

Environmental Assessment
DOI-BLM-AZ-320-2009-27
Serial Numbers: AZA 34953 and AZA 3495301

FOR
YUMA LATERAL PIPELINE PROJECT

Prepared for:

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ABBREVIATIONS AND ACRONYMS

AGFD	Arizona Game and Fish Department
AGFDMS	Arizona Game and Fish Heritage Data Management System
APS	Arizona Public Service Company
ASLD	Arizona State Land Department
BA	Biological Assessment
CAA	Clean Air Act of 1970
CM&RP	Construction Mitigation and Restoration Plan
COE	United States Army Corps of Engineers
DOT	U.S. Department of Transportation
EI	Environmental Inspector
El Paso	El Paso Natural Gas Company
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
FWS	United States Fish and Wildlife Service
GB	Gasoducto Bajanorte
HDD	Horizontal directional drill
LNG	Liquefied Natural Gas
MAOP	Maximum Allowable Operating Pressure
MP	Milepost
NEPA	National Environmental Policy Act
North Baja	North Baja Pipeline, LLC
PM10	Particulate matter less than 10 microns
Reclamation	Bureau of Reclamation
ROW	Right-of-Way
Sempra	Sempra Energy International
SPCC	Spill Prevention, Containment, and Control Plan
TUP	Temporary Use Permit
USGS	United States Geological Survey
WSC	Wildlife of Special Concern in Arizona
SR	State Rare in Arizona

1.0 PURPOSE AND NEED

1.1 INTRODUCTION

The Yuma Lateral Project has been proposed by North Baja Pipeline, LLC (North Baja) to provide Arizona Public Service Company (APS) with access to natural gas from North Baja's mainline as well as re-gasified Liquefied Natural Gas (LNG) at the Yucca Power Plant. The LNG-source gas will provide gas for APS's planned future power generation needs. North Baja has executed a precedent agreement with APS to transport 81,250 decatherms (Dth) to the Yucca Power Plant. A decatherm is ten therms, or the approximate energy equivalent of burning 1,000 cubic feet of natural gas per day.

A surge in growth in the Yuma area has created the need for additional power generation to serve that part of Arizona. APS, a state-regulated electric utility, is planning to expand their facilities at the existing Yucca Power Plant, which lies west of Yuma. The natural gas pipeline currently serving the Yucca Power Plant, operated by El Paso Natural Gas Company, does not have the capacity to meet this planned plant expansion. Moreover, APS wants access to the Gasoducto Bajanorte /North Baja system which can deliver United States of America (U.S.) sourced gas or LNG-sourced gas to their Yucca Power Plant.

North Baja submitted an original application in September 2007 and a revised application to the Bureau of Land Management (BLM) on February 3, 2009 for a right-of-way (ROW) grant to cross Public Lands. These lands are described as follows:

Table 1-1: Aliquot Parts of Federal lands, Township 8S, Range 24W, Gila and Salt River Base and Meridian	
Section	Aliquot Parts
32	Lot 1
33	Lots 1, 2, 3, 4, 5, 6, 7
28	Lots 5, 6
21	Lot 2
22	NWSW, Lot 4

1.2 PURPOSE AND NEED

The purpose and need for Federal action for the BLM is to consider North Baja's application for a ROW Grant (AZA 34953) and a Temporary Use Permit (TUP) (AZA 3495301) for the portion of the Yuma Lateral Project on Federal lands. North Baja has identified a public need as detailed above, and the BLM must consider whether to issue a ROW Grant to facilitate the meeting of that public need. Under Section 28 of the Mineral Leasing Act of 1920, as amended, the BLM has the authority to issue pipeline ROW Grants and TUPs for all affected Federal lands. This action is in accordance with Title 43 CFR Parts 2800 and 2880, subsequent 2800 and 2880 Manuals, and Handbook 2801-1. For the Yuma Lateral Project, the BLM is considering the issuance of a ROW Grant and associated TUP that would apply to all BLM-managed and Bureau of Reclamation (Reclamation)-administered lands. The BLM has concluded that the proposed project is in conformance with the existing Yuma District Resource Management Plan (1987), as amended.

Reclamation will review the application and issue a letter to the BLM specifying whether it concurs with issuance of a ROW Grant and TUP across Reclamation withdrawn lands. The BLM will consider the concurrence of Reclamation, as well as the existing Federal Energy Regulatory Commission (FERC) Certificate of Public Convenience and Necessity (Certificate) in making its decision whether to issue the ROW Grant and TUP. If appropriate the BLM's decision will be documented in a Finding of No Significant Impact (FONSI) and a Decision Record. If the BLM decides to approve the Project, it would issue a ROW Grant, a TUP, and a Notice to Proceed that would allow construction on Federal lands. The ROW Grant would include standard and site-specific stipulations of the BLM and Reclamation; conditions imposed on the Project as the result of the NEPA review; and a complete Plan of Development. The FERC Certificate (Appendix B) was issued on September 2, 2008 and allows the proposed pipeline to be developed and to cross the international boundary between the U.S. and the Estados Unidos Mexicanos (Mexico) Details of land ownership are presented in Section 3.4.1, Land Use.

1.3 LAND USE PLAN CONFORMANCE

The action is in conformance with federal regulations and BLM policies. The proposal is in conformance with the Yuma District Resource Management Plan (RMP), February 1987, as amended, which provides the framework for managing public lands affected by this proposal. The plan has been reviewed to determine if the proposed ROW conforms to the land use plan terms and conditions as required by 43 CFR 1610.5-3. The BLM RMP states under Management Guidance Common to All Alternatives (p. 11) that "lands cases would continue to be evaluated on a case-by-case basis and in accordance with decision established in the RMP."

2.0 PROPOSED ACTION AND ALTERNATIVES

The proposed pipeline would consist of an underground pipeline and one meter station, as described below. A general project location map is provided as Figure 1.

2.1 PROPOSED ACTION

2.1.1 Pipeline Facilities

The entirety of the proposed natural gas pipeline would consist of approximately 6.41 miles of 12-inch-diameter pipe within Mexico and the U.S. The proposed pipeline would extend from the Gasoducto Bajanorte Pipeline near Algodones, Mexico to the Yucca Power Plant in Yuma, Arizona. The 3.14-mile Mexican segment would be constructed by Sempra's Gasoducto Bajanorte S. de R.L. de C.V. (Sempra). It would connect with Sempra's Gasoducto Bajanorte pipeline south of Algodones, Mexico and extend to the international border.

The natural gas pipeline proposed by North Baja would consist of a total of about 3.27 miles of 12-inch diameter pipeline extending from the international border at the Colorado River to the Yucca Power Plant. The U.S. segment of the Yuma Lateral would lie entirely in Arizona, and would lie almost entirely within public lands, principally a Reclamation levee and Arizona State Lands.

2.1.2 Aboveground Facilities

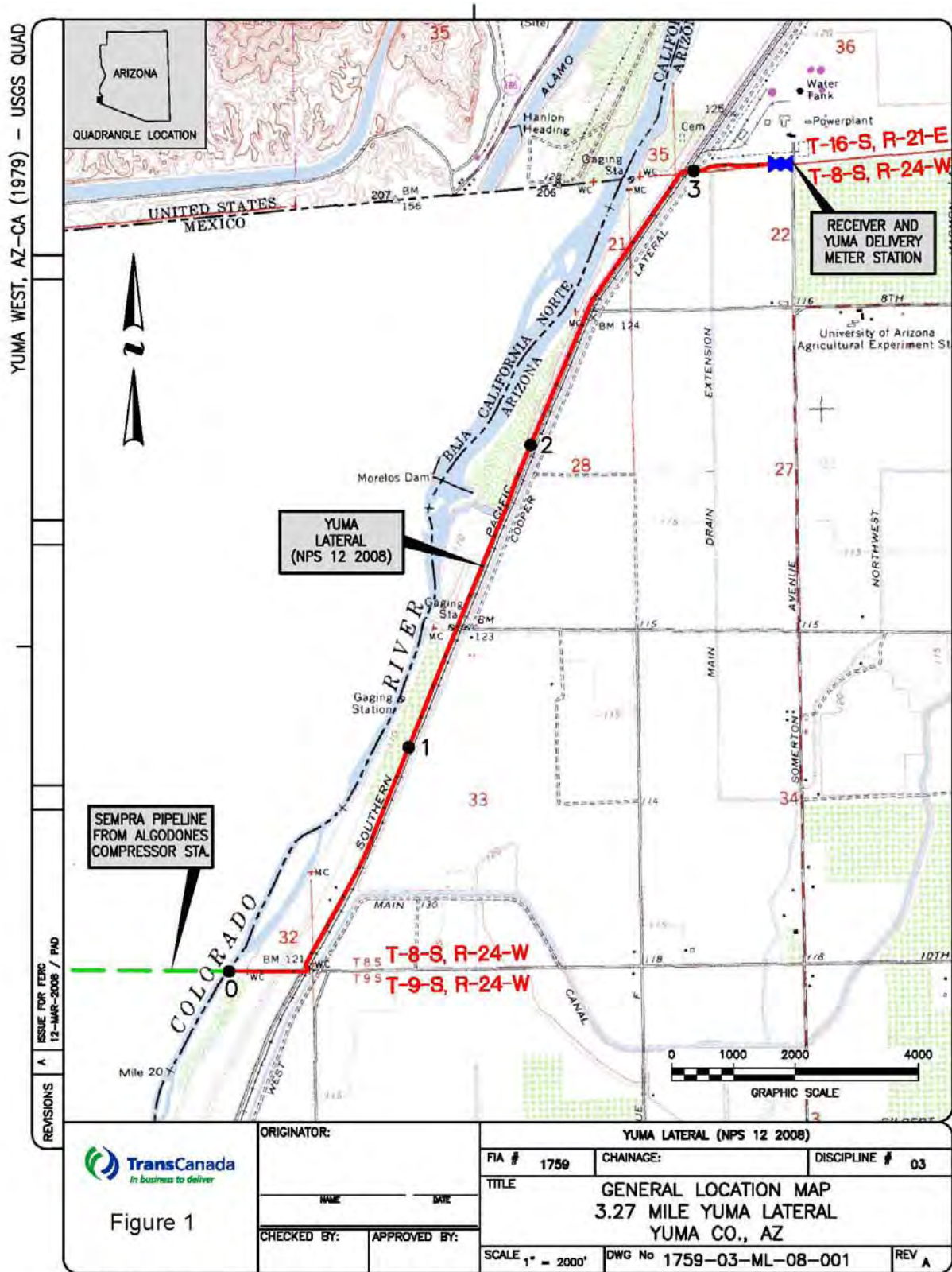
The Yuma Lateral Pipeline Project would require a meter station (Yuma #1 Delivery Meter Station) that would be constructed at MP 3.27 at the Yucca Power Plant (Figure 2). A pig receiver would also be constructed at this site.

2.1.3 Non-jurisdictional Facilities

Non-jurisdictional facilities associated with the Yuma Lateral Pipeline Project include the Mexican portion of the Yuma Lateral, with its appurtenant pipeline facilities, and the planned new power generation facilities at the Yucca Power Plant. Sempra's existing Gasoducto Bajanorte pipeline currently takes gas from the North Baja system at the U.S.–Mexico border and moves it west. As part of a separate project, this pipeline is being reconfigured to be able to also move LNG-source gas in the opposite direction along this line. The proposed Yuma Lateral consists of approximately 3.14 miles of 12-inch pipeline in Mexico that would extend from the Gasoducto

Bajanorte Pipeline near Algodones, Mexico to the international border. The 3.14-mile Mexican segment, along with related metering and pigging facilities, would be constructed by Sempra.

At the Yucca Power Plant, APS is currently planning to expand its generating capacity by adding two new gas-fired turbine units totaling 96 MW, in accordance with regulations of the Arizona Corporation Commission.



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2.1.4 Permits Required

Construction, operation and maintenance of the Yuma Lateral would be in accordance with all applicable Federal, State and local permits and approvals. Applicable permits and reviews are summarized in Table 1, along with the schedule for filing of the major permits and/or appropriate documentation. Major permit and approval actions for the Yuma Lateral that involve multiple agencies include environmental reviews by the FERC for the Certificate of Public Convenience and Necessity and the BLM for issuance of a ROW Grant.

The BLM would be the lead Federal agency for the preparation of the environmental assessment (EA). The EA would satisfy the requirements of the NEPA. The BLM would use the EA to consider the environmental impacts that could result if it issues North Baja a ROW Grant and TUP under the authority of Section 28 of the Mineral Leasing Act of 1920, as amended.

Reclamation has participated as a cooperating agency in the preparation of the EA because the project would cross Federal land managed by the Reclamation Yuma Area Office. The EA would be used by the BLM, with Reclamation's concurrence, to meet BLM's NEPA responsibilities in considering North Baja's application for a ROW grant and TUP for the portion of the project on Federal land.

2.1.5 Construction, Operation, and Maintenance Procedures

The Yuma Lateral Pipeline Project would be designed, constructed, and operated in accordance with all applicable requirements included in the U.S. Department of Transportation (DOT) regulations in Title 49 Code of Federal Regulations (CFR) Part 192, *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*; and other applicable Federal and State regulations. Among other design standards, Part 192 specifies pipeline material and qualification; minimum design requirements; and protection from internal, external, and atmospheric corrosion.

2.1.5.1 General Pipeline Construction Procedures

This section describes the general procedures proposed by North Baja for the construction of the pipeline and aboveground facilities. Figure 3 shows the typical steps of pipeline construction.

Standard pipeline construction proceeds in the manner of an outdoor assembly line composed of specific activities that make up the linear construction sequence. These operations include survey and staking of the ROW, clearing and grading, trenching, pipe stringing, bending, welding, lowering-in, backfilling, pressure testing, and cleanup. In addition to standard pipeline construction methods, North Baja would use special construction techniques where warranted by site-specific conditions, such as waterbodies/canals.

