

January 8, 2016

Project Scope: Engineering Contract No. 1610 – Preliminary Engineering Corridor Study, I-35 from Robinson Street extending North through SW 4th Street, Cleveland County, Oklahoma

Project Description

The project is proposed by the Oklahoma Department of Transportation (ODOT) for improvement of the I-35 corridor from Robinson Street Interchange north through the SW 4th Street Interchange. The project is located in Cleveland County and is entirely contained in sections 2, 3, 10, 11, 14, 15, 22, 23, 26, and 27 of Township 9 North, Range 3 West, and sections 14, 15, 22, 23, 26, 27, 34, and 35 of Township 10 North, Range 3 West of the Indian Meridian. The project extends along I-35 approximately eight miles beginning south of the Robinson Street interchange at the terminus of the Main Street interchange ramps and ending approximately one half mile north of the SW 4th Street Interchange. The project includes five existing urban service interchanges and discontinuous frontage roads. There are thirteen bridge locations on or over I-35 within the project extents. A location map showing the approximate project extents is given in Appendix A.

The purpose of this project is to provide a preliminary engineering corridor study for improving traffic operations within this section of the I-35 corridor. Within the project extents, I-35 consists of a six-lane divided highway, with service interchanges unevenly spaced and discontinuous frontage roads. Existing infrastructure will be preserved when feasible and prudent. This study has been divided into two phases.

Scope of Engineering Services

The preliminary engineering corridor study process will include data gathering, an environmental constraints map, analysis of existing infrastructure and traffic operations, identification of existing corridor issues, alternatives analysis for interchange improvements, identification and justification for recommended Design Exceptions, coordination with the Department's environmental process, public involvement and coordination with the City of Norman, City of Moore, and ODOT, and development of a conceptual design report with associated cost estimates and recommendations for project prioritization.



The consultant will provide the following deliverables to the department for the project extents:

- Aerial Map of Corridor for Public Meeting (Phase 1)
- Environmental Constraints Map (Phase 1)
- Preliminary Alternatives Engineering Report Draft (Phase 1)
- Preliminary Alternatives for Screening Workshop (Phase 1)
- Preliminary Alternatives for Alternative Assessment Workshop (Phase 2)
- Draft Corridor Study Report (Phase 2)
- Public Meeting Exhibit with Alternates (Phase 2)
- Final Corridor Study Report with Recommendation (Phase 2)

Phase 1, Task 1: Data Collection and Analysis of Existing Conditions

A kickoff meeting will be held with ODOT, the City of Norman, the City of Moore, and FHWA. The primary purpose of this meeting is to confirm data sources and availability, outline communication and reporting protocols, and confirm project goals with each party.

The Consultant will analyze existing infrastructure and identify safety, right-of-way, utilities, and potential environmental issues within the corridor. Readily available pavement condition and maintenance data will be gathered. The corridor will be evaluated using crash data provided by the Department. Potential environmental and right-of-way issues will be identified and reported via the reconnaissance data collection.

Existing traffic data, intersection turning movements, directional traffic counts, agency long range plans, multimodal plans, existing signal timings, as-built plans, existing bridge conditions, past studies, FEMA floodplain maps, classification data, ITS architecture, and existing land use maps will be collected and analyzed by the Consultant. The roadway geometrics as shown on the as-built plans and as previously input during past studies on all models used shall be field verified. Traffic data collection limits will include additional area on each end of the corridor; the southern limit shall be the Main Street interchange and the Shields interchange shall be the northern limit. Traffic data collection limits for arterial street crossings are shown on the map in Appendix A. Traffic data analysis limits for HCS2010 shall be terminated north of the 12th Street interchange at the highway Y. HCS 2010 model for 2015 and 2035 traffic will be completed.

The crash data provided by ODOT will be analyzed and summarized in graphical form. Crash history pertaining to interchanges will be included as part of the overall review of interchange alternatives to identify high crash areas and determine solutions that consider safety.

The Consultant will prepare a map of the collected data for use in development of alternatives. The design traffic will be developed and approved by the department. Detailed Traffic and Reconnaissance Scopes of Work are included in Appendices B and C, respectively.



Phase 1, Task 2: Develop Alternatives

A "sticky note" public involvement meeting will be held with the public to get input from the public. This is the first Public Meeting. No alternates will be presented at this meeting. Meeting graphics shall consist of an aerial map of the corridor. All public meetings will be in accordance with the method outlined in the Public Involvement section of this document. The comments from the public resulting from this meeting will be considered during the development process.

Consultant will develop and compare alternate improvement concepts for operational improvements at interchanges as well as frontage roads throughout the corridor. The study area contains five existing interchanges, Robinson Street, Tecumseh Road, Indian Hills Road, SW 19th Street, and SW 4th Street. All section line arterial road locations will be evaluated to determine if an interchange is warranted for corridor improvement.

The Consultant will develop a universe of alternatives to each interchange for operational traffic improvements including existing traffic and projected traffic. The interchanges are urban interchanges and most are constricted based on existing development. This set of alternatives will include both improved two way frontage road operations and possible one way frontage road operations. These alternatives will be evaluated on practicality of construction based on available right-of-way and potential right-of-way, taking into consideration existing land uses.

The universe of alternatives will be narrowed by the consultant with impractical solutions, solutions that are not constructible or are impractical for the interchange, eliminated. Intersection operational analysis will not be completed during phase 1. A schematic of each alternative at individual interchanges will be included in the Preliminary Alternatives Engineering Draft Report.

The report will include the information gathered at this point in the study and a summary will be included of the alternatives considered. Ten (10) hard copies and one (1) PDF copy of the draft report will be submitted to ODOT for review. The draft report will not include any corridor alternatives, only individual interchange alternates will be included for use in the preliminary alternatives screening workshop. This report shall remain in draft format and will be revised during Phase 2 to create the final corridor study report.

A preliminary alternatives screening workshop will be held with Stakeholders. This is the first Stakeholder Meeting. Stakeholders shall include ODOT, the City of Moore, the City of Norman, and any other appropriate agencies identified by them. ODOT, the City of Norman, and the City of Moore staff will be included both in the development and review of alternatives. The universe of alternatives will be narrowed to no more than 5 concept alternatives for the continuous corridor.



Phase 2, Task 1: Conceptual Analysis

A series of Measures of Effectiveness (MOEs) will be developed and will be used to evaluate the remaining concept alternatives. Each of the remaining concept alternatives for the corridor extents will be evaluated for both vertical and horizontal alignment feasibility. The geometry of the alternatives will meet AASHTO and ODOT standards and, in concept form, details will be provided with regards to retaining walls, utility conflicts if known, right-of-way needs, and major drainage issues. These alternatives will be evaluated for multimodal considerations, screened for environmental impacts, and evaluated for signing feasibility and socio-economic impacts.

