140 Design Submittals

140.1 General

This chapter explains the New Mexico Department of Transportation's (NMDOT's) design process from Preliminary Design through production plans. Tasks that must be completed before Preliminary Design are discussed in Chapters 120 and 130. This chapter provides an overview of the design process, explains what must be included on design plans at various stages of the design process, and who should be involved in the review and approval process. This chapter focuses on design plan requirements; required design documentation is discussed in Chapter 200.

140.2 Design Process Overview

The sections below describe NMDOT's design process beginning with Preliminary Design through construction. Specific activities for each design phase are identified in Exhibits 110-1 through 110-4 in Chapter 110 of the Design Manual. All Project Development Engineers (PDEs) and Design Bureau staff are directed to comply with the lists provided in this section that identify the minimum information required in the design plans.

The PDE or consultant engineer is responsible for assuring that all listed information presented below is available and included at each and every project milestone as applicable prior to the distribution of project plans for the respective reviews and/or milestone event.

NMDOT's design process includes:

- Preliminary Design (Section 140.4)
- Grade and Drain (Section 140.5)
- Plan-in-Hand (Section 140.6)
- Plans, Specifications, and Estimates (PS&E) (Section 140.7)
- Production Plans (Section 140.8)

140.3 Plan Distribution and Inspection Invitation Lists

At every phase of design except production, the plans shall be distributed to the following team members for review:

- NMDOT PDE, District staff, Design Bureaus (Geotechnical, Pavement, Construction, Traffic, Drainage, Environmental, Bridge, Right-of-Way, Utilities, Survey, Planning, as applicable)
- Federal Highway Administration (FHWA) (if federally funded)
- Other stakeholders (tribes, local governments)

At the end of the review period (typically two weeks), a design review or inspection meeting is held. Those on the plan distribution list shall be invited to the inspection meetings.

140.4 Preliminary Design

The Preliminary Design phase begins with the recommendations from the final Scoping Report or Phase IB report in addition to the results of the SHRP 2, R10 project management documentation. This first stage of design establishes the roadway alignment, grade, and initial slope limits, and identifies potential project impacts. During this phase, a preliminary construction concept and sequence is presented and the constructability review process begins in earnest. Existing drainage structures are shown in the plans. A preliminary cost of construction, also known as an engineer's estimate, is prepared.

During Preliminary Design these additional activities need to occur, as applicable:

- Subsurface Utility Engineering (SUE) Quality Level C/D - identify utility owners, records research, begin utility coordination
- Coordinate intelligent transportation system (ITS) impacts and improvements
- Coordinate survey requirements
- Coordinate right-of-way impacts with the Right-of-Way Bureau
- Coordinate railroad impacts with the Rail Bureau
- Hold a constructability review with personnel from the District office, the Construction Liaison Engineer, Traffic Technical Support, FHWA, and any other required staff
- Update the SHRP2, R10 project management documentation. Specifically, the complexity map and project action plan developed as part of the project scoping or Location Study Procedures process discussed in Chapters 120 and 130. The materials that need to be updated are presented at the end of Chapter 130.

Update Complexity Map and Project Action Plan

Chapter 130 contains the worksheets needed to update the project's complexity map and project action plan as part of the SHRP 2, R10 project management documentation.

At the end of the Preliminary Design phase, a design review or inspection meeting, called the Preliminary Design Inspection (PDI), is held. Those on the plan distribution list shall be invited to the inspection meeting. The standard minimum plan information required for Preliminary Design Inspection (PDI) is provided at the end of this chapter.

140.5 Grade and Drain

The comments from the PDI are incorporated and addressed during the Grade and Drain design phase. Major design changes should occur at (or before) this phase and must match the scope found in the Statewide Transportation Improvement Program (STIP). All of the components in the Preliminary Design are further developed and designed to a greater level of detail:

- Drainage improvements are designed and the design footprint is finalized.

- Quantity schedules are required (if not included in the preliminary plans) and should reflect computed design quantities.
- Construction sequence is finalized. Preliminary construction signing and striping plans are developed.
- The engineer's estimate is updated and refined.

If there are right-of-way impacts, the right-of-way acquisition process is started. Detailed environmental documentation occurs during this phase. Based on the design footprint, cultural and biological resource impacts are identified and plans for avoidance or mitigation are prepared. Additionally, the following activities occur at this stage, as applicable:

- SUE Quality Level B
- Incorporate ITS sheets
- Incorporate rail design or mitigation and coordinate rail agreements

At the end of the Grade and Drain phase, a design review or inspection meeting, called the Grand and Drain Inspection (GDI), is held. Those on the plan distribution list shall be invited to the inspection meeting. The standard minimum plan information required for GDI is provided at the end of this chapter.

140.6 Plan-in-Hand

Comments from the GDI are incorporated during the Plan-in-Hand phase. The plans, quantities, and engineer's estimate should be nearly complete. Only minor design changes should be occurring at (or after) this design phase. During this phase, construction phasing layouts and construction signing and striping plans are finalized and project certifications are requested. Other key activities may include the following, as applicable:

- Give authorization to utility owners to begin design
- Obtain certifications from the NMDOT Environmental, ITS, Railroad, Utilities, and Right-of-Way bureaus
- Contact the Environmental Section and ensure final notes are provided

- Obtain the signature of the Environmental Bureau Chief
- Complete the Work Zone Checklist and other checklists (as specified in Chapter 900 Work Zones)

At the end of the Plan-in-Hand phase, a design review or inspection meeting, is held. Those on the plan distribution list shall be invited to the inspection meeting. The standard minimum plan information required for the Plan-in-Hand inspection is provided at the end of this chapter.

140.7 Plans, Specifications and Estimates (PS&E)

The PS&E phase incorporates the comments from the Plan-in-Hand inspection and finalizes the plans, quantities, and engineer's estimate. The contract book and specifications should be complete, and all certifications are required before holding the PS&E Review.

In addition to the design team review, the PS&E Section conducts a robust review of the plans and contract book with emphasis on pay items, quantities, and incidental items. Only very minor changes to the plans should occur after this review. NMDOT's PS&E process and requirements are described below.

140.7.1 PS&E Production Submittal Requirements

NMDOT has developed the production submittal checklist provided in Exhibit 140-1 to ensure that the PS&E submittal to the NMDOT is complete. The checklist is the same checklist used for submitting production plans. All of the items listed in the checklist shall be submitted in one complete package to the PS&E Section in accordance with the production deadline.

Exhibit 140-1

Production Submittal Checklist

Control Number:	Yes	No	NA
Two Sets of Stamped and Signed Final Plans with One Set of Applicable NMDOT Standard Drawings Revisions are not allowed after this submittal. Bridge plans must be signed by the Bridge Bureau prior to submittal.			
Signed Environmental Commitments Sheet Environmental commitments sheet shall be signed by appropriate environmental staff.			
Design Exceptions and Design Variances			
Earthwork Runs If applicable, paper copy and electronic format (CD) required.			
Cross Sections If applicable, paper copy and electronic format (CD) required.			
Railroad Certification Paper copy and electronic file via email to jeff.martinez@state.nm.us			
Right-of-Way Certification Paper copy and electronic file via email to jeff.martinez@state.nm.us			
Utility Certification Paper copy and electronic file via email, email to jeff.martinez@state.nm.us			
ITS Systems Engineering Compliance Paper copy and electronic file via email to jeff.martinez@state.nm.us			
Work Zone Design Checklist Paper copy and electronic file via email to jeff.martinez@state.nm.us			
Utility and Railroad Notices to Contractors .doc file via email. Email to jeffmartinez@state.nm.us and titus.ispirescu@state.nm.us. Coordinate with utilities/railroad.			
Final Cost Estimates Detail estimate, hard copy.			
Estimator File .xml file, via email to ron.trujillo@state.nm.us and daniel.bustamante@state.nm.us			
Environmental Clearance			
Archaeological Clearance			
Additional Information Requested			
Contract Time Working or calendar days as directed by the Assistant District Engineer.			

Unless otherwise noted, paper submittals are required. Check Yes, No, or NA as appropriate for each required submittal. Submit the completed checklist and required documents directly to the NMDOT PS&E Bureau.

140.7.2 PS&E Reviews

NMDOT's process for PS&E Reviews follows requirements set forth in the controlling regulation 23 Code of Federal Regulations (CFR) Part 630B and includes the following:

- PS&E Reviews are required for all federal and state funded projects. The required elements to hold a PS&E Review are a complete set of plans, specifications, and an estimate as described in Section 140.7.1. Before NMDOT can advertise and solicit bids for construction, the PS&E Review package must be approved by FHWA/State Oversight Engineers.
- The PS&E Review date will establish the production date, with a preferred four-week separation. The PDE shall request approval for an exception to this requirement.
- If a PS&E Review is held more than six months prior to the project's advertisement, a second PS&E Review must be held to update specifications.
- PS&E Reviews require a minimum two-week review period. The PS&E Section shall establish the Special Provisions required. The two-week review period allows time for the design team to ensure that the specifications and plans are in conformance with each other.
- Incentive or disincentive clauses will be included as a Notice to Contractors. They shall be finalized at the PS&E Review and shall be coordinated with the PS&E Section.
- Innovative contracting methods such as dual-day, bidding alternates, bidding options, and A+B+C bidding, shall be finalized at the PS&E Review and shall be coordinated with the PS&E Section.
- Certifications from the Railroad, ITS, Right-of-Way, Environmental, and Utilities Bureaus are required for the PS&E Review. Additional documentation on these certifications is provided at the end of this chapter. If the certifications are not finalized, conditional certifications are to be initiated by the PDE in coordination with the appropriate manager. Division approval must be obtained before the production deadline.
- Clean Water Act 401/404 permits are required for the PS&E Review. These permits are incorporated in the contract

documents and are required to define any special conditions that must be met by the contractor.

