

**GENERIC SCOPE OF WORK BASIC CONTRACT**

	CDOT (C)/ Other*	Consultant	Not Applicable
<b>1 Photogrammetry</b>			
i Camera Calibration Report			X
ii Flight Plan			X
iii Flight			X
iv Contact Prints			X
v Negatives			X
vi Enlargements			X
vii Photo Index			X
viii Supplemental Survey (wing points)			X
ix Data Reduction A Topographic Contours B Planimetric (Topography)			X
x Map Compilation A Index Maps B Finished Maps			X
m Accuracy Tests: Tests are to be performed on a regular basis throughout the project by the consultant.	C		
n Review by Professional Land Surveyor The accuracy tests are to be reviewed by the PLS in responsible charge for the project, and submitted to the project engineer and made part of the project records. Further review of all aspects of the field and office work shall also be the responsibility of the PLS in responsible charge.	C		
<b>3. PRELIMINARY DESIGN</b>			
<b>A. Traffic Engineering</b>			
a Review locations with “potential for accident reduction map” and or traffic operations analysis and or the safety assessment report as provided by CDOT to determine which safety improvements will be incorporated into the project.	X	X	
<del>b Develop a calibrated existing conditions VISSIM model of the project corridor. Existing traffic count data can be obtained from the various ITS devices along the corridor, including RTMS units, DTD ATR, and Region 6 ATR.</del>	X	X	
<del>c Input opening day conditions in the VISSIM model. This should include conceptual layout of the managed lanes, development of opening day traffic volumes for I-25 mainline and the managed lanes, and potential configurations of ingress/egress zones.</del>	X	X	
<del>d Prepare weekday peak hour VISSIM models of the corridor. The model shall extend from 136<sup>th</sup> Avenue to 70<sup>th</sup> Avenue. The VISSIM modeling shall include:</del> <ul style="list-style-type: none"> <li><del>• Develop existing conditions model for the weekday peak-hour</del></li> <li><del>• Calibrate existing conditions model to travel time and congestion information</del></li> <li><del>• Develop future opening day model by coding the proposed managed lanes, initial locations of ingress/egress zones, and opening day traffic volumes</del></li> <li><del>• Develop models for any requested alternatives to the ingress/egress schemes. A total of 4 scenarios should be assumed which will be jointly identified by the project team.</del></li> <li><del>• Extract measures of effectiveness from the model runs and provide</del></li> </ul>		X	

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<p style="text-align: center;"><del>summaries to compare performance of each alternative</del></p> <ul style="list-style-type: none"> <li><del>• Present results and final VISSIM models to the project team for review.</del></li> <li><del>• Prepare technical memorandum summarizing VISSIM analysis and final results.</del></li> </ul>			
b Analyze the proposed project design with the traffic projection data		X	
c Recommend the appropriate geometry (i.e., number of lanes, auxiliary lanes, storage lengths, weaving distances, etc.) in accordance with the current version of Highway Capacity Manual.		X	
d The proposed design shall be reviewed to ensure compatibility with existing signing procedures throughout the preliminary roadway design process		X	
e Use traffic data appropriate to the anticipated construction timing in developing detour alternatives.		X	
f Develop the total ESAL for the design life and submit to the CDOT/PM for the pavement design.			X
g Submit the traffic data and recommendations to the CDOT/PM for review.		X	
h Analyze and design all CDOT ITS needs in the proposed corridor in conjunction with the CDOT ITS group including proposed and existing Ramp Meters, Travel Time Indicators, Variable Message Signs, CCTVs, fiber optic lines and Node building equipment in order to complete the project's requirements for a fully functional managed lane.	C	X	
i Analyze and design all proposed tolling implementations for the I-25 managed lane with a similar philosophy as the US 36 Managed Lane Project to ensure similar road user information for the traveling public, data collection and toll collection on both I-25 and US 36.		X	
j Tolling infrastructure design shall include, but not limited to, tolling gantries, Variable Toll Message Signs, and closure gates. Coordinate with E470 through HPTE to make sure design is compatible with E470 tolling software development.		X	
k Design all tolling equipment gantries compatible to existing E470 tolling equipment standards requirements. Coordinate with E470 through HPTE.		X	
l Design for ITS/tolling shall include all power and fiber optic communication details.		X	
m Design for ITS/tolling shall include a full network communication plan.		X	
<b>B. Materials Engineering</b>			
a Preliminary Soil Investigation			
i Determine test hole locations (horizontal and vertical) and coordinate with the CDOT/PM.			X
ii Collect soil samples and test for: A Classification B Moisture – Density Relationship C Resistance Value D Corrosiveness Note locations of high corrosiveness with recommendations E Bearing Capacity			X
iii Prepare and submit a soils investigation report.			X
<b>C. Pavement</b>			
a Pavement Rehabilitation			