Synchro and HCS 2010 will be used to quantify traffic operational criteria at this stage. The analyses will determine the operational characteristics of the interchange alternatives including their impacts on the mainline freeway.

The Department will provide the conceptual pavement designs for use in determining cost estimates to the Consultant. Comparative cost estimates for pavement design purposes are not included for this project. Preliminary cost estimates for construction will be calculated and provided.

A preliminary alternatives assessment workshop will be held with the stakeholders. This is the second Stakeholder Meeting. The consultant will provide a constraints map with all alternates shown for this meeting. The alternatives will be narrowed to 3 complete corridor concepts to be presented in the final report.

Phase 2, Task 2: Conceptual Design Report Submittal

For projects on NHS routes, FHWA requires that all exceptions from accepted guidelines and policies be justified and documented in some manner and requires formal approval for 13 specific controlling criteria. The controlling criteria as well as clear zone and bridge condition that will be evaluated are as follows:

- 1. Design speed
- 2. Lane width
- 3. Shoulder width
- 4. Bridge width
- 5. Structural capacity
- 6. Horizontal alignment
- 7. Vertical alignment
- 8. Grade
- 9. Stopping sight distance
- 10. Cross slope
- 11. Superelevation



12. Vertical clearance

13. Lateral Offset (not including clear zone)

The remaining 3 alternates will be evaluated for the above criteria to determine if design exceptions are anticipated. These alternatives will be evaluated for environmental impacts and a final constraints map will be developed. The signal phasing will be completed for these alternatives and a preliminary sequence of construction will be developed.

Some key criteria for evaluation of the remaining alternatives will be the cost, level of service, environmental and right-of-way constraints, and constructability. A matrix will be completed to outline the pros and cons for each of the remaining alternatives.

Layouts of each alternative connected in an overall corridor schematic showing connectivity and relationship of the interchanges to the mainline freeway will be included in the final report. The Consultant will prepare a draft report and constraints map with the 3 remaining concept alternatives. The report will include all findings of the study. Written documentation will include design constraints, major constructability issues and the pros and cons of each alternative. As part of the report, the collected and summarized data will be included for future reference. The report will include tables and graphics to adequately document the findings of the study. Ten (10) hard copies and one (1) PDF copy of the draft report will be submitted to ODOT for review. The draft report will not include any recommendations for the preferred alternate.

A stakeholders meeting will be held to discuss the findings in the report and to determine a preferred alternative. This is the third Stakeholder Meeting. The stakeholders will review and comment on the draft report. A single copy will be returned to the Consultant with all of the review comments.

Exhibits will be prepared for a public meeting to provide a comparison of the 3 alternatives to the public. This is the second Public Meeting. The preferred alternative will be identified on the public meeting exhibits. A public meeting will be held in accordance with the method outlined in the Public Involvement section of this document.

Upon receipt of review comments from the department and the compilation of the comments from the public meeting, a recommended alignment will be identified for the final report. The draft report will be corrected and a final report submitted.

The final report will include a recommendation for improvements and a preliminary footprint. The recommendation shall incorporate environmental mitigation measures, construction project breakdown, cost estimates, project limits and scheduling priorities. Ten (10) hard copies and one (1) PDF copy of the final report will be submitted to ODOT along with an electronic copy of the traffic models.



Design Criteria

All designs will be prepared in English units of measure. All designs will be prepared for these projects in accordance with the following publication:

"Oklahoma Department Transportation Standard Specifications for Highway Construction, and Supplementals," 2009.

Any required electronic plan submissions to the Department will be prepared in MicroStation® or Adobe PDF format.

<u>Roadway</u>

All roadway design will be prepared according to the following publications:

"A Policy on Geometric Design of Highways and Streets," Fifth Edition, AASHTO, 2011

"Highway Capacity Manual, Transportation Research Board," 2010

"Oklahoma Department of Transportation Roadway Design Manual," 1992

"Roadside Design Guide," AASHTO, 2011

"Oklahoma Department of Transportation Drainage Design Manual," 1992

City of Norman "Engineering Design Criteria", "Standard Specifications and Construction Drawings", and "Comprehensive Transportation Plan"

City of Moore standard drawings and specifications

Bridges and Other Structures

The existing bridges will be examined for feasibility of widening or replacement, as needed, and discussion will be included in the feasibility report. Existing bike/pedestrian barriers will be recommended for removal and additional bridge widening will be included in the cost estimates, where appropriate. Deconstruction/construction sequencing of the bridges will be considered and locations where false work will be required for construction will be identified. Existing vertical clearances will be surveyed. Structural obsolete items will be recommended for replacement to meet current design criteria.

Cost estimates will be calculated by applying a unit cost factor derived from relevant bid histories to the approximate total area of new bridge deck slab. All structurally deficient bridges within the project study limits will be recommended for replacement.



<u>Traffic</u>

All permanent and temporary construction traffic control signing, striping or other devices provided on this project will be designed according the following publication:

"Manual on Uniform Traffic Control Devices for Streets and Highways," U.S. Department of Transportation, FHWA, 2009.

Detailed information for traffic data collection and analyses is provided on the attached Scope of Services for Traffic included in Appendix B.

Right-of-Way and Utilities

No right-of-way plans or utility relocation will be provided for this project. Cost estimates for utility relocation and anticipated right-of-way purchases will be included in the final report.

Land Surveying

Survey will include verifying existing right-of-way, verifying bridge vertical and horizontal clearances, providing ownerships where needed, and providing utilities list and locations within the environmental right-of-way footprint. An ownership map will be developed and included in the report.

Geotechnical Investigations

No geotechnical investigations are anticipated at this time. The Department will provide available historical data and geotechnical investigations necessary for this project. The Department will provide the conceptual pavement designs for use on this project.

Public Meeting

There will be two Public Meetings as discussed in the scope above. The Consultant shall submit a Public Involvement Plan to Environmental Programs Division which identifies the public. The public at a minimum include property owners within the project extent, nearest city/town emergency services (police, fire, hospitals, etc.), schools within the district, post office, and local and appropriate Agencies and Officials. **The Consultant Project Manager should obtain the latest NEPA Public Meeting list and sample Public Meeting Notice from the ODOT Environmental Project Manager.** The list will have to be supplemented with project specific invitees by the Consultant.

Once the Public Involvement Plan is approved, the Consultant Project Manager shall coordinate a Public Meeting date with ODOT, the City of Moore, and the City of Norman (Client) and have a Pre-Public Meeting with the Client. Pre-meeting shall be held at least <u>4 weeks prior to the Public Meeting and prior to meeting notices being sent out</u>. The Consultant shall be responsible for finding an appropriate location for the Public Meeting and making all arrangements for the meeting.



