

# **Lake Powell Pipeline**

## **Draft Visual Resources Work Plan**

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## **Section 1 Introduction**

The purpose of this work plan is to define the procedures for analyzing impacts on visual resources for the Lake Powell Pipeline (LPP). This work plan presents the issues and concerns, defines the impact area and significance criteria, describes the analysis methodology, reviews existing data and identifies data needs, references an outline for the Visual Resources Technical Report, and identifies dependency items and relationships to other resources.

## **Section 2 Issues**

Visual resources-related issues and concerns identified during the formal scoping process will be addressed in the analysis for the LPP alternatives. Related questions raised during the informal scoping process have been consolidated into the following issue(s).

- What impacts would occur on visual resources from construction and operation of the LPP?
- What would be the magnitude of changes in visual character along the Project alignment?
- What would be the visibility of Project facilities?
- What would be the visibility of landscape modifications?
- What would be the compliance with the BLM Visual Resource Management (VRM) objectives, and compliance with scenic management plan objectives of other federal and state resource management agencies?

Additional issues that arise during the formal scoping process, or during the preparation of the analysis, will be added and addressed.

## **Section 3 Impact Topics**

The visual resources impact topics include the following:

- Visual character of the project area
- Visibility of project features
- Visibility of landscape modification
- Compliance with Bureau of Land Management (BLM) Visual Resource Management (VRM) objectives
- Compliance with other federal ,state, and local agencies' scenic management plans, e.g., designated scenic byways/roads

## **Section 4**

### **Impact Area and Significance Criteria**

#### **4.1 Impact Area**

The impact area would include the following:

- Any area directly affected by project feature construction or operations
- Any area visible within 5 miles of the project feature construction or operations

#### **4.2 Significance Criteria for Each Impact Topic**

Impacts on visual resources are considered significant if construction, operation or maintenance activities would result in any of the following conditions:

- Magnitude of change from existing visual character to post-project visual character that is considered to be substantial within the foreground distance zone (within 0.75 miles of project).
- Project feature construction or operations visible within the foreground distance zone from an area of high visual sensitivity attracting attention away from existing landscape conditions and resulting in a fundamental and visually incompatible change in the existing setting.
- High level of landscape modification visible within the foreground distance zone from an area of high visual sensitivity, e.g., residence, non-motorized trail, or high volume roadway.
- Change in BLM's VRM Classes that would result in a lower classification, e.g., Class II to Class III.
- Non-compliance with other agencies' scenic management plans, e.g., loss of scenic route designation.

## **Section 5**

### **Methodology**

#### **5.1 Introduction and Overall Approach**

Visual resources will be analyzed by:

- describing qualitatively the existing visual character of the project area and evaluating the magnitude of change in the visual character
- identifying areas of high, moderate, and low levels of visual sensitivity and evaluating visibility of the project and associated components from areas of high levels of visual sensitivity
- evaluating the visibility of the project and associated components from the foreground/middleground zones
- identifying areas of high, moderate, and low landscape modification
- visual contrast rating of project construction or operations from key observation points
- simulations of project and associated components
- describing qualitatively the change in visual quality within the seen area of influence from designated scenic roads/byways/backways

The visual resources impact assessment will be based on BLM's VRM system on BLM managed lands

and Federal Highway Administration's (FHWA) *Visual Impact Assessment for Highway Projects* lands under the jurisdiction of FHWA, e.g., Interstate 15 corridor. To evaluate the landscape modification, the USDA Forest Service's *National Forest Management- Roads* methodology will be used to quantify areas of modification based on heights of slopes, visibility, angle of view, and duration of view. This Forest Service landscape modification evaluation process was developed specifically to assess the visual impacts created by linear facilities in the landscape. The assessment of impact on designated scenic roads/byways will be based on the guidelines and criteria set forth by the FHWA's National Scenic Byway Program and by Utah and Arizona Department of Transportations.

### **5.1.1 Definition of Baseline Conditions**

Visual resources baseline conditions will be defined by a qualitative assessment of the existing landscape's visual character or the general patterns of the natural and built elements present in the landscape. The character of the existing visual resources in the project area varies because of the changes in the landscape elements and their patterns. Changes in the pattern elements are associated with the visual attributes of objects – form, line, color, and texture. The ability to discern these elements is primarily a function of distance. We will use the following distance zones definitions: foreground up to 0.75 miles, middleground includes the visible landscape from 0.75 to 5 miles, and background distance is visible landscape greater than 5 miles.