- The detailed engineer's estimate must be complete before the PS&E Review and shall include all final funding breakouts in accordance with the latest approved STIP. The Chief Engineer should be contacted for further assistance.

140.7.2.1 Program Management Team Meeting (PMTM)

A realistic status of projects is required at the PMTM. Decisions on establishing production deadlines will be made based on the status provided at the PMTM. PS&E Reviews must have been conducted prior to the PMTM for a project to be considered complete for advertising.

140.7.2.2 Production Deadlines

A commitment that the project is ready to be advertised at the PMTM is the assurance that the project will be submitted in accordance with production deadline. The production deadline is the Monday following the PMTM.

140.7.2.3 NMDOT's Policy for Independent Design Quality Control Reviews

All internally-developed NMDOT design plans will undergo an independent design quality control review prior to production date submittal. Quality control on consultant-led projects is the responsibility of the consultant and must follow requirements provided in the consultant contract and scope of work. The independent design quality control review will be concurrent with the PS&E Review. The Regional Design Managers and District Design Managers will be responsible for developing the review team and coordinating a schedule for a review.

Design quality control reviews are intended to address survey, general constructability, major items and quantities, a global review of pricing, and general format and content. The general review period should not take more than two days of a project development team's schedule. The reviewing project development team will produce an itemized list of items and areas discovered during the design quality control review and address it to the respective responsible PDE and designer via an interdepartmental communication as a Design Quality Control Review Report. Copies

will be made available to the Design Regional Manager, District Engineer, the PS&E Section, Construction Liaison Engineer, FHWA, Chief Engineer, and the consulting engineer (as applicable).

The responsible PDE or designer will address findings and will formally document actions with a Design Quality Control Report for the project files and address plan revisions accordingly. Copies will be made available to the Design Regional Manager, District Design Manager, the PS&E Engineer, Construction Oversight Engineer, FHWA, the Chief Engineer, and the consultant engineer (if applicable).

140.7.2.4 NMDOT's Policy for Design Quality Assurance Review

All NMDOT design plans will undergo a design quality assurance review prior to production date submittal. The design quality assurance review will be in addition to the design quality control review discussed in Section 140.7.2.3. The design quality assurance review is intended to address major items and quantities as well as general format and content of the design plans. The review is not intended to serve as a formal verification of the entire plan submittal. Exhibit 140-2 provides a listing of areas the design quality assurance review will focus upon at a minimum. Complex design projects will require a more in-depth review and will be addressed when the review is scheduled.

Exhibit 140-2

Design Quality Assurance Review Checklist

Cover Sheet	
☐	Proper cover sheet
☐	Correct project number
☐	Correct control number
Vicinity Sheet	
☐	Length of project
☐	Beginning of Project (BOP) and End of Project (EOP) stationing, include STIP and Construction Limits
☐	Equations
☐	Project location (township, range, section)
☐	Type of construction
Sheet Index	
☐	Listing of sheets (proper format)

Exhibit 140-2 (Continued)

Design Quality Assurance Review Checklist

Summary of Quantities	
☐	Proper categories used
☐	Proper units breakdown
☐	Correct items used
General Notes	
☐	Reference of general notes to item numbers and to sheets in plans
☐	Contradiction to Special Provisions or project specific specifications
Typical Sections	
☐	Profile grade
☐	Design speed (Scoping Report)
☐	Stationing as it relates to the surfacing schedule
☐	Project length as it relates to vicinity sheet
☐	Typical section dimensions and depths per Lab Report, Scoping Report, and Inspection Reports
☐	Transition stationing/lengths
☐	Superelevation table (verify lengths of runout and runoff and full superelevated area
Surfacing Schedule	
☐	Adherence to materials lab recommendations
☐	Station-to-station in relation to the typical section sheet
☐	Computations and quantities with project totals and project use figures
Estimated Structure Quantities	
☐	Concrete box culvert quantities, concrete blanket quantities
Miscellaneous Quantities	
☐	Earthwork quantities
☐	Proper usage of items versus work required
☐	Metal barrier w-beam (length and length of need)
Plan and Profile	
Horizontal Alignment – Adherence to *AASHTO Green Book,* current edition	
☐	Design speed
☐	Curve data
☐	BOP and EOP and equation stationing
☐	Superelevation rates and transition lengths

Exhibit 140-2 (Continued)

Design Quality Assurance Review Checklist

Vertical Alignment – Adherence to *AASHTO Green Book,* current edition	
☐	Design speed
☐	Vertical curve lengths
☐	Stopping sight distance
☐	K-Value
☐	Coverage at structures and drainage features
Turnout Profiles	
☐	Typical section template dimensions (skewed or normal)
☐	Turnout grades
☐	Minimum coverage for structures
☐	TCP and CME needs
☐	Profile grade
☐	Clear zone
Construction Signing and Traffic Control	
☐	Construction sequence
☐	Constructability issues
Structure Placement Sections	
☐	Adherence to Drainage Engineer recommendations
☐	Constructability (requirement of detour/shoo-fly, one lane closure, etc.)
☐	Typical section template dimensions (skewed or normal)
☐	Clear zone
☐	Profile grade
☐	Minimum coverage for structures
☐	TCP and CME needs
☐	Structure grades
☐	Concrete blankets versus end sections
Estimate	
☐	Estimator file
☐	Project summary (general information)
☐	Detailed cost estimate (item numbers, quantities, unit of measure, etc.)
☐	Estimate funding
☐	Categories
☐	Pricing analysis
Documentation File	
☐	Check content of the design decision documents file (Chapter 200 of the Design Manual)

The design quality assurance review will be concurrent with the PS&E Review. Design plans, the engineer's estimate, pertinent project correspondence (explained in Chapter 200 of this Design Manual), and a copy of the Design Quality Control Review Report shall be submitted as part of the PS&E review distribution. The Regional Design Managers and District Design Managers will be responsible for developing the design quality assurance review team and coordinating a schedule.

The design quality assurance review team shall schedule a review meeting with the respective responsible PDE and provide an itemized list of items and areas requiring attention discovered during the review. The Design Quality Assurance Review Report will be made available to the Regional Design Manager, District Design Manager, Construction Oversight Engineer, FHWA, the Chief Engineer, and the consultant engineer (if applicable).

The responsible PDE will address findings in the Design Quality Assurance Review Report and document actions with a Quality Assurance Report for the project files and address plan revisions accordingly. The PS&E Review meeting will need to be scheduled accordingly in order to allow for revisions and fulfilling production date requirements. Copies will be made available to the Design Regional Manager, District Design Manager, Construction Oversight Engineer, FHWA, the Chief Engineer, and consulting engineer (if applicable).

140.7.2.5 Special Provisions at PS&E Review

The Special Provisions provided for the PS&E Review will be used when advertising the project. The Special Provisions are an integral element of plan development and the PS&E Review is the last opportunity for the design team to discuss the impacts of the Special Provisions to the plans used for advertising. For this reason, updates to the Special Provisions will not be included subsequent to the PS&E Review as updating could change the way work is defined and measured.

Subsequent to the PS&E Review, the PDE shall immediately advise, via e-mail, the Standards and Specifications Unit Engineer and the Letting Administration and Contracts Unit Supervisor of any additions, revisions, or deletions required.

If projects are shelved for a period exceeding six months, the PDE shall hold a second PS&E Review and will be provided with an updated listing of Special Provisions by the PS&E Section. The design team will then review the Special Provisions and make any necessary changes to the plans.

140.7.2.6 Preparation of Contract Documents

The NMDOT has established the following guidelines to assure that the proper contract documents are used in plan development and advertising. The guidelines establish the contract document, its application, and the staff member who has the primary responsibility in preparing the contract document. Contract documents are defined as the following:

- Addenda
- Required documents for bud submittal
- Notice(s) to Contractors
- Invitation for bids
- Special Provisions
- Plans other than Standard Drawings
- Supplemental specifications
- Standard specifications
- NMDOT Standard Drawings

Exhibit 140-3 provides guidelines for assembling a complete contract document.

140.8 Production Plans

Production plans include the plans submitted to the NMDOT from PS&E with all comments addressed. Production plans shall be submitted along with all of the required support information listed in the Production Submittal Checklist provided in Exhibit 140-1. Production plans shall be sealed and signed by the engineer in responsible charge.

Production plans should follow the formatting standards discussed in Section 140.9 and provided at the end of this chapter.

140.9 Formatting Guidelines

This section provides guidance on formatting to be used in order to improve project plan quality and standardize NMDOT plans. The guidelines have been correlated with the respective minimum plan requirements and incorporated at the end of this chapter; however, some key general standards are emphasized here. The overarching standards to apply consist of the following:

- All text shall be consistent in font size and style
- Existing notes shall be in block style
- Proposed build notes shall be in italics
- Build notes are shown by making reference to pertinent schedules, shown perpendicular to the proposed centerline
- Existing topography notes shall be placed parallel to the roadway centerline

Chapter 300 of the Design Manual provides computer-aided drafting and design (CADD) standards including font style and size requirements.

140.9.1 Turnout Build Notes Examples

An example of turnout build notes are provided below. Chapter 300 of the Design Manual provides CADD standards including font style and size requirements.

T0-3 STA. 90+25.25 BUILD 1-16' TURNOUT RT.
25' RADIUS LT. & RT.

T0-2 STA. 60+50.15 BUILD 1-16' TURNOUT LT., 25' RADIUS LT.& RT.
PAVE TO R/W
BUILD 1-24''X26' CULVERT PIPE W/CONCRETE BLANKETS W/ SAFETY GRATES LT. AND RT.