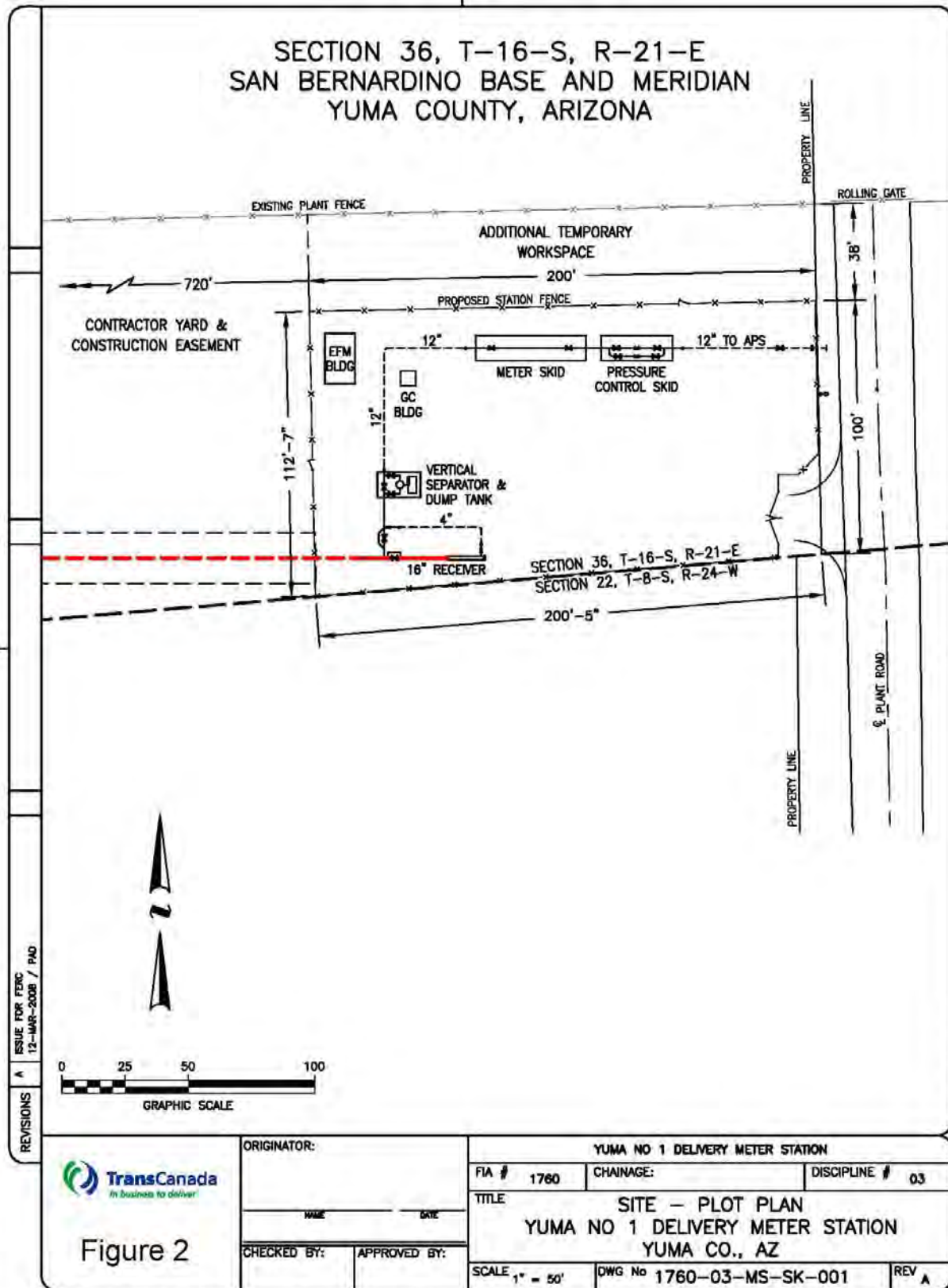


Table 1: Major Permits, Approvals, and Consultations for the Yuma Lateral Pipeline Project

Regulatory Agency	Required Permit or Approval	Agency Action/Filing Schedule
FEDERAL		
Federal Energy Regulatory Commission (FERC)	Certificate of Public Convenience and Necessity Presidential Permit	Determine whether the construction and operation of a natural gas pipeline project is in the public interest and allowed for the crossing of the international border by the proposed pipeline. February 2008
Bureau of Reclamation (Reclamation)	Concurrence	Issue a Memorandum of Concurrence to the BLM for the issuance of the proposed ROW grant and TUP March 2009
Bureau of Land Management (BLM)	Right-of-Way Grant and Temporary Use Permit (TUP)	Consider granting a ROW and TUP for the construction of the proposed pipeline April 2009
U.S. Department of the Army Corps of Engineers (COE)	Section 10, Rivers and Harbors Act Permit Section 404, Clean Water Act Permit	Consider issuance of a Section 10 and Section 404 permits for construction across the Colorado River. February 2008
International Boundary and Water Commission	Compliance with International Treaties and Conventions	Review and approve project components as they relate to the international boundary, boundary monuments, and potential changes to surface runoff characteristics at the international border. February 2008
U.S. Environmental Protection Agency, Region IX	Section 402, CWA, National Pollutant Discharge Elimination System (NPDES)	In conjunction with states, review and issue NPDES permit for discharge of hydrostatic test water. March 2008
Advisory Council on Historic Preservation	Section 106 Consultation, NHPA	Has the opportunity to comment if the project may affect cultural resources that are either listed on or eligible for listing on the National Register of Historic Places. Ongoing
U.S. Fish and Wildlife Service (FWS)	Section 7 Consultation, Biological Opinion (Endangered Species Act)	Consider lead agency finding of impact on Federally listed or proposed species. Provide Biological Opinion if the project may affect Federally listed or proposed species or their habitats. Ongoing
ARIZONA		
Department of Environmental Quality, Water Quality Division	AZPDES Storm Water Construction Permit	Consider issuance of permit for discharge of hydrotest water into irrigation facilities (if necessary) and stormwater into Waters of the US. February 2008
Arizona State Lands Department, Natural Resources Division	Easement	Consider authorization of an easement for the pipeline crossing of state lands. January 2008
Arizona Department of Game and Fish	Threatened and Endangered Species Clearance	Consult regarding state-listed species. Ongoing
Arizona State Historic Preservation Office	Section 106 Consultation, NHPA	Consult with the FERC, project applicant, appropriate land management agencies, and others regarding activities potentially affecting cultural resources.
LOCAL		
Yuma County Water Users' Association	Encroachment Permit and Temporary Encroachment Permit	Encroachment Permit for the crossing of YCWU canal and temporary permit for extra workspace within YCWU canal easement February 2008
Yuma County	Encroachment Permit	Consider issuance of an encroachment permit to cross County Roads (if necessary). February 2008

2.1.5.1.1 Survey and Staking

Before the start of construction, North Baja would complete land or easement acquisition and finalize civil surveys to mark the centerline and construction workspace. Existing utility lines and other sensitive resources would be located and marked to prevent accidental damage during pipeline construction.

2.1.5.1.2 Clearing and Grading

The construction work area would be cleared and graded (where necessary) to provide a relatively level surface for trench excavating equipment and a sufficiently wide workspace for the passage of heavy construction equipment. North Baja does not anticipate the need to clear trees. The majority of the proposed ROW is within an existing levee/levee road. Thus, the majority of the ROW would not require clearing and/or grading. A portion of the proposed ROW would be within agricultural land. Topsoil separation and stockpiling would conform to the FERC Upland Erosion Control, Revegetation, and Maintenance Plan (Appendix C).

2.1.5.1.3 Trenching

The trench would be excavated to a depth sufficient to provide the minimum cover required by DOT specifications. Typically, the trench would be sufficiently deep to allow for about 3 feet of cover and wide enough to allow for about 4 to 6 feet of stable soils and rock. In the Reclamation levee, the trench will be deeper because Reclamation has required eight feet of cover over the pipeline. Spoil from the trench would be spread on the working side of the ROW and worked over by equipment, or temporarily stored in a pile next to the trench.

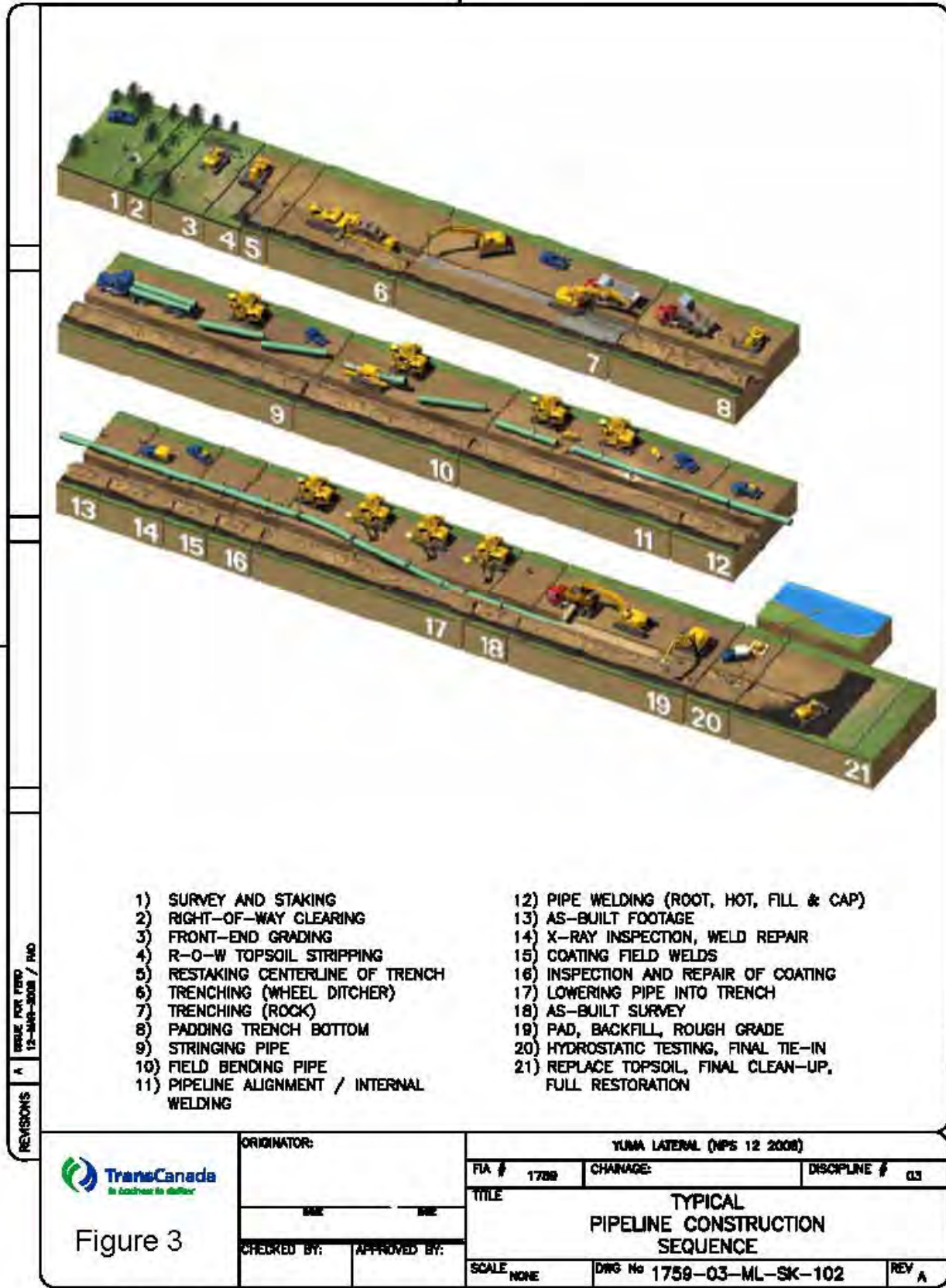
At most locations along the levee road, trenching and other equipment would utilize the abutting railroad alignment for construction workspace, as shown in Figure 4, sheet 1 of 3. Along one 0.3-mile segment, shown in Figure 4, sheet 2 of 3, the levee road is at a higher elevation than the railroad, and so excavating equipment must be confined to the narrower railroad bed; however, the levee road would still be utilized for vehicle and equipment passage. Figure 4, sheet 3 of 3 illustrates the proposed workspace between MP 2.95 and the end of the pipeline.

2.1.5.1.4 Pipe Stringing, Bending, and Welding

After trenching, the externally coated pipe would be strung along the ROW. Individual sections of pipe would be bent where necessary to fit the contours of the trench, aligned, welded together into long strings, and placed on temporary supports along the edge of the trench. Welds would be x-rayed to ensure structural integrity and compliance with the applicable DOT regulations. Those welds that do not meet established specifications would be repaired or removed. Once the welds are approved, the welded joints would be coated with a protective coating and the entire pipeline would be visually inspected for any faults, scratches, or other coating defects. Any damage would be repaired before the pipeline is lowered in.

2.1.5.1.5 Lowering-In and Backfilling

Before the pipeline is lowered in, the trench would be dewatered as necessary in accordance with applicable permits and cleaned of debris. In areas of rock, padding material such as sand, sandbags, or screened soil would be placed in the bottom of the trench. The pipeline would be lowered into the trench, and trench breakers would be installed at specified intervals to prevent water movement along the pipeline. The trench would then be backfilled using the excavated materials. If the excavated material is rocky, the pipeline would be protected with a rock shield to prevent damage to the pipe and pipe coating, and/or covered with more suitable fill obtained either from commercial borrow areas or by separating suitable material from the existing trench spoil. No topsoil would be used as padding material.



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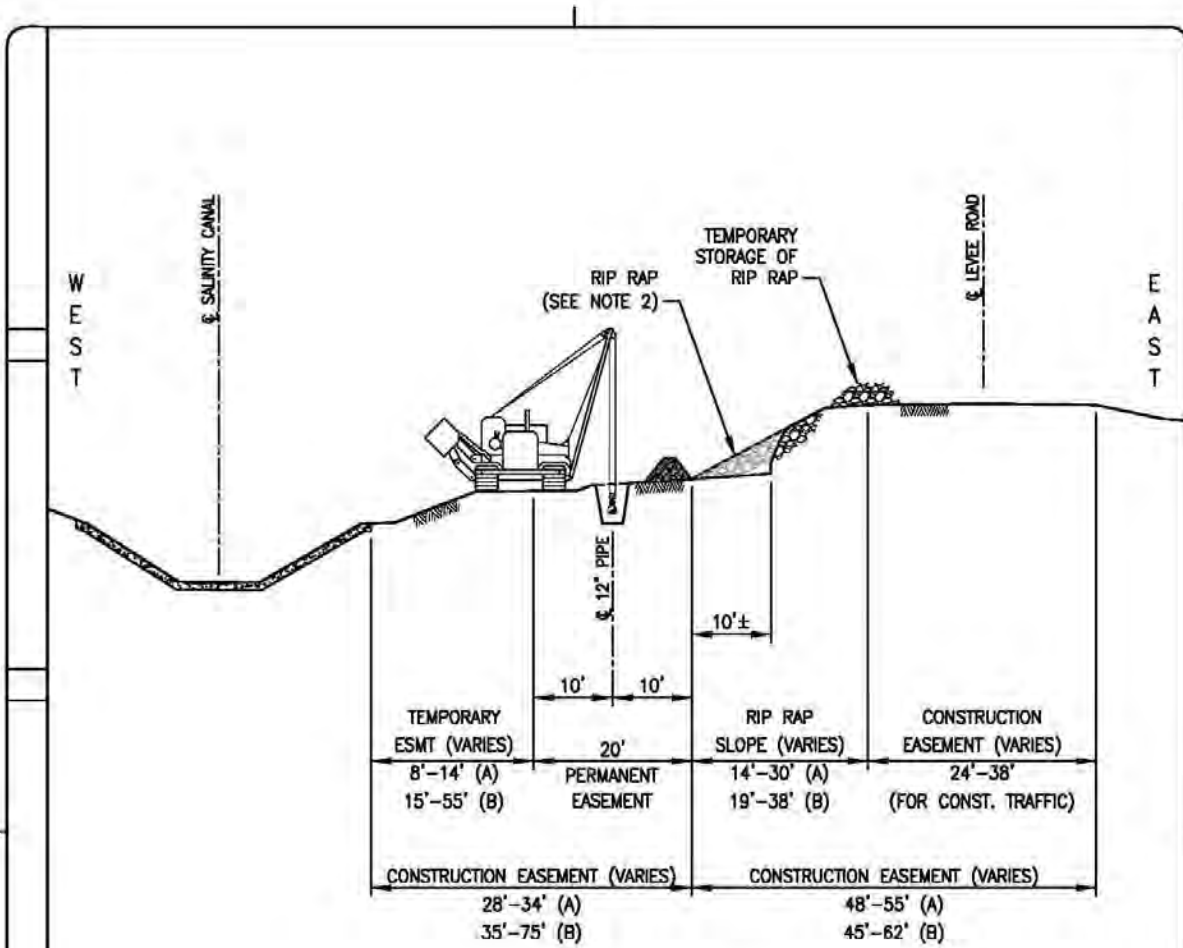
Figure 3

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M.P. 0.25 TO M.P. 1.71 (A)
M.P. 1.85 TO M.P. 2.95 (B)

NOTE:

1. NOMINAL CONSTRUCTION RIGHT-OF-WAY TO BE CONFINED TO THE TRAVELED WAY AND SHOULDERS EXCEPT AT ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.
2. FROM M.P. 0.25 TO M.P. 1.71, TO FACILITATE CONSTRUCTION, RIP RAP SHALL BE TEMPORARILY REMOVED AND RESTORED UPON COMPLETION.

