2007

Mr. Don Hawkins
Senior Vice President
Operations & Engineering
Transwestern Pipeline Company
5444 Westheimer Road
Houston, Texas 77056

Dear Mr. Hawkins:

Last week, I understand that a number of Transwestern's personnel assigned to work on Phoenix Expansion project met with personnel from El Paso Natural Gas Company (EPNG), including our Right-of-Way, Legal and Operations employees, in Phoenix to discuss routing of Transwestern's pipeline through central Arizona near the city of Casa Grande.

I was encouraged to learn there was strong cooperation between the two companies. Clearly, we all recognize our mutual interests in enhancing the safety of personnel and nearby communities by having the appropriate space between the pipeline systems and to ensure the ease of operation/maintenance of both of our pipeline systems through this rapidly developing area.

After the meeting of our two companies, I then met with our Operations group to receive their feedback on the proposed co-location of the facilities. As a result of that meeting, EPNG requests that Transwestern adhere to the following standards while acquiring easements and planning construction for Transwestern's new project:

On the land for which EPNG has either an easement right or a fee simple interest:

1. Survey and trench to ensure the new Transwestern pipeline is a minimum of 50 feet from the centerline of EPNG's existing pipelines, but at no time within EPNG's rights-of-way.
2. Ensure that all temporary workspace activities are greater than 10 feet from the centerline of EPNG's existing pipelines or other existing facilities.
3. Verify locations of Transwestern's proposed above-ground appurtenances to ensure that the facilities do not encroach within EPNG's rights-of-way.

El Paso Natural Gas
2 North Nevada Avenue Colorado Springs Colorado 80903
PO Box 1087 Colorado Springs Colorado 80944
tel 719.473.2300

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4. Acquire rights-of-way for Transwestern which are outside of, but where necessary adjacent, to EPNG's current easements or fee simple interests. This will, of course, require coordination with our Phoenix personnel to determine EPNG's right of way boundaries.

In addition, we propose that EPNG and Transwestern develop two agreements. The first would be a "Parallel Construction Agreement" which would set forth the rights and obligations of the parties during construction occurring within EPNG's rights-of-way, and would include the requirements articulated herein as well as communication protocols, marking obligations, and cost allocation among other things.

The second would be a "Joint Use Agreement" to cover the rights and obligations of the parties during operation or maintenance of the pipelines in which either party may need to use the rights-of-way of the other.

We believe both agreements would meet the needs articulated earlier to permit Transwestern to safely utilize part of EPNG's right-of-way areas, where feasible, during construction, maintenance and repair of the new Transwestern pipeline. The details of these agreements would need to be discussed to ensure that the work proceeds in a manner that ensures the safety of personnel and the community.

EPNG is committed to making this long term relationship a win-win situation for both companies. With that in mind, we ask that you please forward this letter to your project personnel and encourage them to contact Mr. Tom Trujillo at 602-438-4237. Mr. Trujillo is EPNG's point of contact for this project.

In addition, I am available to answer questions and provide assistance. I can be contacted at 719 520-3727.

Thank you for your time and consideration.

Sincerely,

David R Anderson
Manager Land Department

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Transwestern Pipeline Company, LLC
5444 Westheimer Road, Houston, TX 77056-5396
P.O. Box 4967, Houston, TX 77210-4967

July 20, 2007

Ms. Kimberly D. Bose, Secretary
Office of the Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Transwestern Pipeline Company, LLC
Phoenix Expansion Project
FERC Docket No. CP06-459-000
OEP/DG2E/Gas 2

Dear Ms. Bose:

On September 15, 2006, Transwestern Pipeline Company, LLC ("Transwestern"), filed an application under Section 7(c) of the Natural Gas Act, and Parts 157 and 284 of the Federal Energy Regulatory Commission's ("Commission" or "FERC") regulations, seeking authority to construct and operate: (i) approximately 25 miles of 36-inch diameter pipeline loop in two segments on its existing San Juan Lateral in New Mexico ("San Juan 2008 Expansion Project"), (ii) a new 259 mile pipeline consisting of 36-inch and 42-inch diameter pipe in Arizona ("Phoenix Pipeline"), and (iii) customer laterals, meter stations, and ancillary facilities ("Phoenix Pipeline Project"). In addition, Transwestern seeks authority to acquire an undivided interest in the El Paso Natural Gas Company's East Valley Lateral and to use such facilities to render service in conjunction with the Phoenix Pipeline Project. The projects are collectively known as the Phoenix Expansion Project.

