

**Texas Department of Transportation
Book 2 – Technical Provisions**

Grand Parkway Project

**Attachment 21-1
Toll Systems Responsibility Matrix**

ATTACHMENT 21- 1

| 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 | D/B CDA Developer (D/B) | | | System Integrator (SI) | | | Comments Other Responsibility/Information |
|---|----------------------------|---|---|------------------------------|---|---|---|
| | 1 | 2 | 3 | 1 | 2 | 3 | |
| FACILITIES | | | | | | | |
| Toll Plaza Layout | A | A | A | B | D | D | SI to provide system design. D/B to incorporate into Project Design. Preliminary plaza locations provided in existing schematics. |
| Metered power service to roadside equipment cabinet | A | A | A | B | D | C | SI to provide power requirements and special requirement for construction of utilities near toll collection point. |
| Complete backup power systems: generators, automatic transfer switches, and fuel tanks | C | D | B | A | A | A | |
| Foundation and conduits for backup power systems | A | A | A | B | D | C | D/B to provide foundations and conduits between foundations. SI will ensure foundations and conduits are adequate. |
| Uniform Uninterruptible Power Supplies | C | C | C | A | A | A | |
| Lightning Protection & Grounding | A | A | A | B | C | C | |
| Duct Bank | A | A | A | B | D | C | D/B to install conduit Duct Bank complete with pull strings |
| Fiber Optic cables in Duct Bank for Toll Systems | A | A | A | B | D | C | |
| Data/Communication service to roadside equipment cabinet | A | A | A | B | D | C | SI to provide power and communication/data requirements. D/B to install up to the roadside equipment cabinet. |
| Data/Communication wire/fiber from roadside equipment cabinet to toll systems equipment | C | C | C | A | A | A | SI to install from roadside equipment cabinet to toll systems equipment. |

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| | 1 | 2 | 3 | 1 | 2 | 3 | |
| Pavement, inclusive of special nonferrous zones and conduit stub outs for in pavement sensors | A | A | A | B | D | C | SI to provide any special requirements for pavement design |
| Pavement sensors | C | C | C | A | A | A | SI to saw cut and install pavement sensors |
| Gantries including special framing for equipment mounts | A | A | A | B | D | C | SI to provide requirements for specific equipment mounts, conduits, J boxes, power and data wiring. D/B to incorporate into structural design |
| Toll Equipment mounts on Gantries | B | D | C | A | A | A | SI to install any required equipment mounts on gantries. SI to coordinate with D/B during the design phase to incorporate any required framing to support equipment mounts. |
| Roadside equipment cabinet slabs | A | A | A | B | D | C | SI to provide requirements for size of slab needed. |
| Roadside equipment cabinets (including HVAC systems) | B | D | C | A | A | A | SI to install complete |
| Lane Controller Hardware | D | D | C | A | A | A | D/B will coordinate access to roadway for installations. |
| Communication Equipment | D | D | C | A | A | A | D/B will coordinate access to roadway for installations. |
| ELECTRONIC TOLL COLLECTION SUB-SYSTEMS (ETC) | | | | | | | |
| Installation/Electrical Design and Plans | C | D | C | A | A | A | |
| Automatic Vehicle Classification System and Image Capturing System (ICS) Hardware | C | C | C | A | A | A | |
| Roadside Equipment Cabinets | D | D | C | A | A | A | D/B will coordinate access to roadway for installations. |

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|---|------------------------------------|----------|----------|---------------------------------------|----------|----------|--|
| | 1 | 2 | 3 | 1 | 2 | 3 | |
| Computer rack system, routers, hubs, switches, firewalls, VPN, modems, patch/distribution panels, | D | D | C | A | A | A | D/B will coordinate access to roadway for installations. |
| Toll Plaza Host Computer | D | D | C | A | A | A | |
| Back-up Host Computer | D | D | D | A | A | A | |
| Support equipment at TxDOT or HCTRA Customer Service Center | D | D | D | A | A | A | |
| Workstations/Printers | D | D | D | A | A | A | |
| Commissioning and Operational Testing | D | D | C | A | A | A | |
| Lane controller software | D | D | D | A | A | A | |
| Plaza Computer Software | D | D | D | A | A | A | |
| Host Computer Software | D | D | D | A | A | A | |
| Toll Collection System Application Software | D | D | D | A | A | A | |
| Security Access System Software | D | D | D | A | A | A | |
| Maintenance Online Management System Software | D | D | D | A | A | A | |
| Factory Acceptance Test | D | D | C | A | A | A | D/B will coordinate access to roadway for testing. |
| Project Acceptance Test | D | D | C | A | A | A | D/B will coordinate access to roadway for testing. |
| Training | D | D | D | A | A | A | |
| Documentation | D | D | D | A | A | A | |
| FCC Licenses/Regulations as applies to toll systems | D | D | D | A | A | A | |
| Tolling location phone service | A | A | A | B | C | C | |