At the Pre-Public meeting, the Consultants shall provide a copy of the Public Meeting notice, Agenda/Format for the Public Meeting, Displays or Presentation for the Public Meeting and a list of invitees to the Public Meeting which shall include the list from the Public Involvement Plan along with the Agency and Official Contacts provided by the Client.

After the Pre-meeting, the Consultant Project Manager shall send out public meeting notice letters to the stakeholders and appropriate Agencies and Officials on ODOT letterhead under ODOT signatures. <u>Any media notice will be done by the Client</u>. The Consultant shall be responsible for presenting the alignment alternatives and constraints, when appropriate, and asking for input at the Public Meeting.

After the meeting, the Consultant shall coordinate with the ODOT Environmental Project Manager to get responses for any verbal or written issues brought up by the public at the Public Meeting. The Consultant Project Manager shall prepare a report summarizing what was presented, how many attendees, any verbal or written concerns or feedback received from the public regarding the project, and the response from the Client to such concerns. A summary matrix of the comments received will be prepared and any responses will be coordinated with the Client. The meeting summary report, copies of meeting notice, agenda, written comments and written responses shall be included in the corridor study report.

Stakeholder Meetings

There will be three Stakeholder Meetings as discussed in the scope above. The intent of the stakeholders meetings is to provide executive level input and collaboration during the execution of the project. Stakeholders shall include ODOT, the City of Moore, the City of Norman, and any other appropriate agencies identified by them. Meetings with the stakeholders will be conducted at key milestones in the development of the project. Consultant shall maintain a comprehensive contact list for all contributing stakeholders. Appropriate notice will be given in advance of each meeting.

Engineering Contract Requirements

Engineering Fees

The fees for the following items will be included in the Contract in amounts as shown below:

- Phase 1
- Phase 2

Hourly NTE \$775,000.00

TBD



Project Milestones

The following milestones will occur in the month and year shown:

•	Consultant will receive the Notice to Proceed	March, 2016
•	Begin Traffic Data Collection	April, 2016
•	Kick-off Meeting with ODOT, the City of Norman, the City of Moore, and FHWA	May, 2016
•	Public Meeting Documents	June, 2016
•	Pre-Meeting for "Sticky Note" Public Meeting	June, 2016
•	Reconnaissance Data Collection Completed	July, 2016
•	Public "Sticky Note" Meeting	July, 2016
•	Design Traffic Approved	September, 2016
•	Preliminary Alternatives Screening Workshop	December, 2016
•	Alternative Design Traffic, Synchro, HCS2010 Completed	February, 2017
•	Preliminary Alternatives Assessment Workshop	April, 2017
•	Draft Report Submittal	July, 2017
•	Draft Report Review Meeting	August, 2017
•	Pre-Meeting for Public Meeting	September, 2017
•	Public Meeting	October, 2017
•	Feasibility Study and Report	
	& Environmental Constraints Map	January, 2018



Appendix A: Location Map







Appendix B: Detailed Information for Traffic Data Collection and Analyses



EC No. 1610 Preliminary Engineering Corridor Study I-35 from Robinson Street north through 4th Street Cleveland County

Traffic data collection southern limit shall be the Main Street interchange and the Shields interchange shall be the northern limit. Traffic data collection limits for arterial street crossings are shown on the map in Appendix A. Traffic data analysis limits for Synchro, HCS2010, and CORSIM shall be terminated north of the 12th Street interchange at the highway Y. Consultant will provide all relevant traffic data to ODOT to prepare the mainline design traffic data. The design traffic data will be completed by ODOT for the mainline and provided to Consultant for use.

1.0 TRAFFIC DATA COLLECTION (Phase 1)

- 1.1 Collect Available Traffic Volume Data
- 1.2 Assemble Existing Traffic Data from Past Studies
- 1.3 Collect Type of Control, Signal Timing for all Signalized Intersections
- 1.4 Develop Detailed Traffic Count Program
- 1.5 Collect Intersection Turning Movement Counts -
- 1.6 Collect 24 Hour Directional Traffic Counts -
 - 1.6.1 Volume Only Arterials, Frontage Roads
 - 1.6.2 Volume Only Interstate Highway Ramps
 - 1.6.3 Volume Only Interstate Highway Mainline
 - 1.6.4 Volume, Classification Arterials, Frontage Roads
 - 1.6.5 Volume, Classification Interstate Highway Ramps
- 1.7 Summarize all Raw Traffic Data and Submit to ODOT for review
- 1.8 Signing Inventory

2.0 DESIGN TRAFFIC DEVELOPMENT (Phase 1)

- 2.1 Develop 2015 Base Year Traffic (Existing Geometry)
 - 2.1.1 AM/PM Peak Hour Volumes (DHV) All Movements
 - 2.1.2 AADT All Movements
 - 2.1.3 Percent Trucks AADT (T_{AADT})
 - 2.1.4 Percent Trucks DHV (T_{DHV})
 - 2.1.5 Percent Heavy Trucks AADT (T3_{AADT})
 - 2.1.6 K and D Factors Mainline and Arterial Street
 - 2.1.7 Summarize Traffic Data and Submit to ODOT for review/modifications



2.2

- 2.1.8 Estimate Regional Trips vs Local Trips
- Develop 2040 Future Year (Existing Geometry)
 - 2.2.1 AM/PM Peak Hour Volumes (DHV) All Movements
 - 2.2.2 AADT All Movements
 - 2.2.3 Percent Trucks AADT (T_{AADT})
 - 2.2.4 Percent Trucks DHV (T_{DHV})
 - 2.2.5 Percent Heavy Trucks AADT (T3_{AADT})
 - 2.2.6 K and D Factors Mainline and Arterial Street
 - 2.2.7 Summarize Traffic Data and Submit to ODOT for review/modifications
 - 2.2.8 Conduct Constraint Condition Review and Analyses Determine 2040 Exit.+Committed Unconstrained Traffic Condition
 - 2.2.8.1 HCS 2010 Operational Analysis 2040 Traffic
 - 2.2.8.2 Adjust and Redistribute Traffic for Unconstrained Condition
- 2.3 Summarize all Traffic Data and Submit to ODOT for review/modifications

