

**GENERAL MEETING OF THE BOARD OF DIRECTORS
OF THE
CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY**

RESOLUTION NO. 10-06

**Interlocal Agreement With
Cameron County Regional Mobility Authority**

WHEREAS, the Central Texas Regional Mobility Authority (“CTRMA”) was created pursuant to the request of Travis and Williamson Counties and in accordance with provisions of the Transportation Code and the petition and approval process established in 43 Tex. Admin. Code § 26.1, *et. seq.* (the “RMA Rules”); and

WHEREAS, the Board of Directors of the CTRMA has been constituted in accordance with the Transportation Code and the RMA Rules; and

WHEREAS, the Cameron County Regional Mobility Authority (“CCRMA”) was created pursuant to the request of Cameron County and in accordance with provisions of the Transportation Code and the petition and approval process established in the RMA Rules; and

WHEREAS, Chapter 791 of the Texas Government Code provides that any one or more public agencies may contract with each other for the performance of governmental functions or services in which the contracting parties are mutually interested; and

WHEREAS, § 370.033 of the Transportation Code provides that regional mobility authorities may enter into interlocal agreements with other governmental entities for project development related services; and

WHEREAS, the CCRMA previously issued a Request for Information (“RFI”) seeking expressions of interest and proposals from other Texas toll authorities interested in providing the CCRMA with toll collection processing services and services related to the acquisition of toll collection equipment; and

WHEREAS, the CTRMA responded to the RFI and proposed providing the requested services using its own expertise and that of its consultants, including Caseta Technologies; and

WHEREAS, attached hereto and incorporated herein as Attachment “A” is an interlocal agreement with the CCRMA setting forth various terms regarding the CTRMA’s provision of needed toll collection processing and toll systems implementation equipment and services to the CCRMA; and

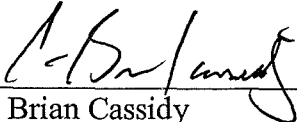
WHEREAS, CTRMA staff recommends that the CTRMA enter into an interlocal agreement with the CCRMA in substantially the same form attached hereto as “Attachment “A”.

NOW THEREFORE, BE IT RESOLVED, that the CTRMA Board of Directors hereby approves entry into an interlocal agreement with the CCRMA in substantially the same form attached hereto as "Attachment "A""; and

BE IT FURTHER RESOLVED, that the Executive Director is authorized to finalize and execute the interlocal agreement on behalf of the CTRMA.


Adopted by the Board of Directors of the Central Texas Regional Mobility Authority on the 27th day of January, 2010.

Submitted and reviewed by:



C. Brian Cassidy
Acting General Counsel for the Central
Texas Regional Mobility Authority

Approved:



Ray A. Winkerson
Chairman, Board of Directors
Resolution Number 10-06
Date Passed 01/27/10

ATTACHMENT "A"
To
Resolution No. 10-06
Interlocal Agreement with CCRMA

INTERLOCAL AGREEMENT

THIS INTERLOCAL AGREEMENT (the "Agreement") is made and entered into effective as of the ___ day of _____, 2010, by and between the CENTRAL TEXAS REGIONAL MOBILITY AUTHORITY (the "CTRMA") and the CAMERON COUNTY REGIONAL MOBILITY AUTHORITY ("CCRMA"), political subdivisions of the State of Texas (collectively, the "Parties").

WITNESSETH:

WHEREAS, the CTRMA is a regional mobility authority created pursuant to the request of Travis and Williamson Counties and operating pursuant to Chapter 370 of the Texas Transportation Code (the "RMA Act") and 43 TEX. ADMIN. CODE §§ 26.1 *et seq.* (the "RMA Rules"); and

WHEREAS, the CCRMA is a regional mobility authority created pursuant to the request of Cameron County and operating pursuant to Chapter 370 of the RMA Act and Sections 26.1 *et seq.* of the RMA Rules; and

WHEREAS, Chapter 791 of the Texas Government Code provides that any one or more public agencies may contract with each other for the performance of governmental functions or services in which the contracting parties are mutually interested; and

WHEREAS, Section 370.033 of the RMA Act provides that a regional mobility authority may enter into contracts or agreements with another governmental entity; and

WHEREAS, the CCRMA is in need of toll collection processing and toll systems implementation equipment and services related to the SH 550 Toll Project and future CCRMA toll projects; and

WHEREAS, CCRMA is a party to a Financial Assistance Agreement with the Texas Department of Transportation ("TxDOT") which will provide to CCRMA \$36,494,200 in funding through the American Recovery and Reinvestment Act of 2009 ("ARRA") for certain costs of the SH 550 Toll Project, including the cost of toll collection systems equipment and installation; and

WHEREAS, CCRMA previously issued an RFI, a copy of which is attached as Attachment "A", seeking expressions of interests and proposals from other Texas toll authorities interested in providing toll collection processing services and services related to acquisition and installation of toll collection equipment; and

WHEREAS, the CTRMA previously entered into a Toll Systems Implementation and Maintenance Agreement with Caseta Technologies ("Caseta") for the provision of toll systems implementation, equipment, and maintenance services (the "Caseta Contract"), and the CTRMA, independently and by and through its consultants, has the expertise and infrastructure required to provide toll collection processing and toll systems implementation services in connection with toll projects; and

WHEREAS, CTRMA responded to the RFI and proposed providing the requested services using its own expertise as well as the services of Caseta by and through the Caseta Contract; and

WHEREAS, the Parties have agreed that it would be to their mutual benefit for the CTRMA to provide needed toll collection processing and toll systems implementation equipment and services to the CCRMA.

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, the undersigned Parties agree as follows:

I.
FINDINGS

Recitals. The recitals set forth above are incorporated herein for all purposes and are found by the Parties to be true and correct. It is further found and determined that the Parties have authorized and approved the Agreement by resolution or order adopted by their respective governing bodies, and that this Agreement will be in full force and effect when approved by each party.

II.
ACTIONS

1. Provision of Services. Subject to the terms of this Agreement, the CCRMA shall utilize the resources of the CTRMA and/or its consultants, including the resources and services provided under the Caseta Contract, in connection with the acquisition of toll collection equipment and the provision of toll collection processing and toll systems implementation services on CCRMA toll projects. The general Scope of Work to be provided by the CTRMA is set forth in Attachment "B", and a detailed allocation of responsibility for actions required to implement the toll collection system is set forth in Attachment "C".

2. Toll System Implementation Cost and Payment. The CTRMA shall design, acquire, install, test and maintain the toll collection system and complete the tasks described in Attachments "B" and "C". Further detail concerning the technical specifications for lane configurations and gantry design are attached as Attachments "D" and "E", respectively. The cost to CCRMA for specific services and equipment, and the cost of the entire toll system required to collect and process tolls on SH 550 and other CCRMA facilities, shall not, without the prior written consent of CCRMA, exceed the costs provided in Attachment "F". The CCRMA shall pre-approve all purchases of toll system equipment, hardware and software. Upon receipt of ordered equipment, hardware and software, CTRMA shall invoice the CCRMA with no more than 10% markup for processing and handling. Title to all equipment, hardware and software purchased by CCRMA through CTRMA and/or its consultants shall vest in CCRMA, and CCRMA shall retain possession of such equipment, hardware and software upon termination of this Agreement. Labor, material and expense costs for CTRMA and their subcontractors shall be invoiced to CCRMA on a monthly basis. Labor rates shall be based upon the current contracted rates for all subcontractors and on the actual costs of CTRMA personnel

(Base Salary ÷ 2080). Material and expense costs shall be based on the actual costs incurred and invoiced with a 5% markup.

3. Schedule for Toll Systems Implementation. The parties acknowledge and agree that completing the work required under this Agreement and commencing toll revenue collection in a timely manner is of critical importance to CCRMA. A schedule for the implementation process is attached hereto as Attachment "G". CTRMA agrees to require, through any subcontracts, work authorizations, or other directives to its contractors and subcontractors, including without limitation Caseta, that work be completed in a timely manner or that penalties be assessed, in an amount not less than \$ _____ per day for each delay beyond the scheduled completion date that the system does not operate in a fully functional manner. Such penalties shall be paid to CCRMA to compensate for lost toll revenues attributable to the delayed completion.

4. Performance Measures. The toll system being installed and operated pursuant to this Agreement is identical in form and function to the system in place on CTRMA facilities, and is functioning as an expansion of the system installed, operating and being maintained under the Caseta Contract. As such, CTRMA shall assure, through its agreements with Caseta and other of its subcontractors, that the same performance measures are established and maintained (including penalties for non-compliance) for the system operating on SH 550 and other CCRMA facilities as are applicable to CTRMA facilities. CTRMA shall enforce such measures and standards on CCRMA's behalf, and CTRMA shall not agree to modify performance measures or waive any incidents of non-compliance without the prior written consent of CCRMA. Any amounts due for non-compliance shall be collected by CTRMA and promptly remitted to CCRMA. CCRMA shall have the right to independently audit system performance at any time in addition to audit rights which may exist and be enforced by CTRMA through the Caseta Contract.

5. Payment. Payments due to either party under this Agreement shall be made to:

Central Texas Regional Mobility Authority
301 Congress Avenue, Suite 650
Austin, TX 78701
Attn: Chief Financial Officer

Cameron County Regional Mobility Authority
1100 E. Monroe
Brownsville, Texas 78521
Attn: RMA Coordinator

III. GENERAL AND MISCELLANEOUS

1. Term and Termination. Subject to the following, this Agreement shall be effective as of the date first written above and shall continue in force and effect until _____, 2015. The term of the Agreement may be extended by written agreement of the Parties. Notwithstanding the foregoing, either party may terminate this Agreement in the event of a

material breach of its terms, which may include, but is not limited to, failure to make timely payments of amounts owed and failure of the toll collection equipment, system, and services to be provided and operated in accordance with this Agreement, provided that the party seeking to terminate the Agreement has provided written notice to the other of the alleged default and the default has not been cured within thirty (30) days of receipt of such notice.

2. Prior Written Agreements. This Agreement is without regard to any and all prior written contracts or agreements between the Parties regarding any other subject matter and does not modify, amend, ratify, confirm, or renew any such other prior contract or agreement between the Parties.

3. Other Services. Nothing in this Agreement shall be deemed to create, by implication or otherwise, any duty or responsibility of either of the Parties to undertake or not to undertake any other service, or to provide or not to provide any service, except as specifically set forth in this Agreement or in a separate written instrument executed by both Parties.

4. Governmental Immunity. Nothing in this Agreement shall be deemed to waive, modify, or amend any legal defense available at law or in equity to either of the Parties nor to create any legal rights or claims on behalf of any third party. Neither of the Parties waives, modifies, or alters to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

5. Amendments and Modifications. This Agreement may not be amended or modified except in writing and executed by both Parties to this Agreement and authorized by their respective governing bodies.

6. Severability. If any provision of this Agreement shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision hereof, but rather this entire Agreement will be construed as if not containing the particular invalid or unenforceable provision(s), and the rights and obligations of the Parties shall be construed and enforced in accordance therewith. The Parties acknowledge that if any provision of this Agreement is determined to be invalid or unenforceable, it is their desire and intention that such provision be reformed and construed in such a manner that it will, to the maximum extent practicable, give effect to the intent of this Agreement and be deemed to be validated and enforceable.

7. Execution in Counterparts. This Agreement may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall be considered fully executed as of the date first written above, when both Parties have executed an identical counterpart, notwithstanding that all signatures may not appear on the same counterpart.

DRAFT
01/13/2010

IN WITNESS WHEREOF, the Parties have executed and attested this Agreement by their officers thereunto duly authorized.

**CENTRAL TEXAS REGIONAL
MOBILITY AUTHORITY**

By: _____
Mike Heiligenstein,
Executive Director

**CAMERON COUNTY
REGIONAL MOBILITY AUTHORITY**

By: _____
Pete Sepulveda, Jr.,
RMA Coordinator



November 25, 2009

**CCRMA Request for Information Regarding Toll System Implementation
and Support for SH-550 via Inter-Local Agreement**

The Cameron County Regional Mobility Authority (CCRMA) plans to open its SH 550 Toll Project in March of 2010. Tolling operations will commence at that time, although a promotional period will likely defer the actual collection of tolls until at least June 1, 2010. In order to have collection capabilities in place in a timely manner the CCRMA requires the assistance of an established toll system operator. The following summary represents the request that the CCRMA has made to the following Agencies to provide information and estimates for toll systems, services and support to CCRMA initial Open Road Tolling project at the SH 550 overpass of FM 1847 and UPRR.

Three Agencies have been identified based on their response to a letter of inquiry that was sent from CCRMA to identified toll authorities that implement and operate high-speed Open Road Tolling (ORT) Systems and currently, as parties to an inter-local agreement, submit transactions to the Texas InterOp Hub. These are features that are necessary for tolled operations of the SH550 facility. In the initial letter, Agencies were asked to confirm their willingness to assist CCRMA with this initial toll project. The Agencies that replied affirmatively are:

Central Texas Regional Mobility Authority
Point of Contact: Ron Fagan, Director of Operations

North Texas Tollway Authority
Point of Contact: Clayton Howe, Assistant Executive Director of Operations

Texas Turnpike Authority
Point of Contact: Doug Woodall, Interim Director of Toll Operations

These three Agencies were subsequently visited for an initial meeting that included a tour of their facilities, a briefing of the SH550 Project, a discussion of their toll related capabilities and policies and discussions about a potential inter-local agreement (ILA).