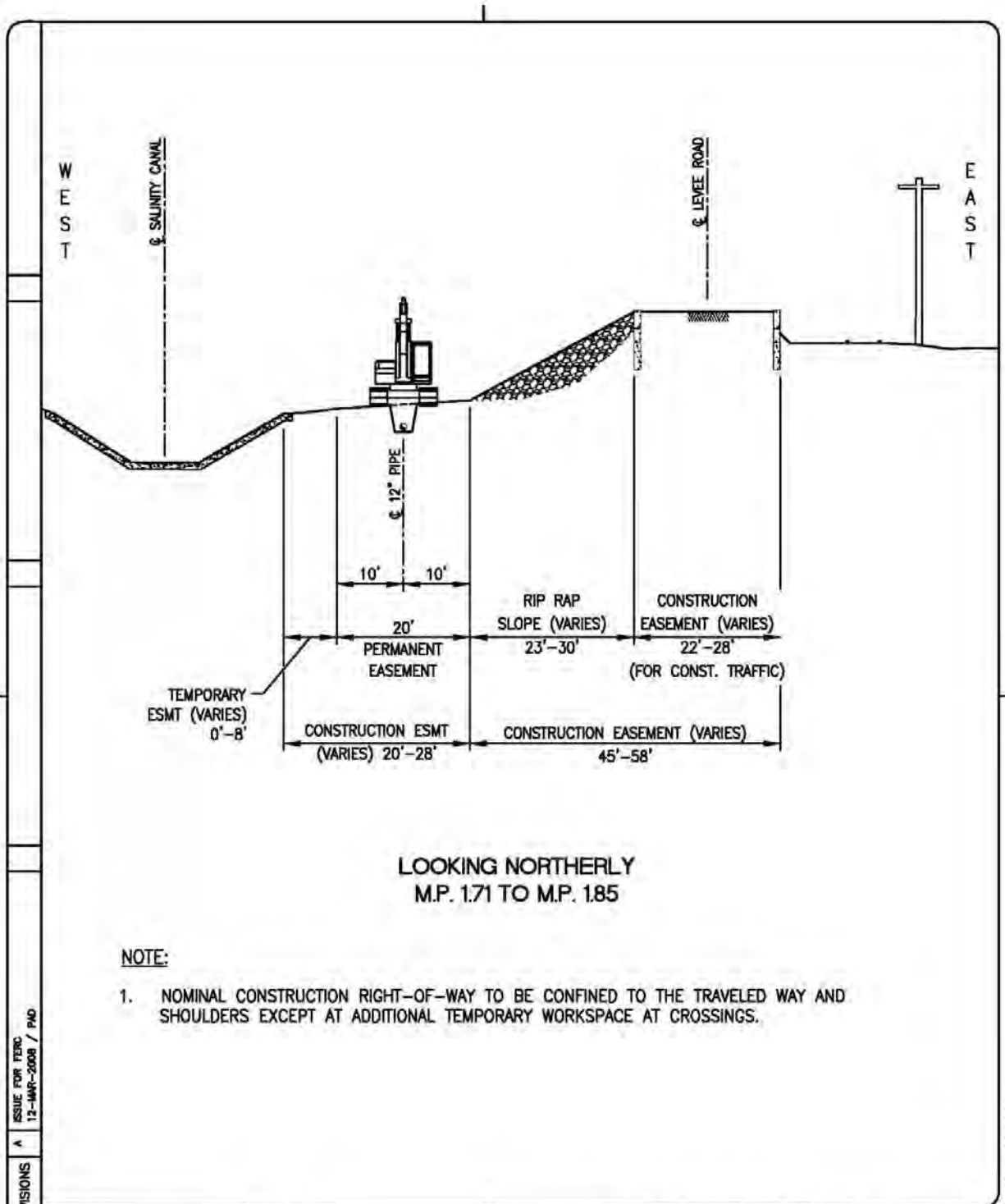
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<p>Figure 4 SHEET 1 OF 3</p>	ORIGINATOR:	YUMA LATERAL (NPS 12 2008)		
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		SCALE 1" = 10'	DWG No 1759-03-ML-09-001	REV A

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NOTE:

1. NOMINAL CONSTRUCTION RIGHT-OF-WAY TO BE CONFINED TO THE TRAVELED WAY AND SHOULDERS EXCEPT AT ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

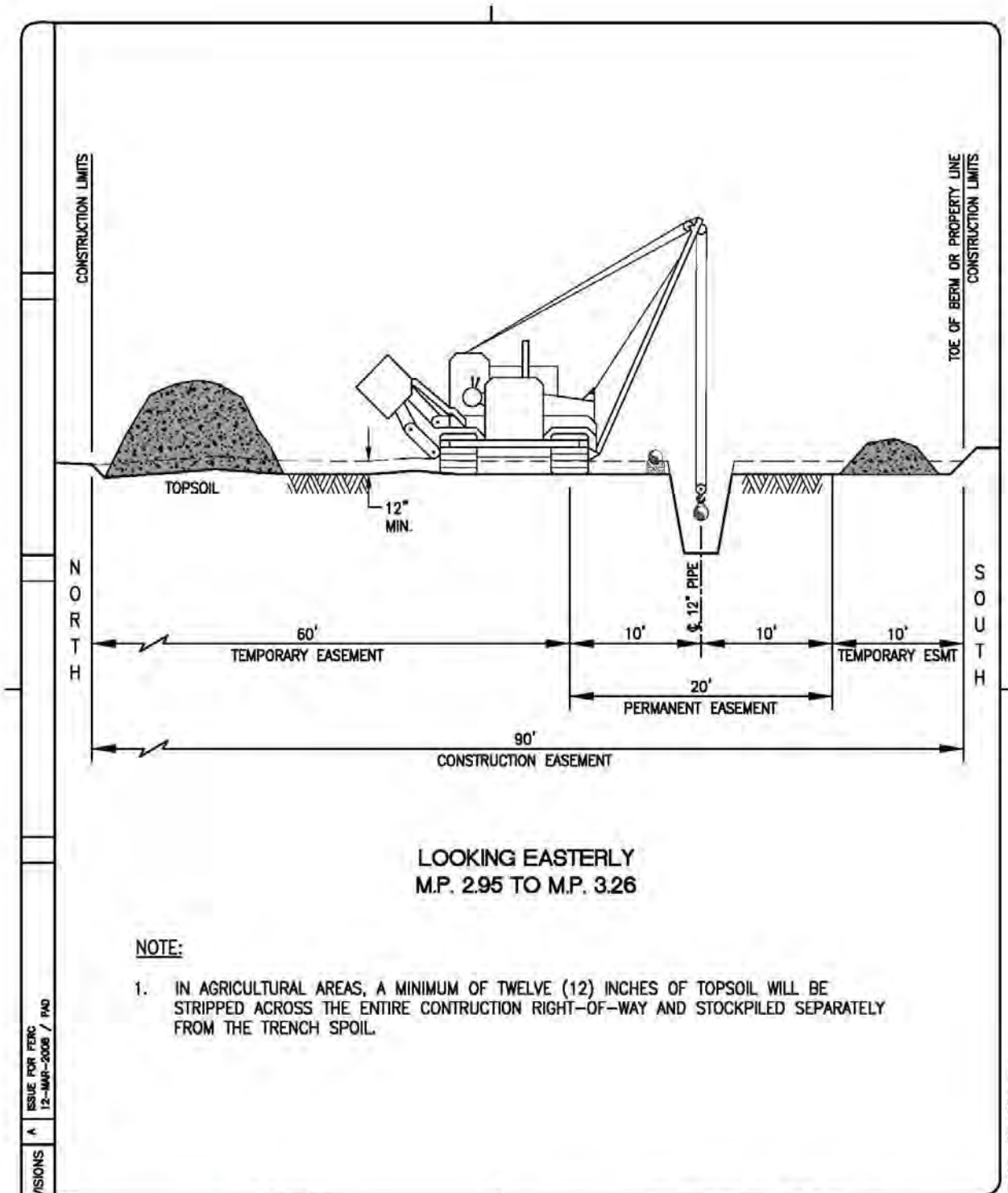
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LOOKING EASTERLY
M.P. 2.95 TO M.P. 3.26

NOTE:

1. IN AGRICULTURAL AREAS, A MINIMUM OF TWELVE (12) INCHES OF TOPSOIL WILL BE STRIPPED ACROSS THE ENTIRE CONSTRUCTION RIGHT-OF-WAY AND STOCKPILED SEPARATELY FROM THE TRENCH SPOIL.

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2.1.5.1.6 Hydrostatic Testing

The pipeline would be pressure tested in sections according to North Baja's permits and DOT specifications (Title 49 CFR Part 192). The exact sequence and timing of hydrostatic testing would depend on the final schedule for construction. Water for hydrostatic testing would be obtained from either the West Main Canal or the Cooper Lateral. A total of up to 199,000 gallons will be withdrawn for hydrostatic testing, assuming entire lateral tested as one section. No chemicals would be added to the test water. Test water would be pumped into the first test section, pressurized to design test pressure (75 to 100 percent of maximum yield strength for the pipe size and thickness), and maintained at that pressure for about 8 hours. The design test pressures would range from 126 to 183 percent of the maximum allowable operating pressure (MAOP). If leaks are found, the leaks would be repaired, and the section of pipe would be retested until specifications are met. After testing, the water would be pumped into the next test section until the entire pipeline is tested. In order to accomplish the testing requirements per DOT and industry standards, the testing must be conducted on a 24-hour basis to ensure that specified pressures are reached for the time periods required.

Hydrostatic test water would be discharged into either the West Main Canal or the Cooper Lateral. The West Main Canal is not concrete lined. Discharges to the West Main Canal would employ the use of energy dissipation devices to minimize channel erosion. The Cooper Lateral is concrete lined; therefore, no special measures to prevent bank erosion would be required. Additional discussion of hydrostatic testing is provided in Section 2.3.2.1 of Resource Report 2 and applicable permits are listed in Table 1.9-1.

2.1.5.1.7 Cleanup

Within 10 days of backfilling the trench, all work areas would be final graded and restored to pre-construction contours as closely as possible. To minimize future settling, the trench would be compacted with construction equipment. Surplus construction material and debris would be removed and disposed of at commercial landfills. Slopes would be re-established as near as practicable to preconstruction contours.

After completion of construction and hydrostatic testing, the pipeline would be cleaned and dried using internal tools (pigs) that are propelled through the pipeline. Once cleaned, dried, and purged of air, the pipeline would be packed with natural gas. Pipeline markers and/or warning signs would be installed along the pipeline ROW centerline at intervals to identify the location of the pipe.

2.1.5.2 Special Construction Techniques

Construction across waterbodies and canals may require special construction techniques. These are described below.

2.1.5.2.1 Waterbody Crossings

Horizontal Directional Drill (HDD) Construction – The Colorado River (MP 0.0) would be crossed using the HDD construction technique (Figure 5). This technique involves drilling a pilot hole under the waterbody and banks, then enlarging that hole through successive reamings until the hole is large enough to accommodate the pipe. Throughout the process of drilling and enlarging the hole, slurry made of naturally occurring non-toxic materials, such as bentonite clay and water, is circulated through the drilling tools to lubricate the drill bit, remove drill cuttings, and hold the hole open. This slurry is referred to as drilling mud. Pipe sections long enough to span the entire crossing would be staged and welded along the construction work area and then pulled through the drilled hole. At the Colorado River, the pipeline would be

