

**TEXAS DEPARTMENT OF TRANSPORTATION
TECHNICAL PROVISIONS**

FOR

SH 99 GRAND PARKWAY SEGMENTS H, I-1 AND I-2

**ATTACHMENT 21-1
TOLL SYSTEMS RESPONSIBILITY MATRIX**

RFP ADDENDUM #6

AUGUST 12, 2016

Attachment 21-1
Toll Systems Responsibility Matrix

LEGEND		Work Description		
Primary Responsibility	A	1	2	3
Support Responsibility	B	Design	Procure	Install and/or Construct
Coordination Responsibility Only	C			
No Responsibility	D			

Element/Task/Component/ Sub-system	TxDOT (TOD Design) (T)			DB Contractor			Systems Integrator (SI)			Comments Other Responsibility/Information
	1	2	3	1	2	3	1	2	3	
FACILITIES										
Toll plaza design layout	A	N/A	N/A	B	N/A	N/A	B	N/A	N/A	See Sec 21.3 of TPs
Metered power service to roadside equipment cabinet	B	D	C	A	A	A	B	D	C	SI to provide power requirements and special requirements for DB Contractor to construct utilities near toll collection points
Electrical conductors from equipment pad to Toll Zone equipment	C	D	C	C	D	C	A	A	A	DB Contractor will coordinate access to roadway for installations
Complete backup power systems: generators, automatic transfer switches, and fuel tanks	C	D	C	D	D	C	A	A	A	DB Contractor will coordinate access to roadway for installations
Concrete pad/foundation and conduits for backup power systems	A	D	C	D	D	C	B	A	A	T to design for SI. DB Contractor to construct grading, earthwork and subgrade for SI work. DB Contractor will coordinate access to roadway for installations
Uninterruptible power supplies for the lane controllers/tolling equipment at Toll Zones	C	D	C	D	D	C	A	A	A	DB Contractor will coordinate access to roadway for installations

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FACILITIES										
Lightning protection & grounding	A	D	C	D	D	C	B	A	A	DB Contractor will coordinate access to roadway for installations. DB Contractor to coordinate with SI for SI placement of conduit prior to DB Contractor placing pavement.
Concrete encased duct bank for dedicated toll fiber	C	D	C	A	A	A	C	D	C	DB Contractor to install conduit in concrete encased Duct Bank complete with pull strings
Fiber optic cables in conduit and concrete encased duct bank for toll systems	B	D	C	A	A	A	B	D	C	DB Contractor to provide fiber with 4 strands single mode dedicated fiber to each toll zone (E.g. 24 toll zones would require 96 fiber strands). No daisy chaining. DB Contractor to install pull strings, fiber optic markers, test stations and tracer wire with fiber optic cables
Termination cabinet and fiber optic data/communication to termination cabinet	B	D	C	A	A	A	B	D	C	SI to provide communication/data requirements. DB Contractor to provide and test fiber to DB Contractor provided fiber termination cabinets adjacent to each toll zone equipment cabinet pad.
Data/communication wire/fiber from termination cabinet to toll systems equipment	C	D	C	D	D	C	A	A	A	SI to install from roadside termination cabinet to toll systems equipment

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FACILITIES										
Toll Zone pavement and structure, using special pavement section and conduit stub ups for pavement sensors (see Attachment 21-3 of Technical Provisions)	B	D	C	A	A	A	B	D	C	SI to provide pavement loop details with stub-up locations. T will coordinate with DB Contractor for joint layouts. DB Contractor to construct Stub Ups to terminate in junction boxes, provided by DB Contractor, adjacent to toll zone pavement
Loop conduit from junction box to roadside equipment cabinet	A	D	C	D	D	C	B	A	A	DB Contractor will coordinate access to roadway for installations
Gantry equipment conduit from roadside equipment cabinet to toll systems equipment	A	D	C	D	D	C	B	A	A	DB Contractor will coordinate access to roadway for installations
Pavement sensors	A	D	C	D	D	C	B	A	A	DB Contractor to provide access to SI to saw cut and install pavement sensors
Gantries and foundations (includes columns and trusses)	A	D	C	D	D	C	B	A	A	T to design and SI to construct. DB Contractor to provide access for T geotechnical borings and SI construction.
Toll equipment mounts on gantries	C	D	C	D	D	C	A	A	A	SI to install any required equipment mounts on gantries. SI to coordinate with T during the design phase to incorporate any required framing to support equipment mounts.

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FACILITIES										
Concrete traffic barrier and foundation, MBGF, barrier end treatments, Toll Zone drainage, grading, & earthwork, SW3P and retaining walls within Toll Zone	C	D	D	A	A	A	C	D	C	All reinforcement (barrier, pavement, etc.) within the Toll Zone shall be epoxy coated.
Roadside equipment cabinet concrete pads/foundations	A	D	C	D	D	C	B	A	A	T to design for SI to construct. DB Contractor to provide grading, earthwork and subgrade for SI's slabs. DB Contractor to provide SI access for construction.
Toll Zone maintenance driveways	A	D	C	B	B	B	C	A	A	T to design for SI to construct maintenance driveway pavement surface. DB Contractor to construct grading, earthwork, flexible base and subgrade for SI work.
Roadside equipment cabinets (incl power, comm and HVAC systems)	C	D	C	D	D	C	A	A	A	SI to install complete. DB Contractor will coordinate access to roadway for installations.
Toll rate signage (Toll rate signs and Toll entrance signs)	A	D	C	D	D	C	C	A	A	DB Contractor will coordinate access to roadway for installations and provide finished grades at each sign location.

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ELECTRONIC TOLL COLLECTION SUB-SYSTEMS (ETC)										
Automatic Vehicle Classification System and Image Capturing System (ICS) Hardware	C	D	C	D	D	C	A	A	A	DB Contractor will coordinate access to roadway for installations.
Computer rack system, routers, hubs, switches, firewalls, VPN, modems, patch/distribution panels, Toll plaza host computer	C	D	C	D	D	D	A	A	A	DB Contractor will coordinate access to roadway for installations.
Lane controller hardware	C	D	C	D	D	C	A	A	A	DB Contractor will coordinate access to roadway for installations
Communication equipment	C	D	C	D	D	C	A	A	A	DB Contractor will coordinate access to roadway for installations.
Support equipment at TxDOT designated customer service center	C	D	C	D	D	D	A	A	A	
Commissioning and site acceptance testing	C	D	B	D	D	C	A	A	A	DB Contractor will coordinate access to roadway for testing
Lane controller software	C	D	C	D	D	D	A	A	A	
Plaza computer Software	C	D	C	D	D	D	A	A	A	
Host computer software	C	D	C	D	D	D	A	A	A	
Toll collection system application software	C	D	C	D	D	D	A	A	A	

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Maintenance Online Management System Software	C	D	C	D	D	D	A	A	A	
Operational test	C	D	B	D	D	D	A	A	A	
Training: (user and maintenance)	C	D	C	D	D	D	A	A	A	
Documentation: (user and maintenance)	C	D	C	D	D	D	A	A	A	
Documentation: ETS installation/electrical design and plans	C	D	C	D	D	D	A	A	A	
Documentation: civil as-built drawings, and contract closeout documents	C	D	C	D	D	D	A	A	A	
Documentation: ETS as-built drawings	C	D	C	D	D	D	A	A	A	
FCC licenses/regulations as applies to toll systems	C	D	C	D	D	D	A	A	A	