The purpose of this RFI is to gather additional information which, when considered with information learned during site visits, will allow the CCRMA staff to make a recommendation to its board of directors as to the agency which presents the best opportunity for partnering through an inter-local agreement. The recommendation will consider all factors, including estimated cost of services, compatibility of approach to tolling, flexibility of systems and business rules to accommodate unique aspects of CCRMA's operation, ability to implement in a timely manner, and commitment of resources necessary to accomplish CCRMA's objectives. It is anticipated that the agreement will be for a minimum period of two years. The CCRMA sincerely appreciates the willingness of its fellow Agencies to assist the CCRMA and will do everything possible to simplify the partnering process.

As part of each Agencies response to this RFI, CCRMA respectfully requests that the Agency provide estimated costs, using the instructions and worksheet provided, for the following:

1. Installation and Testing of the Following Systems:

- a. In-Lane Systems
 - b. Back-Office Systems
 - c. Front-Office Systems
 - d. Network Equipment
 - e. Surveillance Systems
2. Project Support:
- a. General Project Support
 - b. Business Rule Development
 - c. System Integration
 - d. Training
 - e. Court Process Development
 - f. Documentation
 - g. Marketing Support
 - h. Public Relations Support
3. Maintenance and Warranty:
- a. Remote Maintenance
 - b. Preventative Maintenance
 - c. Warranty (Year 1)
 - d. Spare Parts
4. Post "Start of Tolling" Toll Services:
- a. AVI Transaction Processing
 - b. Image-Based Transaction Processing
 - c. Video Bill Processing
 - d. Retail Transponder Distribution Support
 - e. Collections Management
 - f. Court Process Support

Target Schedule

The following schedule is provided as guidance to those participating in this exercise. The CCRMA appreciates that Agency staffs are busy and CCRMA will do everything possible to accommodate the particular needs of each Agency.

Event	Target Date
Draft Request for Information (RFI) Sent	Wednesday, Nov. 18
Comments to Draft RFI Due	Friday, Nov 20
Final RFI Sent	November 25
RFI Responses Target Date	December 1
CCRMA Recommendation to the Board	December 10 Board Meeting
CCRMA Notification of Decision to Agencies	December 11
Complete ILA and implement design and construction	December 2009– March 2010
Open tolled overpass to traffic (start promotional period)	March 2010
End promotion, begin collecting tolls	June 2010

The estimates should consider the short time frame for implementation and the necessity of beginning toll operations in March 2010 and actual toll collection on June 1, 2010. If there is a concern that implementation by this date is not possible, please indicate the earliest date for completion of the work.

Point of Contact

Questions related to this RFI should be directed to:

Dan Baker
HNTB Corporation
dlbaker@hntb.com
303-210-0354

Supporting Documents

Attachment A – Cost Estimate Instructions

Attachment B - Cost Estimate Worksheet (provided as part of the RFI and as a separate file for data entry)

Attachment C - Preliminary Plan Sheets (Provided as a separate file for printing purposes)

ATTACHMENT A
Cost Estimate Instructions

This attachment provides instructions for completing the Toll System Cost Estimates Worksheet. The estimate should be based on the authority's:

- Existing Open-Road Tolling (ORT), Back-Office and Front-Office system designs and should assume that CCRMA will adopt the authority's general business rules and policies. Based on our initial meetings with the authorities, it is assumed that many of the common business rules are configurable and that the selected authority will be willing to work with the CCRMA, where feasible, to customize configurable settings.
- Existing system integrator contract(s)
- Approved internal staffing and budget approvals

The estimates should also consider the short time frame available to begin toll operations in March 2010 and actual toll collection on June 1, 2010. If there is a concern that these dates are not achievable, please indicate your earliest estimated dates for same.

The cost estimates should assume that CCRMA will pay for and take ownership of all equipment installed at these CCRMA locations. The potential loan or lease of equipment can be discussed at a later time. Please note that this RFI is only for tolling at the location identified in the plan sheets.

A spreadsheet is provided to facilitate the estimation of costs. The following instructions provide general guidance for each section of the estimate. Information should only be entered in the un-shaded cells. When necessary, please use the comment column to document assumptions and/or clarify the cost estimating method used. If the system, service or support item cannot be provided, simply note that in the comment field and leave the related cells blank.

1. Toll System Description of Services and Instructions for Estimates

This section should reflect all anticipated costs for hardware, software, licensing, installation and testing of the following toll system components.

- A. **In-Lane System Costs** – This section should include ORT toll systems for mainlane tolling that support two travel lanes in each direction and shoulders as depicted on the attached plan sheets. This section should include the estimated cost of all In-Lane and roadside equipment and a UPS capable of sustaining the systems for 60 minutes without other power. An adequately sized portable generator should also be included in the cost estimate. This section should include equipment, installation and testing of the system. If the provided system is in production on an existing facility, a limited amount of formal testing will be required. This limited formal testing can be assumed to be part of a single overall operational test of the entire system.
- B. **Back-Office Systems** – This section should include the estimated cost of all on-site (in Cameron County) back-office systems required to:
 - Aggregate transactions from the lanes
 - Store and forward transactions to the remote back-office

- Provide for transactional and financial audit and reconciliation
- Provide system support for the maintenance activities described below
- Provide a secure enclosure for the back-office systems

If the provided systems are in production, a limited amount of formal testing shall be required. This limited formal testing can be assumed to be part of a single overall operational test of the entire system.

C. **Front-Office Systems** - This section should include the estimated cost of all on-site (in Cameron County) front-office systems required to:

- Provide and install three customer service representative (CSR) systems at a walk-up customer service location in Cameron County. The estimate should include all necessary peripherals (printers, readers, etc) required to fully service walk-up customers; including, the issuing of transponders, full account creation, payment processing and customer support activities. CCRMA will provide the building, desks, office space, etc. It is assumed that these systems will remotely access the CSC/VPC system.
- Provide and install two transponder vending or kiosk systems that will likely not have full remote access but rather distribute transponders and rely on the customer to create an account either on-line or over the phone. CCRMA will follow-up individually with each authority regarding their current capabilities in this area.

If the provided systems are currently in production, a limited amount of formal testing will be required. This limited formal testing can be assumed to be part of a single overall operational test of the entire system.

D. **Network Equipment** – This section should include all estimated costs for network equipment and testing required to provide for following:

- Connectivity of all In-Lane and Roadside equipment.
- Connectivity from the In-Lane Systems to the Back-office.
- Connectivity between the Back-Office and the authority's remote Back-Office Systems.
- Connectivity between the Front-Office Systems and the authority's remote Customer Service Center Systems.
- Connectivity between the Surveillance system and the Video Host System.

This section should include only the network equipment and assume that the required fiber, wireless and/or long-haul circuits will be provided and paid for by the CCRMA.

E. **Tolling Point Surveillance System** – This section should include all estimated costs for surveillance systems to monitor the tolling point as well as some reasonable distance both upstream and downstream of the tolling point. It is assumed that the system will be connected into the Agency's existing surveillance systems and have similar capabilities. Assume that the CCRMA will provide an adequate long-haul communication path between the systems. Ideally, the CCRMA should also have the capability to access the camera feeds via a standard browser (assuming the CCRMA has provided connectivity between their PC's

and the required devices). It should be assumed that the camera feeds will be monitored, recorded and stored per the current monitoring and data retention rules.

2. Project Support Description of Services

This section should include all estimated Agency costs for Project Support Activities. "Units" should be of the type that is preferred by the Agency (e.g., LS – Lump Sum, Hrs – Hours, Units – Generic Work Units)

- A. **General Project Support** – This section should include all estimated Agency costs for project management, meetings with CCRMA, internal coordination with operations and maintenance teams, etc.
- B. **Business Rules Development** – This section should include all estimated Agency costs for assisting the CCRMA in understanding the current Business Rules and defining all configurable parameters.
- C. **System Integration** – This section shall include all estimated costs for development required to integrate CCRMA into the existing operational systems. Integration should include changes to existing systems, Automatic Call Distribution (ACD), and Interactive Voice Response (IVR), website to provide a CCRMA branded instance, etc.
- D. **Training** – This section should include all estimated Agency costs for training of CCRMA personnel, including:
 - Lane Maintenance training of local Cameron County maintenance personnel to the extent required to meet the approach described in the Maintenance section below.
 - Customer Service Representatives training to the extent required for them to fully service walk-up customers, issue transponders and collect money for account replenishment, video bills, fees and fines.
 - County finance personnel training to the extent required to perform transactional and financial audit and reconciliation with the Agency and reconciliation of toll transaction payments from the Agency to the CCRMA.
 - General system report training for CCRMA personnel responsible for the day-to-day operations of the facility.
- E. **Court Process Development** – This section shall include all estimated Agency costs for assisting CCRMA with the development of the Court Process in Cameron County. The Agency should use their best estimation of costs associated with this effort based on their past experience.
- F. **Documentation** – This section should include all estimated costs for providing documentation of the system. It is assumed that the system provided to the CCRMA is in production and documented. The Agency should assume that the existing system documentation can be reused, with slightly modified if required, to support the CCRMA system. As-built drawings, specific to the SH-550 installation, should be provided.
- G. **Marketing Support** – This section should include all Agency estimated costs for Marketing Support including; assistance with a marketing plan, web site branding, Cameron County

event planning, and initial transponder distribution. Please list these and/or other marketing support activities in the cells provided (insert additional cells as required). The Agency should use their best estimation of costs associated with this effort based on their past experience.

- H. **Public Relations Support** - This section should include all Agency estimated costs for Public Relations including; assistance with a communications plan and development of surveys. Please list these and/or other marketing support activities in the cells provided (insert additional cells as required).

3. Maintenance and Warranty Approach

The CCRMA will provide local maintenance personnel to perform related on-site tasks and assist as required with the maintenance of the toll system. It is assumed that the Agency will monitor and respond to alarms and tickets in a manner consistent with the support of their existing systems. After meeting with the authorities, it is assumed that most alarms and automatically generated trouble tickets will be investigated and resolved remotely. However, local personnel will be available, at the direction of the Agency, to assist with issues that require on-site support. Local maintenance personnel will have been trained by the Agency to access spare parts, perform sub-component replacements, properly handle the return of defective equipment, properly administer inventory as required, etc. It is assumed that any required on-site maintenance support, beyond scheduled preventative maintenance and tuning, will be paid for by CCRMA on a time and material basis.

- A. **Maintenance Remote Support** – This section should include the estimated annual cost of remotely monitoring the toll system and responding to and resolving alarms and trouble tickets. This section should also include the cost of monitoring the surveillance cameras in a manner consistent with the Agency’s current operations and if required, calling designated Cameron County contacts.
- B. **Preventative Maintenance** – This section should include estimated labor and expenses for annual preventative maintenance and system tuning as required.
- C. **Warranty** – This section should include the estimated cost for the first year of warranty on the system (if required).
- D. **Spare Parts** – This section should include the estimated cost of an initial set of spare parts.

4. Post “Start of Tolling” Services

This section should include the estimated costs for providing customer service and related operational support. It is assumed that the estimate provides the cost of all labor, materials and expenses required to service CCRMA customers, both paying and non-paying. If any of these costs are based on reaching certain volumes, that should be noted in the comment section and CCRMA can follow-up.

When completing this section, designate only the unit type and per unit cost. CCRMA will estimate quantities and discuss these with the authorities. Where additional rows are provided, feel free to add the individual cost items involved in the task (add additional rows if required).

- A. **AVI Transaction Processing** – This section should include the estimated fee charged to CCRMA for processing of AVI transactions.

- B. **Image-Based Transaction Processing** – This section should include the estimated fee charged to CCRMA for processing of image-based transactions.
- C. **Video Bill Processing**– This section should include the estimated fees and costs charged to CCRMA for processing and sending video bills.
- D. **Retail Transponder Distribution Support** – This section should include all estimated costs for supporting retail transponder distribution in Cameron County.
- E. **Collections Management** - This section should include all estimated costs for providing and managing the collections process.
- F. **Court Process** - This section should include all estimated costs for managing the court process.

5. Additional Costs

This section should include any costs that are not identified or do not fit into the above listed categories. The CCRMA will follow up directly to discuss any costs listed in this section.