3.0 **OPERATIONAL ANALYSIS (Phase 2, unless noted)**

- 3.1 Determine Operational Character of Existing Network 2015 Adjusted Traffic
 - 3.1.1 Create CORSIM Base Model 2015 Traffic
 - 3.1.1.1 Create Georeferenced Link/Node CAD Diagram of Mainline System
 - 3.1.1.2 Create Freeway Geometric CAD Schematic
 - 3.1.1.3 Create Synchro Model for Frontage Roads and Arterials
 - 3.1.1.4 Input Approved Volumes and Signal Timings into Synchro Model
 - 3.1.1.5 Code Links/Intersections Into ODOT Provided CORSIM Node File
 - 3.1.1.6 Input Approved Base Volumes Into CORSIM Model
 - 3.1.1.7 Transfer Synchro Data into CORSIM Model
 - 3.1.1.8 Run CORSIM Model and Summarize Calibration Targets
 - 3.1.1.9 Calibrate CORSIM Model and Submit Memo
 - 3.1.1.10 Run Calibrated CORSIM Model and Summarize MOEs
 - 3.1.2 HCS 2010 Operational Analysis Exist. Traffic Control(2015) Facilities Module (Phase 1)
 - 3.1.3 Summarize Analysis Results
- 3.2 Determine Operational Character of Existing + Committed Network 2040 Unconstrained Traffic
 - 3.2.1 Create CORSIM Model 2040 Unconstrained Traffic
 - 3.2.1.1 Modify Georeferenced Link/Node CAD Diagram of Mainline System
 - 3.2.1.2 Modify Freeway Geometric CAD Schematic
 - 3.2.1.3 Modify Synchro Model for Frontage Roads and Arterials
 - 3.2.1.4 Input Approved Volumes and Optimized Signal Timings into Synchro Model
 - 3.2.1.5 Modify Links, Geometrics, and Volumes in CORSIM Model



- 3.2.1.6 Transfer Synchro Data Into CORSIM Model
- 3.2.1.7 Run Model and Summarize MOEs

3.2.2 HCS 2010 Operational Analysis - Existing + Comm. Traffic Control (2040) Facilities Module

- 3.2.3 Summarize Analysis Results
- 3.3 Determine Operational Character for five (5) Alternatives 2040 Unconstrained Traffic
 - 3.3.1 Improvement Alternative 1
 - 3.3.1.1 Redistribute Traffic AM/PM Peak Hours
 - 3.3.1.2 Summarize Traffic Data and Submit for Approval
 - 3.3.1.3 HCS 2010 Operational Analysis AM/PM Peak Hours Facilities Module
 - 3.3.1.4 Synchro Analysis AM/PM Peak Hours
 - 3.3.1.5 Summarize Analysis Results
 - 3.3.2 Improvement Alternative 2
 - 3.3.2.1 Redistribute Traffic AM/PM Peak Hours
 - 3.3.2.2 Summarize Traffic Data and Submit for Approval
 - 3.3.2.3 HCS 2010 Operational Analysis AM/PM Peak Hours Facilities Module
 - 3.3.2.4 Synchro Analysis AM/PM Peak Hours
 - 3.3.2.5 Summarize Analysis Results
 - 3.3.3 Improvement Alternative 3
 - 3.3.3.1 Redistribute Traffic AM/PM Peak Hours
 - 3.3.3.2 Summarize Traffic Data and Submit for Approval
 - 3.3.3.3 HCS 2010 Operational Analysis AM/PM Peak Hours Facilities Module
 - 3.3.3.4 Synchro Analysis AM/PM Peak Hours
 - 3.3.3.5 Summarize Analysis Results
 - 3.3.4 Improvement Alternative 4
 - 3.3.4.1 Redistribute Traffic AM/PM Peak Hours
 - 3.3.4.2 Summarize Traffic Data and Submit for Approval
 - 3.3.4.3 HCS 2010 Operational Analysis AM/PM Peak Hours Facilities Module
 - 3.3.4.4 Synchro Analysis AM/PM Peak Hours
 - 3.3.4.5 Summarize Analysis Results
 - 3.3.5 Improvement Alternative 5
 - 3.3.5.1 Redistribute Traffic AM/PM Peak Hours
 - 3.3.5.2 Summarize Traffic Data and Submit for Approval
 - 3.3.5.3 HCS 2010 Operational Analysis AM/PM Peak Hours Facilities Module
 - 3.3.5.4 Synchro Analysis AM/PM Peak Hours
 - 3.3.5.5 Summarize Analysis Results
- 3.4 Determine Operational Character for three (3) Alternatives 2040 Unconstrained Traffic
 - 3.4.1 Improvement Alternative 1



- 3.4.1.1 Redistribute Traffic AM/PM Peak Hours
- 3.4.1.2 HCS 2010 Operational Analysis AM/PM Peak Hours Facilities
- 3.4.1.3 Synchro Analysis AM/PM Peak Hours
- 3.4.1.4 Conduct CORSIM Analysis Improvement Alternative 1
 - 3.4.1.4.1 Follow same process as 3.2.1
- 3.4.1.5 Summarize Analysis Results
- 3.4.2 Improvement Alternative 2
 - 3.4.2.1 Redistribute Traffic AM/PM Peak Hours
 - 3.4.2.2 HCS 2010 Operational Analysis AM/PM Peak Hours Facilities
 - 3.4.2.3 Synchro Analysis AM/PM Peak Hours
 - 3.4.2.4 Conduct CORSIM Analysis Improvement Alternative 2
 - 3.4.2.4.1 Follow same process as 3.2.1
 - 3.4.2.5 Summarize Analysis Results
- 3.4.3 Improvement Alternative 3
 - 3.4.3.1 Redistribute Traffic AM/PM Peak Hours
 - 3.4.3.2 HCS 2010 Operational Analysis AM/PM Peak Hours Facilities
 - 3.4.3.3 Synchro Analysis AM/PM Peak Hours
 - 3.4.3.4 Conduct CORSIM Analysis Improvement Alternative 3
 - 3.4.3.4.1 Follow same process as 3.2.1
 - 3.4.3.5 Summarize Analysis Results
- 3.5 Evaluate Signing Concepts

4.0 Final CORSIM Model - Selected Concept Alternative (Phase 2)

- 4.1 Create CORSIM Model 2040 Unconstrained Traffic
 - 4.1.1 Modify Georeferenced Link/Node CAD Diagram of Mainline System
 - 4.1.2 Modify Freeway Geometric CAD Schematic
 - 4.1.3 Modify Synchro Model for Frontage Roads and Arterials
 - 4.1.4 Input Approved Volumes and Optimized Signal Timings into Synchro Model
 - 4.1.5 Modify Links, Geometrics, and Volumes in CORSIM Model
 - 4.1.6 Transfer Synchro Data Into CORSIM Model
 - 4.1.7 Run Model and Summarize MOEs
 - 4.1.9 HCS 2010 Operational Analysis AM/PM Peak Hours Facilities
 - 4.1.10 Summarize Analysis Results



5.0 Report / Meetings (Phase 1 and 2)

- 5.1 Attend all Necessary Meetings (Phase 1 and 2)
- 5.2 Draft Report (Phase 1)
- 5.3 Conceptual Design Report (Phase 2)



*All ramp and mainline counts except where noted have been conducted by ODOT in 2013.



COUNT SUMMARY TABLE (FOR SHEET)				
Turning Movement Counts	8			
Volume Only - Arterials, Frontage Rds.	50			
Volume Only - Interstate Highway Ramps	9			
Volume Only - Interstate Highway Mainline	0			
Volume, Classification - Arterials, Frontage Rds.	20			
Volume, Classification - Interstate Highway Ramps	0			

FIGURE 1A. Data Collection Locations Interstate 35 - Moore/Norman



*All ramp and mainline counts except where noted have been conducted by ODOT in 2013.