Baseline conditions for BLM managed lands will be based on using existing BLM's Visual Resource Inventory (BLM's Manual H-8410-1) of the project area.

Baseline conditions for visual sensitivity levels will be based on existing and planned land use from approved local, state, and federal management plans including residential, parks, trails, recreation, and designated open space areas.

Baseline conditions for designated roads/byways/backways will be based on visual quality ratings from scenic application reports or scenic corridor management plans.

### **5.1.2 Analysis of Alternatives**

#### ***5.1.2.1 Alternatives Screening***

For the screening of alternatives, the following evaluation in table format will be completed for each alternative under consideration:

- acres of each VRM Class impacted
- number/acres high sensitivity level areas impacted
- number/acres of designated or planned scenic byways, backways, or roads impacted
- acres of notable physical landmarks affected
- acres of land disturbed that are over 8 percent slope

For screening purposes, this information will be provided in table format with minimal text and illustrated on up to five figures; no technical report will be provided.

An initial field reconnaissance level survey will be completed from easily accessible public routes.

### **5.1.2.2 Detailed Alternatives Analysis**

Impacts on visual resources will be analyzed for four alternatives that are taken forward for further consideration after the screening process.

**5.1.2.2.1 Magnitude of Change in Landscape Character.** Visual resources impacts will be measured by the magnitude of the change in visual character as expressed by a qualitative measurement of subtle, noticeable, substantial or severe.

**5.1.2.2.2 Visibility of Project.** The overall visibility of the project and associated components for each of the four alternatives will be evaluated using Arc GIS for seen area within 5 miles. The evaluation will be based on existing contour information with the assumption of a bald landscape, i.e., no vegetation or structures.

To identify areas of specific areas of visual concern within the project area, areas of visual sensitivity will be determined. Visual sensitivity levels are a measure of public concern for scenic quality. High, moderate, or low visual sensitivity levels will be determined based on analyzing the general indicators of the level of public concern based on type of land use and volume of users associated with these land uses.

The visibility of the project will be evaluated for areas considered to have high level of visual sensitivity that are visible within the foreground and middleground distance zones of the project. The project impact will be determined by a qualitative measurement of subtle, noticeable, substantial or severe based on the compatibility with the project construction and operations. This visibility analysis from areas of high level of visual sensitivity will be completed at 10 locations along each of the four alternatives for a total of 40 locations.

**5.1.2.2.3 Visibility of Landscape Modifications.** The areas of the landscape modifications will be identified based on the heights of the cut and fill slopes, angle of view, and duration of view, and distance zone. Viewer orientation is defined as head-on or tangential views from the direction of view. The duration of view is based on the rate of traveling depending on the mode of travel, e.g., hiking versus car. The exact criteria would be determined based on field conditions for the landscape modification visibility.

**5.1.2.2.4 Compliance with BLM's VRM Objectives.** For BLM managed lands a visual contrast rating will be completed from key observation points of the proposed project at 10 locations along each of the four alternative alignments (for a total of 40 locations). The locations of the key observation points will be confirmed during a field visit. The contrast rating will be completed by determining the degree of contrast (i.e., strong, moderate, weak, or none based on BLM's Manual 8431 - Visual Resource Contrast Rating. To assess whether or not the project will be in compliance with the CRM class, a comparison of the contrast ratings with the objectives for the approved VRM Class will be done.

**5.1.2.2.5 Simulations.** Computer generated simulations will also be prepared at each of the key observation points, the 11 pump stations, and the 3 hydroelectric power stations for a total of 54 simulations. LSD will photograph the area and any existing facilities and structures for inclusion into the simulations. Each vantage point will have at least two (2) illustrations. The first illustration will depict the existing condition, and the second illustration (simulation) will depict the proposed improvements. The simulations will be prepared using digital computer imaging, coloring, and "cutting and pasting" techniques to depict the proposed conditions.