T0-1 STA. 45+75.40 BUILD 1-16' TURNOUT LT., 25' RADIUS LT. & RT.
PAVE TO CATTLE GUARD
BUILD 16' CATTLE GUARD AT R/W

140.9.2 Structure Build Notes Examples

Examples of structure build notes are shown below. Chapter 300 of the Design Manual provides CADD standards including font style and size requirements.

NEW STRUCTURES:

STA. 97+00.10 BUILD 2-24"X84' CULVERT PIPES – NORMAL
W/END SECTIONS LT. & RT
DA=XX ACRES, HW=x.x', Q100=xx CFS
SERIAL DRAWINGS: XXX-XX-X/X, XXX-XX-X/X,

STA. 70+00.50 BUILD 1-72"X186' CULVERT PIPE @ 15" RT.FWD.
BUILD CONCRETE BLANKETS W/SAFETY GRATES
LT. & RT.
BUILD EROSION CONTROL PAD, 10'X10'X1'
DA=XX ACRES, HW=x.x', Q100=xx CFS
SERIAL DRAWINGS: XXX-XX-XIX, XXX-XX-XIX,

STA. 59+56.10 BUILD 1-71"SX47"RX94' CULVERT
PIPE ARCH-NORMAL
BUILD CONCRETE BLANKETS W/SAFETY GRATES
LT. & RT.
DA=XX ACRES, HW=x.x', Q100=xx CFS
SERIAL DRAWINGS: XXX-XX-XIX, XXX-XX-X/X,

STA. 35+00.08 LT. BUILD 1-24"X100' CULVERT PIPE-NORMAL
BUILD 1-MDI DROP INLET TYPE I -50' RT. H-4. 75;
BUILD CONCRETE BLANKET LT.
DA=XX ACRES, HW=x.x', Q100=xx CFS
SERIAL DRAWINGS: XXX-XX-X/X, XXX-XX-X/X,

ST. 30+00 BUILD 2-8'X6'X163'C.B.C.s @ 45"RT.FWD.
DESIGN II
BUILD WINGWALLS LT. & RT.
DA=XX ACRES, HW=x .x', Q100=xx CFS
SERIAL DRAWINGS: XXX-XX-XIX, XXX-XX-XIX,

EXISTING STRUCTURES WITH EXTENSIONS:

STA 28+35 1-24"X100' C.M.C.-NORMAL IN PLACE
EXTEND LT. 20' AND RT. 10' WITH 1-24" CULVERT PIPE; BUILD MODIFIED CONCRETE BLANKETS LT. & RT.
DA-24 ACRES, HW=2. 5', Q100=269 CFS
SERIAL DRAWINGS: XXX-XX-XIX, XXX-XX-XIX,

STA 18+57.25 2-8'X8'X50' C.B.C .s @ 30° RT.FWD. IN PLACE;
EXTEND RT. W I 2-8'XB'X17' C.B.C.s @ 30" RT. FWD. DESIGN 1, TYPE I EXTENSION
BUILD WINGWALLS RT.
DA-95 ACRES, HW=B.O', Q100=465 CFS
SERIAL DRAWINGS: XXX-XX-XIX, XXX-XX-XIX,

140.9.2.1 Cross Sections

Cross sections shall be forwarded to the project manager separately. Stationing shall be shown from the bottom of the sheet up.

140.10 Preparing Contract Documents

The NMDOT has developed the guidance provided in Exhibit 140-3 for preparing contract documents.

Exhibit 140-3

NMDOT Guidelines for Preparing Contract Documents

Contract Document	Application	Primary Responsibility	Guidance and Direction	Comments
Notice to Contractors	Issues related to the contract that are specific to the contract, cannot be placed into a Special Provision, and are of significance in nature to be placed in to a Notice. (See Section 105.4 of Standard Specifications for governing order of importance.) Examples are time-related clauses, utility relocations or installations, specific right-of-way conditions, and specific environmental requirements.	PDE/Design Team (Project Development Regions) Technical Support Engineer (TSE)/Design Team (District-lead)	Functional Groups Management PS&E Section	Do not use to override other conflicting data in contract documents; conflicting data should be avoided and corrected. Do not use to avoid the need for a Special Provision. Bid item-related information should be placed in a Special Provision.
Special Provisions	Project-specific modifications of Standard or Supplemental Specifications. Can alter or describe in greater detail the materials, construction approach, method of measurement, basis of payment, or other general conditions.	PDE (Internal-lead) TSE (District-lead) Consultant	Design Team/PS&E Section (Internal projects) PDE/PS&E Section (Consultant projects) Functional Groups	TSE/PDE/Consultant to initiate; not initiated by the PS&E Section. Special Provisions need to be addressed during the PS&E Review.
General Notes (Plans)	Instructions to the contractor, highlighting critical information by reference. May include data related to quantities, rates of application, calculations, etc. May include utility contact information.	PDE (All Others) TSE (District-lead)	Design team via inspection/review meetings	Do not use to introduce and define new pay items, or as a substitute for Special Provisions. Do not duplicate information provided elsewhere other than by reference.
Supplemental Specifications	Adopted versions of modifications to Standard Specifications that are used statewide. Revisions of current Standard Specifications to be incorporated into next edition of the Standard Specifications.	State Construction Bureau PS&E Section	Specification Committees (applicable per division)	Use needs to be reviewed. Typically issued on an annual basis.
Standard Specifications	Descriptions and definitions of standard construction materials, approaches, methods of measurement and basis of payment for construction bid items. Approved for general application and repetitive use.	State Construction Bureau PS&E Section	Specification Committees	Do not assume that specifications are completely adequate to describe all project conditions as-is.
NMDOT Standard Drawings (Refers to the selection of applicable drawings)	Commonly used details for various construction features, developed into standards for general use and formally adopted.	Designer/PDE (Project Development Regions) Consultant/PDE (Project Development Regions) TSE (District-lead)	PS&E Section and Functional Groups	Do not use when project specific details are needed.

140.11 Documentation

The following documentation is required for NMDOT projects as appropriate to the scope of the project.

- Updated SHRP 2, R10 project management documentation, specifically the complexity map and project action plan (see Chapter 130)
- Preliminary Design plans
- Preliminary Design inspection summary
- Grade and Drain design plans
- Grade and Drain design plan summary
- Plan-in-Hand plans
- Plan-in-Hand inspection summary
- PS&E, includes Production Submittal Checklist, Independent Design Quality Review Summary (if appropriate), Design Quality Control Report (if appropriate), Design Quality Assurance Checklist (if appropriate)
- Production Plans

STANDARD MINIMUM PLAN INFORMATION AND COMPREHENSIVE CHECKLIST

Abbreviations:

PDI - Preliminary Design Inspection
GDI - Grade and Drain Inspection
PIH - Plan-in-Hand Inspection

* Applies to all milestone submittals
◦ If available
Key activities

PDI	GDI	PIH	1-SERIES CHECKLIST	FORMATTING GUIDELINES*
			Cover Sheet	Use appropriate CADD Standard Cover Sheet
X	X	X	Project number and/or control number	
X	X	X	County designation	
X	X	X	Project termini including Route No., Milepost, and distance from nearest junction, construction limits MP's and STIP MP's.	Arrow to project termini (use standard arrows)
X	X	X	Location map with arrow denoting location of project	
	X	X	State seal for state and federally funded projects	
	X	X	Federal seal and State seal (for federally funded projects only)	
		X	Engineer's stamp and signature	Locate at lower right hand corner of sheet
			Vicinity Map Sheet	Use CADD Standard Vicinity Map Sheet
X	X	X	Length of project in miles	To 3 decimal places
X	X	X	Township, range, and section of BOP and EOP	
X	X	X	Designer and PDE name and phone number	
X	X	X	Legible vicinity map with arrows designating BOP and EOP	Include project number and/or control number, stations and/or mileposts and STIP limits, Units with station limits
X	X	X	Major structures with locations designated on vicinity map	Include stations and descriptions
X	X	X	North arrow	Use standard arrow
X	X	X	Scales (plan and profile sheets or straight line diagrams, vicinity map layout)	
	X	X	District office contact persons with phone numbers	
	X	X	Intent of project (basic intent statement. Add: "Bidding alternatives have been established for this project" when applicable)	Locate directly under vicinity map
	X	X	Equation stations (if required)	
			Survey Control Sheet	
X	X	X	North arrow	
X	X	X	Scale	
X	X	X	All survey control points shown	
			Index of Sheets and Standards Drawings	Refer to CADD Standards for numbering scheme
X	X	X	Listing of sheets as provided in plans	List sheets in proper sequence with totals for each series and final total of sheets. If a series is not used, add "Not Used" in description column. Subtotal each series of sheets.
X	X	X	Listing of Standard Drawings	Include Standard Drawing number, description and revision dates. Subtotal Standard Drawings utilized.
		X	Grand total of all sheets incorporated into plan set	

STANDARD MINIMUM PLAN INFORMATION AND COMPREHENSIVE CHECKLIST

Abbreviations:

PDI - Preliminary Design Inspection
GDI - Grade and Drain Inspection
PIH - Plan-in-Hand Inspection

* Applies to all milestone submittals
◦ If available
Key activities

PDI	GDI	PIH	1-SERIES CHECKLIST	FORMATTING GUIDELINES*
			Summary of Quantities	Separate all applicable categories into units if project is in more than one county, has more than one funding type, or is in Indian land.
X	X	X	Listing of categories** and items required for the project	List item numbers with official descriptions and pay units matching bid item listing
X	X	X	County, reservation, and municipality units (if applicable)	
X	X	X	Estimate and final columns	
	X	X	Quantities corresponding with computed quantities	
		X	Ensure all final quantities are carried forth from plan set to Summary of Quantities	
			General Notes	
X	X	X	Common general notes	
	X	X	Project-specific general notes	
	X	X	List of Items Incidental to Construction with reference to applicable General Note or sheets	List only work called out as Incidental to Construction or Incidental to Completion of Project. Do not list incidentals specified in the most current edition of the NMDOT Standard Specifications, Special Provisions, Supplemental Specifications, Standard Drawings or Incidental to Bid Items.
			Environmental Commitments	
◦	◦	X	Commitments as provided by Environmental Section	
		X	Environmental Design Division Director's Signature	