**ATTACHMENT B
Cost Estimate Worksheet**

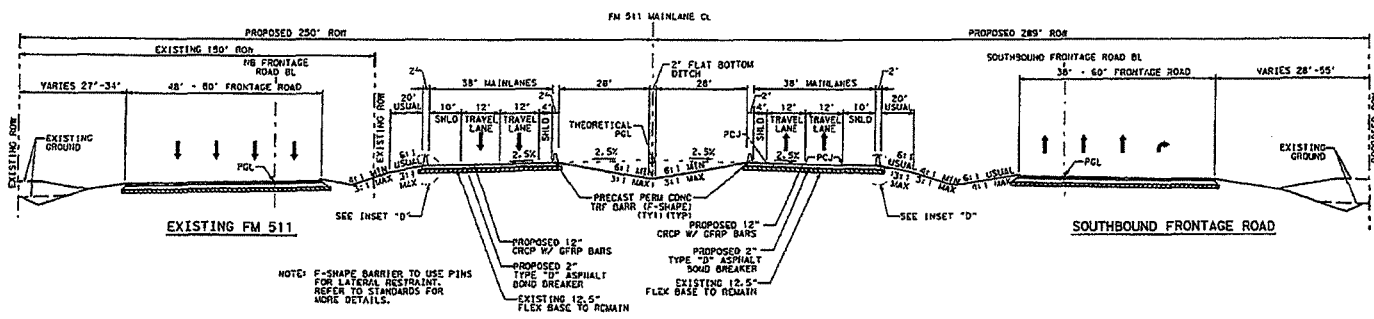
TOLL SYSTEM		Unit	Qty	Per Unit Cost (\$)	Total	Comments
A	In-Lane Systems In-Lane Systems as described in the Toll System Description of Services			\$ -		
B	Back-Office Systems Back-Office Systems as described in the Toll System Description of Services			\$ -		
C	Front-Office Systems Front-Office Systems as described in the Toll System Description of Services			\$ -		
D	Network Equipment Network Equipment as described in the Toll System Description of Services			\$ -		
E	Surveillance Systems Surveillance Systems as described in the Toll System Description of Services			\$ -		
Sub-Total						

PROJECT SUPPORT		Unit	Qty	Per Unit Cost (\$)	Total	Comments
A	General Project Support General Project Support as described in the Project Support Description of Services			\$ -	\$ -	
B	Business Rules Development Business Rules Development as described in the Project Support Description of Services			\$ -	\$ -	
C	System Integration System Integration as described in the Project Support Description of Services			\$ -	\$ -	
D	Training Training as described in the Project Support Description of Services			\$ -	\$ -	
E	Court Process Development Court Process Development as described in the Project Support Description of Services			\$ -	\$ -	
F	Documentation Documentation as described in the Project Support Description of Services			\$ -	\$ -	
G	Marketing Support Marketing Support as described in the Project Support Description of Services			\$ -	\$ -	
H	Public Relations Support Public Relations Support as described in the Project Support Description of Services			\$ -	\$ -	
Sub-Total						

MAINTENANCE AND WARRANTY		Unit	Qty	Annual Costs	Total	Comments
A	Remote Maintenance Remote Maintenance as described in the Maintenance and Warranty Description of Services			\$ -		
B	Preventive Maintenance Preventive Maintenance as described in the Maintenance and Warranty Description of Services			\$ -		
C	Warranty (Year 1) Warranty as described in the Maintenance and Warranty Description of Services			\$ -		
D	Spare Parts Spare Parts as described in the Maintenance and Warranty Description of Services			\$ -		
Sub-Total						

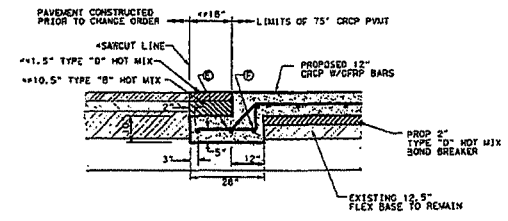
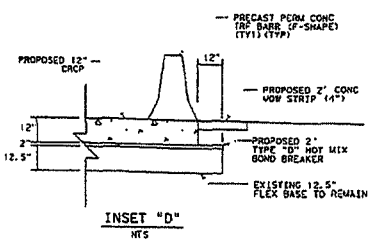
POST-START-UP/ONLINE SERVICES		Unit	Qty	Per Unit Cost	Total	Comments
A	AVI Transaction Processing Per AVI transaction processing fee			\$ -		
B	Image-Based Transaction Processing Per image-based transaction processing fee			\$ -		
C	Video Bill Processing Pass through costs (list all applicable pass-through items)			\$ -		
				\$ -		
				\$ -		
				\$ -		
				\$ -		
				\$ -		

- NOTES:
 1. REFER TO ROADWAY TYPICAL SECTIONS FOR MORE INFORMATION.
 2. REFER TO "CANTRY ELEVATIONS" FOR MORE INFORMATION.

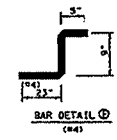


NOTE: F-SHAPE BARRIER TO USE PINS FOR LATERAL RESTRAINT. REFER TO STANDARDS FOR MORE DETAILS.

PROPOSED FM 511
 TYPICAL SECTION
 STA 1180+12.50 TO STA 1180+87.50
 NTS



* SARCUT WILL BE SUBSIDIARY TO ITEM 360
 ** 1.5" TYPE "D" HOT MIX AND 10.5" TYPE "B" HOT MIX TO BE PAID AS ITEM 351 "FLEXIBLE PAVEMENT REPAIR" ESTIMATED AT 22.5 SY.



NOTE: STEEL REINFORCING ALLOWED FOR BARS C AND F, AND SPACED AT 18" C-C

CHANGE ORDER No. 13
 NEW SHEET

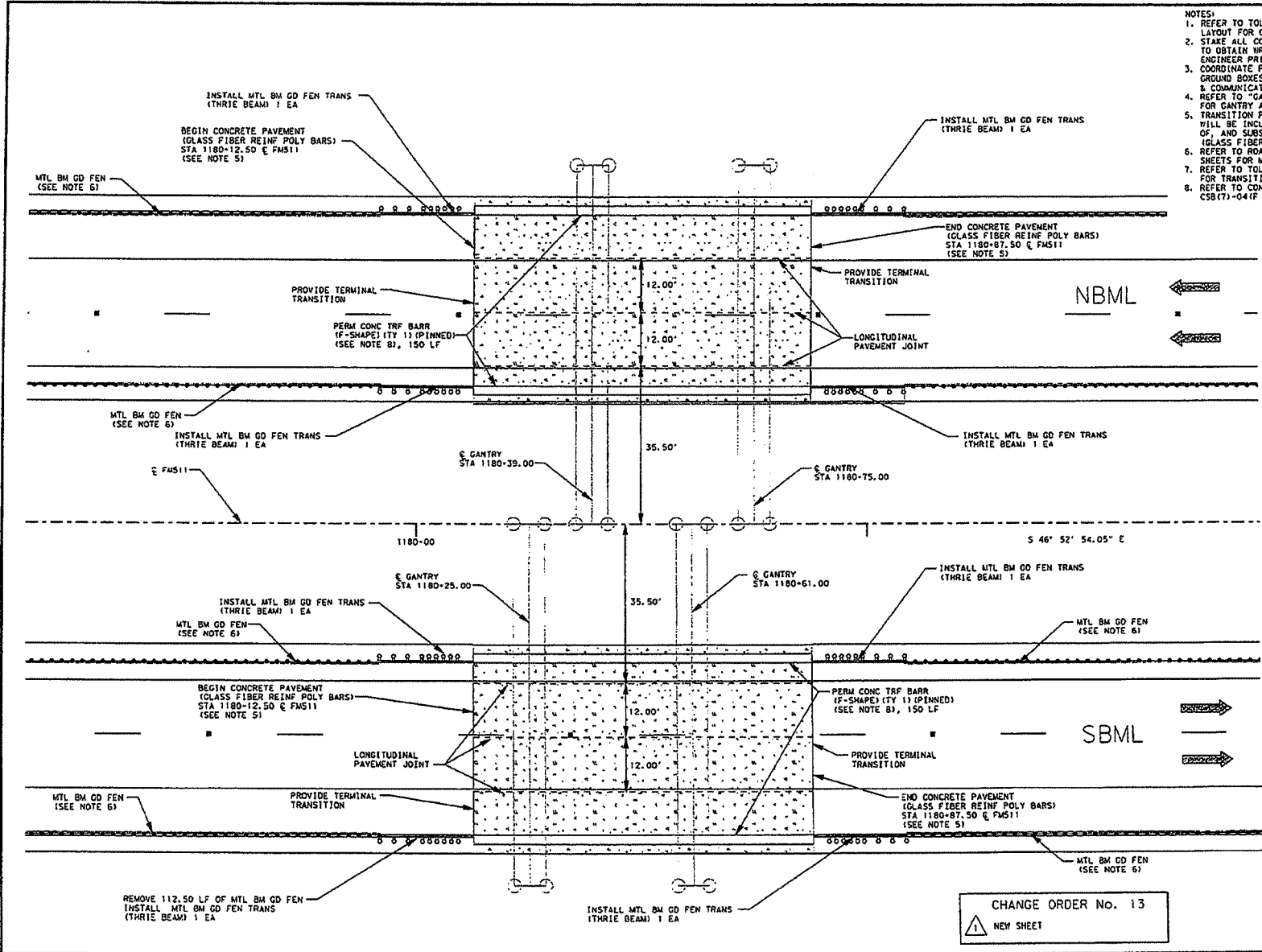
STATE OF TEXAS
 BRUCE L. TURRENTINE
 012000
 LICENSED PROFESSIONAL ENGINEER
 10/16/09

© 2009 Texas Department of Transportation

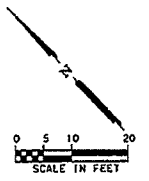
HNTB HNTB Corporation
 The HNTB Companies
 Engineers, Architects, Planners
 1001 North Main Street
 Houston, Texas 77002

FM 511 TOLL
 TYPICAL SECTION
 (SHEET 1 OF 1)

DATE	PROJECT NO.	NO.
01/07/09	ND 2008 (020)	1074
STATE	COUNTY	COUNTY
TEXAS	PHARR	CAUWERON
CONTRACT	SECTION	NO.
0084	01	046



- NOTES:
1. REFER TO TOLL FACILITY CONDUIT RISER LAYOUT FOR CONDUIT DETAILS.
 2. STAKE ALL CONDUIT & GROUND BOX LOCATIONS TO OBTAIN WRITTEN APPROVAL FROM THE ENGINEER PRIOR TO PLACEMENT.
 3. COORDINATE PLACEMENT OF CONDUIT & GROUND BOXES WITH UTILITY FOR POWER & COMMUNICATION TIE-IN.
 4. REFER TO "GANTRY ELEVATION" SHEETS FOR GANTRY AND DRILL SHAFT INFORMATION.
 5. TRANSITION PAVEMENT STRUCTURE WILL BE INCLUDED WITH IN THE LIMITS OF, AND SUBSIDIARY TO, CONC PAVMT (GLASS FIBER REINF POLY BARS).
 6. REFER TO ROADWAY PLAN & PROFILE SHEETS FOR MORE INFORMATION.
 7. REFER TO TOLL TYPICAL SECTION SHEET FOR TRANSITION DETAIL.
 8. REFER TO CONCRETE SAFETY BARRIER CSB(77)-04(F SHAPE) FOR PIN DETAILS.