COUNT SUMMARY TABLE (FOR SHEET)				
Turning Movement Counts	6			
Volume Only - Arterials, Frontage Rds.	44			
Volume Only - Interstate Highway Ramps	6			
Volume Only - Interstate Highway Mainline	0			
Volume, Classification - Arterials, Frontage Rds.	16			
Volume, Classification - Interstate Highway Ramps	2			

FIGURE 1B. Data Collection Locations Interstate 35 - Moore/Norman

5



*All ramp and mainline counts except where noted have been conducted by ODOT in 2013.



COUNT SUMMARY TABLE (FOR SHEET)				
Turning Movement Counts	13			
Volume Only - Arterials, Frontage Rds.	44			
Volume Only - Interstate Highway Ramps	3			
Volume Only - Interstate Highway Mainline	2			
Volume, Classification - Arterials, Frontage Rds.	20			
Volume, Classification - Interstate Highway Ramps	0			

FIGURE 1C. Data Collection Locations Interstate 35 - Moore/Norman



Appendix C: Detailed Scope of Services for Reconnaissance Study

The Recon data collection will be in accordance with ODOT Recon data collection scope as described below.

In addition to the recon data shown below, the consultant will provide:

- Land use information (both existing and future proposed)
 - The consultant will develop maps describing land use in the study area
 - Existing land use data would be obtained through aerial photo interpretation, geospatial data, and field verification
 - Future proposed land use would be obtained through reviewing permits and development plans on file with the cities of Moore and Norman
 - ACOG, the City of Norman and the City of Moore will assist in providing data on land use, both existing and proposed
- Social and Economic Impacts and Environmental Justice
 - The Consultant will develop maps and tables using the most current Census Data for the study area at the Tract and Block Group levels, using GIS Shape Files to map the Census data as well as a Data Table showing census data used to develop the maps.
 - Data shall include income levels, low-income populations and minority populations within the study area and determined areas having adverse effects and populations within the study area. Cite sources of Census information used for the development of the maps and tables.
 - The study area for the socio-economic data collection would be census tracts adjacent to I-35 within the study limits. The Consultant will also obtain comparative data for the cities and Oklahoma and Cleveland Counties.
- Transportation Planning Documents
 - The consultant will review available transportation planning documents to identify both short range (ACOG TIP) and long range transportation plans (OCARTS Encompass 2035, or latest available version at the time of reconnaissance) in the vicinity.
 - Comprehensive plans for the City of Moore and Norman will also be reviewed in order to identify designated bicycle routes and multi-purpose trails.

Recon data collection scope:

SECTION 1 Geo-Referenced Graphics

1.1 Create a location map created using ODOT County I City Maps from the ODOT Website: <u>http://www.okladot.state.ok.us/maps/index.htm</u> The location map shall have a North Arrow and have the Project Location Circled. The map shall be to a 1"=2 miles scale when printed on a 8.5"x11" sheet . The location maps need not include the entire County, but should include a sufficient amount of the surrounding area to allow the location to be easily identified within the County. Include EW and

NS Section Line numbers as designated in the ODOT maps (not Google maps) and Section, Township and Range information on the maps. The Township and Range can be shown on the edges.

1.2 Create a 1-Meter GSD Aerial/Satellite Ortho Imagery of study area.

If current 1-Meter GSD Imagery is not available through typical sources, acceptable imagery may be found at the Center of Spatial Analysis Website (<u>www.csa.ou.edu</u>) under the OK Data Warehouse tab. Download the 2010 NAIP Digital Orthophoto Mosaic (Sid file format) for the appropriate county. Aerial shall be to a 1 inch=400 ft scale when printed on a 11"x17" sheet (a scale of

1 inch=200 ft may be used for in-town sections) with Section Line, State Highway and County Section Line Road Numbers, Township and Range, North Arrow, Scale, Bridge NBI numbers and Dimensions of the Study Area. County, Project Number, and State Highway number shall be shown in a box at the bottom right hand corner. The maps need to run either south to north or west to east.

Create GIS shapefiles generated in USA Contiguous Albers Equal Area Conic (NAD83) or NAD83 UTM Zone.

Create a Adobe PDF Version which can be printed on 11 "x17" paper. The file shall be sized for 11 "x17" prints with a 400:1 scale.

1.3 Create a USGS Map of the study area. The map shall be to the same scale as the Aerial map (1 inch= 400 ft or 1"=200' when printed on a 11"x17" sheet).

Refer to the OK Data Warehouse tab at the Center of Spatial Analysis Website (www.csa.ou.edu). Download the USGS Topographical Quad Map, UTM DRG files.

1.4 Perform a visit to confirm the validity of the recon data once the data collection is complete.

SECTION 2 PROPERTY IDENTIFICATION

Within the study area adjacent to I-35, its frontage road, and major east west arterials, identify the following properties and the general location of their boundaries:

- 2.1 Property Ownership
 - I. Property Card for each property ownership.
 - II. Legal Description of the property boundaries (for locating property boundaries).

The following procedure shall be used:

- 2.1.II.1 Obtain the "Property Card" through the one of the commercially available websites. This will require a reimbursable license fee.
- 2.1.II.2 If the full legal description is not included on the Property Card, visit the Assessors Office in the appropriate County Courthouse for this information.
- 2.1.II.3 If the full legal description is not included in the roles at the Assessors' Office, note the Deed Book and Deed Page and visit the County Clerk in the appropriate County Courthouse to obtain the full legal description from the actual Deed.
- 2.2 Indian & Tribal Ownership

Trust Land within any particular county will generally not have any recorded documents at the courthouse. All documents affecting trust property will be recorded with the agency of the Bureau of Indian Affairs (BIA) overseeing that property. All letters sent to the BIA should be specifically addressed to the Superintendent of the Agency with which you are corresponding. Ownership questions must be directed to the local BIA Office. Once determination that the property is trust land you can request an ownership report, such as a "Title Status Report" (TSR) from the BIA. This informs you if the land is a tribal or allottee tract. This information is sometimes available from the Tribe, depending on which Tribe is involved.

- 2.3 Identify any Federal Properties and Easements within the Study area The properties owned by Federal Government are shown as "USA" ownership on the property cards. Identify the federal agency which owns the property. The following websites may be of use:
 - The USGS's NHSS (Natural Hazards Support System) has a Federal Lands Layer that has all federal lands owned or managed by a Federal Agency mapped at <u>http://nhss.cr.usgs.gov/</u>
 - The USDA / NRCS easements can be found at <u>http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/nra/dma/</u> <u>?&cid=stelprdb1043930</u>.
- 2.4 Identify a Identify any Wetland Restoration Program (WRP) Sites within the Study Area.