STANDARD MINIMUM PLAN INFORMATION AND COMPREHENSIVE CHECKLIST

Abbreviations:

PDI - Preliminary Design Inspection
GDI - Grade and Drain Inspection
PIH - Plan-in-Hand Inspection

* Applies to all milestone submittals
◦ If available
Key activities

PDI	GDI	PIH	2-SERIES CHECKLIST	FORMATTING GUIDELINES*
			Typical Sections	
X	X	X	**Length of Project Schedule**	Locate in upper left hand corner. If project has more than one county, reservation or municipality unit, length of project and all schedules shall reflect unit breaks accordingly.
X	X	X	BOP and EOP stationing	Length in feet (2 decimal places) and in miles (3 decimal places)
X	X	X	Equations	
X	X	X	Major structures (station to station)	
X	X	X	Detours, ramps, crossroads	List in parenthesis (For Information Only)
			Design Speed and Traffic Volumes	
X	X	X	Existing and design year	
X	X	X	Traffic count design information (AADTs, DHV)	
X	X	X	One year ESAL "with detour pavement only"	
◦	X	X	20-year ESAL (for mix design)	
X	X	X	**Existing Typical Section**	Line style for existing shall be dashed. Provide lane dimensions.
◦	X	X	Existing surfacing depths	
◦	X	X	Cross slopes	
X	X	X	Stationing	
	◦	X	Taper widths and/or slopes	
X	X	X	**Proposed Typical Section**	Line style for proposed shall be solid. Provide station to station for transition section between Typical Sections.
X	X	X	Proposed lane widths and taper widths and/or slopes	
X	X	X	Proposed surfacing depths and types, number of lifts, tack coat, prime coat, and subgrade prep	
X	X	X	Shoulder widening "neat vertical cut"	
X	X	X	Rumble strips (if applicable)	
X	X	X	Lane stripes	
X	X	X	Slope selects (cuts and fills)	
X	X	X	Slope exceptions (cuts and fills)	
X	X	X	Station to station (reconstruction and rehabilitation)	
X	X	X	Construction centerline and profile grade locations	
	X	X	Cross slopes	
	X	X	Bench slopes (if applicable)	
	X	X	Distressed areas (if applicable)	
		X	Ditches, if applicable	
			Shoulder Widening Sections	All requirements of typical sections apply
X	X	X	Identify existing pavement rehabilitation (process, place and compact existing pavement, in-situ cold recycling, etc.	
X	X	X	Depth of rehabilitation	
X	X	X	**Special Details**	Larger scale than typical sections
X	X	X	Surfacing taper details	

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	X	X	Shoulder detail with depths, widths, lifts, types of surfacing, and subgrade preparation	Note surfacing lifts and taper slopes. Distressed areas and reconstruction areas. Earthwork required below subgrade. Station to station at required locations.
	X	X	Lane and shoulder transition details	
	X	X	Curb and gutter details with sidewalk	
X	X	X	**Superelevation Table**	Station transition and superelevation rate
X	X	X	**BOP and EOP Transition Details**	
X	X	X	Surfacing connection transitions and details	
X	X	X	Dimensions, surfacing, slopes	
			Turnout Typical Section	
X	X	X	Paved or non-paved	
X	X	X	Surfacing depth and types, dimensions, and 8:1 slopes	
◦	X	X	**Detour Typical Sections (if applicable)**	
◦	X	X	Dimensions, surfacing depths and slopes	
◦	X	X	Station to station or location	
◦	X	X	Design speed (detour)	
◦	X	X	Minimum required R-value (reference to earthwork schedule)	
			Special Turnouts, Holding Lanes, Cross-overs, Gore Typicals, Median Sections, etc.	
	X	X	Dimensions, surfacing depths and slopes	
	X	X	Station to station or location	
			Paved Ditches	
	X	X	Widening details, if any	
	X	X	Surfacing station to station	
	X	X	Patterns or corrugations	
			Surfacing Schedule	Provide items in numerical order across the top of the sheet. Separate surfacing quantities of roadway, connections, etc. Always show preferred alternate first.
X	X	X	Station to station limits matching typical sections	
◦	X	X	Surfacing items, units and quantities with totals and use quantities	Add asterisk (*) For Information Only when applicable
X	X	X	Surfacing factors with applicable notes (as per lab recommendations)	
X	X	X	Applicable notes from lab	
		X	Unit weights of surface materials	
		X	Asphalt type and content	
		X	Hydrated lime content	
		X	Application rates for tack and prime coat, etc.	
	X	X	Miscellaneous surfacing quantities (turnouts, trails, detours, etc.)	
	X	X	Detour schedule	
	X	X	Note: Refer to R-value under Earthwork Schedule	

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			Estimated Structure Quantities (as per Drainage Report)	List notes by increasing stationing. List Items in numerical order across the top of the sheet.
X	X	X	Description of existing structures as provided from survey files	
◦	X	X	Listing of item numbers (with descriptions) required for extensions and new structures	Item numbers and descriptions shall match Bid Item Listing. For CBCs: List excavation, wire fabric and number of stakes "For Information of the Contractor Only".
	X	X	Complete structure build notes	Use reference designations for structure build notes (i.e. SQ-1, SQ-2, etc.) from structure placement sections.
	X	X	Unclassified excavation for inlet and outlet cuts.	length x width x depth
	X	X	Wire enclosed riprap for erosion control pads	
	X	X	Drop inlets, median drains, manholes, CBC median covers, and all other required miscellaneous drainage items	
	X	X	Storm drain systems	
	X	X	Drainage control other than drainage structures, channel, ditches, dikes, etc.	
	X	X	Project total and project use quantities	
			Miscellaneous Quantities	If project requires more than one unit, separate quantities accordingly. List total quantities to 2 decimal places and a rounded use quantity to the nearest unit unless otherwise designated.
◦	X	X	**Earthwork**	Computer run quantities and listing
◦	X	X	Borrow or waste	
◦	X	X	Rock excavation quantities as per the Geotechnical Report	
	X	X	Station to station, location	
	X	X	Excavation, embankment	Include balance (embankment - excavation = borrow or waste)
	X	X	Minimum design R-value required	
◦	X	X	**Obliterate Old Road (if applicable)**	
◦	X	X	Station to station	
◦	X	X	Quantity in linear feet and miles	LF quantity to 2 decimal places, mile total to 3 decimal places, and use quantity to 1 decimal place.
	X	X	Totals and use quantities	
◦	X	X	**Clearing and Grubbing (if applicable)**	
◦	X	X	Station to station, quantity	
◦	X	X	Length, width	
	X	X	Totals and use quantities	
◦	X	X	**Removal of Structures and Obstructions**	
◦	X	X	Stations, locations, quantities, descriptions, bridge removals	Add salvage materials note, if applicable
◦	X	X	Summary of removals	Summarize by type and total quantities
◦	X	X	**Removal of Surfacing (if applicable)**	
◦	X	X	Station to station, depth and length, locations, square yard quantities	
	X	X	Totals and use quantities	
◦	X	X	**Linear Grading (if applicable)**	Show total to 3 decimal places and use quantity to 1 decimal place

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◦	X	X	Station to station, quantity in miles	
	X	X	Totals and use quantities	
◦	X	X	**Metal Barrier (W-beam, Thrie Beam, Metal Barrier Anchorage) (if applicable)**	Add layout details on plan view
◦	X	X	Station to station, location (approach, departure, obstruction)	
◦	X	X	L2 (dimension from edge of driving lane to face of barrier, see AASHTO *Roadside Design Guide*)	
◦	X	X	Quantities	
◦	X	X	Remarks	
◦	X	X	**Construction Engineering and Lump Sum Items Schedule**	List applicable items. Note: special lump sum items shall have an itemized schedule of components and their quantities and shall have an equivalent Notice to Contractor schedule prepared for the contract book. Notify PSE Section.
◦	X	X	**Turnout Schedule**	Reference designations (TO-1, TO-2, etc.)
◦	X	X	Station, location, normal or skewed, width, length, radii, remarks	
	X	X	Schedules for all quantities being called for on project with project totals and Project Use quantities	
	X	X	**Superelevation Rate Schedule (on Reconstruction areas only)**	May alternatively be included on plan and profile sheets
	X		Runout and run-off lengths table	
	X	X	**Fence (Barbed Wire, Woven Wire, etc) (if applicable)**	Include special drawings for special types of fence
			Station to station, location, linear feet	
			Remarks (jogs, turnout deductions, etc.)	
	X	X	**Gates (if applicable)**	
			Station, location, quantity	
			Remarks (at ROW, at turnout, etc.)	
	X	X	**Cattle Guards (if applicable)**	
			Station, location, width, quantity, remarks (at ROW, etc.)	
	X	X	**Mailbox Installations (if applicable)**	
			Station, location, width, quantity, remarks	
			Single, double, or multiple installations	
		X	**Concrete Wall Barrier**	
			Station to station, location, quantities, remarks	
		X	**Traffic Marker - Guides**	
			Stations, type, spacing, quantity, remarks (advance of curve, curve, beyond curve)	
		X	**Traffic Marker - Hazards**	
			Stations, quantity, remarks (at structures, etc.)	
		X	**Curb and Gutter**	Reference designations (CG-1, CG-2, etc.)
			Station, location, length, remarks.	Lineal feet measured along the face of the curb at the flowline of the gutter
			Include concrete laydown curb at drive pad locations	
		X	**Sidewalk**	
			Station, location, width, length, quantity, remarks	
		X	**Patterned Concrete Pavement**	