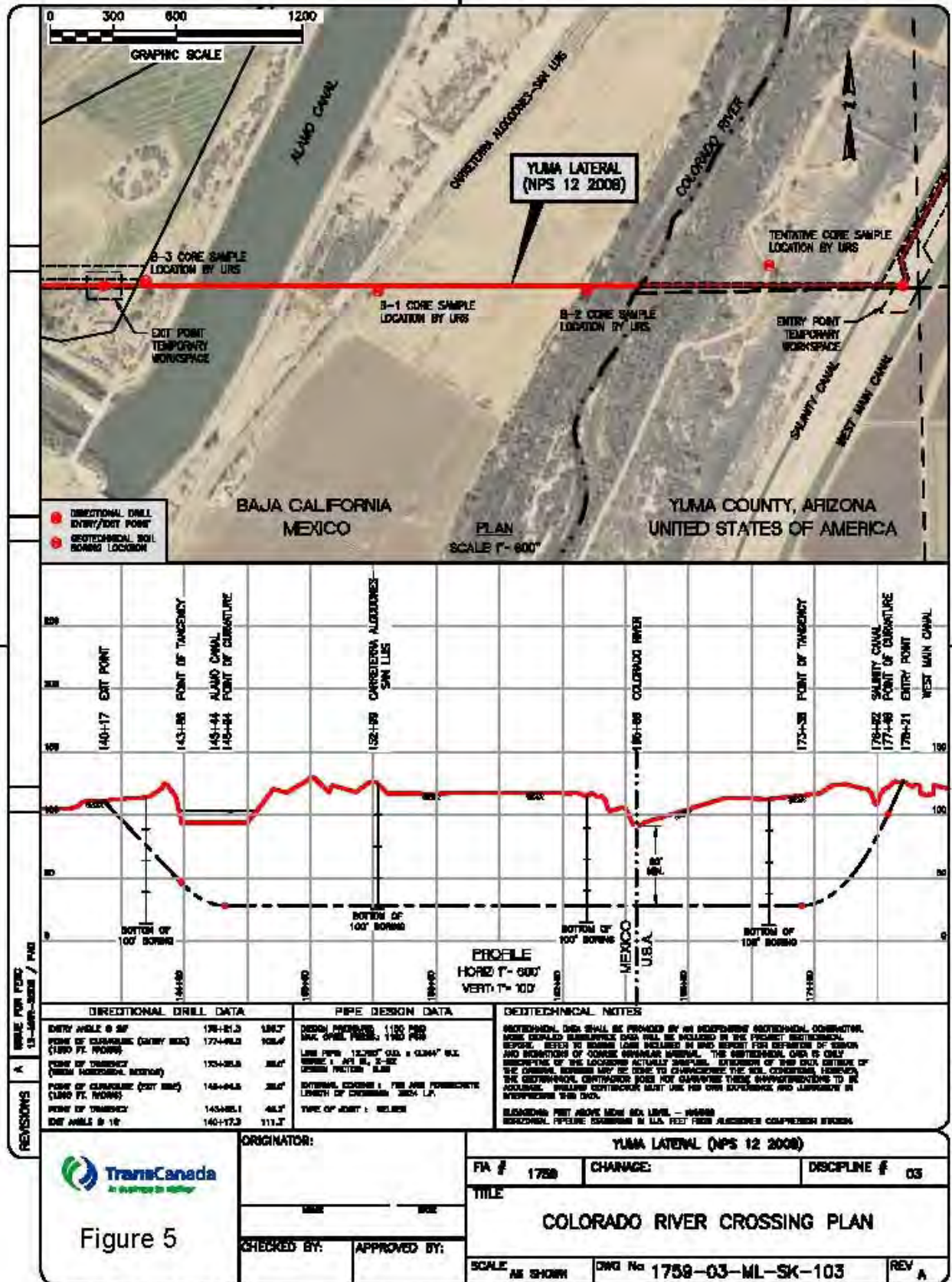


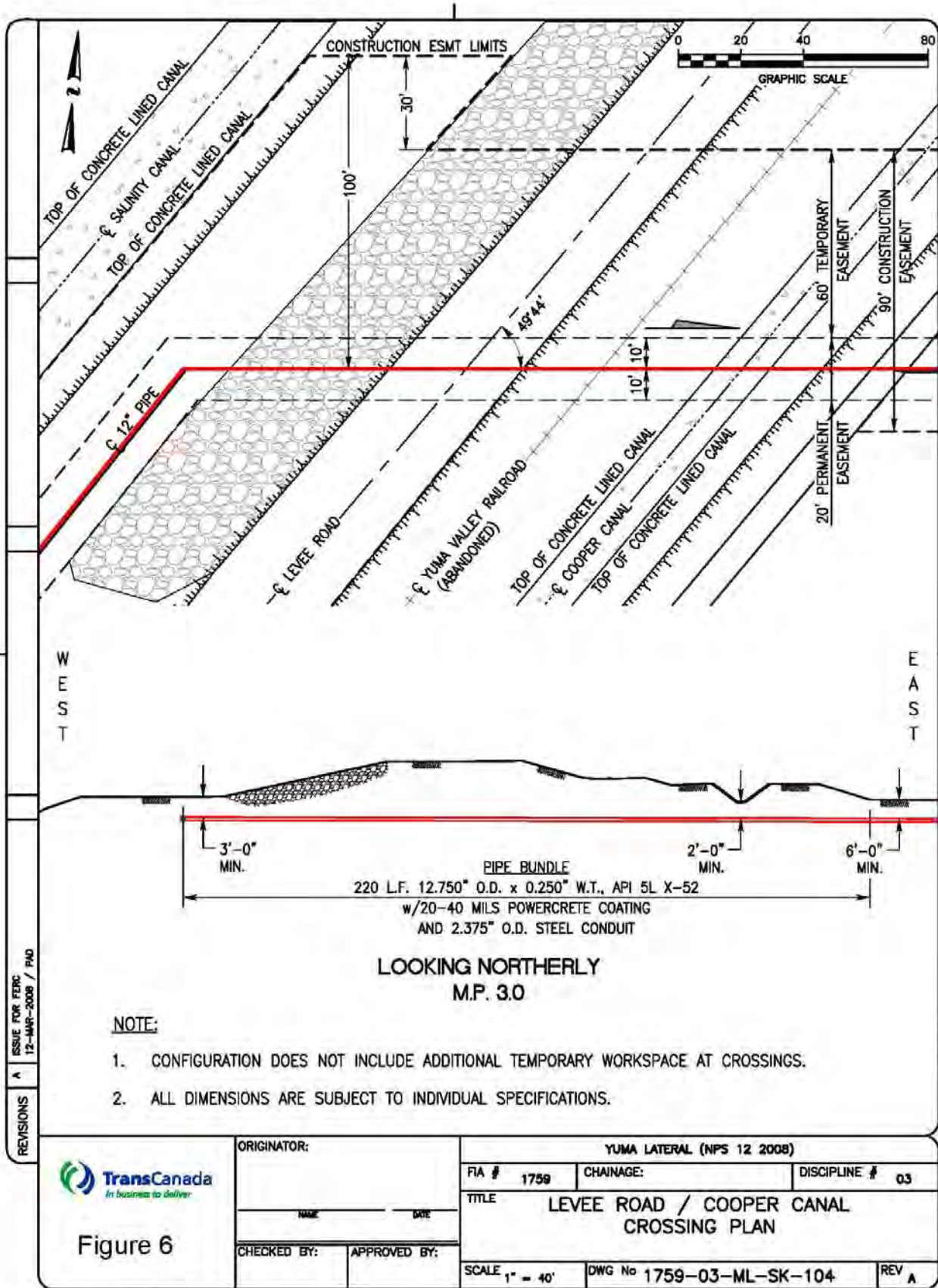
Figure 5

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installed about 60 feet below the river bed, as required by the Arizona State Lands Department. Directional drilling is anticipated to take 4 to 6 weeks. Prior to initiating construction, a site-specific environmental protection plan would be developed containing measures to prevent and/or respond to frac-outs, handling of drilling mud, and agency notification procedures. Figure 7 shows preliminary plans for this crossing.

Other Canals and Drains – One additional canal, the Cooper Lateral, would be crossed by the Yuma Lateral Pipeline Project at MP 2.98, which is operated and maintained by the Yuma County Water Users' Association (Figure 6). The pipeline would be constructed under this canal using the boring construction method. Boring requires the excavation of pits on both sides of the feature to be crossed to the depth of the pipeline, the installation of boring equipment, and the boring of a hole under the canal equal to the diameter of the pipe. The uncased pipe section would then be pushed through the borehole. For long crossings, additional pipe sections may be required. These additional sections usually would be welded to the first section of pipe in the bore pit before being pushed through the borehole. In some cases, 24-hour operations are required during difficult boring operations where difficult ground conditions and ambient daytime temperatures contribute to overheating of the equipment and operators. Figure 8 shows a typical bored canal/ditch crossing.



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2.1.5.2.2 Blasting

Blasting to excavate the pipeline trench is not anticipated. In the event that blasting is required, all blasting activities would be conducted only during daylight hours and in strict compliance with North Baja's construction specification for blasting. This specification contains procedures for complying with applicable Federal, State, and local safety and environmental regulations, codes, and standards for the use, storage, and transport of explosives. North Baja's compliance with these regulations would minimize blasting hazards.

2.1.5.3 Aboveground Facility Construction Procedures

The Yuma #1 Delivery Meter Station is located in an area that is nearly flat; thus, site clearing and grading to establish level grades for the facility would be minimal. The area would be fenced for security.

North Baja would maintain fences around the meter station and receiver. These facilities would be graveled to facilitate vehicle and equipment operation within the facilities. Power for the Yuma #1 Delivery Meter Station would be supplied by APS from their distribution system. The Yuma #1 Delivery Meter Station would be accessed by a separate gate near the Yucca Power Plant entrance.

2.1.5.4 Operation and Maintenance Procedures

North Baja would operate and maintain the Yuma Lateral Pipeline in accordance with all applicable Federal and State regulations. The pipeline system would be monitored and controlled 24 hours a day by a full-time staff located at the North Baja/Gas Transmission Northwest Gas Control Center in Portland, Oregon. Operation and maintenance staff located at North Baja's Ehrenberg Compressor Station in Ehrenberg, Arizona would be responsible for day-to-day operation and maintenance of the Yuma Lateral.

The pipeline system would be routinely inspected by air and on the ground to observe ROW conditions; monitor for encroachments, third-party activities, or erosion on or near the ROW; etc. All inspections are done in accordance with DOT standards. Erosion or unstable conditions are repaired as appropriate. Appurtenant facilities would be maintained on a regular basis.

2.1.5.4.1 Corrosion Protection and Detection Systems

External corrosion control measures include the protective coating on the exterior of the pipe and use of cathodic protection systems. These systems are designed to meet requirements established by the DOT for protection of metallic facilities from external, internal, and atmospheric corrosion. The planned method of cathodic protection is an impressed current system using deep-well anodes placed in areas where their effect would provide the required negative induced potential to resist external corrosion. Aboveground facilities would be painted with a suitable anti-corrosion coating. Internal corrosion is not expected to be a factor. North Baja would monitor the pipeline interior through the use of internal corrosion probes, on-line pigging tools, or a combination of the two. Deep well anodes, used for cathodic protection, would be located within the pipeline ROW.

2.1.5.4.2 Pipe Wall Classifications

DOT regulations define area classifications, based on population density in the vicinity of the pipeline and on an area that extends for 220 yards on either side of the centerline of any continuous 1-mile length of pipeline. The four area classifications are defined as:

- **Class 1:** A location with 10 or fewer buildings intended for human occupancy.

- **Class 2:** A location with more than 10 but less than 46 buildings intended for human occupancy.
- **Class 3:** A location with 46 or more buildings intended for human occupancy or where the pipeline lies within 100 yards of any building, or small well-defined outside area occupied by 20 or more people during normal use.
- **Class 4:** A location where buildings with four or more stories aboveground are prevalent.

Each class location requires a minimum specified pipe wall thickness. For the proposed pipeline, North Baja proposes to use Class 1 pipe.

2.1.5.4.3 Emergency Response

Pipeline system emergencies can include gas leaks, fire or explosion, and/or damage to the pipeline or pipeline facility. In an emergency, gas flow can be stopped automatically, remotely from the gas control center or manually from the compressor station.

During construction, all vehicles and construction equipment would carry a fire extinguisher and shovel. On fire weather red-flag days, any activity that may cause a spark, including grinding, scraping, welding and cutting, would be suspended for the day. On fire weather watch days, activity may proceed with caution, but with the use of barriers, i.e. fire resistant tarps.

In accordance with DOT regulations, North Baja has guidelines and procedures to be followed in the event of a pipeline emergency on its pipeline system. These include training of employees on emergency procedures; establishing liaisons with appropriate fire, police, and other community officials; and informing the public on how to identify and report an emergency condition. The community liaison program identifies the responsibility and resources of each governmental organization that could respond to a gas pipeline emergency, familiarizes public officials with North Baja's plan for responding to an emergency and minimizing hazard to life or property, and provides training to designated community response personnel. The program is reviewed yearly with local agencies to ensure that the emergency plan is current and that all personnel understand the plan and their responsibilities. North Baja would develop an Emergency Procedures Manual (EPM) for the proposed pipeline system.

This EPM would provide an updated list of persons to contact in case of an emergency, and local and company resources available to respond to emergencies. It would cover response to both emergency and abnormal conditions and include detailed procedures to handle all pipeline emergencies. Finally, it would provide a detailed section on reporting requirements for any emergency or abnormal condition, and provide maps and diagrams of the pipeline to facilitate access.

2.1.6 Land Requirements

Construction of the Yuma Lateral Pipeline Project would require about 43.07 acres of land, including the pipeline construction ROW (86- to 137-foot wide), temporary extra workspace, contractor yard, and the aboveground facilities. Of this total, about 38.98 acres would be disturbed by the pipeline construction ROW, 0.59 acre would be disturbed by temporary extra workspace, and 2.86 acres would be disturbed by contractor yards. The aboveground facilities would affect approximately 0.64 acre during construction and 0.46 acre during operation.

Following construction, about 7.78 acres would be retained as permanent ROW (20 feet wide) and aboveground facility sites. The remaining 33.90 acres of temporary workspace would be

restored and allowed to revert to its former use. Table 2 summarizes the land requirements for the Yuma Lateral Pipeline Project.

Table 2: Summary of Land Requirements for the North Baja Expansion Project			
Facility	Pipeline Miles	Land Affected (acres) During:	
		Construction	Operation
Yuma Lateral Pipeline	3.27	38.98	7.32
Subtotal Pipeline ROW		38.98	7.32
Temporary Extra Workspace	--	0.59	0
Contractor Yard	--	2.86	0
Subtotal EWS/Access Roads/Contractor Yards		3.45	0
Aboveground Facilities	--	--	--
Yuma #1 Delivery Meter Station and Receiver	--	0.64	0.46
Subtotal Aboveground Facilities		0.64	0.46
Project Total		43.07	7.78

2.1.6.1 Pipeline Rights-of-Way and Additional Construction Work Areas

2.1.6.1.1 Pipeline Rights-of-Way

The typical construction ROW for the proposed pipeline would be between 86 and 137 feet wide, consisting of 66 to 117 feet of temporary workspace and 20 feet of permanent ROW. Figures 4-6 illustrate the typical proposed ROW cross sections.

2.1.6.1.2 Extra Workspaces (EWSs)

In addition to the construction ROW, North Baja has identified temporary extra workspaces that would be required for construction at the directional drill work site and the bore location for the Cooper Lateral and Meter Station. These extra workspaces would be on the Reclamation levee and would consist of approximately 0.59 acre of land.

2.1.6.1.3 Access Roads

North Baja would use existing roads for “like-use” activities to access the pipeline ROW. In these locations, North Baja would use the roads in a manner similar to their current use. Roads would be used by rubber-tired vehicles and foot traffic. All locations would be selected so no new ground disturbance would be necessary for their use or maintenance. The specific like-use roads would be identified by North Baja prior to the time of required access.

2.1.6.1.4 Contractor Yards

One contractor yard would be used on a temporary basis to support construction activities for the proposed pipeline and meter station. This contractor yard would be located at MP 3.1 near the Yucca Power Plant and would include the pipeline ROW between MP 3.1 and MP 3.25. The proposed contractor yard would require 2.86 acres during construction. The proposed yard is located on land belonging to the Imperial Irrigation District, leased to Griffin Farms, and would be used by permission of both. The land has been previously farmed and has no native vegetation.

2.1.6.2 Aboveground Facilities

The Yuma #1 Delivery Meter Station and receiver would require about 0.64 acre of land for construction and 0.46 acre of land for operation.

2.1.7 Future Plans and Abandonment

North Baja has not identified plans for abandonment of the facilities in the foreseeable future. If abandonment of any facilities were proposed, the abandonment would be subject to separate approvals by the FERC and the BLM. In most cases, abandonment in place is the preferred option for buried facilities, while above-ground facilities are removed. However, specific plans would be driven by landowner and regulatory considerations, environmental analysis and other factors. The FERC review would be conducted under Section 7(b) of the Natural Gas Act (NGA). For the Federal lands involved, the BLM would require North Baja to submit an abandonment plan that would be reviewed by the BLM and Reclamation. The BLM would be responsible for approving the plan after receipt of concurrence from the U.S. Fish and Wildlife Service (FWS) and Reclamation.

2.1.8 Mitigation Measures

2.1.8.1 Soils

The impact of construction on soils can be effectively minimized through the use of erosion control and revegetation plans. To minimize impact on soils associated with this project, North Baja would comply with the measures in FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* (FERC Plan) (Appendix C) that are relevant to the project area.

In addition to the FERC Plan, the HDD Plan (Appendix B of Exhibit F of North Baja Pipeline's Application), contains specific procedures that would be used during the directional drill crossing of the Colorado River and unnamed salinity canal west of the Reclamation levee.

Additional measures to mitigate construction-related impacts on soils are included in North Baja's Dust Control Plan (Appendix F of Exhibit F). Fugitive dust disturbed by construction is a visible indication of soil loss through wind erosion. The Dust Control Plan outlines measures that would be implemented to control fugitive dust during construction.

North Baja would employ a full-time environmental inspector (EI) to ensure compliance with the FERC Plan and the Dust Control Plan during construction and restoration. The EI would have peer status with other activity inspectors and have the authority to stop and order corrective actions for activities that violate the environmental conditions of the FERC Certificate or other authorizations.

2.1.8.2 Prime and Unique Farmland

Impacts on the 2.95 acres of actively farmed prime or unique soils would be reduced by segregating topsoil before installation of the pipeline and reapplying topsoil over the surface of the ROW during restoration as outlined in the FERC Plan. Although there is virtually no potential for soil compaction, North Baja would use tillage where the project affects farmed soils (MPs 3.0 to 3.27).

2.1.8.3 Groundwater

In the event contaminated groundwater is encountered as evidenced by refuse and/or other debris in the trench, discoloration, odor, or other signs at these locations or other locations along the pipeline route, the area would be inspected prior to any further construction activity. Field observations would be conducted to determine the extent of the contamination, appropriate disposal/treatment options, and the need for sampling. Appropriate agencies, including The BLM Hazmat Coordinator the AZ DEQ and the Yuma County Department of Health would be contacted.

North Baja has prepared a Spill Prevention, Containment, and Control (SPCC) Plan (Appendix C of Exhibit F) that provides preventive and mitigative measures that would be used to minimize the potential impact of a hazardous material spill during construction. North Baja would implement the procedures in the SPCC Plan to ensure that public and private water supply wells are not impacted. Additionally, with the landowner's permission, North Baja would test the irrigation water well before construction to determine baseline flow conditions as a means of determining any potential construction-related impacts. If impacts are reported by the landowner post construction, North Baja would conduct post-construction water well tests. If it is determined that construction activities have impaired a well's water quality or yield, North Baja would compensate the landowner for losses. If water quality or yield is permanently impaired as a result of construction activities, North Baja would arrange for a new well to be drilled or compensate the landowner.