This information can be obtained in GIS format from the local NRCS office via phone at (405) 742 1236 or email.

2.5 Public parks and recreational areas within the Study area. Specifically identify any parks or recreational areas which have used Land and Water Conservation (LWCF). The acquisition of these properties will require replacement in kind under the Section 6(f) process.

For information regarding the public parks and Section 6(f) properties contact the Director of the Division of Research and Development of the Oklahoma Department of Tourism by email and include the email response in the recon report. Additional information can be found at their website: <u>www.oklatourism.gov/</u>. In addition, property ownership cards would identify properties owned by Cities. Check to see if it is a public park.

2.6 Identify any wildlife and waterfowl refuges within the study area

For information regarding Wildlife Refuges and Management Areas refer to the Oklahoma Department of Wildlife Conservation Website: www.wildlifedepartment.com

- 2.7 Identify any cemeteries within the study area
- 2.8 Identify any Airports located within 4 miles of the Study Area. Identification should include the name and location of all public or private airports. This information can be obtained from the Oklahoma Aeronautics Commission (OAC) website: <u>www.aeronautics.state.ok.us</u>
- 2.9 Identify any active or abandoned Rail Roads within the Study Area Identify the owner of the Rail Road. Identify any Military Properties within the Study Area
- 2.10 Identify any Oklahoma Turnpike Authority (OTA) Properties. This applies for projects involving the Turnpike.

SECTION 3 UTILITY & TRADEFIXTURE (BILLBOARD) INFORMATION

3.1 Utilities

For each utility located within the study area adjacent to I-35, its frontage roads, and major east west arterials, identify the following information:

- I. Type of Utility
- II. Name and Address of Utility Owner
- III. Name and Phone Number of Contact Person
- IV. Product Utility is Carrying
- V. Size and Material of Utility (If applicable)
- VI. General Location of Utility (Crossing locations, parallel left or right, appearance of within or outside of existing right-of-way, approximate offsets, etc.)

This information may be obtained by the following general procedure: Contact the Oklahoma One-Call System (Call OKIE) for a list of utilities (including type and contact information) located within all quarter sections involved with the study area. Contact each listed utility owner for approximate location of the utility within the quarter section.

This information should be available on the utility owner's atlas sheets (Use only readily available sheets. DO NOT ask the City or County to prepare these if they don't have them readily available). Contact the Rural Water District in the appropriate county and the City Public Works Director for information regarding any utilities they may have within the study area. Look up the readily available utility permit files located in the field division. Request permitted information for a utility attached to a bridge from the Bridge Division. Conduct a site visit to visually verify the location of all TUG Pedestals, valves, meters, markers, signs, man-hole covers, etc. within the study area. NOTE: The intent is to identify any utilities which would affect the project cost at a recon level and <u>survey level utility identification is not required.</u>

3.2 Trade Fixture (Billboard) Ownership

Request the following information from Right-of-Way & Utilities Division's Outdoor Advertising Branch. Include the location map (Section 1.1) and an aerial with the study limits. Allow 30 days to obtain the information.

- Whether or not the highway is on a regulated route
- If regulated, request the trade fixture (billboard) permit information for each legal trade fixture (billboard) or information relative to its illegal status.

SECTION 4 ACCIDENT HISTORY

4.1 Obtain Complete Accident History for the study extent.

Information will be for accidents occurring within the study area over the last 10 years. The Accident History is available by submitting a request form to the Collision Analysis and Safety Branch of the ODOT Traffic Engineering Division through the Project Management Division with a Location Map. Allow 30 days for this information.

SECTION 5 CULTURAL RESOURCES

Request the following cultural resource information located within the study area from ODOT Cultural Resource Specialist. Include the location map (Section 1.1), an aerial with the study limits, the shape files for the study limits, and a copy of the SI & A sheet or the bridge information available at

http://ok.maps.arcgis.com/apps/Viewer/index.html?appid=7eafa553157b4637a9e2ef9655067 <u>f3b</u> for all bridge structures within the recon area. The latest request form is available at http://www.odotculturalresources.info/documents.html

Allow 30 days to obtain the information for projects less than 1 mile long and 60 days for longer projects.

- 5.1 Historic Properties/Structures
 - I. Properties and districts listed in the National Register of Historic Places (NRHP).
 - II. Properties and districts eligible to be listed in the NRHP.
 - III. Segments of Route 66 eligible to be listed in the NRHP.
 - IV. Historic Bridges listed in the NRHP
 - V. Historic Bridges eligible to be listed in the NRHP.
- 5.2 Archaeological Sites
 - I. Prehistoric and historic archaeological sites recorded with the Office of the Oklahoma Archaeological Survey (OAS).
 - II. Early historic "GLO" sites recorded with the OAS.
 - III. Previously surveyed cultural resource site.
- 5.3 Historic Cemeteries

Note: All historic properties identified during this process shall be shown on study maps for internal ODOT review only. The public disclosure of the location of some types of historic properties is a violation of Federal laws and regulations.

SECTION 6 HAZARDOUS WASTE/LUST SITES

6.1 Identify Hazardous Waste Sites located in the proximity of the study area (using ASTM E1527-00 radius guidelines).

This consists of a database search of both the federal and state environmental records.

6.2 Identify Above Ground Storage Tanks (AST), Underground Storage Tanks (UST), Leaking Underground Storage Tanks (LUST) Sites and oil wells located within 1/8th of a mile of the study area

This consists of a file review from the Oklahoma Corporation Commission (contact the appropriate District Office) for any past or present Oil and Gas activity – including salt water disposal. This includes any information regarding the location of drilled wells, records of completion and plugging, field inspection reports, reported leaks, spills or violations of any kind

6.3 Identify any Current and abandoned coal mines within the study area.

This information can be found from historic aerial photos and topographical maps.

SECTION 7 NATURAL RESOURCES

- 7.1 Identify any federally-listed endangered, threatened or candidate species located within the study area and any Designated Critical Habitats for these species. Follow the project review process outlined by the USFWS at http://www.fws.gov/southwest/es/oklahoma/default.htm. Click on Project Reviews and "What Species Occur in My Project Area" and use the Initial Project Scoping to identify the species in the Study Area. Review of federally designated critical habitat maps relative to the project study area at http://criticalhabitat.fws.gov/crithab/ Review of federally listed and candidate aquatic species and aquatic dependent species watersheds and occupied water bodies of Oklahoma at http://www.fws.gov/southwest/es/oklahoma/add_docs.htm Review of Oklahoma Natural Heritage Inventory rare species database for any records of federally listed or candidate species **ONLY** at http://www.oknaturalheritage.ou.edu/request_data.htm
- 7.2 Identify any potential jurisdictional wetlands located within the study area. Review of the National Wetlands Inventory (NWI) maps at http://www.fws.gov/wetlands/ and USGS 7.5 minute topographic quadrangle maps of the proposed project study area. Review of the Natural Resources Conservation Service (NRCS) soil survey maps for the county in which the proposed project will occur (http://websoilsurvey.nrcs.usda.gov/app/ Review of hydric soils lists published by the NRCS for the county in which the proposed project will occur. A <u>natural resource specialist</u> shall perform a visual verification of the NWI sites identification of any other potential jurisdictional wetlands located within the study area.
- 7.3 Create a soils map for the study area using the information available from the NRCS soil survey website at <u>http://websoilsurvey.nrcs.usda.gov/app/</u>
- 7.4 Identify any Critical Resource Waters, Section 10 Waters, Scenic Rivers & Arbuckle Simpson Aquifer (not any other acquifer) and associated streams located within the study area.