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			Station, location, width, length, quantity, remarks (color, texture, special designs)	
		X	**Drive Pads**	
			Station, location, width, length, quantity, remarks	
		X	**Riprap (excluding erosion control pads)**	
			Station, location, type, width, length, quantity, remarks	
		X	**Paved Ditches (if applicable)**	
			Station, width, length, remarks	
		X	**Drainage Control other than Drainage Structures**	
			Minor and major channel changes, earthwork, grades, irrigation ditches, earth dikes, contour ditches, rock plating, specials details, special inlets, subsurafce drainage needs	
		X	**Storm Drain Systems**	
			Drop inlets, junction boxes, manholes, lift stations, electrical control panels, invert elevations, flowline grades, utilities near system	
		X	**CME, TCP and ROW acquisition schedules**	
		X	Stations, locations, dimensions	
			Miscellaneous Details	
◦	X	X	Special details or drawings not covered in Standard Drawings	
			Temporary Erosion and Sediment Control Plan (TESCP)	
	X	X	Erosion control sheet (contact Landscape Architect for data for inclusion into plans)	
	X	X	TESCP Schedule	
	X	X	Item numbers and descriptions, stations, locations, description, quantities	Items to be listed in numberical order across the top of the sheet
		X	Actual totals and use quantities	
	X	X	TESCP / NPDES plan view details (for environmentally sensitive projects)	
			Erosion Control Plan	List total quantities to 2 decimal places and round use quantity to 1 decimal place
		X	Include plan from Landscape Architect. Contact Roadside Environment Design Unit for Erosion Control Plan Requirements.	
		X	Mulching requirement areas	
		X	Stations, quantites, remarks	
		X	Class " " Seeding	
		X	Stations, quantites, remarks	
		X	Temporary soil stabilant: 120% of total seeding	

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			Plan and Profile Sheets	Numbering for alternates shall be shown as 3-1A (for Alt. A), 3-1B (for Alt. B), etc. All text shall be consistent in font size and style. Existing information shall be in block style and proposed information in italics style.
			Standard Minimum Plan Information	
X	X	X	BOP and EOP stationing	Use standard arrows provided in CADD Standards
X	X	X	Description of existing structures and drainage features	
X	X	X	Existing ROW limits designated	
X	X	X	Existing vertical and horizontal alignments including data	Label centerline of survey and construction
X	X	X	Utility and owner information	List on first plan and profile sheet only (Sheet 3-1)
X	X	X	Boring locations (where available)	List on first plan and profile sheet only (Sheet 3-1)
X	X	X	North arrow	
X	X	X	Scales: Horizontal (stationing) and Vertical (elevation)	List on first plan and profile sheet only (Sheet 3-1)
	X	X	Final vertical and horizontal alignment with superelevation transition stationing and horizontal and vertical curve data	
	X	X	Final ROW, CME, TCP and Work Permit areas	Provide dimensions to centerline of survey (or construction)
	X	X	Include referenced build notes to all schedules for all new work (Structure Placement, Miscellaneous Schedule, Turnout Profiles, etc.)	Show all build notes perpendicular to proposed centerline.
			Comprehensive Checklist	
			Horizontal Alignments (EXISTING)	
X	X	X	Bearings and angle points	
X	X	X	Curve Data: PC's, PI's, PT's and Curve Data	Degree of curve and delta to be shown in degrees, min, sec. Existing curve data shall be in block style text.
X	X	X	Topography	Show existing topography notes parallel to centerline of construction.
X	X	X	Bench marks (elevations)	
X	X	X	Drainage structures	Description of existing structures and drainage features
X	X	X	Equations	
X	X	X	Existing survey centerline	
X	X	X	Existing ROW limits	
			Horizontal Alignments (PROPOSED)	
	X	X	New curve data	Proposed curve data shall be in *italics*.
	X	X	Design equations	
	X	X	Offset distances	
	X	X	Offset alignments and elevations	
	X	X	Bearings and angle points	
	X	X	Construction centerline	Station numbering at 500 ft. max. intervals
	X	X	Slope- limits	
	X	X	ROW Takes, CME's, and TCP's (Dimensions)	
	X	X	BOP and EOP stationing with equations	
	X	X	Arc definition note	Add "All curves on this project are based on the arc definition. Radius of 1 -5729.578." Sheet 3-1 only.
	X	X	Ramps and intersection alignments	
	X	X	Special preliminary design inspection recommendations	
	X	X	Proposed structures, pipes, CBCs, bridges, etc.	
	X	X	Reference designations for build notes (i.e. SQ-1, TO-2, etc.)	
			Vertical Alignments (EXISTING)	Existing ground linework shall be dashed.
X	X	X	Profiles and grades	

Sample of Horizontal Curve Data:
PI STA=105+10.25
DEG=8°34'51.00"
Δ=5°15'05.20"
R=150.00'
T=47.93'
L=92.79'
SE=2.8%

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X	X	X	Structure locations	
	X	X	Flowline elevations	
			Vertical Alignments (PROPOSED)	Proposed profile grade linework shall be solid.
	X	X	Vertical Curves: PC, PI, PT stations and elevation, Length of VC, MO, SSD for crest VC's and K-Values	Proposed curve data shall be in *italics* .
	X	X	Grades, ensuring minimum cover at structure locations	To 2 decimal places
	X	X	Elevations	To 2 decimal places
	X	X	Structure location (flowline, description)	Provide station, centerline flowline elevation, and structure description.
	X	X	Ramps and intersection alignments	
	X	X	Superelevation transitions, runoff and tangent runout lengths, details and locations	Refer to SE schedule on miscellaneous quantity sheets or provide here.
		X	**Detour Alignments and Grades (Detour Structures as per Drainage Report)**	
	X	X	Curve data	
	X	X	Detour profile	
	X	X	Offset	
	X	X	Connections	
	X	X	Clear zone requirements	
	X	X	**Bench Marks (elevations)**	
	X	X	**Miscellaneous Notes**	
	X	X	This Project begins in Section, Township, Range or Grant	Show on first plan and profile sheet only
	X	X	This Project ends in Section, Township, Range or Grant	Show on last plan and profile sheet only
			Intersection Layout Sheet	
	X	X	Ramp geometry	
	X	X	North arrow	
		X	Intersection plan sheets	
		X	Radii	
		X	Bearings	
			Interchange Layout Sheet	
		X	Ramp geometry	
		X	North arrow	
		X	Radii	
			Contour Sheets (if required)	
	X	X	Index contours intervals	
	X	X	Elevations	

Sample Vertical Curve Data:
PI STA=1355+50.00
VC Length=650.0'
M.O.=4.55'
K Value=114'
SSD=518'

Sample Bench Mark:
BRASS CAP
75' RT. STA. 421+42.21

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			4-Series - Turnout Profiles	Turnout Sections listed in numerical order from the bottom of the sheet up
X	X	X	Existing cross section, station, location and descripton	Label reference (TO-1, TO-2, etc.). Label station at centerline of TO.
	X	X	Existing ROW	
	X	X	Proposed typical section with dimensions	Label existing ground line elevation and roadway elevation at edge of shoulder.
	X	X	Proposed build notes including TO dimensions, radii, drainage pipes and gates, if required	Sample Turnout note: *TO-3 STA. 90+25.25* *BUILD 1-16' TURNOUT, RT., 25' RADIUS, LT. & RT.* *BUILD 1-24"X26' CULVERT PIPE W/ CONCRETE BLANKETS* *W/ SAFETY GRATES, LT. & RT. PAVE TO R/W.*
	X	X	Proposed ROW (CMEs, TCPs, or Work Permit dimensions)	
	X	X	Profile grade and vertical curve data	
	X	X	Elevations where turnout ends (at "catch points")	
			Show pipe in turnout profile, if required	
PDI	GDI	PIH	**5-Series - Bridge Sheets**	In accordance with the NMDOT Bridge Procedures and Design Guide, current version
◦	X	X	Structure location sheets	
◦	X	X	Retaining walls	
◦	X	X	Concrete channel covers	
◦	X	X	Energy dissipators	
	X	X	Geotechnical exploration boring log summary	
PDI	GDI	PIH	**6-Series - Construction Signing Plans**	
X	X	X	Suggested sequence of construction (constructability plan)	This should be second sheet of 6-series (Sheet 6-2)
X	X	X	Proposed detour details including location and type (shoo-fly, detour, etc.)	
	X		**Constructability review to be completed prior to or concurrent with GDI**	
	X	X	Traffic management (construction signing) plan details	
	X	X	Sign face details, etc.	
	X	X	Schedule and quantities for all required traffic management items	
	X	X	Indicate whether Traffic Control Management Plan quantities will be itemized or paid for as lump sum.	
	X	X	Indicate whether Changeable Message Boards to be retained by NMDOT or contractor	Add note below schedule to indicate if NMDOT or the contractor retains Changeable Message Boards.
	X	X	Detour geometric details and curve data, etc.	
	X	X	Detour typical section (include tack coat, prime coat, subgrade preparation)	
	X	X	Detour quantity schedule	
	X	X	Insert Standard Drawings (applicable sheets only) as 6-series sheets	
	◦	X	Special details	
		X	Carry all items and quantities through to Summary of Quantities	