10/16/09

NO.	DATE	REVISION DESCRIPTION	APP. BY

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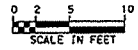
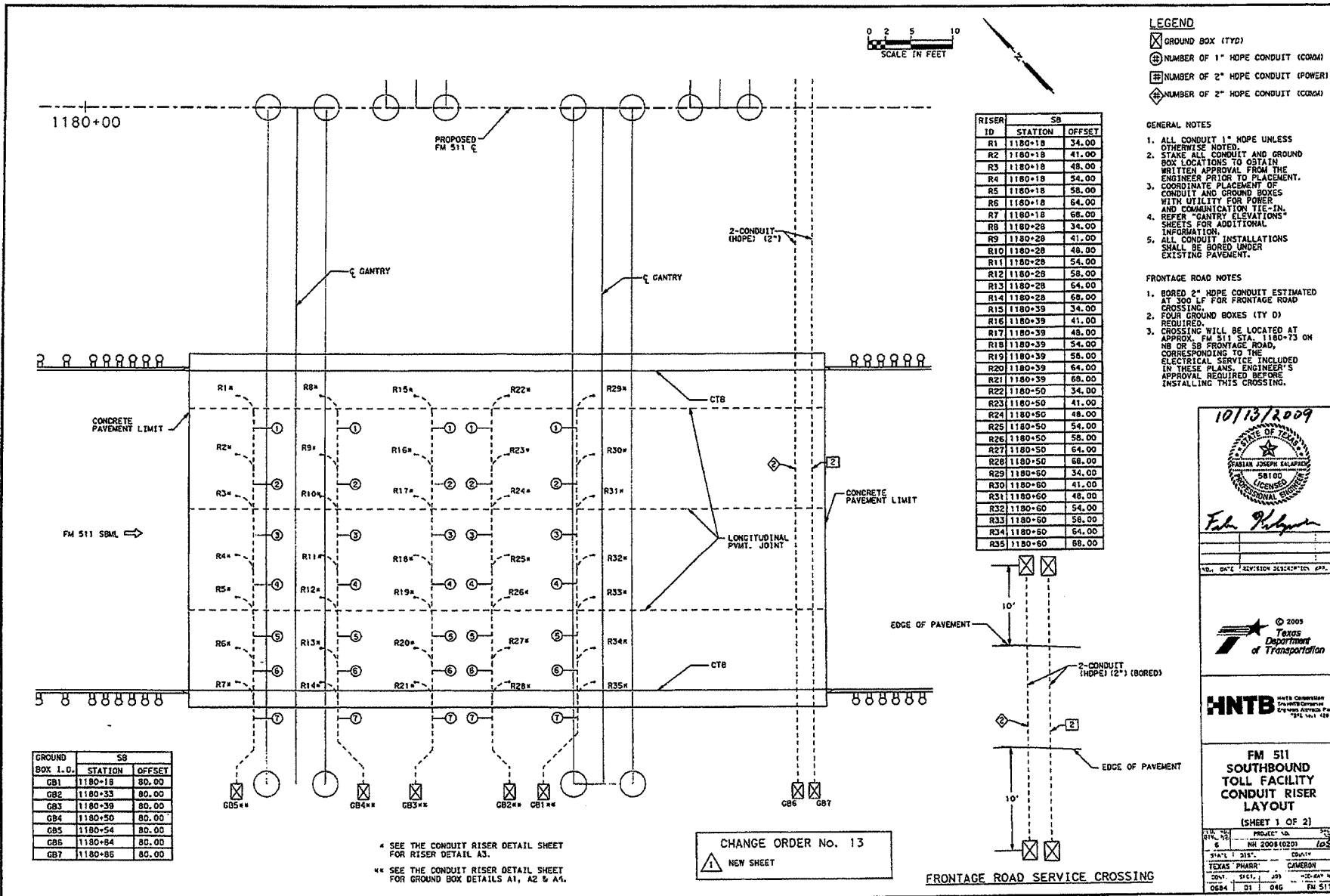
HNTB Corporation
The HNTB Companies
Engineering, Architecture, Planning
1981 - 1982

FM 511 TOLL FACILITY LAYOUT

(SHEET 1 OF 1)

NO. 201	PROJ. NO. 1	SCALE
6	NH 2008 (020)	1/8" = 1'-0"
STATE	DIST.	COUNTY
TEXAS	PHARR	CAMERON
CON.	SECT.	JOB
0684	01	046

CHANGE ORDER No. 13
NEW SHEET

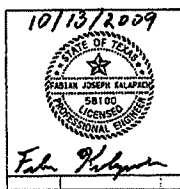


RISER		SB	
ID	STATION	OFFSET	
R1	1180+18	34.00	
R2	1180+18	41.00	
R3	1180+18	48.00	
R4	1180+18	54.00	
R5	1180+18	58.00	
R6	1180+18	64.00	
R7	1180+18	66.00	
R8	1180+28	34.00	
R9	1180+28	41.00	
R10	1180+28	46.00	
R11	1180+28	54.00	
R12	1180+28	58.00	
R13	1180+28	64.00	
R14	1180+28	68.00	
R15	1180+39	34.00	
R16	1180+39	41.00	
R17	1180+39	48.00	
R18	1180+39	54.00	
R19	1180+39	58.00	
R20	1180+39	64.00	
R21	1180+39	68.00	
R22	1180+50	34.00	
R23	1180+50	41.00	
R24	1180+50	48.00	
R25	1180+50	54.00	
R26	1180+50	58.00	
R27	1180+50	64.00	
R28	1180+50	68.00	
R29	1180+60	34.00	
R30	1180+60	41.00	
R31	1180+60	46.00	
R32	1180+60	54.00	
R33	1180+60	58.00	
R34	1180+60	64.00	
R35	1180+60	68.00	

GROUND		SB	
BOX I.D.	STATION	OFFSET	
GB1	1180+18	80.00	
GB2	1180+33	80.00	
GB3	1180+39	80.00	
GB4	1180+50	80.00	
GB5	1180+54	80.00	
GB6	1180+84	80.00	
GB7	1180+85	80.00	

- LEGEND**
- ☒ GROUND BOX (TYD)
 - ⊕ NUMBER OF 1" HOPE CONDUIT (COMM)
 - ⊕ NUMBER OF 2" HOPE CONDUIT (POWER)
 - ⊕ NUMBER OF 2" HOPE CONDUIT (COMM)

- GENERAL NOTES**
- ALL CONDUIT 1" HOPE UNLESS OTHERWISE NOTED
 - STAKE ALL CONDUIT AND GROUND BOX LOCATIONS TO OBTAIN WRITTEN APPROVAL FROM THE ENGINEER PRIOR TO PLACEMENT.
 - COORDINATE PLACEMENT OF CONDUIT AND GROUND BOXES WITH UTILITY FOR POWER AND COMMUNICATION TIE-IN. REFER "GANTRY ELEVATIONS" SHEETS FOR ADDITIONAL INFORMATION.
 - ALL CONDUIT INSTALLATIONS SHALL BE BORED UNDER EXISTING PAVEMENT.
- FRONTAGE ROAD NOTES**
- BORED 2" HOPE CONDUIT ESTIMATED AT 300 LF FOR FRONTAGE ROAD CROSSING
 - FOUR GROUND BOXES (TY D) REQUIRED
 - CROSSING WILL BE LOCATED AT APPROX. FM 511 STA. 1180+73 ON NB OR SB FRONTAGE ROAD, CORRESPONDING TO THE ELECTRICAL SERVICE INCLUDED IN THESE PLANS. ENGINEER'S APPROVAL REQUIRED BEFORE INSTALLING THIS CROSSING.



FM 511 SOUTHBOUND TOLL FACILITY CONDUIT RISER LAYOUT
(SHEET 1 OF 2)

PROJECT NO. NH 2008(02D) (L-2)

STATE OF TEXAS

TEXAS PHARR CAMERON

DATE: 11/11/09

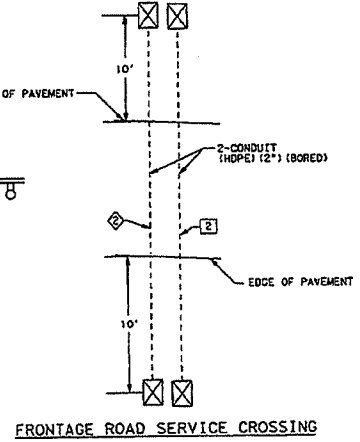
0644 D1 046 FM 511

* SEE THE CONDUIT RISER DETAIL SHEET FOR RISER DETAIL A3.

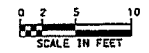
** SEE THE CONDUIT RISER DETAIL SHEET FOR GROUND BOX DETAILS A1, A2 & A4.

CHANGE ORDER No. 13

NEW SHEET



* SEE THE CONDUIT RISER DETAIL SHEET FOR RISER DETAIL A3.
 ** SEE THE CONDUIT RISER DETAIL SHEET FOR GROUND BOX DETAILS A1, A2 & A4.

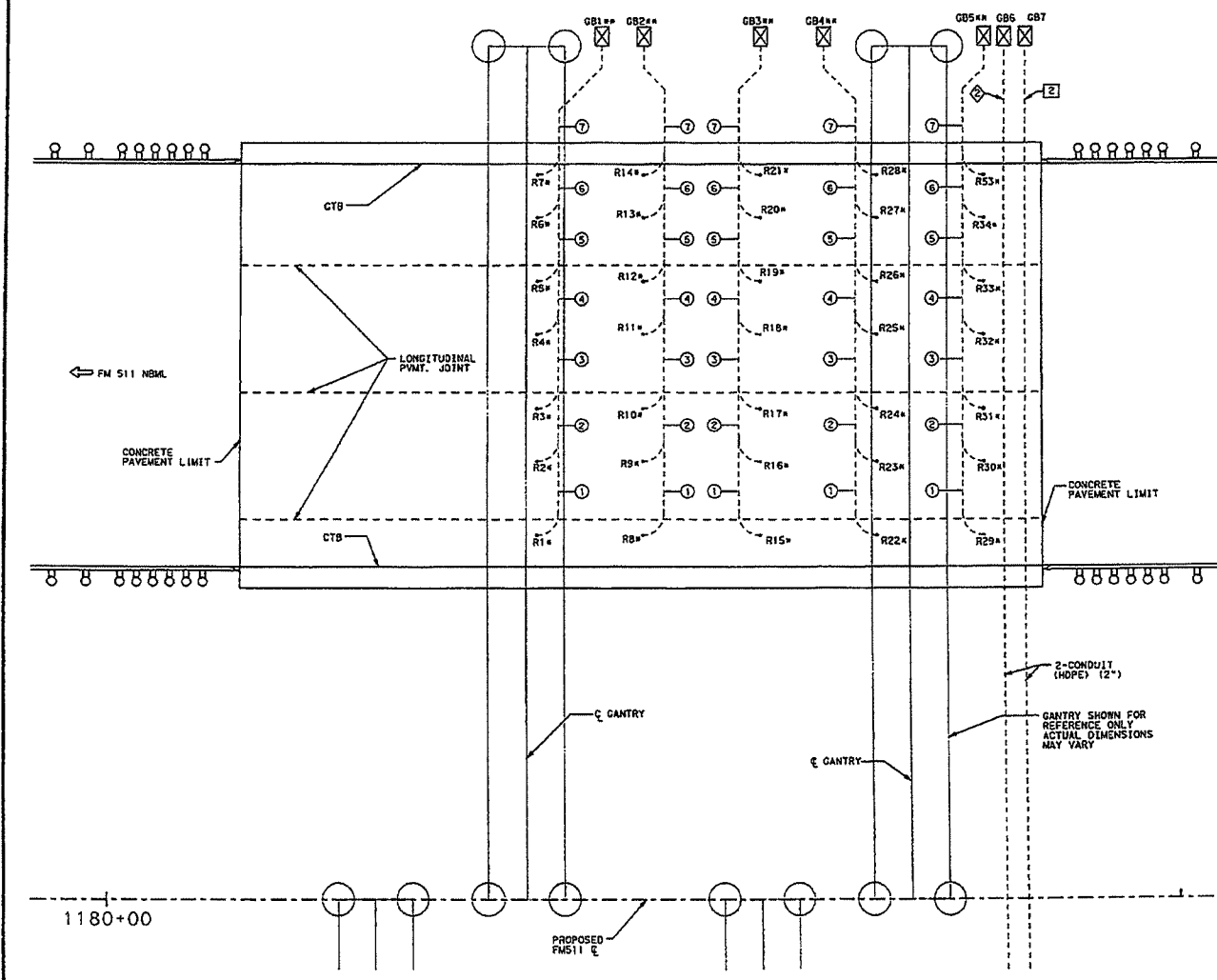


LEGEND

- ⊗ GROUND BOX (TYD)
- ⊕ NUMBER OF 1" HDPE CONDUIT (CONV)
- ⊖ NUMBER OF 2" HDPE CONDUIT (POWER)
- ⊙ NUMBER OF 2" HDPE CONDUIT (COMM)

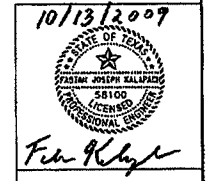
GENERAL NOTES

1. ALL CONDUIT 1" HDPE UNLESS OTHERWISE NOTED.
2. STATE ALL CONDUIT AND GROUND BOX LOCATIONS TO OBTAIN WRITTEN APPROVAL FROM THE ENGINEER PRIOR TO PLACEMENT.
3. COORDINATE PLACEMENT OF CONDUIT AND GROUND BOXES WITH UTILITY FOR POWER AND COMMUNICATION TIE-IN. REFER "GANTRY ELEVATIONS" SHEETS FOR ADDITIONAL INFORMATION.
5. ALL CONDUIT INSTALLATIONS SHALL BE BORED UNDER EXISTING PAVEMENT.