**5.1.2.2.6 Compliance with Scenic Route Designations.** For the designated scenic roads/byways/backways, a determination of the change in scenic quality from existing conditions to post-

project conditions will be made at those locations where each of the alternatives is visible within the foreground/middleground distance zones. The visual quality of landscape will be rated in terms of vividness, intactness, and unity as previously defined for each of the scenic routes. The determination of compliance with the scenic route designation will be made based on whether or not the required threshold of a moderately high visual quality rating for designation will be maintained after the project construction.

### **5.1.3. Analysis of Cumulative Impacts**

The visual resources cumulative impacts analysis will address the combined impacts of the alternatives and any past or future proposed or planned actions that have or are likely to affect the visual resources in the impact area. The inter-related projects will be identified during the study to analyze the cumulative impacts.

## **Section 6 Data Needs and Analysis**

### **6.1 Data Needed**

The data needed to perform the analysis include: (these are general statements of data needed and don't depend on whether the data actually exist, are available or the specific source where they can be obtained; this is a description of the "ideal" data set you would want to use for analysis of the resource). Data is needed in electronic format where possible.

- BLM Visual Resources Inventory data
- BLM Visual Resources Management Classes data
- Relevant federal, state, and local management plans
- Scenic byways and roads application reports and related corridor management plans
- Existing and planned recreation areas e.g., campgrounds, picnic areas, and trails within the project areas
- Existing and planned wilderness areas
- Existing and planned development (extent of populated areas)
- Land ownership (public [federal, state, local] versus private) and land jurisdiction
- Existing and planned roads
- Alternatives information including cross sections (every 100 feet where slope is greater than 6 percent), profile, alignment location, structure type and size,
- Digital elevation model for project area
- Agency (BLM, National Park Service) contact information for the visual resources specialist

### **6.2 Data Available and Adequacy**

The data required to complete the visual resources analysis can be acquired from the above identified and existing sources: Based on our current knowledge, these data sources are considered to be adequate.

## **6.3 Additional Data Needs**

### **6.3.1 Primary**

The following data will be required in addition to the data described in Section 6.1: (description of new data from field study, acquired from new demographic surveys, or from other resource field study, modeling, etc.)

- On-site field work to document existing visual character and conditions, complete photographic record of landmarks and special features, verify areas of visual sensitivity, and verify results of visibility analysis
- On-site field work for simulation photographs
- On-site field work to complete post-project visual quality analysis for designated scenic routes

### **6.3.2 Secondary**

The following data will be required in addition to the data described in Section 6.1: (description of data need from governmental agencies, historical records, or derived from other resource analysis results, etc.)

- None identified at this time.

## **Section 7 Procedures For Developing Mitigation**

The analysis of impacts on visual resources will be based on the standard operating procedures and measures to avoid or reduce impacts, both of which will be included in the project description chapter of the Draft Visual Resources Impact Assessment. The significance criteria for visual resources will then be applied to determine if any impact would be significant. Mitigation measures would then be developed to offset significant impacts. The mitigation measures will be based on applicable state and Federal statutes and regulations, past experience and best professional judgment to either satisfy a legal requirement or to satisfy the public interest requirement. In some cases significant impacts may not be able to be mitigated. All reasonably foreseeable mitigation options will be evaluated by the Federal Energy Regulatory Commission, Bureau of Land Management, and other responsible federal agencies and factored into the respective Record of Decision documents.

## **Section 8 Technical Report**

A technical report will be necessary to document in detail baseline conditions of and potential impacts on visual resources. The technical report will follow the resource technical report outline common to all resource work plans (see Resource Technical Report Outline).

## Section 9

### Dependency Items From Other Resources

The following items are required from other MWH Team resource specialists:

- **Recreation:** Existing and planned recreation, park, designated open space, and trail facilities information
- **Land Use:** Existing and planned land use
- **Geotechnical Engineers/Geologist:** characteristics of the landforms to help determine the impact of the landform modifications – ability to slope treatments.
- **Facilities Engineers:** dimensions of pump and hydro stations, location, height, and type of power transmission lines; limits of construction, duration of construction, and operations and maintenance plans.
- **Pipeline Engineers:** details of the alignment both horizontal and vertical alignment, profile, cross sections (every 100 feet in areas of 8 percent or greater slopes), limits of construction, operations and maintenance plans, duration and method of construction.