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			7-Series - Permanent Signing Plans	
◦	X	X	Plan view providing sign locations and descriptions	
◦	X	X	Striping plan	
	X	X	Intersection striping details, if required	
◦	X	X	Sign face detail sheet	
	X	X	Project specific permanent signing notes	
	X	X	Permanent signing and striping quantity sheet	Provide schedules including item number, descriptions and quantities
	X	X	Permanent signing and striping summary of quantities sheet	Provide schedules including item number, descriptions and quantities
	X	X	Item numbers, item descriptions and quantities	
		X	Carry all items and quantities through to Summary of Quantities	
	X	X	Retroreflectorized painted markings	
	X	X	Station to station	
	X	X	Define striping (i.e. solid white, solid yellow, etc)	
	X	X	Linear feet (include equations when applicable)	
	X	X	Description (i.e shoulders lt and rt, center line, no passing zones, etc)	
	X	X	Specify paint type - Acrylic (3 applications) or Hi-build (2 applications)	
PDI	GDI	PIH	**8-Series - Lighting Plans**	
◦	X	X	Plan view providing lighting locations and descriptions	
	X	X	Project-specific notes for lighting	
	X	X	Summary sheet providing schedules including items and quantities	
	X	X	Project-specific lighting details (not addressed by NMDOT Standard Drawings)	
	X		**Lighting Agreement sent to local government for approval**	
		X	**Lighting Agreement signed by local government and returned to Traffic Technical Support Bureau**	
		X	Carry all items and quantities through to Summary of Quantities	
PDI	GDI	PIH	**9-Series - Signalization and/or ITS Plans**	
◦	X	X	Plan view providing signalization and/or ITS locations and descriptions	
	X	X	Applicable notes for signalization and/or ITS installations	
	X	X	Signalization and/or ITS details (not addressed by NMDOT Standard Drawings)	
	X	X	Summary sheet providing schedules including item number, descriptions and quantities	
	X		Signal plans reviewed by Traffic Maintenance Section	
	X		**Signal Agreement sent to local government for approval**	
		X	**Signal Agreement signed by local government and returned to Traffic Technical Support Bureau**	
		X	Carry all items and quantities through to Summary of Quantities	

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PDI	GDI	PIH	SERIES CHECKLIST	FORMATTING GUIDELINES*
			10-Series - Structure Placement Sections	N/A
X	X	X	Scales	
X	X	X	**Existing Structure Sections**	Use block font
X	X	X	Existing structure station and description	
	X	X	Pipe sections to be removed	
			Proposed Extension or New Structure Placement Sections	Use *italic* font
	X	X	New structure work (as per drainage recommendations)	
	X	X	Label reference (SQ-1, SQ-2, etc.)	
	X	X	Build note (match build note shown on P&P and ESQ)	
	X	X	Show typical section template with lane and shoulder dimensions with CWB and metal barrier offset location	
	X	X	End sections or blankets	
	X	X	Dig inlet and outlet dimensions (Length x Width x Depth)	
	X	X	Erosion control pads	
	X	X	Clear zone locations	
	X	X	Existing ROW location	
	X	X	New ROW (CME and TCP dimensions and limits)	
	X	X	Label profile grade	
	X	X	Drainage Area (DA), Headwater (HW), and Q100	DA in acres, HW in FT, and Q100 in CFS
	X	X	Elevations and grades on structure extensions	
	X	X	Minimum cover over pipes	
	X	X	List of required Standard Drawings	
	X	X	**Skewed Sections**	All requirements of normal sections apply with the following adjustments:
	X	X	Template dimensions and slopes	Skewed dimensions
	X	X	Show profile grade @ edge of shoulders at skewed station	
	X	X	Offsets	Skewed dimensions
	X	X	Clear zone	Skewed dimensions
	X	X	ROW	Skewed dimensions
	X	X	Build notes - show skew and direction of skew (i.e. Rt Fwd or Lt fwd)	
	X	X	**Super Elevated Sections**	All requirements of normal sections (and skewed section requirements, if applicable) apply
	X	X	Apply SE rate or transition rate to template	
	X	X	Label SE rate or transition rate	
	X	X	**Structures under Turnouts**	
	X	X	Minimum cover	
	X	X	Flowline	
	X	X	Parallel end treatments	

Sample Build Note (new structures):
STA. 97+00.10
BUILD 2-24"x84' CULVERT PIPES - NORMAL
W/END SECTIONS, LT. & RT.
DA=XX ACRES, HW=x.x', Q100=xx CFS
STD DRAWINGS: XXX-XX-X/X, XXX-XX-X/X

Sample Build Note (existing structures with extensions):
STA. 28+35
1-24"x100' C.M.C. - NORMAL IN PLACE
EXTEND LT. 20' AND RT. 10' WITH 1-24" CULVERT PIPE
BUILD MODIFIED CONRETE BLANKETS LT. & RT.
DA=XX ACRES, HW=x.x', Q100=xx CFS

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PDI	GDI	PIH	**11-Series - Utility Sheets**	
		X	Utility plan sheets	
PDI	GDI	PIH	**12-Series - NMDOT Standard Drawings**	
			NMDOT Standard Drawings	Provide at production milestone only
PDI	GDI	PIH	**13-Series - Cross-Sections**	Stationing shown from the bottom of the sheet up
X	X	X	Existing cross sections	
	X	X	Proposed template	Proposed template dimensions with slopes as per slope selections or slope exceptions
	X	X	Proposed grade elevations	
	X	X	Offsets	
	X	X	Define transition sections	Label super elevation rates and transition rates, if applicable
	X	X	Areas and volumes plus shrink or swell	Earthwork areas and volumes (cut quantities on left, fill quantities on right)
	X	X	Location and dimensions	
	X	X	Identification (roadway, ramps, frontage road, etc.)	Label and identify ramps, frontage roads, etc.
			ROW limits	

ITS Project Checklist – Systems Engineering Compliance

For All ITS Projects, a systems engineering checklist must be submitted to the Federal Highway Administration (FHWA) for review. Typically this form will be filled out by the ITS bureau to be submitted with the PS&E for ITS projects.
If all requirements in this form can be identified at 30% design, the project is considered a "minor" ITS project and it is likely that systems engineering planning requirements have been met partly or in their entirety, otherwise the project is considered a "major" ITS project and a System Engineering Management Plan must be submitted to FHWA for approval – Note either way testing and validation will still need to occur during construction for both Major and Minor ITS projects. A guide for this checklist can be found at: http://www.nmshtd.state.nm.us/main.asp?secid=11193

Section 1 - Project Information by Applicant

Your Name, phone number, and Title	**Project contact** **if this is not you
Sherri Holliefield, PDE 575-525-7351	

Do Not Fill out

NSE [ ]
Maj [ ]
Min [ ]

Project Title
CN: 1100610 – I-10 (MP 19.8 – 25.2) – Pavement Preservation

Brief Description / Purpose of ITS project / including list of ITS elements Brief Description / Purpose of ITS project / including list of ITS elements
This is a pavement preservation project for I-10 between mileposts 19.8 and 25.2, and includes performing milling the existing roadway and pavement inlay to the mainline and shoulders. The project also includes joint crack sealing the interchange ramps and fog sealing the parking lot of the Visitors Center at Exit 20.

Non-Systems Engineering Project (NSE) ☒ Yes ☐ No (see below)
If your project does not include any ITS devices, or only devices listed below, then the project is **NSE** –stop after Section 1.
Signal controller upgrades, Signal re-timing / Coordination, Stand alone ITS devices that do not / will never communicate *projects with Fiber or Conduit only are not considered ITS projects.

New Project or Modification
Is project currently programmed for planning and/or implementation, or a result of a Corridor study? **No**
☐ CMP; Project ID #_____
☐ MTP; Project ID #_____
☐ TIP; Project ID #_____
☐ Corridor Study; Project ID #_____ _____
☐ ITS Architecture Project # _____

Project location	**Estimated Project Dates**	**Total Funds**
I-10 – MP 19.8 – 25.2	Start Date May 2016 End Date October 2016	☒ State ☒ Fed ☐ Other ☐ local Amount $6 million

Nature of Work
☐ Software Development ☐ Implementation of ITS ☐ Traditional construction with ITS
☐ Operations (HELP Trucks) ☐ Maintenance (Equipment Replacement) ☒ Other
If Other Explain: **Roadway Pavement Preservation**

Relationship to Other Projects and Phases

Section 2 - MPO and or Planning Data

What issues are the ITS elements intended to address?

Portions of the Regional ITS Architecture being implemented *check service corresponding to the ITS architecture used (stakeholder role and responsibilities table)

- ☐ Archived Data Management
- ☐ Public Transportation
- ☐ Traveler Information
- ☐ Traffic Management
- ☐ Vehicle Safety
- ☐ Commercial Vehicle Operations
- ☐ Emergency Management
- ☐ Maintenance and Construction Management
- ☐ Traffic Signal Control
- ☐ Highway management
- ☐ Incident Management
- ☐ Transit Management

Market Packages –Attach all applicable market packages from Turbo or Online Architecture

Regional Architectures impacted by the project

☐ NM Statewide ☐ Albuquerque ☐ Farmington ☐ Las Cruces ☐ Santa Fe
☐ El Paso, TX Other:

Changes recommended to Regional Architectures due to the project

☐ No ☐ Yes
If Yes Provide Detail:

Party / Agency responsible for maintenance and funding source

List any Agreements utilized or needed for this project Table 15 / 16 in AMPA Regional ITS Architecture

Existing: Table 15 (pg 131)

Potential agreements identified for the project: Table 16 (pg 135)

Section 3 - Project Implementation and Design

Procurement Methods (should correspond with project risk) *Check all that apply
Commodity Supplier – off-the-shelf ITS products (low-bid selection of pre-qualified packages) **Low Bid Contractor with CD** – typical for construction projects (low bid contractor) **Systems Manager** – manager responsible for delivering operational system (quality based selection) **Design Build** –major projects with construction (best value selection) **Consultant** – supplement in-house capabilities or consultant / manager selection (qualifications based) **Outsourcing** – for a capability or function rather than a specific system (best value or low bid) http://www.citeconsortium.org/Model/index.htm