RISER ID	STATION	OFFSET
R1	1180+40	-34.00
R2	1180+40	-41.00
R3	1180+40	-48.00
R4	1180+40	-54.00
R5	1180+40	-58.00
R6	1180+40	-64.00
R7	1180+40	-68.00
R8	1180+50	-34.00
R9	1180+50	-41.00
R10	1180+50	-46.00
R11	1180+50	-54.00
R12	1180+50	-58.00
R13	1180+50	-64.00
R14	1180+50	-68.00
R15	1180+61	-34.00
R16	1180+61	-41.00
R17	1180+61	-48.00
R18	1180+61	-54.00
R19	1180+61	-58.00
R20	1180+61	-64.00
R21	1180+61	-68.00
R22	1180+72	-34.00
R23	1180+72	-41.00
R24	1180+72	-48.00
R25	1180+72	-54.00
R26	1180+72	-58.00
R27	1180+72	-64.00
R28	1180+72	-68.00
R29	1180+82	-34.00
R30	1180+82	-41.00
R31	1180+82	-48.00
R32	1180+82	-54.00
R33	1180+82	-58.00
R34	1180+82	-64.00
R35	1180+82	-68.00

GROUND BOX I. D.	STATION	OFFSET
GB1	1180+46	-80.00
GB2	1180+50	-80.00
GB3	1180+61	-80.00
GB4	1180+67	-80.00
GB5	1180+82	-80.00
GB6	1180+84	-80.00
GB7	1180+86	-80.00

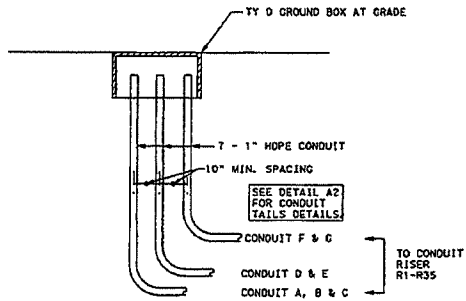


FM 511 NORTHBOUND TOLL FACILITY CONDUIT RISER LAYOUT
 (SHEET 2 OF 2)

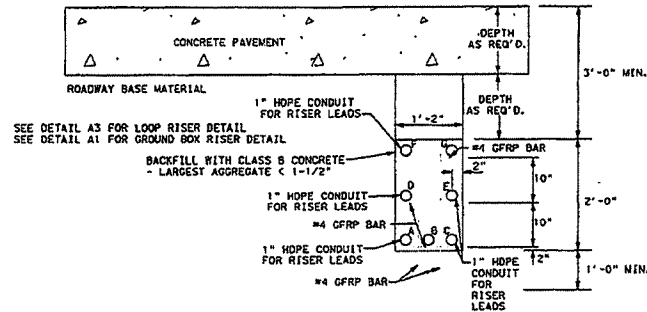
CHANGE ORDER No. 13
 NEW SHEET

DATE	REVISION	DESCRIPTION	BY
10/13/2009			

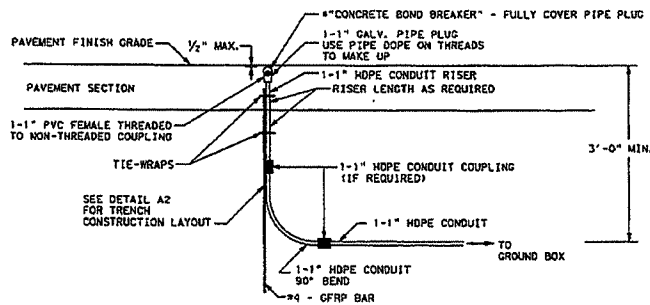
PROJECT NO.	DATE	SCALE
NK 2008 (0202)	10/22	
STATE	CITY	COUNTY
TEXAS	PHARR	CAMERON
CONTRACT NO.	SHEET NO.	TOTAL SHEETS
DE84 01	046	FM 511



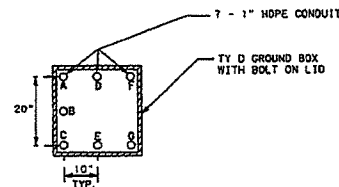
CONDUIT RISER DETAIL A1
 LOOP TAIL TO GROUND BOX
 CONDUIT TRENCH DETAILS



CONDUIT RISER DETAIL A2
 LOOP TAIL TO GROUND BOX
 CONDUIT TRENCH DETAIL



CONDUIT RISER DETAIL A3
 LOOP TAIL TO GROUND BOX
 CONDUIT LOOP RISER DETAIL
 *SUBSIDIARY TO CONDUIT



DETAIL A4
 TYPICAL GROUND BOX
 CONDUIT ARRAY

CHANGE ORDER No. 13
 NEW SHEET



Stanley Joseph Callagaro

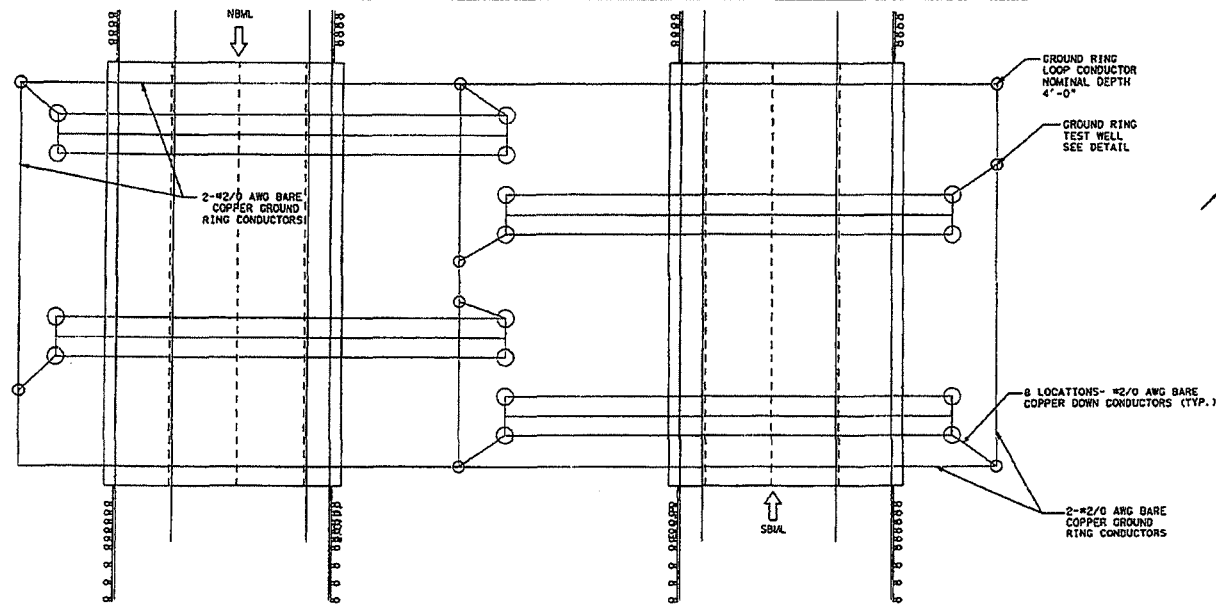


FM 511 TOLL FACILITY CONDUIT RISER DETAILS

(SHEET 1 OF 1)

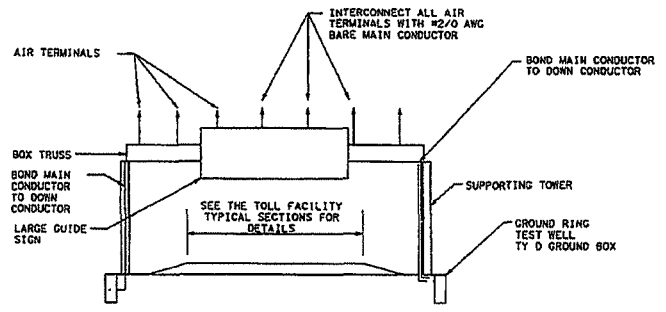
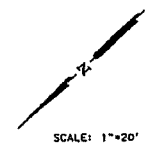
REV.	NO.	DATE	DESCRIPTION	BY
1				
PROJECT NO.		NO. 2008 (0203)		
STATE - DIST.		TX - 048		
CONTRACT NO.		TX 048 01 048		
SECTION		FM 511		

NOT TO SCALE

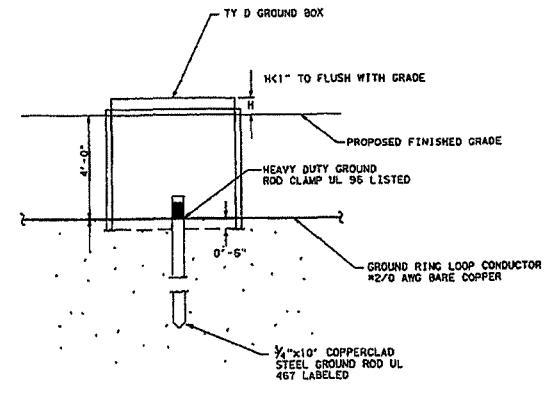


MAINLANE GROUND RING PLAN VIEW
(TYPICAL)

- NOTES:
- 1) ALL STRUCTURAL CONCRETE AND CONDUIT INSTALLATIONS SHALL COMPLY WITH ACI 318 CHAPTER 6.
 - 2) LPS SHALL BE INSTALLED BY A UL LISTED INSTALLER.
 - 3) LPS SHALL BE UL MASTER LABEL CERTIFIED.
 - 4) ALL LPS MATERIALS SHALL MEET NFPA 780 CLASS II REQUIREMENTS.
 - 5) ALL REBAR LATERAL ELEMENTS, LAP JOINTS, AND CONNECTIONS SHALL BE "DOUBLE TIED".
 - 6) AIR TERMINALS SHALL ACCOMMODATE A GUIDE 14'-0" CENTERED ON GANTRY TRUSS.



MAINLANE GROUND RING ELEVATION
(TYPICAL)
NOT TO SCALE



GROUND RING TEST WELL DETAIL
(TYPICAL)
NOT TO SCALE

CHANGE ORDER No. 13
NEW SHEET

10/13/2009

Paul Joseph Salazar
Professional Engineer

STATE OF TEXAS
Department of Transportation

HNTB HNTB Corporation
10000 North Loop West
Houston, Texas 77040
713.865.1000

FM 511
TOLL FACILITY
LIGHTNING
PROTECTION
SYSTEM DETAILS

(SHEET 1 OF 1)

REV.	NO.	DESCRIPTION	DATE
1	1	ISSUE FOR CONSTRUCTION	10/13/09

PROJECT NO. NH 2008 (0201) 1089

STATE: TEXAS COUNTY: CAMERON

CONTRACT NO. 0884 DIST. 01 DATE 045 FM 511

ATTACHMENT B SCOPE OF WORK

1. General

A. Background

The Cameron County Regional Mobility Authority (CCRMA) designated the SH550 at 1847 as the first priority for implementation of a toll system in conjunction with the TxDOT plans for development of Cameron County.

B. Summary Scope of Work

The project consists of a toll collection, transaction processing, video enforcement, pay-by-mail billing, reconciliation, reporting, system monitoring, system maintenance and use of an established interface to the Texas Turnpike Authority (TTA) Customer Service Center and the Municipal Services Bureau (MSB) image processing center.

The work generally will include, but not be limited to: design, development, testing, and installation of a complete and fully functioning electronic toll collection system, with associated infrastructure, that shall include Open Road Tolling equipment that will process tolls and images. All associated systems, hardware and software to provide reporting, reconciliation and other audit functions, also are included. Maintenance of the Toll Collection System after Acceptance will be accomplished by the CTRMA under a separate Inter-local Agreement.

The general locations and layouts for the proposed toll point are provided on the schematic diagrams in Attachment "F". These diagrams are based on the best information currently available and are intended as information only for the purpose of this agreement.

C. Basic Objective

The objective of this Project is to implement a fully functional toll collection system on SH550 at FM1847 in accordance with the schedule outlined in Attachment "B", with toll collection beginning on June 1, 2010.

2. General Description

A. SH-550: 1.1 Miles North of FM1847 to 0.7 Miles South of FM1847

The initial 1.8 miles of the project extends from 1.1 miles north of FM1847 to 0.7 miles south of FM1847 and consists of a four-lane mainline roadway (2 NB and 2 SB) and ramps. A mainline ORT gantry is provided on SH550 just north of 1847 for mounting of toll equipment and is the only tolling point in this initial segment.

Note: The "Port Spur" is the subsequent section of the SH550 roadway and includes an additional 3.9 miles of roadway from 0.7 miles Northwest

ATTACHMENT B SCOPE OF WORK

of FM 3248 to SH 48 at the new Port of Brownsville entrance. This facility will be constructed and have toll equipment installed as part of a separate procurement.

3. Toll Collection Systems Elements

A. General Requirements

The Toll Collection System shall be identical in composition and functionality to the ORT system currently in production on CTRMA's 183A facility, using automatic vehicle identification and classification technology, a Violation Enforcement System (VES) with an integrated camera and triggering system to capture images of license plates, a Maintenance Online Management System (MOMS), reporting and a surveillance system.

It is required that the System be interoperable with the other Texas ETC systems so that ETC customers from Texas agencies can use the facility without multiple transponders in their vehicles.

The system shall process transactions and images and collect revenue on behalf of the CCRMA in a manner analogous to the process used by CTRMA.

At the discretion of the CCRMA, a Back-Office System shall be implemented either locally and/or remotely to support full Accounting and Audit & Reconciliation between the CCRMA, CTRMA and the CCRMA Bank. The Back Office systems shall provide full reporting and applications to support these activities.

At the discretion of the CCRMA, A Maintenance On-Line Management Systems (MOMS) shall be implemented either locally and/or remotely to support the monitoring of the system and maintenance functionality equal to that provided to CTRMA.

Per the agreed upon design, network equipment shall be implemented to provide communication between the Tolling Point, the Back Office Systems, Front Office Systems and transaction and image processing in Austin.