2.1.8.4 Surface Water

North Baja has prepared a Horizontal Directional Drill (HDD) Plan that describes how the drilling operations are conducted and monitored to minimize the potential for inadvertent drilling mud releases or failure of the drill. It also includes procedures for cleanup of drilling mud releases and for sealing the hole if a drill cannot be completed. These procedures minimize the potential impact of an inadvertent release of drilling mud.

2.1.8.5 Vegetation and Wildlife

North Baja would use its environmental training program as a basis for a site-specific environmental training program to be designed and implemented prior to the start of work. All employees and contractors working in the field would be required to complete an environmental training session before beginning work on the ROW. The program would include discussions of the biology, distribution, and ecology of special status species within the geographic area of construction; protection afforded such species under applicable federal and state laws and regulations; all protection measures that must be followed to protect such species during project activities; penalties for noncompliance; reporting requirements; and the importance of compliance with all protection measures. To ensure proper focus, emphasis would be placed on the specific aspects of compliance applicable to the particular audience's activities on the project. All personnel on site during construction activities would have a card showing that they had completed the environmental training with the dated completed and signature and name of the individual giving the training.

Employees and contractors would be informed during one or more training sessions that they are not authorized to handle or otherwise move listed species at any time, including while commuting to work sites or at a work site.

North Baja would hire and designate at least one EI who would be responsible for overseeing project environmental protection measures including those for special status species.

Environmental inspection procedures would be in compliance with the relevant provisions of FERC's Plan and Procedures.

North Baja would require project personnel to exercise caution when commuting to the construction area to minimize any chance for the inadvertent injury or mortality of species encountered on major roads leading to and from the construction area. North Baja's contractors and employees would report any such incident directly to the EI.

Only existing routes of travel and approved access roads would be used to and from construction areas. Cross-country travel by vehicles and equipment would be prohibited.

All trash and food items generated by construction and maintenance activities would be promptly contained in a closed container and regularly removed from the project site to reduce the attractiveness of the area to common ravens and other desert predators.

Firearms and domestic pets would be prohibited from work sites.

Pipeline construction activities between dusk and dawn would be limited to emergencies only (i.e., issues involving human health and safety) with the exception of the directional drill operations.

Open pipeline trenches, auger holes, or other excavations that could entrap wildlife would be inspected by the EI a minimum of three times per day, and immediately prior to backfilling.

If a listed species is located during construction, and a contingency for avoidance, removal, or transplant has not been approved by the FWS or appropriate agency, North Baja would not proceed with project activity in that location until specific consultation with the BLM, FERC, the FWS, and/or other appropriate agency is completed.

Upon locating a dead or injured listed species, North Baja would notify the BLM, FWS and the AZGFD. Written notification would be made within 15 days of the date and time of the finding or incident (if known) and would include: location of the carcass, a photograph, cause of death (if known), and other pertinent information.

At the conclusion of project construction, all trenches and holes would be completely filled, surfaces cleaned and smoothed, and each site recontoured to match the original profiles as closely as possible.

All stakes, flagging, and fencing used to delineate and protect any environmental or cultural feature in the construction area would be removed no later than 30 days after construction and restoration are complete.

With the exception of fenced facilities, all materials and equipment would be removed from the area upon completion of work.

Upon completion of project activities, North Baja would submit a final report to the BLM and FERC for distribution to other agencies, including the FWS. The report would document the effectiveness and practicality of the conservation measures, the number of individuals of each species excavated from their burrows or removed from the site, the number of individuals killed or injured, and other pertinent information. The report would also recommend modifications of the stipulations in order to enhance the protection of species in the future. The final report would provide the actual acreage disturbed by project activities by habitat type.

2.1.8.6 Air Quality

North Baja's Dust Control Plan includes proposed mitigation measures for controlling fugitive dust through watering, and speed control (maximum speed allowed would be 25 mph) on the construction site would ensure that the temporary impacts on air quality due to construction activities would not adversely affect the Yuma particulate matter less than 10 microns (PM10) nonattainment area.

2.2 ALTERNATIVES TO THE PROPOSED ACTION

2.2.1 No Action Alternative

The No Action Alternative would not achieve the stated Project objectives of providing transportation for natural gas from the Mexican pipeline system into Arizona to meet APS's expanding and future needs. If this Project is not constructed, the increasing demand for natural gas and the need to obtain gas from new sources as traditional sources decline would still require construction of one or more natural gas pipelines and associated facilities to allow for import of natural gas from Mexico. Moreover, the natural gas pipeline currently serving the Yucca Power Plant does not have the capacity to meet planned plant expansion. The no action alternative would mean that APS would have to forego its planned expansion or another pipeline, which may result in more environmental impact, would have to be constructed. Finally, unless other pipelines connecting their systems with the GB/North Baja system are built, the Yucca Power Plant would continue to depend on only one pipeline provider and would not have access to natural gas from the GB/North Baja system.

2.2.2 Alternatives Considered but Eliminated from Detailed Analysis

2.2.2.1 System Alternatives

El Paso delivers natural gas into Arizona via two interconnected systems. Both systems run from east to west, one across northern Arizona and the other across southern Arizona. Transwestern Pipeline operates a pipeline system only across northern Arizona and is currently developing a southerly extension to the vicinity of Phoenix. A third operator, Questar Corp., is a relatively minor player in the Arizona transmission business, operating a pipeline that follows the same northern route as Transwestern and El Paso. Although a system alternative could replace all or part of the proposed Project, modifications or additions to the existing pipeline system, or an entirely new system, would be required to increase its capacity to import and transport the proposed Project's natural gas volumes.

Because there are no existing pipeline systems readily able to connect with the GB/North Baja system, no further consideration was given to these pipeline system alternatives to meet the purpose and need of the proposed project.

2.2.2.2 Alternative Pipeline Routes

One route alternative and one route variation were identified: Alternative A and the Railroad Variation.

2.2.2.2.1 Alternative A

Alternative A would primarily follow existing roads (Figure 7). With this alternative, the pipeline would cross the Colorado River at the same location, but would continue to the east and cross the West Main Canal at two locations before turning north at Avenue F. The route would continue north along Avenue F until West County 9th Street where it would turn east to follow the roadway until Somerton Avenue. The route would follow Somerton Avenue north to the Yucca Power Plant. This alternative would avoid Reclamation levee and would follow existing roads. Construction of this alternative would include the same HDD crossing of the Colorado River, but would extend the length to include Reclamation levee and the first crossing of the West Main Canal. This would require an extra workspace in active farmlands. Table 3 compares the proposed route with Alternative A.

Table 3: Comparison of Alternative A and the Proposed Route			
Environmental Factor	Unit	Proposed Route	Alternative A
Total length	mile	3.27	4.25
Width of permanent ROW	feet	20	.51
Width of construction ROW	feet	86-137	60
Acres of construction ROW required	acre	43.075	30.9 (1)
Parallel or adjacent to existing road or pipeline ROW	mile	2.8	4.0
Depth of cover over pipe	feet	5-8	5
Land uses crossed			
Agriculture	mile	0.1	.22
Transportation (Reclamation lands)	mile	2.8	3.81
Open land	mile	0.3	0.105
Open water	mile	0.1	.12
Water bodies crossed			
Rivers and Streams	no	1	1
Drains, ditches, and canals	no	2	5
Wetlands	no	1	1
Number of residences			
Within 50 feet of construction area	no	0	0
Within 100 feet of construction area	no	0	3

This alternative was not considered in detail due to the additional impacts to farmlands and irrigation infrastructure.

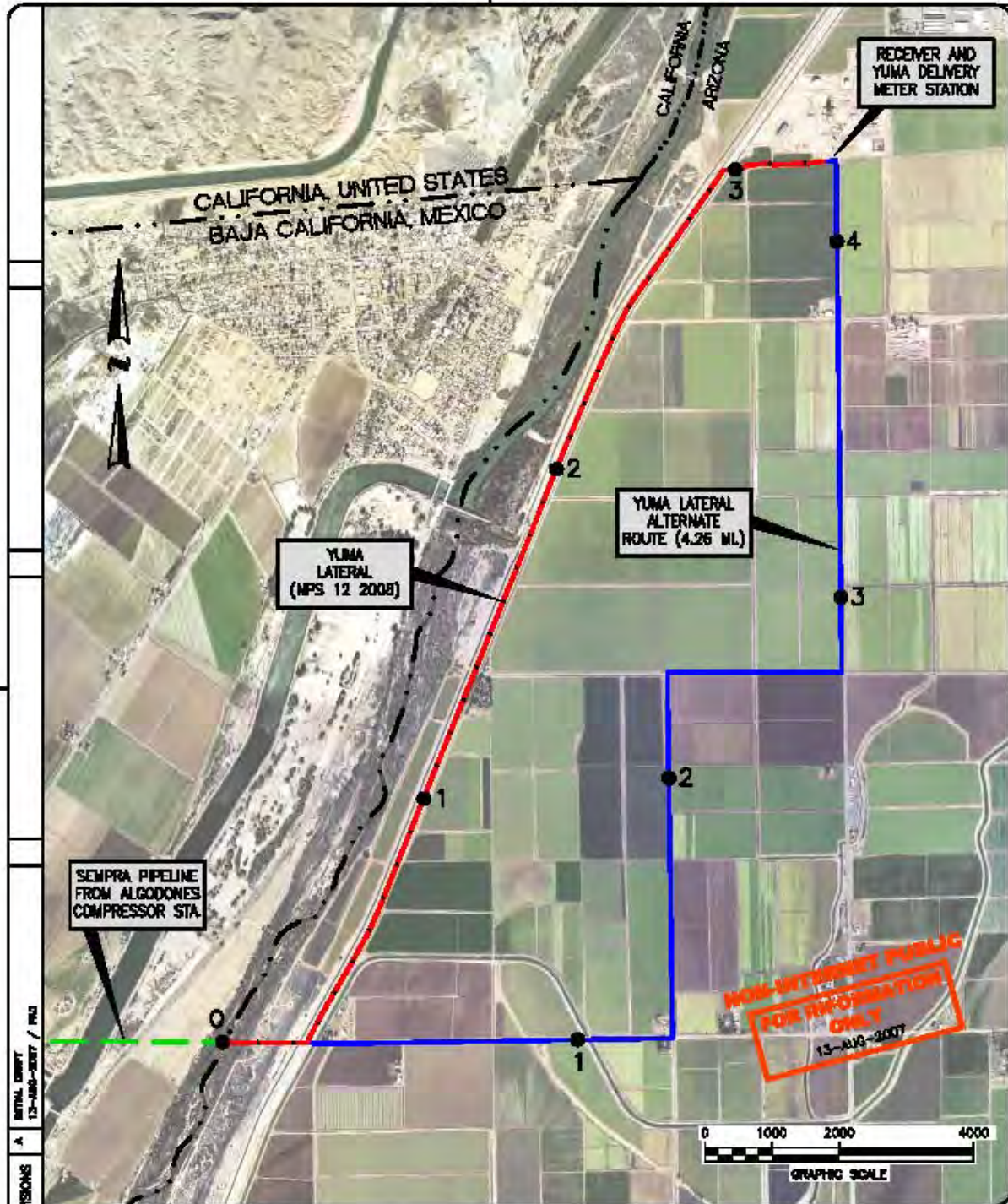
2.2.2.2.2 Railroad Variation

North Baja initially investigated the option of placing the proposed pipeline within the service road on Reclamation levee or the adjacent abandoned rail bed. However, through consultation with Reclamation, it was determined that the preferred alternative should be aligned between the west side of the levee and the salinity canal. North Baja did not select the Railroad Variation because 1) it may conflict with the Department of Homeland Security’s “Secure Border Initiative,” which is considering locating a fence within the existing abandoned railroad alignment, 2) it would require removal of the railroad, which is a National Register-eligible historic property, and 3) would be more costly than the proposed alternative, because of the additional costs associated with the physical removal of the railroad, and potentially with


associated cultural resources requirements. Therefore, in consultation with Reclamation, the alignment was shifted adjacent to the west side of the levee.

2.2.2.3 Aboveground Facility Alternatives

The proposed Project only includes one aboveground facility, which would be located at the terminus of the pipeline. Since the purpose of this project is to transport gas to the existing Yucca Power Plant, the terminus of the pipeline would remain unchanged regardless of the route selected. Therefore, there are no aboveground facility alternatives.



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3.0 ENVIRONMENTAL ANALYSIS

3.1 GEOLOGY

3.1.1 Affected Environment

The project area is located in the southwestern corner of Arizona, in the Salton Trough subprovince of the southern Basin and Range Province. Elevations of the area range from 3,156 feet above mean sea level (amsl) in the Gila Mountains to about 80 feet amsl where the Colorado River crosses the International Boundary into Mexico (Olmsted et.al 1973). Mileposts 0.0 through Milepost 3.27 are located within 1,000 feet or less from the Colorado River. Surficial geology is characterized by alluvial fan deposits from the surrounding mountains and several millions of years of deposition from the ancestral Colorado River have filled the Yuma Valley with thousands of feet of alluvium (ADWR 2002).

About 65 percent of the nation's copper is mined in Arizona. Other metallic commodities produced, listed in order of decreasing value, include gold, silver, molybdenum, and lead. Non-metallic (industrial) minerals produced, also listed in order of decreasing value, include sand and gravel, crushed stone, clay, cement, gypsum, lime, perlite, pumice, and salt. Arizona's turquoise, peridot, petrified wood, azurite, and malachite are world-famous. Arizona also produces energy resources such as coal and small quantities of petroleum and natural gas (AZGS, 1998).

Geologic hazards are natural physical conditions that may result in damage to the land and structures, or injury to people. Geologic hazards that exist in the project area are related to seismicity. Although seismic hazard is low in much of Arizona, Yuma is designated as having a high hazard level because it is close to active faults in the Imperial Valley in southern California and northern Mexico that have generated numerous magnitude 6.5 to 7.0 earthquakes during the last 150 years. The proposed pipeline is in a Zone 4 seismic hazard region.

3.1.2 Environmental Effects

Review of the Arizona Geological Survey Mineral Map shows that the proposed pipeline location is not within the vicinity of mineral resources; therefore, the project would not impact mineral resources. Because the pipeline route is located in a seismically active region, damage to the proposed facilities associated with a strong earthquake is remote but possible. North Baja's facility design complies with Federal standards outlined in Title 49 Code of Federal Regulations (CFR) Part 192 governing the construction and operation of natural gas pipelines, which greatly reduces the potential risk of damage. North Baja's minimum seismic design would meet or exceed the latest edition of the Uniform Building Code or International Building Code and incorporate current seismological engineering standards.

3.2 SOILS

3.2.1 Affected Environment

The Yuma Lateral Pipeline Project would be constructed primarily in fill material used to create the Reclamation levee. There are two sections that would cross areas with native soils: (1) between MP 0.0 and 0.24, and (2) between MP 3.0 and 3.27. MPs 0.0 to 0.22 would be constructed using the horizontal directional drill (HDD) construction method. Therefore, the Yuma Lateral Pipeline Project would only affect native soils between MP 3.0 and 3.27.