For Critical Resource Waters: Refer to USACE website. http://www.swt.usace.army.mil/Portals/41/docs/missions/regulatory/GeneralPermits /Encl_3_to_9-pdf.pdf For Section 10 Waters: Refer to USACE website. http://www.swt.usace.army.mil/Missions/Regulatory/Section10Waters.aspx

For Oklahoma Scenic Rivers, refer to the Oklahoma Scenic River Act

For Arbuckle Simpson Aquifer, refer to the Oklahoma Water Resources Board Website www.owrb.ok.gov/studies/groundwater/arbuckle_simpson/arbuckle_study.php

7.5 Identify any Oklahoma's 2010 303(d) list of impaired waters. Include list of impairments for each listed stream. In addition, identify if the recon study limits fall within any Municipal Separate Storm Sewer System (MS4) areas or any areas with special Total Maximum Daily Load (TMDL) Requirements and the cause for the TMDL.

The 303(d) list and impairments and the TMDL information can be obtained from the Oklahoma Department of Environmental Quality's (ODEQ) Integrated Water Quality report located at <u>http://www.deq.state.ok.us/wqdnew/305b_303d/</u>

The MS4 information can be obtained from the ODEQ's Storm Water Program Information located at <u>http://www.deq.state.ok.us/WQDNew/stormwater/</u>

- 7.6 Identify any Oklahoma Sensitive Waters and Watersheds Harboring Endangered and Threatened Species and Their Critical Habitat of Concern required for the Storm Water Permit Conditions. This information can be obtained from Appendix A of the GENERAL PERMIT OKR10 - FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA available at <u>http://www.deq.state.ok.us/wqdnew/stormwater/construction/okr10_final_permit_1</u> 3 sep 2007.pdf
- 7.7 Identify any conditions or restrictions in the City of Norman Floodplain Ordinance.

SECTION 8 EXISTING FACILITY DATA

- 8.1 Alternative Agency Impacts associated with study area:
 - I. Identify all Metropolitan Planning Organizations (MPOs) associated with the study area:
 - Association of Central Oklahoma Governments (ACOG)
 - Indian Nation Council of Governments (INCOG)
 - Lawton Metropolitan Area Planning Commission (LMAPC)
 - Ft. Smith, Arkansas

- II. Oklahoma Turnpike Authority State whether the project involves any turnpike facilities.
- III. Other Agencies List other Agencies which may be affected aby any action in the recon area such as Federal property owners, Federal agencies with jurisdiction, etc.

SECTION 9 REPORTS & DELIVERABLES

- 9.1 Prepare a report in the following format. The CD with a digital copy shall be delivered to the Project Management Division.
 - Cover with Project Information County, Job Piece, Project Description
 - Table of Contents
 - Executive Summary List of all issues identified within the recon footprint (Maximum 2 pages)
 - Section 1 Maps for Geo Referenced Graphics
 - I. County Map (sized for a single 8.5x11" print) created in Section 1.1. The sheet will include a graphical scale and a North Arrow.
 - II. Composite Map sized consisting of the Aerial Photograph with Vertical Profile (This will be similar to a Plan and Profile Sheet) created in Section 1.2. The file shall be sized for 11"x17" prints and should include a graphical scale, legends and a North Arrow on all sheets. Circle and identify bridge locations within the study area by their NBI numbers. This composite map shall contain the following information gathered in Sections 2-10 with appropriate legends.
 - a. Property Ownership with approximate boundaries (Section 2)
 - b. Indian and Tribal Lands (Section 2)
 - c. Military Properties (Section 2)
 - d. OTA Properties (Section 2)
 - e. Federal Properties and Easements(Section 2)
 - f. WRP Sites (Section 2)
 - g. Parks Recreational Facilities(Section 2)
 - h. Wildlife and waterfowl refuges (Section 2)
 - i. Cemeteries (Section 2)

- j. Utilities & Billboards located within the Study Area (Section 3). Insets may be used to illustrate multiple utilities at a single location.
- k. NRCS Structures within the Study Area
- 1. <u>Moderate or high potential historic sites</u>, archeological sites and historic cemeteries (Section 5)
- m. Hazardous Waste sites, ASTs, USTs, LUSTs, and oil wells within the study area (Section 6)
- n. Designated critical habitat for any federally-listed endangered, threatened or candidate species (Section 7)
- o. Potentially jurisdictional wetlands and waters which were field verified and identified (Section 7)
- III. USGS Map created in Section 1.3. The file shall be sized for 11"x17" prints and will include a graphical scale and a North Arrow on all sheets
- IV. Section 2 Property Identification
 - a. List of Property Owners
 - b. Summary of Items found in Sections 2.3 through 2.11. Mention names of persons/Agencies contacted and mention when no sites are found. Include email correspondence with Department of Tourism for verification of Section 6(f) information
 - c. Property Cards
 - d. Title Status Report (TSR) from BIA
 - Section 3 Utility & Trade Fixture (Billboard) Information

For each utility located within the study area, identify the following information obtained in Section 3:

- a. Type of Utility
- b. Name and Address of Utility Owner
- c. Name and Phone Number of Contact Person
- d. Product Utility is Carrying
- e. Size and Material of Utility (If applicable)
- f. General Location of Utility (Crossing locations, parallel left or right, appearance of within or outside of existing right-of-way, approximate offsets, etc.)

For each trade fixture (billboard) located within the study area, include the information obtained from the Outdoor Advertising Branch

• Section 5 Cultural Resources

Provide Cultural Resources Reconnaissance Review summary form and Maps provide by ODOT Cultural Resources Program.

• Section 6 Hazardous Waste/LUST Sites

Provide a summary of databases searched and agencies contacted and the findings. <u>Provide the EDR Report in the electronic copy only</u>. Do not include the report in <u>the hard copies</u>

• Section 7 Natural Resources

Provide a listing of federally-listed endangered, threatened or candidate species located within the study area and maps (8.5" X 11") of any Designated Critical Habitats for these species with the project area circled.