4. Toll Systems Components

The Contractor shall provide and install systems, software, hardware and equipment for a complete operating toll collection system that includes, but is not limited to:

- In-Lane Systems
- Back Office Systems
- Maintenance Online Management Systems (MOMS)
- Network Equipment

ATTACHMENT B SCOPE OF WORK

- All ETC Lane Equipment hardware, brackets, and fasteners required to attach the equipment to the gantries
- Roadside Toll System Equipment enclosures
- Provision for Uninterruptible Power Source
- Emergency Generators
- Surveillance System
- Equipment Enclosures
- An initial lot of spare parts

Construction and installation of all ETC Toll Collection Equipment and Systems generally shall be in accordance with the design of the system that is installed at CTRMA and the 183A ORT locations.

5. Design Requirements

5.1 General Design Requirements

The general design requirements shall be the current CTRMA ETC Toll Collection Equipment contract terms, as described in contract, including all attachments, amendments, change orders, including the as-built condition of the currently installed CTRMA 183A Turnpike ORT locations

5.2 Specific Design Requirement.

The specific design requirements shall be as required for each specific tolling location described in a mutually agreeable "Responsibility Matrix". The Responsibility Matrix shall be developed for each tolling location, back-office, operations and maintenance, interface, and other tasks as required to design, construct, operate and maintain the CCRMA system.

5.3 Design Requirement Change

Change(s) to the General and Specific Design Requirement may be incorporated in the responsibility matrix and additional or modified specification(s) as required from time to time by mutual agreement of the CCRMA and CTRMA.

6. Project Support Requirements

The Contractor shall provide project support to include, but not be limited to:

- Development and maintenances of a detailed toll system implementation schedule to be used as input to the Master Schedule.
- Participation in required project status and coordination meetings with CCRMA and all participating partnering agencies and firms.

ATTACHMENT B: SCOPE OF WORK

- System integration services as required to incorporate the CCRMA toll system into the current CTRMA transaction and image processing system.
- Assistance in the development of CCRMA specific business rules and default configurations for all configurable parameters.
- Development and/or editing of system training and manuals for use by CCRMA maintenance personnel, accounting and audit personnel, financial audit personnel and operations personnel and management.
- Training of CCRMA maintenance personnel, accounting and audit personnel, financial audit personnel and operations personnel and management.
- Development and/or editing of documents to provide complete documentation of the system.
- Within MOMS, development of a maintenance process that supports the remote storage of spares and management of spares inventory by County staff.
- In lieu of a Factory Acceptance Test, support of “System Configuration Verification” of the designed and procured system. This process shall verify that the system that is designed and procured for CCRMA is equal in configuration and functionality to the current CTRMA production tolling environment including design, hardware, off the shelf software and developed software.
- In lieu of Prototype On-site Testing (POT), support of “Performance Verification” of the production version (CTRMA ORT Lane System and Back-Office) of the system. This process shall verify that the applicable performance requirements of the original Technical Specification included in the “CTRMA Request for Proposal to provide Toll Collection Systems Implementation and Maintenance Request for Proposal” are being met.
- Prior to the start of tolling, execution of a full On-Site Installation Test including all components of the system and all processes required to collect tolls, process transactions and images, process pay-by-mail invoices, process violations, process court packages.
- Prior to the start of tolling, execution of a full Commissioning Test to ensure that all components are ready for the start of tolling.
- After the start of tolling, support of an Operational Test to verify that the system is operating properly.

ATTACHMENT B: SCOPE OF WORK

- As required, work with other agencies that are party to the Interlocal Agreement for Interoperability of Toll Collection Systems to coordinate all required changes to Interlocal Agreements, Interface Control Documents (ICDs) and Business Rules.

ATTACHMENT C: RESPONSIBILITY MATRIX

LEGEND	
Primary Responsibility	A
Support Responsibility	B
Coordination Responsibility Only	C
No Responsibility	D

Work Description	Design	Procure	Install and/or Construct
------------------	--------	---------	--------------------------

Element/Task/Component/ Sub-system	CCRMA (TXDOT) Civil Designer (Contractor)			CIRMA (CASETA) System Integrator (SI)			Comments Other Responsibility/Information
	1	2	3	1	2	3	
TOLL COLLECTION FACILITIES							
TOLL GANTRIES, RAMPS & ENCLOSURES							
Schedule	TBD	TBD	TBD	A	A	A	
Gantries, Main Lane and Enclosure Layouts	A	A	A	B	C	C	SI to provide requirements for specific lane and enclosure layouts. Designer to incorporate into Physical Layout Design Packages. Roadway Contractor to furnish and install foundations with conduit and other systems rough-in's
ILP HUB Enclosure Foundation Generator & Fuel Tank Foundations(TBD) Roadside Cabinets Foundations	A	A	A	A	A	A	SI to provide specific lane and enclosure layouts. SI to furnish and install foundations with conduit and other systems rough-in's
Gantry & Enclosure Physical Layout	A	A	A	B	C	C	Concept Drawings provided by Designer
Grading	A	A	A	C	D	C	
Drainage	A	A	A	C	D	C	
Utilities	B	C	B	A	A	A	SI to furnish and install electrical service to meet specific electrical power requirements HVAC & Toll Collection System. Roadway Contractor to provide necessary "clear zone" at or near ROW for installation of electrical service, including misc grading and drainage as required by service design and /or Utility.

ATTACHMENT C: RESPONSIBILITY MATRIX

LEGEND	
Primary Responsibility	A
Support Responsibility	B
Coordination Responsibility Only	C
No Responsibility	D

Work Description	SI	Procure	Install and/or Construct
------------------	----	---------	--------------------------

Element/Task/Component/ Sub-system	GCRMA (FXDOT) Civil Designer (Contractor)			CTRMA (CASETA) System Integrator (SI)			Comments Other Responsibility/Information
HVAC	B	B	B	A	A	A	SI to provide HVAC as part of the ILP Enclosure
Striping	A	A	A	B	D	D	SI to provide requirements for Toll Collection System specific striping. Designer to incorporate into Striping Plan. Roadway Contractor to furnish and install
Gantries	A	A	A	B	D	C	SI to provide requirements for specific equipment mounts, conduits, J boxes, power and data wiring for Toll Collection System. Designer to incorporate into design. Roadway Contractor will furnish and install.
Roadside Cabinets & ILP Enclosure Foundations; Electrical Power & Data: Conduits, Primary Electrical Power Conductors & Electrical Service and Utility power	B	B	B	A	A	A	SI to provide requirements for specific equipment mounts, conduits, J boxes, power and data wiring for Toll Collection System. SI to incorporate into design. SI will provide and install. ILP Enclosure with HVAC
Roadside Cabinets & ILP Hub Enclosure with Air Conditioning	B	C	B	A	A	A	SI to provide requirements for specific equipment mounts, conduits, J boxes, power and data wiring for Toll Collection System. SI to incorporate into design. SI will furnish and install foundations, Electrical Power & Data: Conduits, Electrical

ATTACHMENT C: RESPONSIBILITY MATRIX

LEGEND	
Primary Responsibility	A
Support Responsibility	B
Coordination Responsibility Only	C
No Responsibility	D

Work Description	Design	Procure	Install and/or Construct
------------------	--------	---------	--------------------------

Work Description	Design	Procure	Install and/or Construct	Notes			
<ul style="list-style-type: none"> • VES Cameras 							
VES Camera, Light Sensor & Strobe Flash Mounting Supports	A	A	A	B	D	C	SI to provide VES Camera, Light Sensor & Strobe Flash Mounting design requirements at each tolling location for Toll Collection System. Designer to incorporate VES Camera & Strobe Flash Mounting requirements into the designs. Roadway Contractor to furnish and install VES Camera & Strobe Flash Mounting SI to furnish and Install VES Camera & Strobe Flash Equipment
Cameras, Light Sensors & Strobe Flash mounting and enclosures	B	B	B	A	A	A	SI to provide VES Camera & Light Sensor Mounting design requirements at each tolling location for Toll Collection System. Designer to incorporate VES Camera & Strobe Flash Mounting requirements into the designs. Roadway Contractor to furnish and install structural mounting supports, conduit, j-boxes, for power and data. For VES Camera & Strobe Flash Mounting SI to furnish and Install VES Camera & Light Sensor Equipment, including equipment mounting brackets, power and data cable & wiring
VES Illumination mounts and enclosures	B	B	B	A	A	A	SI to provide VES Illumination Mounting

ATTACHMENT C: RESPONSIBILITY MATRIX

LEGEND	
Primary Responsibility	A
Support Responsibility	B
Coordination Responsibility Only	C
No Responsibility	D

Work Description	Design	Procure	Install and/or Construct
------------------	--------	---------	--------------------------

PROJECT OPERATING SUB-SYSTEMS							
• Lanes/Islands							
Vehicle Detection/Classification Sensors Pavement Structure	A	A	A	B	D	C	SI to provide the sensor design requirements Designer to incorporate requirements into the designs. Roadway Contractor to furnish and install pavement and appurtenances for Vehicle Detection/Classification Systems
Vehicle Detection/Classification Sensors Installation of AVDS and AVC	B	B	B	A	A	A	SI to provide the sensor design requirements. SI to provide install, including cutting and saw cutting, winding and sealing loops
Island Traffic Signal Head Conduit, J Box, Wiring	N/A	N/A	N/A	N/A	N/A	N/A	
Flashing Warning Lights Conduit/Boxes/Wiring	N/A	N/A	N/A	N/A	N/A	N/A	
PROJECT OPERATING SUB-SYSTEMS							
Design	D	D	D	A	A	A	
Ducts & Conduits	A	A	A	A	A	A	Demarcation Point: Edge of Payment <ul style="list-style-type: none"> Area: Pavement Section to Edge of Pavement: All ducts and conduits shall be the responsibility of the Roadway Contractor. Area: Edge of Pavement & Gantry to ILP and elsewhere shall be the responsibility of the SI

ATTACHMENT C: RESPONSIBILITY MATRIX

LEGEND	
Primary Responsibility	A
Support Responsibility	B
Coordination Responsibility Only	C
No Responsibility	D

Work Description	Design	Procure	Install	Operate	Maintain	Demolish
------------------	--------	---------	---------	---------	----------	----------

Utility Vaults & Junction/Pull Boxes	A	A	A	A	A	A	<p>Demarcation Point: Edge of Payment</p> <ul style="list-style-type: none"> Area: Pavement Section to Edge of Pavement: All ducts and conduits shall be the responsibility of the Roadway Contractor. Area: Edge of Pavement & Gantry to ILP and elsewhere shall be the responsibility of the SI
Communication Conductors, Fiber and Wireless Corridor Communication:	A	C	C	B	A	A	External to SH550 Corridor All communication up to Edge of ROW near the ILP shall be provided by others. Within the SH550 Corridor: Corridor intersystem/site communication to be WiMAX Wireless (IEEE 802.XXx)
Power Conductors & Wiring Primary Electrical power, including electrical service, feeder conduits, conductors, and connections to Automatic Transfer Switch, including foundation and conduits for generator and fuel tank	B	B	B	A	A	A	SI to furnish and install primary utility electrical service, and primary power to Automatic Transfer Switch TBD-SI to furnish and install Backup Generator, Fuel tank, automatic Transfer Switch
Automatic Transfer Switch, including foundation and conduits for generator	B	B	B	A	A	A	TBD-SI Furnish and Install Manual or Automatic Transfer Switch
All Conduit, wire way, J-boxes, bushings, and pull springs	A	A	A	B	B	C	SI to provide and install all conduit, wire ways, J-boxes and pull strings on Gantry
Power Conductors & Wiring Backup Generator, Fuel Tank, Automatic Transfer Switch, except generator and fuel tank foundations	B	C	C	A	A	A	TBD SI to provide primary utility electrical service, and primary power to Manual or Automatic Transfer switch

ATTACHMENT C: RESPONSIBILITY MATRIX

LEGEND	
Primary Responsibility	A
Support Responsibility	B
Coordination Responsibility Only	C
No Responsibility	D

Work Description	Design	Procure	Install and/or Construct
------------------	--------	---------	--------------------------

							TBD - SI to furnish and install backup generator, fuel tank, and automatic transfer switch TBD Roadway Contractor to provide misc. grading and drainage as required.
PROJECT POWER DISTRIBUTION SUB-SYSTEM							
Conduits/Ducts & Junction/Pull Boxes/ Outlets up to the Automatic Transfer Switch	B	B	B	A	A	A	SI to provide necessary conductors, ducts & junction/pull boxes and install.
Generators Main Lane Toll Gantry Fuel Tank with Initial Full Tank - TBD	B	C	B	A	A	A	TBD-SI to provide Design requirements, Generator, Automatic Transfer Switch, and Fuel Tank, including wire and cable TBD-SI to provide foundation pads and conduit rough in. TBD-SI to furnish and install, Generator, Automatic Transfer Switch, and Fuel Tank, including wire and cable, and MOMs interface TBD Roadway Contractor to provide misc. grading and drainage as required.
Uninterruptible Power Supplies	B	C	C	A	A	A	SI to provide Toll Collection System UPS power as part of the ILP enclosure, with graceful shut-down.
Lightning Protection & Grounding	A	A	A	A	A	A	Designer to provide Lightning Protection

ATTACHMENT C: RESPONSIBILITY MATRIX

LEGEND	
Primary Responsibility	A
Support Responsibility	B
Coordination Responsibility Only	C
No Responsibility	D

Work Description	Design	Procure	Install	Operate	Maintain	Demolish
------------------	--------	---------	---------	---------	----------	----------

							System for ETC Gantry. Contractor to furnish and install Lighting Protection System for Gantry. Including Master Ground Bus Bar for ILP SI to furnish and install Lighting Protection System for ILP Enclosure.
Lightning Protection & Grounding	C	D	C	A	A	A	SI to furnish and install ETC System lighting surge suppression system, including Primary and backup power electrical Service and feeder circuits, video, detector, communication, data and control circuits.
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)							
Design	D	D	D	D	D	D	
Conduits/Ducts & Junction/Pull Boxes	D	D	D	D	D	D	SI to provide size, number, terminus points for Toll Collection System elements.
COMMUNICATIONS SUB-SYSTEMS							
Design Outside Physical Plant(OSP)	D	D	D	B	D	D	OSP: SI to provide Plaza specific communications design requirements.
Design Outside Cable Plant and Inside Network Equipment	C	C	C	A	A	A	Network Equipment: E SI to furnish, install, and make operational all outside and inside communication plant and equipment
Conduits/Ducts & Junction/Pull Boxes/Outlets	D	D	D	A	A	A	SI to provide specific Communications design requirements for Toll Collection System.