Soils between MPs 3.0 and 3.2 are Glenbar silty clay loam, and soils between MPs 3.2 and 3.27 are Gadsden clay. Rositas sand is found on slopes of two to 15 percent with a depth to bedrock and the water table of greater than 80 inches. They are somewhat excessively drained with no frequency of flooding or ponding. The typical soil profile includes sand from zero to 60 inches. This soil type is associated with alluvial fans, terraces, and dunes (NRCS 2007). Glenbar silty clay loam and Gadsden clay soils are found on slopes of zero to one percent. Depth to bedrock and the water table for both soil types is greater than 80 inches, and both soil types are well-drained with no frequency or ponding or flooding. The typical soil profile for Glenbar silty clay loam includes silty clay loam from zero to 60 inches; the typical soil profile for Gadsden clay is clay from zero to 60 inches. Both soil types are associated with flood plains and terraces (NRCS 2007).

Soils along the entire proposed pipeline ROW and at the proposed Yuma #1 Delivery Meter Station and Receiver site have a high potential for wind erosion.

3.2.2 Environmental Effects

Pipeline construction activities such as clearing, grading, trench excavation, backfilling, and the movement of construction equipment along the ROW may impact soil resources. Clearing removes protective vegetative cover and exposes the soil to the effects of wind, rain, and runoff, which increases the potential for soil erosion and sedimentation of sensitive areas. Grading, spoil storage, and equipment traffic can compact soil, reducing porosity and percolation rates and increasing runoff potential. Construction activities can also affect soil fertility and facilitate the dispersal and establishment of weeds.

Other potential soil effects associated with the aboveground facilities are similar to those described for the pipeline and are avoided or minimized by North Baja's use of the FERC Plan.

3.3 PRIME AND UNIQUE FARMLAND

3.3.1 Affected Environment

The entirety of the proposed pipeline would pass through land with soils that are designated Prime Farmland or Farmland of Unique Importance. Only about 1.05 acres of the designated farmlands are currently used for agriculture. The Yuma #1 Delivery Meter Station is located on prime farmland.

3.3.2 Environmental Effects

Construction of the proposed pipeline would not result in the conversion of prime farmland to non-agricultural uses. Prime farmland at the Yuma #1 Delivery Meter Station would require permanent disturbance of 0.46 acre of farmland which is not presently being used for agriculture.

3.4 WATER RESOURCES AND WETLANDS

3.4.1 Affected Environment

3.4.1.1 Groundwater

The project is located in part of the Basin-Range Aquifer System. Specifically, the proposed pipeline is underlain by the Colorado River Aquifer. Groundwater in the project area is primarily derived from unconsolidated to poorly consolidated alluvial sediments consisting of gravel, silt, sand, and clay associated with a complex system of basin-fill deposits.

Groundwater levels in the project area are generally high, and groundwater pumping is necessary to keep the water table below a six foot depth (Yuma County 2006). Dewatering of the pipeline trench may be required for short periods of time during construction in areas where there is a high water table.

No known municipal/public water supply sources, wellhead protection areas, or springs are within 150 feet of the proposed pipeline. There is an irrigation well that is located within 150 feet of the proposed pipeline at MP 1.4 (ADWR 2007; USGS 2007a). No EPA-designated sole-source aquifers would be crossed by the proposed project (EPA 2007b).

3.4.1.2 Surface Water

The Yuma Lateral would cross one perennial waterbody, the Colorado River (MP 0.0); an unnamed salinity canal at MP 0.2; and an irrigation canal, the Cooper Lateral, at MP 3.0. Table 4 lists the waterbodies crossed by the pipeline route, including crossing width, fishery type, and proposed crossing method.

Approx. MP	Waterbody Name	Type	Crossing Width (feet)	Fishery Type	Proposed Crossing Method
0	Colorado River	Perennial	28.6 (US)	Warm water	HDD
0.2	Unnamed Canal	Salinity Canal	39.1	N/A	HDD
3.0	Cooper Lateral	Irrigation canal	17.8	N/A	Bore

These waterbodies would be crossed utilizing HDD and boring construction methods. Unlike a conventional open-cut crossing, directional drilling does not alter or remove streambed or streambank habitat, cause instream sedimentation, or interfere with fish movement. The HDD for the Colorado River would be 1,247 feet long on the United States side of the international border.

There are no potable water intakes south of Imperial Dam, which is 15 miles north of Yuma (Bauer 2007).

3.4.1.3 Wetlands

The Yuma Lateral would cross beneath one wetland at the Colorado River (MP 0.0). This wetland is classified as a riverine, intermittent, unconsolidated shore wetland (USFWS 2007).

3.4.2 Environmental Effects

3.4.2.1 Groundwater

The potential effect on users of the aquifer depends on the rate and duration of pumping and the location of the activity, but is expected to be minor. Pipeline construction activities within a particular location are typically completed within several days; consequently, potential impacts would be localized and temporary.

As a result of mitigation measures to protect groundwater from contamination, impacts to public and private water supply wells are not anticipated.

3.4.2.2 Surface Water

The primary impact to surface water that could occur as a result of directional drilling is an inadvertent release of drilling mud (frac-out) directly or indirectly into the waterbody. Drilling mud may leak through previously unidentified fractures in the material underlying the riverbed, in the area of the mud pits or tanks, or along the path of the drill due to unfavorable ground conditions. Drilling mud consists of naturally occurring nontoxic materials, such as bentonite clay and water. In larger quantities, the release of drilling mud into a waterbody could affect fisheries or other aquatic organisms by settling and temporarily inundating the habitats used by these species. This impact is less likely in fast-moving water, which disperses the drilling mud over a large area. Moreover, the impact of an inadvertent release is substantially less than the impact associated with an open-cut crossing.

The proposed pipeline crossing of the Colorado River is south of Imperial Dam; therefore, there would be no impacts to potable water. Mitigation measures during hydrostatic testing would minimize potential impacts to surface water.

3.4.2.3 Wetlands

The wetland would be avoided by the directional drill of the Colorado River. Therefore, there would be no impacts to wetland resources.

3.5 FISHERIES

3.5.1 Affected Environment

Fishery resources that would be crossed by the pipeline route are limited to the Colorado River (MP 0.0), an unnamed salinity canal (MP 0.2), and the Cooper Lateral (MP 3.0). Two native fish (striped mullet and machete) are known to occur within the project area. Several species of

non-native sport fish are likely using open water and fringe wetlands for hunting, cover, and rearing. Sport fishing opportunities are present within and in the vicinity of the project area. Non-native sport fish that may be present include largemouth bass (*Micropterus salmoides*), black crappie (*Pomoxis nigromaculatus*), sunfish (*Lepomis* sp.), channel catfish (*Ictalurus punctatus*), flathead catfish (*Pylodictis olivaris*), striped bass (*Morone saxatilis*), and tilapia (*Tilapia nilotica*) (AGFD 2009).

There are no fisheries of special concern or designated Essential Fish Habitat (EFH) in the project area.

3.5.2 Environmental Effects

The proposed pipeline would be directionally drilled under the Colorado River and the unnamed salinity canal, and would be bored under the Cooper Lateral; therefore, there would be no direct impact on fisheries resources. No interruption of fish spawning or migration is expected because the project does not directly impact any resources.

Directional drilling beneath any feature carries with it a small risk of “frac-out.” This term describes the situation caused when the drilling head and its accompanying inert clay lubricant slurry, hits a subterranean fractured substrate. When the pressurized lubricant slurry reaches the fracture it can follow the fracture up or otherwise force itself to the surface or into the water if drilling is occurring under a waterbody. If a “frac-out” occurs under these water features, the inert clay (a non-toxic bentonite-based substance) could be released into the water of the river or canal. Bentonite is a very fine clay that, if entrained, stays in suspension a long time, eventually settling out downstream. The settling bentonite could cover fish or amphibian eggs and cut off their oxygen supply. Bentonite has not been shown to adversely affect gills or feeding of fish or invertebrates. Because of concern with the possible inadvertent release of bentonite, FERC’s Plan and Procedures require a HDD plan that describes how an applicant proposes to contain and clean up any inadvertent release of drilling mud. North Baja’s HDD Plan would minimize any adverse impacts that a “frac-out” in or near the Colorado River may have on the aquatic communities.

A chemical or fuel spill in or near a waterbody could release contaminants, which could affect fish directly or indirectly through changes in food sources or by contaminating the water resources. North Baja’s adherence to the FERC’s Plan and Procedures and the SPCC Plan would prevent a large spill from occurring near surface waters. Should a small spill occur, the containment measures in the SPCC Plan would decrease the response time for control and cleanup of the spill. Based on the proposed crossing methods, North Baja’s utilization of FERC’s Plan and Procedures, and adherence to its SPCC and HDD Plan, impacts on fisheries would be avoided or adequately minimized.

3.6 VEGETATION AND WILDLIFE

3.6.1 Affected Environment

3.6.1.1 Vegetation

The proposed pipeline route is entirely within the Lower Colorado River Valley subdivision of the Sonoran Desert. The outer edge of habitat between the Colorado River and the Reclamation

levee (MP 0.0 to 0.25) consists of desert scrub habitat, as well as the area between MP 3.22 and 3.27. This habitat is dominated by the invasive exotic saltcedar, honey mesquite, arrowweed, and saltbush. Larger saltcedar trees are also scattered throughout the habitat. Desert riparian communities and wetland/marsh communities occur within the project area along the margins of the Colorado River. Vegetation in this habitat is dominated by a mix of arroyo willow, saltcedar shrubs, honey mesquite, and arrowweed. Fremont cottonwood are scattered throughout the habitat and dominate in some sections. Riparian habitat is recognized as priority wildlife habitat in the BLM 1987 Yuma District Land Use Plan. Mulefat is also present, although it is not common. In addition to the narrow fringe of scrub-shrub wetland habitat, a narrow fringe of river shallows is dominated by common reed with some giant reed also present.

3.6.1.2 Wildlife

Common wildlife species that could be found within the project area include such species as: bullfrog, western whiptail, ring-necked pheasant, Gambel's quail, double-crested cormorant, great egret, great blue heron, least bittern, cattle egret, green heron, snowy egret, black-crowned night-heron, white-faced ibis, osprey, American kestrel, common moorhen, American coot, killdeer, rock pigeon, white-winged dove, greater roadrunner, burrowing owl, lesser nighthawk, white-throated swift, Anna's hummingbird, ladder-backed woodpecker, northern flicker, willow flycatcher, black phoebe, Say's phoebe, ash-throated flycatcher, western kingbird, loggerhead shrike, horned lark, northern rough-winged swallow, cliff swallow, verdin, cactus wren, black-tailed gnatcatcher, northern mockingbird, crissal thrasher, European starling, Lucy's warbler, Wilson's warbler, Abert's towhee, blue grosbeak, red-winged blackbird, yellow-headed blackbird, great-tailed grackle, brown-headed cowbird, Bullock's oriole, house finch, lesser goldfinch, desert cottontail, black-tailed jackrabbit, California kangaroo rat, American beaver, desert woodrat, common muskrat, northern raccoon, and mountain lion (puma).

The three habitat types present along the project alignment include desert scrub, wetland/marsh and desert riparian (which would be avoided by the HDD of the Colorado River), and anthropogenic communities (which includes agricultural, levees, roads, and rail beds).

Executive Order 13186 requires federal agencies to avoid or minimize negative impacts on migratory bird populations. The executive order also requires the federal agency to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations. A variety of migratory bird species utilize the vegetation communities found within the project area. Migratory birds are those that breed in North America and travel to Mexico, Central America, and South America over winter.

3.6.2 Environmental Effects

3.6.2.1 Vegetation

The project would temporarily impact 2.66 acres of desert scrub habitat, and about 2 acres of this area would revert to its previous condition following construction. The project would avoid the riparian and wetland communities at the Colorado River by using the HDD construction method. There would be no impact on those communities. The only native habitat that would be crossed by the proposed pipeline would be crossed using HDD; therefore, there would be no impacts on native habitat from construction and operation of the pipeline.

3.6.2.2 Wildlife

Construction and operation of the project may result in very limited impacts on wildlife. Although individuals of some wildlife species could be affected, the project would not have a significant impact on the local populations or habitats of any species. Because the project would not permanently alter the character of the majority of available habitats in the surrounding area, project-related impacts would be minor and temporary.

Possible short-term impacts on wildlife include the temporary displacement of some individuals of relatively mobile wildlife species from construction areas and adjacent habitats. Grading activities could also result in direct mortality of some small, less mobile, mammals and reptiles that are unable to leave the construction area.

Effects on migratory birds would not result in long-term or significant population-level effects, given the abundance of available habitat outside the proposed ROW and the linear nature of the project. These bird species could avoid the area but there is an abundance of suitable habitat nearby. Ground nesting birds are less likely to occur in non-vegetated areas that lack vegetated cover. On this project, the potential habitat for ground nesting birds would be avoided by the use of the HDD to cross all native vegetation. The remainder of the pipeline would be constructed along the levee road and within agricultural land. Some species may also be disturbed by construction noise and activity created by the project. Although the project activities may cause some migratory birds to avoid the construction areas, this impact would be limited to the relatively short period of active construction and is not expected to result in a significant or long-term change in migratory bird populations in the area.

The impacts that are likely from the construction and operation of the project are not expected to be significant given the mobile nature of the wildlife that occur in the area and the availability of similar habitat adjacent and near the project area. In areas where aboveground facilities are placed, there would be a limited permanent impact on wildlife habitat as this habitat would not revert to pre-construction conditions and may not be available for use by wildlife in most cases. The project would result in a permanent loss of about 0.5 acre which would be used for new aboveground facilities.

Restoration would occur immediately after construction has been completed, and the areas of impact would be monitored until final site stabilization is achieved. During construction and restoration activities, North Baja would adhere to the provisions of the FERC Plan and Procedures to ensure that vegetative cover and associated wildlife habitat conditions are re-established in temporary workspace areas. The construction procedures outlined in the FERC Plan and Procedures would minimize impacts from the project that may temporarily affect wildlife.

3.7 ENDANGERED AND THREATENED SPECIES

3.7.1 Affected Environment

This section discusses in detail all the species for which habitat is likely to be present in the construction corridor, including federally listed or proposed endangered or threatened species and state-listed endangered, threatened, and special-status species that are not federally listed.

Federal agencies are required by Section 7 of the Endangered Species Act (ESA), as amended, to ensure that any actions authorized, funded, or carried out by the agency do not jeopardize the continued existence of a federally listed endangered or threatened species, or result in the destruction or adverse modification of the designated critical habitat of a federally listed species. The responsible agency (i.e., BLM) is required to consult with the FWS and/or the National Oceanic and Atmospheric Association’s National Marine Fisheries Service (NOAA Fisheries) to determine whether federally listed endangered or threatened species or designated critical habitat are found in the vicinity of the proposed project, and to determine the action’s potential effects on those species or critical habitats.

For actions involving major construction activities with the potential to affect listed species or designated critical habitat, the responsible agency must prepare a Biological Assessment (BA) for those species that may be affected. The responsible agency must submit its BA to the FWS and NOAA Fisheries and, if it is determined that the action may adversely affect a listed species or critical habitat, the responsible agency must submit a request for formal consultation to comply with Section 7 of the ESA. In response, the FWS or NOAA Fisheries would issue a Biological Opinion as to whether the federal action would likely jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat.

In compliance with Section 7 of the ESA, BLM as lead Federal agency, requested that the FWS consider the BLM EA and this action with the new construction period to be covered by the previous consultation carried out by FERC in the processing of their EA written to determine whether they would issued their Certificate, the various survey reports, and additional information contained in North Baja’s application, as the BA for the project. No species under NOAA Fisheries jurisdiction would be affected by the project.

Table 5 lists both federal and state-listed species and also some state species of concern. Several of the special status species originally identified by the FWS, and the AZGFD were eliminated from further consideration in the environmental analysis because they are not known to occur, lack suitable habitat in the project area, or have transient habits (i.e., migratory or highly mobile over large territories) that make them unlikely to be adversely affected either by the temporary or permanent impacts associated with the proposed facilities (Table 5).