☐ Commodity Supplier ☐ Low Bid Contractor with Consultant Design
☐ Systems Manager ☐ Design Build ☐ Consultant ☐ Outsourcing ☐ Other

Comments:

Project Matrix – Documentation **If "Existing" attach to checklist or make available
The matrix below should be completed by an engineer familiar with the SE on past projects. *note some projects have multiple ITS elements only some of which will have the required documentation, please check all that apply to the project.
Existing – documentation is available from previous projects which would apply to the current project without modification (for typical deployments, i.e. DMS signs) * if this is chosen incorrectly the project could be held up at a later date
To be Modified - documentation is available from previous projects which would apply to the current project after some modification (could be due to a policy change, new communication standard or new jurisdiction involvement on a typical deployment), please note the required changes
To be Completed - this is for new or new to the agency projects. Indicates a "Major" ITS project and that a systems engineering management plan is required
Not Applicable – In some instance an off the shelf project may be used, in this case testing may have been done by the supplier. Please note why the requirement is not applicable to the project

	Existing	To be Modified	To be Completed	Not Applicable	Comments:
High Level Design Alternatives Analysis	☐	☐	☐	☐	
Concept of Operations	☐	☐	☐	☐	
Detailed design	☐	☐	☐	☐	
Integration Plan	☐	☐	☐	☐	
Test Plan	☐	☐	☐	☐	
System Acceptance Plan	☐	☐	☐	☐	

NMDOT Approval: _____ _____ _____/__/__
Print Name Signature Date

NMDOT ENVIRONMENTAL CLEARANCE REQUEST

Form last updated on June 10, 2013

NOTE: You will need to type directly into the white-shaded boxes. Yellow-shaded boxes have drop down lists to choose from. When you select a yellow box, an arrow will appear to the right of the box. Click on the arrow to see the options.

	Month	Date	Year
Date Submitted	Apr	30	2014

DISTRICT 1

Requestor Name Brian Soleman

Org # or Patrol # 33-40

Phone Number 575-525-7316

(if applicable) **Control #** 1100610

Cell Number 575-202-0564

(if applicable) **Project #**

Road # I-10

Beginning Mile Post (BOP) 19.5

End Mile Post (EOP) 29.5

County: 1 Hidalgo

If more than one County, list below:

2

3

4

5

How will work be funded? Both State and Federal funds

If other, describe funding:

	Month	Date	Year	
(if applicable) **Production Date**	Feb		2016	comments

PLEASE SEND A MAP OF THE PROJECT AREA SHOWING THE BOP TO EOP, AND SEND PHOTOS.

	Month	Date	Year		Month	Date	Year
Date(s) work will be performed:	June		2016	**to**	Dec		2016

(Allow 3+ months for clearance if biological and cultural resources surveys are required)

Type of work to be performed: Vertical adjustment to roadway to meet minimum clearances beneath existing bridge, Pavement preservation and reconstruction of existing eastbound and westbound travel lanes and shoulder. Ramp removal and reconstruction with geometric improvements.

Is the project within NMDOT-owned ROW, and/or within easement from another agency? NMDOT-owned ROW

If easement, from which agency?

Is the easement prescriptive?

If other, or if multiple agencies, list here:

Does work extend outside of the ROW/easement? No

If yes, how many feet does it extend outside, and between which mile posts?

Who owns the land adjacent to the ROW/easement/project area? Private

If other, or if multiple land owners, list here:

Are there drainage structures within the project area?

Is there any drainage work? No *(arroyo work, structure work, cleaning, installation, extension, repair, etc.)*

List structure locations:

Describe drainage work. For maintenance include length, width, and depth of work.

Describe types of fill materials in cubic yards.

Fill material will be mostly confined to backfill material in the area of proposed geometry modification and additional lane constructed along E Motel Drive.

Will more than 1 acre of ground be disturbed? No **If yes, NPDES requirements will apply. Contact the NMDOT Drainage Section for assistance.**

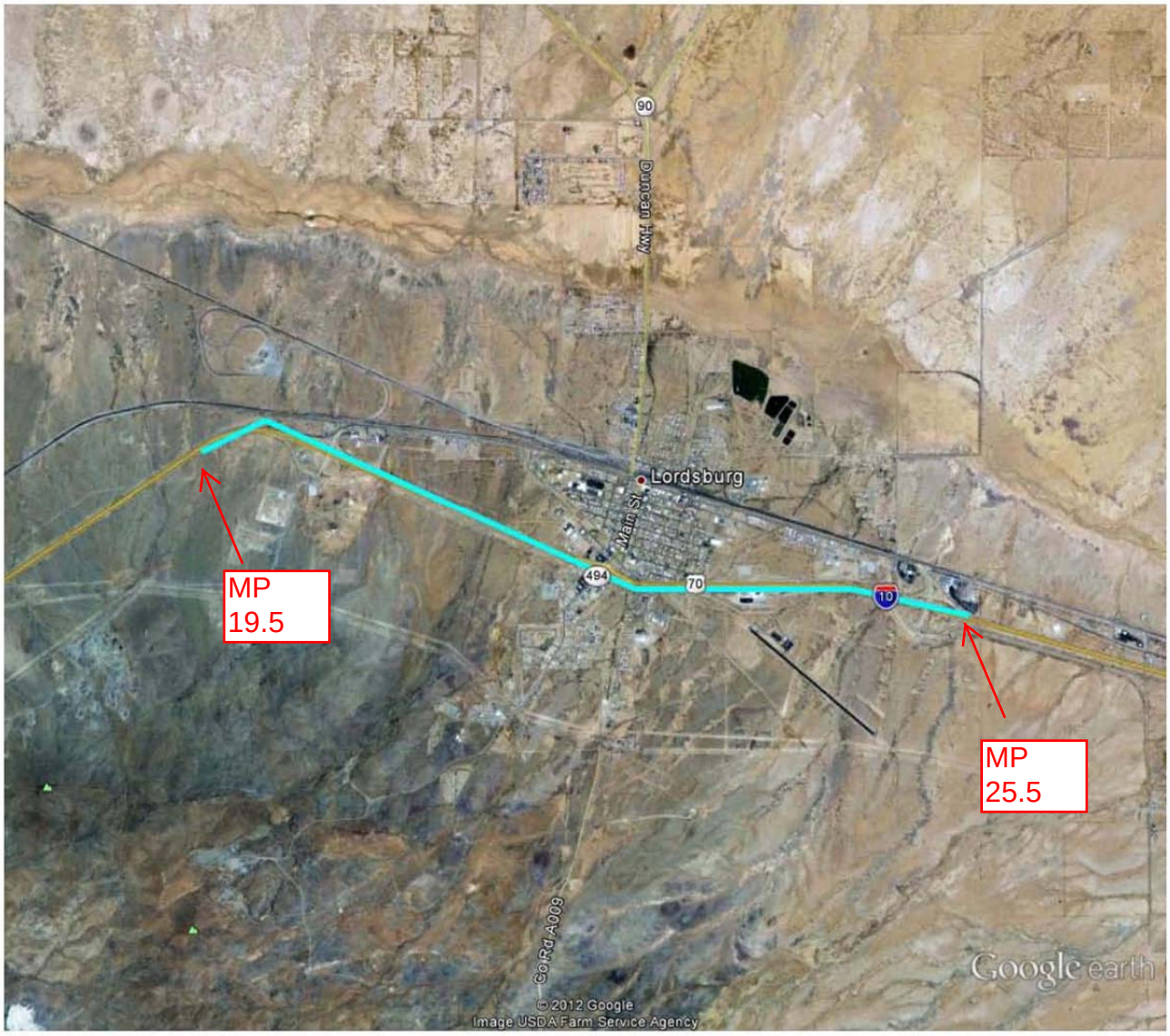
If NPDES requirements apply, who will oversee NPDES during construction?

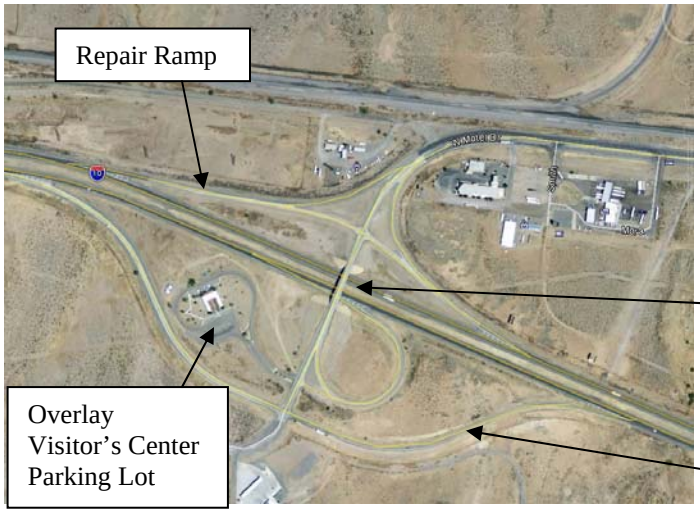
Please describe in detail the work and how it will be performed. Include equipment that will be used and how it will be used. Describe the type of terrain, if you will be working in arroyos, or on drainage structures, etc. Please include drawings, if applicable. Please attach additional pages if needed.

SCOPE OF WORK: *(Please note: Any changes to the scope of work will need additional Environmental Clearance.)*

Project involves pavement preservation of the existing eastbound and westbound travel lanes and shoulders of I-10 through Lordsburg MP 20-25. Project may also include rehabilitation of the ramps, geometric improvements at Exit 24 and reconstruction of a section of I-10 at exit 20 due to the clearance requirements under a bridge. This project may also consist of reconstruction of a failing section at approximately MP 29.