ATTACHMENT C: RESPONSIBILITY MATRIX

LEGEND	
Primary Responsibility	A
Support Responsibility	B
Coordination Responsibility Only	C
No Responsibility	D

Work Description	SI			Contractor
	Design	Procure	Install and/or Construct	

TOLL COLLECTION SYSTEMS							
Toll Plaza Host Computer-TBD	D	D	D	A	A	A	TBD-SI to provide the required equipment racks, conduit, data and power wiring and structure to mount equipment.
Toll Lane In-Lane Processors	C	D	B	A	A	A	SI to provide Designer with requirements. SI to incorporate into design. Contractor to provide conduit and structure to mount equipment. SI to furnish and install in ILP HUB
MOMS (Maintenance Online Management System)	D	D	D	A	A	A	SI to provide connection/interface with MOMS server. At least one workstation will be provided at the CCRMA Administrative Offices.
VES Computer	B	B	B	A	A	A	SI to provide Designer with requirements. SI to incorporate into design. CCRMA to provide location, conduit and structure to mount equipment. SI to furnish and install VES Computer
FCC Licenses/Regulations as applies to AVI	A	D	A	A	B	B	SI to provide required documentation to permit the CCRMA to obtain the required licenses to use and or operate AVI equipment and components. CCRMA to provide exhibit documents for Application and FCC Schedule D & H Roadway Contractor to provide NAD83 Lat & Long, and Elevation Data

ATTACHMENT C: RESPONSIBILITY MATRIX

LEGEND	
Primary Responsibility	A
Support Responsibility	B
Coordination Responsibility Only	C
No Responsibility	D

Work Description	Design	Procure	Install and/or Construct
------------------	--------	---------	--------------------------

Express AVI lanes AVI Antenna Mounting, Conduits and J-Boxes	A	A	A	B	D	B	<p>SI to provide Designer with AVI requirements.</p> <p>Designer to incorporate into design.</p> <p>Roadway Contractor to provide structure, mounting support, and conduit to install AVI Antenna and cable</p> <p>SI to furnish and install AVI System</p>
Express AVI lanes AVI System	B	D	B	A	A	B	<p>SI to provide Designer with AVI requirements.</p> <p>Designer to incorporate into design.</p> <p>Roadway Contractor to provide structure, mounting support, and conduit to install AVI Antenna and cable</p> <p>SI to furnish and install AVI System</p>
Material On Hand Storage, Insurance, and Transfer of Ownership	D	D	D	A	A	A	<p>SI to be responsible for storage & control of all materials and equipment until installed on site, and storage.</p>

Attachment "E"

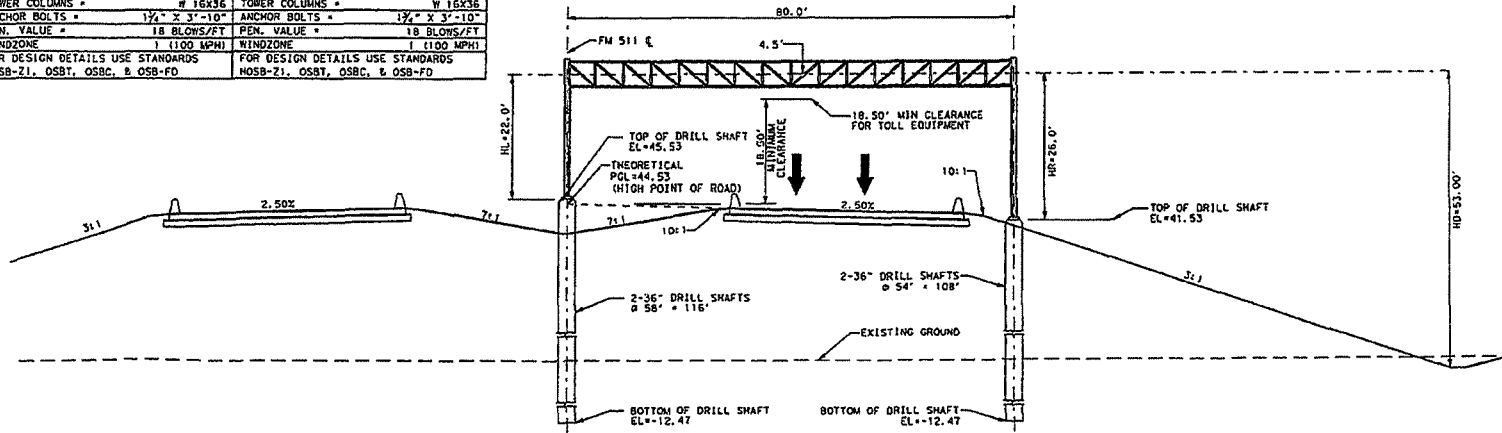
Technical Specifications for Gantry Design

DESIGN PARAMETERS: STA 1180+25.00		DESIGN PARAMETERS: STA 1180+61.00	
LENGTH OF SPAN *	80 FT	LENGTH OF SPAN *	80 FT
LT TOWER HEIGHT *	22 FT	LT TOWER HEIGHT *	22 FT
RT TOWER HEIGHT *	26 FT	RT TOWER HEIGHT *	26 FT
DESIGN HEIGHT *	52.86 FT	DESIGN HEIGHT *	53.00 FT
UPLIFT LT *	88.8 kips	UPLIFT LT *	88.8 kips
UPLIFT RT *	92.7 kips	UPLIFT RT *	97.3 kips
DRILL SHAFT DIAMETER *	36 in	DRILL SHAFT DIAMETER *	36 in
DRILL SHAFT LENGTH LT *	58 FT	DRILL SHAFT LENGTH LT *	58 FT
DRILL SHAFT LENGTH RT *	54 FT	DRILL SHAFT LENGTH RT *	54 FT
TOWER COLUMNS *	W 16X36	TOWER COLUMNS *	W 16X36
ANCHOR BOLTS *	1 1/2" X 3'-10"	ANCHOR BOLTS *	1 1/2" X 3'-10"
PEN. VALUE *	18 BLOWS/FT	PEN. VALUE *	18 BLOWS/FT
WINDZONE	I (100 MPH)	WINDZONE	I (100 MPH)

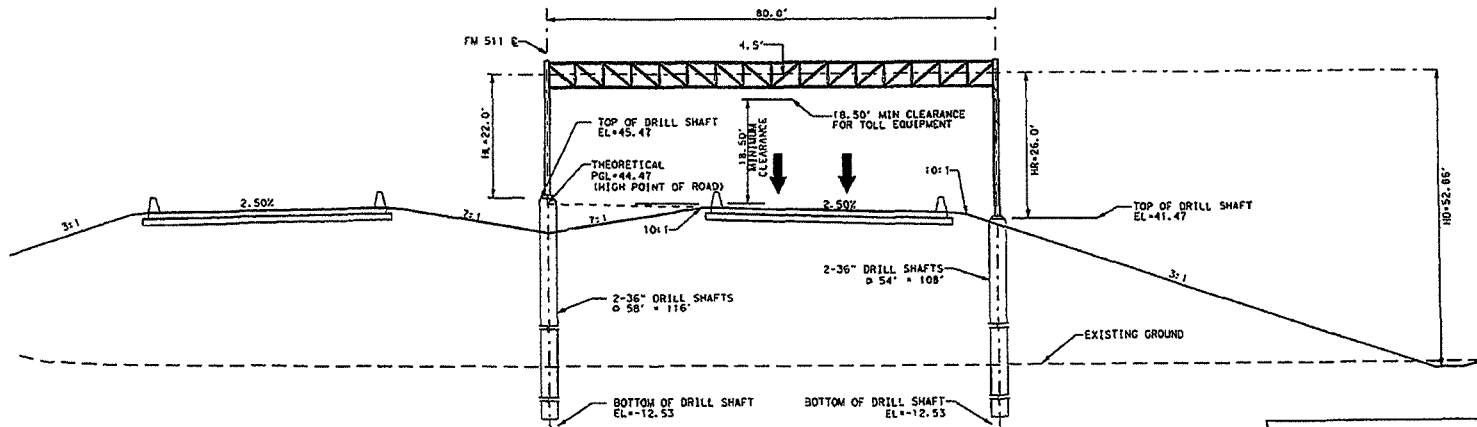
FOR DESIGN DETAILS USE STANDARDS
HOSB-Z1, OSBT, OSBC, & OSB-FD

NOTES:

UPLIFT FORCE FOR 23 FT TOWER HEIGHT WAS CALCULATED USING TXDOT STANDARD HOSB-Z1 AND A TOWER HEIGHT OF 25 FT DUE TO DESIGN HEIGHT BEING OVER 30 FEET.



GANTRY ELEVATION
STA 1180+61.00



GANTRY ELEVATION
STA 1180+25.00

CHANGE ORDER No. 13
NEW SHEET

10/14/09

NO. DATE	REVISION/DESCRIPTION

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Texas
Department
of Transportation

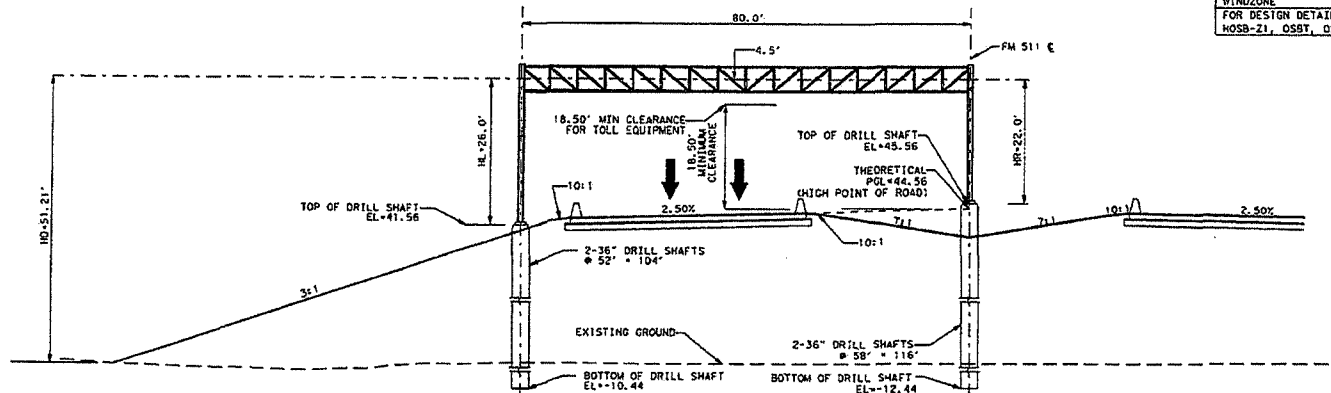
HNTB CONSULTANTS
The HNTB Companies
Engineers, Architects, Planners
TYPE "B", "C", "D"

**SOUTHBOUND
GANTRY
ELEVATIONS
STA 1180+25
STA 1180+61
(SHEET 1 OF 2)**

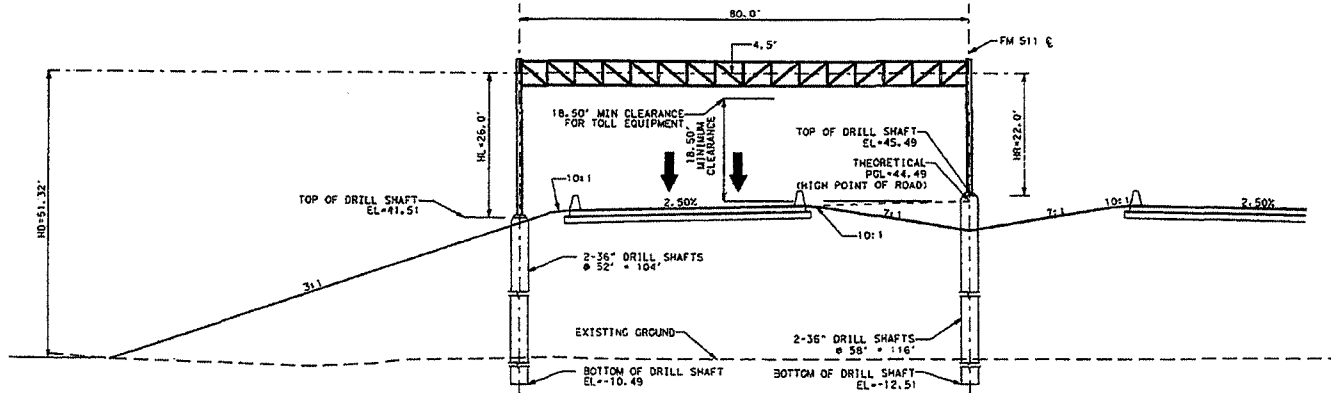
NO.	DATE	BY	CHKD.	APP'D.
6	01/20/08 (020)	J. LOBB		
STATE	DISP.	DESIGN		
TEXAS PHARR:		CAMERON		
CON'T.	SEC'T.	J23	J25	J26
0684	01	046	1	PU 511

NOTE:
 UPLIFT FORCE FOR 22 FT TOWER HEIGHT WAS
 CALCULATED USING TR00Y STANDARD HOSS-21
 AND A TOWER HEIGHT OF 25 FT DUE TO DESIGN
 HEIGHT BEING OVER 30 FEET.