Provide a summary of any potential jurisdictional wetlands located within the study area and NWI maps (11" X17") with the study area and the legend for the wetland types.

Provide soils maps (11" X 17") with the stud area shown and the legend for the soil types.

Provide a summary of any Critical Resource Waters, Section 10 Waters, & Scenic Rivers and mention whether the project is located in the Arbuckle Simpson Aquifer and associated streams.

Provide a summary of any Oklahoma's 2010 303(d) list of impaired waters within the study area. Include list of impairments for each listed stream. In addition, identify if the recon study limits fall within any Municipal Separate Storm Sewer System (MS4) areas or any areas with special Total Maximum Daily Load (TMDL) Requirements and the cause for the TMDL.

• Section 8 Existing Facility Data

Provide a summary of any MPOs associated with the study area, whether the project involves any turnpike facilities and list of Agencies which may be affected aby any action in the recon area.

- 9.2 Provide an Acrobat pdf file of the complete report on a CD to Project Management Division. In Section 8 (Hazardous Waste Section) of the report include the complete EDR report. The pdf file shall have bookmarks for the different sections for easy navigation.
- 9.3 Provide a Micro-Station (V8) file and a GIS shape file on a separate Cd to Project Management Division. The CD shall contain the following information:
 - A. Geo-Referenced satellite imagery of the composite map mentioned in Section 9.1. Use the Standards in Appendix A for the GIS Files.
 - B. Microstation File The recon data will be placed on the NGS Oklahoma State Plane Coordinate System, NSD 83(HPGN), Lambert Projection, North or South Zone.

The Consultant is responsible for any translation required to convert non Microstation design files to Microstation format and submitting all translation files used during the conversion as part of the submittal. All translated design files shall conform to the applicable standards adopted by the Department for Design.

APPENDIX A GIS Shapefile Data Submittal Standards								
Study Area Boundary Shapefile								
FIELD NAME	TYPE	LENGTH/ PRECISION	DESCRIPTION OF INPUT	EXAMPLE INPUT AND FORMAT				
JP_NUMBR	TEXT	20	Project JP Number	25812(04)				
PROJ_TYPE	TEXT	30	Type of Project	Bridge and Approaches				
HIGHWAY	TEXT	16	Highway Number	US-62				
COUNTY	TEXT	20	Project Location County	Muskogee				
PROJ_DESC	TEXT	120	Project Description	US-62 AT CANE CREEK AND TRIBUTARY, 10.7 MILES NE OF OKMULGEE C/L				
DIVISION	TEXT	12	ODOT Division Number	Division 1				
TSK_ORDER	TEXT	16	Engineering Contract Number and Task Order	1338 - TO 2				
LAYER	TEXT	24	Layer Name for Conversion to CAD	Recon Study Extents				
SOURCE	TEXT	100	Brief Description of Source Data	Created from ODOT footprint				
COORD_SYS	TEXT	50	XY Coordinate System of the Dataset	OK State Plane North NAD 1983				
RECON_AUTH	TEXT	50	Author of the Recon Report	Consultant Name				
RECON_DATE	DATE	Α	Date Dataset was Completed	9/30/2012				
			Recon Parcel Shapefile					
FIELD NAME	TYPE	LENGTH/ PRECISION	DESCRIPTION OF INPUT	EXAMPLE INPUT AND FORMAT				
PARCEL_NO	TEXT	30	Official Parcel Id Assigned By Assessor's Office	0000-04-12N-13W-2-815-00				
OWNER	TEXT	40	Full Name Of Owner Shown On Property List	BELL, PAUL & KARLA REV TRUST				
ADDRESS	TEXT	60	Parcel Address	808 FOX RUN TRAIL, EDMOND OK 73034				
ADDR_OWNER	TEXT	60	Address Of Parcel Owner - Not Parcel Address	808 FOX RUN TRAIL, EDMOND OK 73034				
LEGAL_DESC	TEXT	254	Legal Description Of Property	SW SW (LESS 27.83 AC TR & 3.38AC HWY ROW)				
S_T_R	TEXT	16	Section / Township / Range Of Parcel	09-T02N-R16W				
TRIBAL	TEXT	4	Yes Or No Answer Based On Tribal Ownership	YES/NO				
ACRES	TEXT	10	Area of Property Shown On Property Card (Acres)	45 Acres				
AREA_AC	FLOA T	8/2	Actual Calculated Area Of Parcel	45.35				
LAST_NAME	TEXT	30	Owner's Last Name	JOHNSON				
FIRST_NAME	TEXT	50	Owner's First Name(S)	DAVID V. & CLAUDIA M.				
PROP_LINK	TEXT	150	Filename of the Property Card File (PDF)	0000-04-12N-13W-2-815-00.pdf				
LAYER	TEXT	24	Layer Name for Conversion to CAD	Parceis				
	TEXT	100	Brei Description of Source Data	Muskogee County Assessor				
COUNTY	TEXT	20	Project Jocation County	Muskogee				
RECON DATE	DATE	X	Date Dataset was Completed	9/30/2012				
	Drite	0	Date Datacet nue completed	0.00.2012				
			Utility Shapefile					
FIELD NAME	TYPE	LENGTH/ PRECISION	DESCRIPTION OF INPUT	EXAMPLE INPUT AND FORMAT				
				ELEC-GAS-WATER-COMM-STORM-				
UTIL_TYPE	TEXT	30	Type of Utility	SANITARY				
OWNER	TEXT	40	Full Name of Utility Owner	AEP-PSO				
ADDRESS	TEXT	60	Mailing Address of the Utility Owner	216 E Sixth St., Tulsa, Oklahoma 74119				
LENGTH	FLOA T	8/2	Length of Utility Line (feet)	231.55				
LAYER	TEXT	24	Layer Name for Conversion to CAD	Utilities				
SOURCE	TEXT	100	Brief Description of Source Data	GPS Survey				
JP_NUMBR	TEXT	20	Project JP Number	25812(04)				
COUNTY	TEXT	20	Project Location County	Muskogee				
RECON_DATE	DATE	Х	Date Dataset was Completed	9/30/2012				
			ROW Boundary Shapefile					
FIELD NAME	TYPE	LENGTH/	DESCRIPTION OF INPUT	EXAMPLE INPUT AND FORMAT				
IP NUMBR	TEXT	20	Project JP Number	25812(04)				
COUNTY	TEXT	20	Project Location County	Muskoaee				
HIGHWAY	TEXT	16	Highway Number	US-62				
WIDTH	INT	6	Right of Way Width from Centerline	100				
LAYER	TEXT	24	Layer Name for Conversion to CAD	ROW				
SOURCE	TEXT	100	Brief Description of Source Data	ODOT Roadway Plans				
RECON_DATE	DATE	Х	Date Dataset was Completed	9/30/2012				