Table 5: Special Status Species Initially Identified as Potentially Occurring in the Vicinity of the Proposed Project			
Species	Status ^{1/}		General Locations Where Species May Occur / Habitat Present
	Federal	State	
Mammals			
California leaf-nosed bat (<i>Macrotus californicus</i>)		WSC	Likes desert scrub areas, roosts by day in caves, abandoned mines and tunnels. Occurs in small numbers, rarely seen. No habitat present.
Sonoran Pronghorn (<i>Antilocapra Americana sonoriensis</i>)	E	WSC	Broad intermountain alluvial valleys with creosote-bursage and palo verde-mixed cacti associations. Typically, bajadas are used as fawning areas and sandy dune areas provide food seasonally. No habitat present.

Table 5: Special Status Species Initially Identified as Potentially Occurring in the Vicinity of the Proposed Project (continued)			
Species	Status ^{1/}		General Locations Where Species May Occur / Habitat Present
	Federal	State	
Mammals			
Spotted bat (<i>Euderma maculatum</i>)		WSC	Lives in desert scrub and open forest areas. Roosts in cliff faces and rock crevices. No habitat present.
Western yellow bat (<i>Lasiurus xanthinus</i>)		WSC	Usually roost in trees, hanging from the underside of a leaf. They are commonly found in the southwestern U.S. roosting in the skirt of dead fronds in both native and non-native palm trees. No habitat present.
Birds			
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Protected	WSC	Large trees or cliffs near water with abundant prey. Habitat present.
Cactus ferruginous pygmy-owl (<i>Glaucidium brasilianum cactorum</i>)		WSC	Nests primarily in cavities in saguaro cacti. No habitat present.
California black rail (<i>Laterallus jamaicensis coturniculus</i>)		WSC	California black rails prefer tidal salt marshes with a heavy canopy of pickleweed and an open structure below the canopy for nesting and accessibility. Habitat present.
California Brown Pelican (<i>Pelicanus occidentalis californicus</i>)	E		Uncommon transient found near many Arizona lakes and rivers in summer and fall. No breeding records in Arizona. No habitat present.
Great Egret (<i>Ardea alba</i>)		WSC	Shallow water and grassy marshes. Nests and roots in mixed colony of trees. Habitat present.
Least bittern (<i>Ixobrychus exilis</i>)		WSC	Uncommon in Arizona. Likes marshes and wetlands. Habitat present.
Snowy Egret (<i>Egretta thula</i>)		WSC	Shallow water and grassy marshes. Nests and roots in mixed colony of trees. Habitat present.
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	E	WSC	Cottonwood/willow and tamarisk vegetation communities along rivers and streams. Migrates through southwestern Arizona and occupies breeding habitat from late-April to September. Habitat present.
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	C	WSC	Large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries).
Yuma clapper rail (<i>Rallus longirostris yumanensis</i>)	E	WSC	Freshwater and brackish marshes; associated with dense emergent riparian vegetation. Requires wet substrate (mudflat, sandbar) with dense herbaceous or woody vegetation for nesting and foraging. Habitat present.
Amphibians/Reptiles			
Desert tortoise (<i>Gopherus agassizii</i>)		WSC	Rocky slopes and bajadas of Sonoran Desert scrub. Uses caves in banks of arroyos for shelter sites. No habitat present.
Flat-tailed horned lizard (<i>Phrynosoma mcallii</i>)		WSC	Sandy flats or areas with fine, windblown sand. No habitat present.
Yuma desert fringe-toed lizard (<i>Uma rufopunctata</i>)		WSC	Extreme southwestern Arizona and adjacent Mexico. Sparsely vegetated windblown sand dunes. Sparsely vegetated Sonoran creosote scrub. No habitat present.

Table 5: Special Status Species Initially Identified as Potentially Occurring in the Vicinity of the Proposed Project (continued)

Species	Status ^{1/}		General Locations Where Species May Occur / Habitat Present
	Federal	State	
Fish			
Razorback sucker/ (<i>Xyrauchen texanus</i>)	E	WSC	Species may occur in the Project area at the Colorado River crossing (MP 0.0). No impact on species due to directional drilling of habitat. No habitat present.
Plants			
Blue sand lily (<i>Triteleopsis palmeri</i>)		SR	Occurs in sand dunes in the Sonoran Desert. No habitat present.
California barrel cactus (<i>Ferocactus cylindraceus</i> var. <i>cylindraceus</i>)		SR	Occurs in the Sonoran and Mojave Deserts of southern California, southern Arizona, southern Nevada, and southwestern Utah. Usually grow along desert washes, gravelly slopes and beneath desert canyon walls. No habitat present.
California fan palm (<i>Washingtonia filifera</i>)		SR	Occur naturally in desert oases in isolated areas of the Sonoran and Mojave Deserts of southeastern California, southwestern Arizona, and northern Baja California, Mexico, at elevations between 500 and 1,000 feet. No habitat present.
Clustered barrel cactus (<i>Echinocactus polycephalus</i> var. <i>polycephalus</i>)		SR	Occurs in rocky flats and washes, bajadas, rock ledges, Mojave and Sonoran Desert scrub, igneous and calcareous substrates. No habitat present.
Kearney sumac (<i>Rhus kearneyi</i>)		SR	Plants are found growing along steep canyons and drainages at elevations of 1,000 to 1,500 feet. There is only a single population known in the U.S. from one canyon in the tinajas Altas Mountains on the Barry Goldwater Bombing Range. No habitat present.
Parish onion (<i>Alium parishii</i>)		SR	Occurs in open rocky and sandy slopes in the Mohave Desert, including the desert mountain ranges, at elevations of 2,720 to 2,900 feet. No habitat present.
Senita (<i>Lophocereus schottii</i>)		SR	Occurs around washes on sandy and gravelly soils. No habitat present.
Straw-top cholla (<i>Opuntia echinocarpa</i>)		SR	Occurs in the driest parts of the Sonoran and Mohave Deserts, often in creosote bush scrub habitats. No habitat present.

E = Federally listed as endangered

T = Federally listed as threatened

C = Candidate for Federal listing as endangered or threatened

WSC = Wildlife of Special Concern in Arizona (Arizona Game and Fish Department)

SR = State Rare

Based on consultations with the Arizona Field Office of the FWS and the AZGFD, three special status species were identified as potentially occurring in the project area. Presented below is a detailed discussion of these species known or that are likely to occur in the project area that could potentially be affected by the project. No Critical Habitat for any federal listed species is designated for the project area.

3.7.1.1 Southwestern willow flycatcher (*Empidonax traillii extimus*)

The southwestern willow flycatcher was listed as an endangered species in 1995 and is a wildlife species of special concern in Arizona. It is drab olive-brown above with a white throat and pale yellow underbelly. It is a member of the Tyrannidae family, and is one of four subspecies of willow flycatchers recognized in North America distinguished by subtle differences in color and morphology. This small, insectivorous songbird breeds in riparian habitats along rivers, streams, or other wetlands where dense willows or other shrubs and medium-sized trees are present. Similar habitats are used during migration. All willow flycatcher subspecies winter in Mexico, Central America, and possibly northern South America, but specific wintering grounds and migration routes for the southwestern subspecies are unknown. Southwestern willow flycatchers are late migrants and typically arrive on their breeding grounds in mid-May where they remain until late August.

Population declines have been attributed to widespread destruction and degradation of riparian habitats as well as brood parasitism by the brown-headed cowbird. There is no critical habitat for this species within the project area.

The Yuma Lateral Project would avoid removal of habitat for this species by using the HDD method to cross the Colorado River. Even so, full protocol surveys for the flycatcher were conducted in 2007 by North Baja's consultant, Harmsworth Associates, in areas of potential habitat between the Colorado River and the Reclamation levee between MP 0.0 and 3.0. No breeding willow flycatchers were identified during the surveys. One willow flycatcher was identified by song on the Mexican side of the Colorado River near MP 0.6. No nesting behavior was observed, and the bird was not relocated during subsequent survey events.

3.7.1.2 Yuma clapper rail (*Rallus longirostris yumanensis*)

The Yuma clapper rail is federally listed as endangered and is a wildlife species of special concern in Arizona. This species requires mature stands of cattails and bulrushes for cover; however, it can be found foraging in adjacent areas of shallow water and mudflats for crayfish, clams, and insects.

Habitat evaluations conducted for Yuma clapper rail indicated that potential habitat for this species is found in the marsh vegetation along the edge of the Colorado River. However, no Yuma clapper rails were identified during North Baja's field surveys.

3.7.1.3 Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)

The western yellow-billed cuckoo is a federal candidate species and a wildlife species of special concern in Arizona. This species breeds in large blocks of riparian habitat dominated by cottonwoods and willows with dense understory foliage. Habitat evaluations conducted during North Baja's southwestern willow flycatcher surveys revealed that there is not appropriate breeding habitat for this species within the project area. No western yellow-billed cuckoos were identified during the field surveys.

3.7.2 Environmental Effects

Based on the above analysis and the proposed conservation measures, we conclude that the project would not adversely affect any federally threatened or endangered species. Consultation with the FWS resulted in a concurrence with these findings.

3.7.2.1 Southwestern willow flycatcher (*Empidonax traillii extimus*)

Noise associated with the construction of the pipeline and facilities may disturb the southwestern willow flycatcher. The likely consequence would be that the species would avoid stopping to feed or seeking cover in the area during the hours of operation in lieu of nearby area with less noise disturbance. In addition, a visual disturbance to the species may result from the presence of construction workers, equipment, and vehicles. While visual disturbance is difficult to mitigate, avoidance and minimization of excessive noise would reduce impacts to the listed species. Construction is also proposed to occur outside of the breeding season.

Because the habitat for the southwestern willow flycatcher would be avoided by HDD and construction would take place outside of the nesting and breeding season, we believe the Yuma Lateral Project may affect, but is not likely to adversely affect the southwestern willow flycatcher.

3.7.2.2 Yuma clapper rail (*Rallus longirostris yumanensis*)

As discussed above for the Southwestern willow flycatcher, the use of the HDD crossing method during installation of the pipeline would avoid any direct disturbances to the rails or their habitat along the Colorado River. Because these species were not present along the Yuma Lateral and the project would be constructed outside of the breeding season, we believe the project may affect, but is not likely to adversely affect the Yuma clapper rail.

3.7.2.3 Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)

Because there is no nesting habitat for the cuckoo and none were located during surveys, we believe the project would not affect populations of the western yellow-billed cuckoo.

3.7.3 State Listed Species

Based on consultations with the Arizona Field Office of the FWS and the AZGFD, three special status species were identified as having potential to occur in the project area. They are the same species as those federally listed (see above).

3.8 LAND USE

3.8.1 Affected Environment

Construction of the proposed natural gas pipeline involves burial of the pipe, which requires a construction ROW, extra work space, and a contractor yard. The proposed pipeline would cross transportation, agricultural, open land, and open water. Table 6 describes the current land uses crossed by the proposed pipeline. The predominant land use crossed is transportation (2.7 miles, or 82.6%).

Table 6: Land Uses Crossed by the Proposed Pipeline					
	Current Land Use (approximate miles crossed) ^{1/}				
	Agriculture ^{2/}	Transportation ^{3/}	Open Land ^{4/}	Open Water ^{5/}	Total
Yuma Lateral					
Yuma County, AZ	0.27	2.7	0.3	<0.1	3.27
	8.3%	82.6%	9.1%	1%	100%
Total Project	0.27	2.7	0.3	<0.1	3.27

3.8.2 Environmental Effects

North Baja would construct one new meter station and one pig receiver at MP 3.27. These facilities would constitute a permanent land use with facilities extending above the ground surface. The Yuma #1 Delivery Meter Station and receiver would require about 0.64 acre of land for construction and 0.46 acre of land for operation. Table 7 quantifies (in acres) the amount of each land use affected by the pipeline and aboveground facilities during construction and operation of the project.

Table 7: Acres of Land Affected by the Proposed Project											
		Agriculture		Transportation		Open Land		Open Water		Total	
		Const.	Oper.	Const.	Oper.	Const.	Oper.	Const.	Oper.	Const.	Oper.
Yuma Lateral											
Yuma County											
	Construction ROW ^{1/}	2.95	0.65	35.48	6.55	0.55	0.12	0.0	0.0	38.98	7.32
	Extra Work Areas	0.0	0.0	0.59	0.0	0.0	0.0	0.0	0.0	0.59	0.0
	Contractor Yard	0.0	0.0	0.0	0.0	2.86	0.0	0.0	0.0	2.86	0.0
	Yuma #1 Delivery Meter Station	0.0	0.0	0.0	0.0	0.64	0.46	0.0	0.0	0.64	0.46
		2.95	0.65	36.07	6.55	4.05	0.58	0.0	0.0	43.07	7.78

Construction of the proposed pipeline would result in short-term, minor impacts to existing land uses in the project area. In all agricultural areas directly crossed by the pipeline, there would be a temporary loss of potential crop production totaling 2.95 acres. In agricultural areas, a minimum of 12 inches of topsoil would be segregated and returned to the ROW surface following construction, which would allow for a return to past productivity levels. All agricultural land would be restored to landowners' specifications.

Use of extra workspace and contractor yards would have a short-term impact on land use. These areas would temporarily convert approximately 2.06 acres of open land and transportation land uses to an industrial use. Similarly, there would be no impact to existing access roads because they already serve as transportation corridors. All temporary use areas would be returned to their original land use after construction is complete.

Milepost 0.0 to 0.2 and MP 0.2 to 3.0 are publicly owned lands owned by the Arizona State Land Department and the Federal Government with Reclamation having a withdrawal for management of the lands for Reclamation purposes, respectively. Between MPs 3.0 and 3.27

the proposed pipeline would cross lands owned by utilities (Imperial Irrigation District and Arizona Public Service Company). Part of the Imperial Irrigation District property is leased for farming. On these lands, easements would be acquired to convey the right to construct, operate, and maintain the pipeline. During operations, pipeline easement restrictions on surface use would include prohibition of structures, wells, or removal/increase of cover over the pipeline. Other surface activities are generally allowable, although some activities (e.g., roadways) would require North Baja's case-by-case review and consent to ensure the integrity of the pipeline system and safety of the public. Agricultural use may continue on the easement upon completion of construction.

Table 8, below, details the length of the proposed Yuma Lateral as it crosses various parcels of land and shows both permanent and temporary ROW needs across public lands for the project. It references the alignment sheets for the project, found in Appendix A.