DESIGN PARAMETERS: STA 1180+39.00		DESIGN PARAMETERS: STA 1180+75.00	
LENGTH OF SPAN =	80 FT	LENGTH OF SPAN =	80 FT
LT TOWER HEIGHT =	26 FT	LT TOWER HEIGHT =	26 FT
RT TOWER HEIGHT =	22 FT	RT TOWER HEIGHT =	22 FT
DESIGN HEIGHT =	51.32 FT	DESIGN HEIGHT =	51.21 FT
UPLIFT LT =	92.7 KIPS	UPLIFT LT =	92.7 KIPS
UPLIFT RT =	88.8 KIPS	UPLIFT RT =	88.8 KIPS
DRILL SHAFT DIAMETER =	36 IN	DRILL SHAFT DIAMETER =	36 IN
DRILL SHAFT LENGTH LT =	52 FT	DRILL SHAFT LENGTH LT =	52 FT
DRILL SHAFT LENGTH RT =	58 FT	DRILL SHAFT LENGTH RT =	58 FT
TOWER COLUMNS =	W 16X36	TOWER COLUMNS =	W 16X36
ANCHOR BOLTS =	1 1/2" X 3'-10"	ANCHOR BOLTS =	1 1/2" X 3'-10"
PEN. VALUE =	18 BLOWS/FT	PEN. VALUE =	18 BLOWS/FT
WINDZONE =	1 (100 MPH)	WINDZONE =	1 (100 MPH)
FOR DESIGN DETAILS USE STANDARDS HOSS-21, OSBT, OSBC, & OSB-FD		FOR DESIGN DETAILS USE STANDARDS HOSS-21, OSBT, OSBC, & OSB-FD	



GANTRY ELEVATION
 STA 1180+75.00



GANTRY ELEVATION
 STA 1180+39.00

CHANGE ORDER No. 13
 NEW SHEET

11/3/09

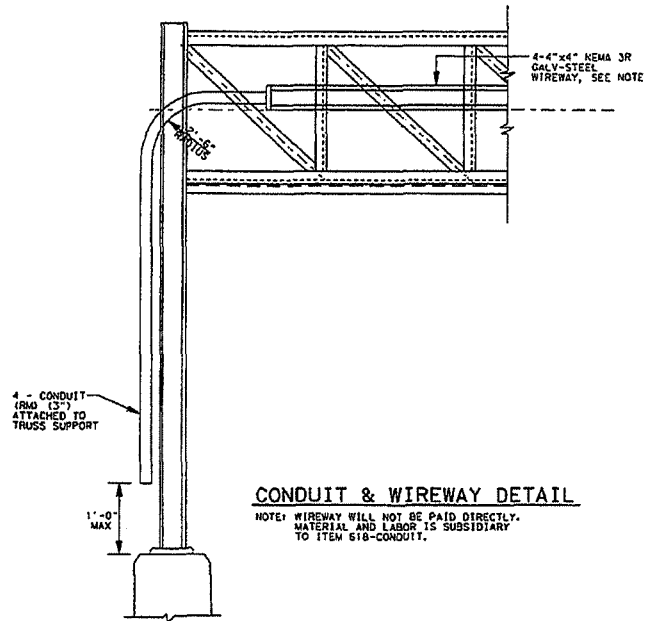
NO.	DATE	REVISION DESCRIPTION	BY

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 Texas Department of Transportation

HNTB Corporation
 The HNTB Companies
 Engineers, Architects, Planners
 TYPE NO. 1-409

**NORTHBOUND
 GANTRY
 ELEVATIONS
 STA 1180+39
 STA 1180+75
 (SHEET 2 OF 2)**

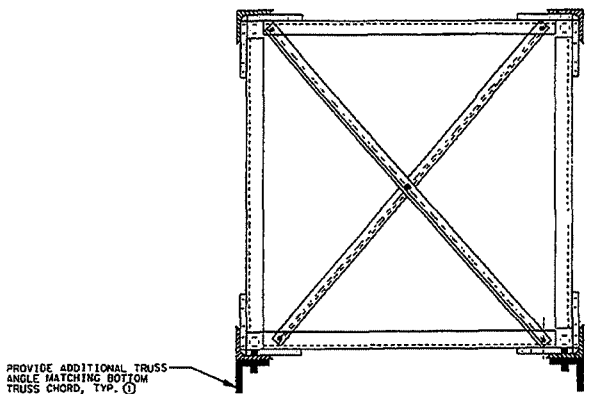
PROJECT NO.	1999
STATE	TX
COUNTY	CAMERON
CITY	
DATE	06/04/09
BY	FM 511



CONDUIT & WIREWAY DETAIL

NOTE: WIREWAY WILL NOT BE PAID DIRECTLY. MATERIAL AND LABOR IS SUBSIDIARY TO ITEM 518-CONDUIT.

① CONNECT ADDITIONAL TRUSS ANGLE USING 1/2\"/>



TRUSS ANGLE DETAIL

NOTE: ADDITIONAL TRUSS ANGLES REQUIRED FOR TOLL GANTRY LOCATIONS, ONLY. ADDITIONAL TRUSS ANGLES WILL NOT BE PAID DIRECTLY. THEY ARE SUBSIDIARY TO ITEM 530-INSTALL OVERHEAD SIGN SUPPORT.

WIREWAY NOTES:

1. SURFACE WIREWAY IN EXPOSED LOCATIONS SHALL BE SHEET METAL CHANNEL SUITABLE FOR USE AS A WIRING TROUGH, WITH MINGED AND SCREW CLAMPED COVER, SIZED IN ACCORDANCE WITH DIMENSIONS SHOWN.
2. WIREWAY SHALL BE OF THE NEMA TYPE 3R WITH MINGED LID AND SCREW FASTENERS APPROPRIATE FOR THE ENVIRONMENT WHERE INSTALLED.
3. WIREWAY SHALL BE FURNISHED WITHOUT FACTORY PRE-PUNCHED CONCENTRIC OR ECCENTRIC CONDUIT KNOCKOUTS. KNOCKOUTS SHALL BE FIELD PUNCHED AS REQUIRED FOR THE CONDUITS INSTALLED.
4. FINISH SHALL BE NOT DIPPED GALVANIZED INSIDE AND OUT WITH A MINIMUM OF 1.5 OZ OF ZINC COATING PER SQUARE FOOT IN ACCORDANCE WITH ITEM 445 GALVANIZING.
5. PERFORM WORK IN ACCORDANCE WITH NECA STANDARD OF INSTALLATION.
6. WIREWAY SHALL CONFORM TO REQUIREMENTS OF NEC.

INSTALLATION NOTES:

1. INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. USE STAINLESS STEEL OR HOT DIPPED GALVANIZED HEXHEAD BOLTS, CLIPS, AND STRUTS TO FASTEN RACEWAY CHANNEL TO SURFACES. MOUNT PLUMB AND LEVEL.
3. PROVIDE FIELD TOUCHUP OF FINISH USING ZINC RICH PAINT TO MATCH FACTORY FINISH AS PER ITEM 445 GALVANIZING FOR ALL CHIPS, SCRATCHES, FITTINGS AND UNPAINTED SECTIONS OF THE SURFACE RACEWAYS AFTER INSTALLATION OF ALL CONDUIT AND COVERS ARE COMPLETE.
4. USE SUITABLE INSULATING BUSHINGS AND INSERTS AT CONNECTIONS AND CORNER FITTINGS.
5. CLOSE ENDS OF WIREWAY AND UNUSED CONDUIT OPENINGS.
6. GROUND AND BOND RACEWAYS AND WIREWAYS AS PER NEC.

GENERAL NOTE:

REFER TO FM 511 TOLL GANTRY ELEVATION SHEETS FOR ADDITIONAL INFORMATION.

CHANGE ORDER No. 13
NEW SHEET

Structural

 10/16/2009
 Electrical

 Brian J. Kallupac
 10/16/2009



HNTB HNTB Corporation
 The HNTB Companies
 Engineers Architects Surveyors
 1916 V.A. DR.

FM 511 TOLL GANTRY MISCELLANEOUS DETAILS

(SHEET 1 OF 1)

PROJECT NO.	2008
NO.	MM 2008(020) 1150
TITLE	511
TEXAS (PHASE)	CAMERON
DATE	08-11-09
CDWG. NO.	01 046
	FM 511

ATTACHMENT F TOLL SYSTEM IMPLEMENTATION COST ESTIMATE

				UNIT PRICE		AMOUNT	
ITEM #	QTY.	UNIT	DESCRIPTION	DOLLARS	CENTS	DOLLARS	CENTS
1	1	LS	Installation/Electrical Design and Plans	39,091	00	39,091	00
2	1	LS	Field Installation and Electrical Work, Materials and Labor	147,831	00	147,831	00
3	2	Ea.	Site Prep	74,905	00	149,810	00
4	1	Ea.	ILP Building, Foundation, Ground Ring and HVAC	154,982	00	154,982	00
5	1	LS	Primary Electrical Service	29,597	00	29,597	00
6	2	Ea.	Zone Controller Hardware & SW	43,040	00	86,080	00
7	2	Ea.	Communication Equipment	40,577	00	81,154	00
8	6	Ea.	Automatic Vehicle Classification System, Express ETC Lane	14,309	00	85,854	00
9	4	Ea.	AVI System Hardware, Express ETC Lane	11,642	00	46,568	00
10	6	Ea.	Violation Enforcement System Hardware, Express ETC Lane	35,466	00	212,796	00
11	1	LS	UPS	78,232	00	78,232	00
12	0	LS	Emergency Generator & Automatic Transfer Switch	-	00	-	00
13	1	LS	ROMS HW/SW & Security Server(s) (ie: Digital Video Recorder & Audit)	95,750	00	95,750	00
14	1	LS	Host System (Store & Forward) HW/SW	120,451	00	120,451	00
15	1	LS	Training	24,041	00	24,041	00
16	1	LS	Documentation	40,975	00	40,975	00
17	1	LS	Project Management	68,766	00	68,766	00

ATTACHMENT F TOLL SYSTEM IMPLEMENTATION COST ESTIMATE

CCRMA SH-550 TOLL SYSTEM				UNIT PRICE		AMOUNT	
ITEM #	QTY.	UNIT	DESCRIPTION	DOLLARS	CENTS	DOLLARS	CENTS
18	1	LS	Spare Equipment	73,139	00	73,139	00
19	1	LS	Site Commissioning Test	20,986	00	20,986	00
20	1	LS	Operational Test	20,986	00	20,986	00
				Total		1,577,089	00

ATTACHMENT G TOLL SYSTEM IMPLEMENTATION SCHEDULE

<u>Task</u>	<u>Description</u>	<u>Start Date</u>	<u>End Date</u>
1.0	ILA Approved	1 Jan 2010	1 Feb 2010
2.0	Toll System Procurement	1 Feb 2010	1 April 2010
3.0	System Performance Verification		1 Feb 2010
3.0	Toll System Installation	1 April 2010	1 May 2010
4.0	System Configuration Verification	1 April 2010	1 May 2010
5.0	Toll System Tuning	1 May 2010	7 May 2010
6.0	On-site Installation Testing And Commissioning	8 May 2010	1 June 2010
7.0	Begin Toll Collection		1 June 2010
8.0	Operational Testing	1 June 2010	1 August 2010
9.0	System Acceptance		1 August 2010