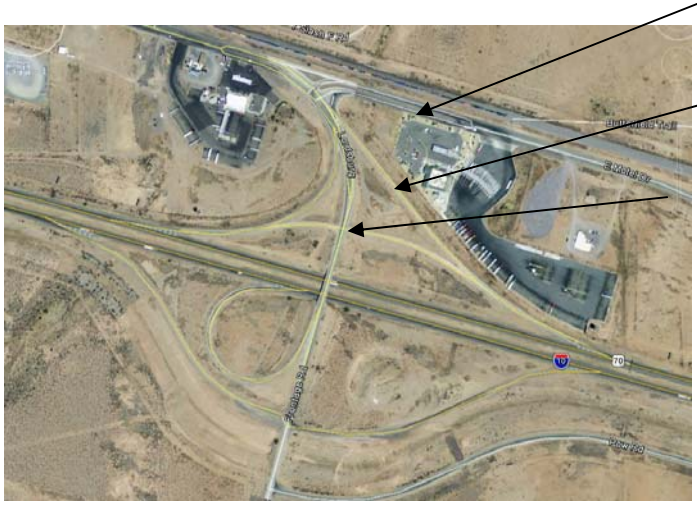
IN THE SPACE BELOW, PLEASE LIST EQUIPMENT THAT WILL BE USED TO PERFORM THE WORK:


MP
19.5
MP
25.5
Lordsburg
Main St
Duncan Hwy
90
494
70
10
Co Rd A009
© 2012 Google
Image USDA Farm Service Agency
Google earth

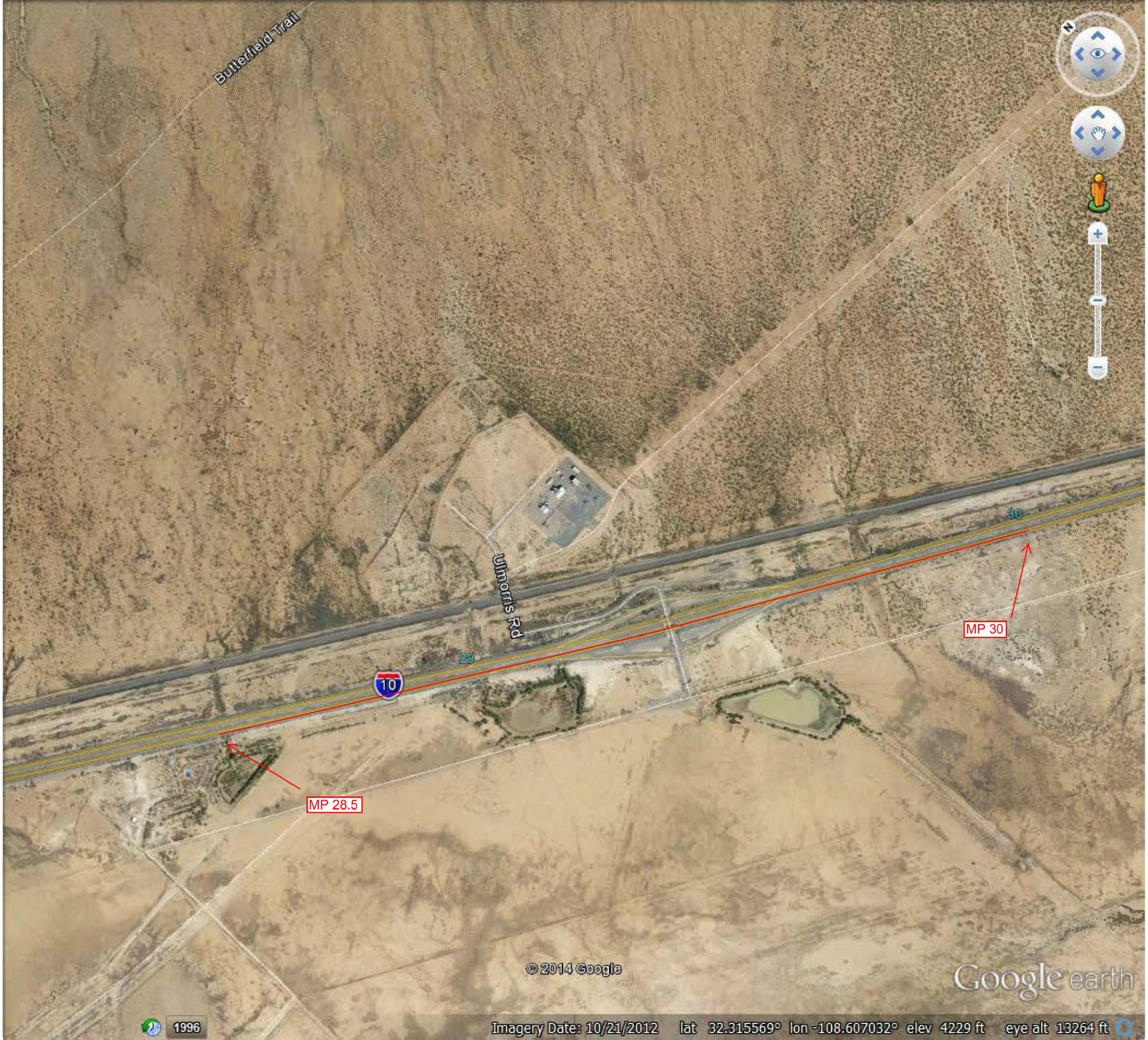


I-10 Exit MP 20 West of Lordsburg

I-10 Exit MP 22 Lordsburg



I-10 Exit MP 24 East of Lordsburg


Butterfield Trail
Ulmoris Rd
10
MP 30
MP 28.5
© 2014 Google
Google earth
1996
Imagery Date: 10/21/2012 lat 32.315569° lon -108.607032° elev 4229 ft eye alt 13264 ft

New Mexico DEPARTMENT OF TRANSPORTATION
MOBILITY FOR EVERYONE

INTRA-DEPARTMENTAL CORRESPONDENCE

SUBJECT: RAILROAD CERTIFICATION REQUEST

DATE: 9/23/15

TO: Rob Fine, Manager
Rail Facilities
Engineering Coordinator

FROM: Sherri Holliefield
Project Development Engineer
South Design Region

FILE REFERENCE: Project # , CN 1100610
County: Hidalgo
Termini: I-10, MP 19.8 to MP 25.2

This letter serves as notification that the above referenced project will not require any railroad adjustments or relocation. There are no impacts.

The project is located on I-10 within Lordsburg, New Mexico, from 19.8 to MP 25.2. The scope of this project includes pavement preservation of the existing eastbound and westbound travel lanes and shoulders of I-10 with an asphalt mill and inlay. The project also includes joint crack sealing of the interchange ramps and fog sealing the parking lot of the Visitors Center at Exit 20. No new right-of-way is being acquired with this project.

The New Mexico Department of Transportation has no current knowledge of hazardous material usage or contamination of soils or ground water by hazardous material.

The project is scheduled for a February 2016 Production date.

Your assistance in processing this request is appreciated. If any other information is required please do not hesitate to contact me at 575-525-7351.

Thank you.

New Mexico DEPARTMENT OF TRANSPORTATION
MOBILITY FOR EVERYONE

INTRA-DEPARTMENTAL CORRESPONDENCE

SUBJECT: R/W NOTIFICATION

DATE: September 23, 2015

TO: Ron Noedel, Chief
Right-of-Way Operations

FROM: Sherri Holliefield, PDE,
South Region

FILE REFERENCE: Project #, CN 1100610
County: Hidalgo
Termini: I-10 – MP 19.8 to 25.2

This letter serves as notification that the above referenced project does not require additional right-of-way on I-10 from milepost 19.8 to 25.2 through the Lordsburg area. I am requesting a final right-of-way certification for the above referenced project located within the above referenced termini.

There is no relocation for this project. There are no encroachments on this right-of-way. The New Mexico Department of Transportation has no current knowledge of hazardous material usage or contamination of soils or ground water by hazardous material.

The scope of the project is to mill and inlay the existing pavement on the driving lanes and shoulders within the project area. The project also includes concrete interchange ramp crack sealing and fog sealing the Visitors Center parking area at exit 20. The project is scheduled for a February 2016 Production.

Your assistance in processing this request is appreciated. If any other information is required, please do not hesitate to contact me at 575-525-7351.

New Mexico DEPARTMENT OF TRANSPORTATION
MOBILITY FOR EVERYONE

INTRA-DEPARTMENTAL CORRESPONDENCE

SUBJECT: Utilities Clearance
CN: 1100610
I-10 Roadway Pavement Preservation Project
Hidalgo County, District One

DATE: September 22, 2015

TO: Shawn Chafins
Utilities Section

FILE REF: 1100610

FROM: Sherri Holliefield, PE
South Region Design

ATTN:

FILE REFERENCE: Project#; CN# 1100610
County: Hidalgo
I-10 Roadway Pavement Preservation – Milepost 19.8 – 25.2

This correspondence is a request for a Utilities Clearance Certification. The scope of this project is to mill and inlay the existing pavement on the mainline and shoulders between mileposts 19.8 and 25.2 of I-10 through the Lordsburg area. The project also includes concrete interchange ramp crack sealing and fog sealing the Visitors Center parking area at exit 20. The project does not have conflicts with existing utilities and will not require any relocations.

I am requesting a utility clearance for the above referenced project. Please contact me at (575)525-7351 if you have any questions or concerns.

Thank you,

Sherri Holliefield

Sherri Holliefield, P.E.
NMDOT-South Region Design