Transwestern is submitting herein a Summary of the July 11, 2007 Meeting with the City of Casa Grande, Arizona. All pages are marked with the appropriate designation pursuant to Order 630 and 18 CFR § 388.112 of the Commission's regulations. Transwestern is filing an original, and seven paper copies of this **Public Information**. Transwestern is also filing a CD that contains the electronic version of the same **Public** information as the enclosed pursuant to 18 CFR § 385.2011.

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Page 2 of 3 (cont.)

Copies of this filing are being sent directly to Mr. Douglas Sipe, OEP staff, and to Mr. William Braun, Natural Resource Group, Inc. Transwestern has enclosed four (4) additional copies of this transmittal letter to be date stamped and returned to the messenger. Any questions or comments regarding this filing should be directed to the undersigned.

Respectfully submitted,



Kelly Allen, Manager
Certificates and Reporting
(713)-989-2023

Enclosure: Summary of July 11, 2007 Meeting with the City of Casa Grande, Arizona

II-920

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Page 3 of 3 (cont.)

Certificate of Service

I herby certify that I have this day caused a copy of the foregoing document to be served upon each person designated on the official service list compiled by the Commission's Secretary in this proceeding in accordance with the requirements of Section 385.2010 of the Federal Energy Regulatory Commission's Rules of Practice and Procedures.



Kelly Allen, Manager
Certificates and Reporting
Transwestern Pipeline Company, LLC
(713)-989-2023

II-921

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Transwestern Pipeline Company, LLC
FERC Docket No. CP06-459-000
Phoenix Expansion Project
Summary of July 11, 2007 Meeting with the City of Casa Grande, Arizona

A2-1 On July 11, 2007, Transwestern Pipeline Company LLC's ("Transwestern") representatives Mr. Jim Fisher, Regional Public Affairs Director, Mr. Rick Kimmons, Survey Coordinator, Mr. Brett McLeod, Engineering, and Mr. Tom Hollenback met with the City of Casa Grande ("City") representatives that included City Attorney Mr. Brett Wallace, City Planner Mr. Rick Miller, and Public Works Director Mr. Kevin Louis. The purpose of this meeting was to discuss the routing of Transwestern's proposed Phoenix Expansion Project pipeline through the North Santa Cruz Wash ("Wash") between approximate Mile Posts 238.6 and 243.5 in the City of Casa Grande. The City has filed several comment letters with the FERC stating their opposition to Transwestern's pipeline alignment through the Wash. Transwestern requested this meeting with the City in order to discuss issues with its Wash route.

The City discussed their concern that Transwestern's pipeline route would preclude them from installing a proposed large sewer main east to west in the greenbelt with north to south interconnections at a grade consistent with the gravity design requirements. In addition, the City expressed its concern as to the impact to the golf course at the west end of the proposed alignment.

Transwestern reviewed its alignment sheets with the City, and explained to the City that the proposed Wash alignment was generally 75 feet north of the City's south property line. The City generally owns a 100 foot wide strip that is south of the actual Wash. Transwestern informed the City that with such an alignment that their proposed sewer line could be constructed south of the Transwestern pipeline at a depth to ensure the north to south collection lines would avoid the Transwestern pipeline. Transwestern also mentioned its letter dated June 21, 2006 addressed to the mayor of the City which offered to work with city planners to develop a bike path and pedestrian green belt in the Wash. Transwestern also stated that it was confident that impact to the golf course would be minimal and its willingness to work with the City to minimize disruptions to the community during the construction phase.

During the meeting, the City representatives mentioned that it did not have survey data, or design information for its proposed sewer line. The City representatives said that a request to contract an engineering consultant for the sewer line would be submitted at a City Counsel meeting in early August 2007. Transwestern reminded the City that the Phoenix Final Environmental Impact Statement should be published in the late summer, and that Transwestern can provide additional engineering documents to support the collocation of its pipeline route and the City's sewer line in the Wash.

It is Transwestern's opinion that the Transwestern proposed Wash route will have minimal impact to any future sewer line project for the City of Casa Grande. Transwestern's alignment will allow sufficient space for the collocation of both pipeline and sewer line through the Wash/Greenbelt area, and recommends that the FERC designates Transwestern's Wash route as the preferred route through the City of Casa Grande in the Phoenix Expansion Project Final Environmental Impact Statement.

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A2-1 Section 3.4.2.6 has been revised to incorporate the additional information regarding the collocation of the Phoenix Lateral and the City of Casa Grande's future sanitary sewer infrastructure in The Wash.