Table 8: Acres of BLM and Reclamation Lands Affected by the Proposed Project											
Township 8 South, Range 24 West, Gila and Salt River Meridian											
Alignment Sheet	Yuma County Parcel #	Section	Length	Perm ROW (ft2)	Perm ROW (ac)	Temp width	temp ROW (ft2)	Temp ROW (ac)	comment		
1	AZ-YU-0600 (Reclamation)	32	477	9,540	0.22						
1						14	6,678	0.15	NW side levee road, outside of permanent ROW		
1								17,609	0.40	temp workspace, SE side of levee road	
1					104			20	2,080	0.05	SE side levee road, outside of perm. ROW
1	AZ-YU-0700 (Reclamation)	33	4,243.90	84,878	1.95						
1							14	59,415	1.36	NW side levee road, outside of permanent ROW	
1							20	84,878	1.95		
2					1461.7	29,234	0.67				
2								14	20,464	0.47	NW side levee road, outside of permanent ROW
2								20	29,234	0.67	
2	AZ-YU-0800 (Reclamation)	28	4346.3	86,926	2.00						
2							14	26,600	0.61	NW side levee road, outside of permanent ROW	
2					600			0			no northern workspace
2					1846.3			20	36,926	0.85	wider NW side levee road
2								20	86,926	2.00	SW side levee road

Table 8: Acres of BLM and Reclamation Lands Affected by the Proposed Project (continued)									
Township 8 South, Range 24 West, Gila and Salt River Meridian									
Alignment Sheet	Yuma County Parcel #	Section	Length	Perm ROW (ft ²)	Perm ROW (ac)	Temp width	temp ROW (ft ²)	Temp ROW (ac)	comment
3			1283.2	25,664	0.59				
3						20	25,664	0.59	NW side levee road, outside of permanent ROW
3						20	25,664	0.59	SE side levee road, outside of perm. ROW
3	AZ-YU-0900 (Reclamation)	21	1285.2	25,704	0.59				
3						20	25,704	0.59	NW side levee road, outside of permanent ROW
3						20	25,704	0.59	SE side levee road, outside of perm. ROW
3	AZ-YU-1000 (Reclamation)	22	1428.6	28,572	0.66				
3						20	28,572	0.66	NW side levee road, outside of permanent ROW
3						20	28,572	0.66	SE side levee road, outside of perm. ROW
3	AZ-YU-1100 (Reclamation)	22	335.6	6,712	0.15				
3						20	6,712	0.15	NW side levee road, outside of permanent ROW
3						20	6,712	0.15	SE side levee road, outside of perm. ROW
3							18,000	0.41	temp workspace (60 x 150 each side)
TOTAL ROW REQUESTED					6.82			12.90	
temporary ROW including permanent								19.73	

The proposed aboveground facilities would be operated on a continual basis. The new aboveground facilities would permanently convert 0.46 acre of open land to industrial/utility use of which 0.46 acre is in private ownership.

There are no residences within 50 feet of the edge of the construction ROW. The nearest residence is 110 feet from the edge of the construction ROW. Additionally, consultation with the county and local planning departments as well as adjacent landowners indicates that there are no residential or commercial developments actively being planned near the project area. Therefore, construction and operation of the Yuma Lateral Pipeline Project would not impact residences.

3.9 CULTURAL RESOURCES

3.9.1 Affected Environment

North Baja hired EDAW, Inc., to complete a Class I and Class III cultural resources survey for the project's Area of Potential Effects (APE). An approximately 850-foot-long portion of the project area west of the drainage canal, near Milepost 0, could not be completely surveyed due to dense vegetation. The EDAW survey identified four cultural resource sites inside the project's APE:

- 1) West Main Canal, AZ X:6:63 (ASM)
- 2) Yuma Valley Railroad, AZ X:6:43 (ASM)
- 3) Valley Levee / Cooper Lateral, AZ X:6:15 (ASM)
- 4) Single-Pole Wooden Utility Line, temporary number DS-Yuma-2007-01

The West Main Canal, Yuma Valley Railroad, and Valley Levee / Cooper Lateral have all been previously determined eligible to the National Register of Historic Places as contributing elements to the Bureau of Reclamation's Historic Yuma Project. On September 12, 2008, the Arizona State Historic Preservation Officer (SHPO) concurred with FERC's recommendation that the single-pole wooden utility line is potentially eligible to the National Register.

3.9.2 Environmental Effects

The Proposed Action would avoid the West Main Canal and the historic single-pole wooden utility line [sites AZ X:6:63 (ASM) and DS-Yuma-2007-01]. Under the Proposed Action, the pipeline would be placed within the Valley Levee / Cooper Lateral [site AZ X:6:15 (ASM)], and then subsequently recontoured. The railroad ties and track of a segment of the Yuma Valley Railroad [site AZ X:6:43 (ASM)] would need to be removed and then replaced in its original configuration. As lead federal agency, FERC hired EDAW, Inc. to facilitate consultation with the Arizona SHPO. SHPO concurrence on a determination of no adverse effect for the proposed undertaking is dated September 12, 2008.

3.10 NATIVE AMERICAN RELIGIOUS CONCERNS

3.10.1 Affected Environment

The area along the lower Colorado River is within the traditional use area of many Native American tribes and groups. As lead agency for their EA FERC hired EDAW, Inc., to facilitate Native American coordination and consultation efforts with 16 tribes: Ak-Chin Indian Community, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort McDowell Yavapai Nation, Fort Mojave Tribe, Fort Yuma Quechan Tribe, Gila River Indian Community, Havasupai Tribe, Hopi Tribe, Hualapai Tribe, Los Coyotes Band of Cahuilla Indians, Salt River Pima-Maricopa Indian Community, Soboba Band of Mission Indians, Tohono O'odham Nation, Torres-Martinez Desert Cahuilla Indians, and Twenty-Nine Palms Band of Mission Indians.

Input was received from the Colorado River Indian Tribes, Quechan Indian Tribe, Hopi Tribe, Soboba Band of Mission Indians, and Tohono O'odham Nation. The tribal comments were focused on incorporating mitigation measures into the Proposed Action to protect any subsurface cultural resources that may be present in the project area. The recommended mitigation measures were incorporated into this related BLM Environmental Assessment.

3.10.2 Environmental Effects

Based on tribal input, the following mitigation measures have been added to the Proposed Action:

- 1) A BLM-permitted archaeological monitor and a qualified Native American monitor will be present at all times during ground-disturbing activities related to pipeline development. A monitoring report meeting BLM standards will be submitted to the BLM within two weeks of completion of construction activities.
- 2) Interested tribes will be provided advance notice of the schedule for ground-disturbing activities, so that they have the option of having a Native American monitor from their tribe present.
- 3) The holder will follow the requirements as outlined in the Unanticipated Discovery Plan, dated April 2008.

3.11 AIR QUALITY

3.11.1 Affected Environment

The Clean Air Act (CAA) of 1970, 42 United States Code (USC) 7401 *et seq.*, amended in 1977 and 1990, is the basic federal statute governing air quality. The provisions of the CAA that are potentially relevant to construction and operational emission sources include the following:

- National Ambient Air Quality Standards (NAAQS);
- New Source Review (NSR) Standards including non-attainment NSR and the Prevention of the Significant Deterioration of Air Quality (PSD);
- Standards of Performance for New Stationary Sources (NSPS);
- National Emission Standards for Hazardous Air Pollutants (NESHAP) including Maximum Achievable Control Technology (MACT); and
- Title V Operating Permits (Title V).

The CAA designates six criteria pollutants for which standards are promulgated to protect public health and welfare. They include nitrogen oxides (NO_x, including nitrogen dioxide [NO₂]), carbon monoxide (CO), particulate matter (PM), sulfur dioxide (SO₂), ozone (O₃), and lead (Pb). The National Ambient Air Quality Standards (NAAQS) are codified in 40 CFR Part 50. Areas of the country in violation of the NAAQS are designated as non-attainment areas and new sources to be located in or near these areas may be subject to more stringent air permitting requirements. The NAAQS are summarized in Table 10 below. The Arizona air quality standards are the same as the NAAQS.

Table 9: National Ambient Air Quality Standards

Air Pollutant	Averaging Period	Primary Standard	Secondary Standard
SO ₂ (µg/m ³)	3-Hour <u>a/</u>	NA	1,300
	24-Hour <u>a/</u>	365	NA
	Annual <u>b/</u>	80	NA
CO (µg/m ³)	1-Hour <u>a/</u>	40,000	NA
	8-Hour <u>a/</u>	10,000	NA
NO ₂ (µg/m ³)	Annual <u>b/</u>	100	100
Ozone (ppm)	1-Hour <u>c/,d/</u>	0.12	0.12
	8-Hour <u>e/</u>	0.075	0.075
PM ₁₀ (µg/m ³)	24-Hour <u>d/</u>	150	150
	Annual <u>b/,f/</u>	50	50
PM _{2.5} (µg/m ³)	24-Hour <u>g/</u>	35	35
	Annual <u>b/</u>	15	15
Lead (µg/m ³)	Calendar Quarter	1.5	1.5

a/ This standard is not to be exceeded more than once per calendar year.
b/ The annual average concentration.
c/ The 1-hour ozone standard was revoked effective June 15, 2005 for all areas except the 8-hour ozone nonattainment Early Action Compact Areas (EAC) areas per 70 FR 44470 (August 3, 2005).
d/ The standard is met when the expected number of exceedances per year (determined as per 40 CFR 50) is less than one.
e/ Standards and data are three-year averages of the 4th highest daily maximum 8-hour concentrations; the 8-hour ozone standard shown is effective on May 27, 2008.
f/ The historical annual PM₁₀ standard was revoked, effective December 18, 2006.
g/ The standard applies to the 98th percentile 24-hour concentration.

The proposed project would be located in Yuma County, Arizona, within the Mohave-Yuma Intrastate Air Quality Control Region. Yuma County is currently classified as moderate non-attainment for PM10, and either unclassified or attainment for all remaining criteria pollutants. The Arizona Department of Environmental Quality (ADEQ), based on air quality monitoring data, has submitted documentation which supports an “attainment” designation for the area. However, the re-designation is pending per the approval of the Natural Events Action Plan dated August 18, 2005, and therefore Yuma County remains a PM10 non-attainment area.

The proposed pipeline route traverses areas of industrial use, agricultural use, open desert, and rural residential. Site-specific ambient air quality monitoring data is very sparse in the project region.

3.11.2 Environmental Effects

Construction of the proposed pipeline and meter station would result in impacts to air quality. Construction of the proposed pipeline and associated aboveground facilities would require the operation of equipment and construction vehicles that could result in minor temporary increases in combustion-related emissions in limited areas and fugitive dust emissions. Table 11 summarizes the estimated construction emissions that would occur for all portions of project construction. Approximately one half of the total construction emissions are attributed to those portions that would occur within Mexico; approximately half of the remaining total emissions would occur within Yuma County.

Table 10: Total Construction Emissions^a (tons) for the Proposed Project including Yuma County, Arizona, and Mexico							
Year	NO_x	CO	PM10	PM2.5	SO₂	Volatile Organic Compounds (VOC)	Hazardous Air Pollutants (HAP)
2008	8.15	4.4	0.63	0.41	0.01	1.1	^b
2009	8.15	4.4	0.63	0.41	0.01	1.1	^b
Total	16.3	8.8	1.3	0.8	0.02	2.2	^b

^a Fugitive dust PM10 and PM2.5 emission estimates based on SCAQMD Project No. 95040, March 1996, Level 2 Analysis Procedure. Combustion emission estimates based on SCAQMD Emfac 2007 v.2.3, Nov 2006 (worker travel and truck delivery), EPA NR-009b, EPA NR-009c, Niland Energy Project, Sacramento County APCD, SCAQMD CEQA Manual (fuel consumption assumptions), SCAQMD CEQA Handbook and Sacramento APCD (equipment list and average HP ratings), and SCAQMD off-road emissions factor database (emission factors).

^b Not estimated, but likely less than or equal to the VOC emission estimate.

Based on the emission estimates in Table 9 above, the proposed project would not emit greater than 100 tons of PM10 or particulate matter less than 2.5 microns (PM2.5) in any construction calendar year, and therefore would not be subject to general conformity. In addition, operation and maintenance of the proposed pipeline would not result in any measureable amounts of air emissions. Therefore, we believe that North Baja’s proposed project construction and operation would not result in a significant impact to air quality.

3.12 NOISE

3.12.1 Affected Environment

Two measurements used by some federal agencies to relate the time-varying quality of environmental noise to its known effects on people are the equivalent sound level (L_{eq}) and the day-night sound level (L_{dn}). The L_{eq} is an A-weighted sound level containing the same sound energy as the instantaneous sound levels measured over a specific time period. Noise levels are perceived differently, depending on length of exposure and time of day. The L_{dn} takes into account the duration and time the noise is encountered. Late night and early morning (10:00 pm to 7:00 am) noise exposures are penalized +10 decibels, to account for people's greater sensitivity to sound during the nighttime hours.

In 1974, the U.S. Environmental Protection Agency (EPA) published its Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. This document provides information for state and local governments to use in developing their own ambient noise standards. The EPA has indicated that an L_{dn} of 55 decibels on the A-weighted scale (dBA) protects the public from indoor and outdoor activity interference. We have adopted this criterion and use it to evaluate the potential noise impact from the operation of facilities.

3.12.2 Environmental Effects

The proposed pipeline would traverse areas with little to no human population and few identified noise sensitive areas (NSAs). NSAs are defined as residential areas, schools, libraries, hospitals, assisted living facilities, and recreational areas. There are three residences that may be affected by project construction noise, which are located at MP 0.27, MP 0.29, and MP 1.32, and are located 200 feet, 130 feet, and 180 feet east of the construction work area, respectively.

Noise associated with construction activities would be both temporary and intermittent because equipment is operated on an as-needed basis during daylight hours. Neighbors in the vicinity would hear the construction noise, but the overall impact would be temporary. Construction would not result in generation of or exposure of persons to excessive ground borne vibration or ground borne noise levels.

The most prevalent sound source during construction is anticipated to be the internal combustion engines used to provide mobility and operating power to construction equipment. The sound level impacts at NSAs from construction operations would depend on the type of equipment used, the mode of operation of the equipment, the length of time the equipment is in use, the amount of equipment used simultaneously, and the distance between the sound source and sensitive site. Table 12 presents generalized data on construction noise at typical construction sites and its potential impacts on receptors at specified distances from the construction corridor.

Table 11: Typical Noise Levels from Construction Equipment/Operations					
Equipment Type	Measured Noise Level at 50 feet (dBA)	Predicted Noise Level at 500 feet (dBA)	Predicted Noise Level at 1,000 feet (dBA)	Predicted Noise Level at 2,000 feet (dBA)	Predicted Noise Level at 3,000 feet (dBA)
Crane	88	68	62	56	52
Backhoe	85	65	59	53	49
Pan Loader	87	67	61	55	51
Bulldozer	89	69	63	57	53
Fuel Truck	88	68	62	56	52
Water Truck	88	68	62	56	49
Grader	85	65	59	53	44
Roller	80	60	54	48	52
Mechanic Truck	88	68	62	56	52
Flat Bed Truck	88	68	62	56	52
Dump Truck	88	68	62	56	52
Tractor	80	60	62	56	44
Concrete Truck	86	66	60	54	50
Concrete Pump	82	62	56	50	46
Front End Loader	83	63	57	51	47
Scraper	87	67	61	55	51
Air Compressor	82	62	56	50	46
Average Construction Site	85	66	59	53	49

In general, receptors at distances greater than 1,650 feet should not experience noise levels above the community standards, and receptors closer than 1,650 feet should only experience

noise levels above the community standards on an intermittent basis during daylight hours. Nighttime construction noise would be limited to the directional drill at the Colorado River, which would require 24-hour-a-day operations. The duration of drilling activities would be approximately two weeks. Hydrostatic testing noise would be limited to a single 24-hour interval.

During operation there may be short-term noise impacts from aboveground pipeline facilities due to vehicles and equipment performing routine maintenance. A more intense, albeit still temporary noise impact, would result from blowdowns at the Yuma #1 Delivery Meter Station. Blowdowns involve the evacuation of gas, which enables piping to be taken out of service, typically for major repairs or maintenance, and consequently are required very infrequently (less than once a year on average).

Based upon North Baja's proposed noise control measures and adherence to FERC recommendations, we conclude that noise impacts as a result of the proposed project would not be significant.

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Appendix A
Alignment Sheets for the Yuma Lateral Project
(provided as separate file)

Appendix B
Federal Energy Regulatory Commission (FERC)
Certificate of Public Convenience and Necessity

Appendix C

FERC Wetland and Waterbody Construction and Mitigation Procedures and FERC Upland Erosion Control, Revegetation, and Maintenance Plan