



**SAN ANTONIO WATER SYSTEM  
2019 Annual Asphalt Overlay Work Order Construction Contract, Package I**

**SAWS JOB NUMBER 19-0116  
SOLICITATION NO. B-18-019-JG**

**ADDENDUM NO. 3  
December 7, 2018**

**To Bidder of Record:**

This addendum, applicable to work referenced above, is an amendment to the bidding documents and as such will be a part of and included in the Contract Documents. Acknowledge receipt of this addendum by entering the addendum number and issue date in the space provide in submitted copies of the proposal.

**QUESTIONS AND ANSWERS**

1. **Question:** Is their any drawings of the 2019 Annual Asphalt Overlay Work Order Construction Contract, Package 1 and/or 2 – San Antonio Water System? If so how can I get them? They are not on the Builders Exchange...

**Answer:** No, this is an unspecified work order contract so there are no plans.

**CLARIFICATIONS**

1. Number 1, first paragraph, under Changes to the Special Conditions has been removed and replaced since the scope is referring to asphalt.
2. The Engineer's Opinion of Probable Construction Cost has been revised from \$1,500,000.00 to \$1,526,000.00.
3. The Bid Proposal is being replaced to reflect changes in the following item numbers: 100, 205.2, 530.1, 535.10, 535.15, 535.17, 800, 1010, 6185.4.1, 6185.4.3, 6185.4.4.
4. SC-1.5 (Page SC-3) TERMS is being removed in this Addendum because it is repeated elsewhere in SC-1.2 TERMS AND CONDITIONS.

**CHANGES TO THE TECHNICAL SPECIFICATIONS**

**CHANGES TO THE CONTRACT DOCUMENT TABLE OF CONTENTS**

1. Page 1: (Separate Documents)

Remove the last line from Page 1 and replace with the following:

SAWS SPECIFICATIONS FOR WATER & SANITARY SEWER CONSTRUCTION (Latest Edition)

2. Page 2: Technical Specifications

At the end of the list of Technical Specifications insert Item number 6185, Texas Department of Transportation “Special Specification 6185 Truck Mounted Attenuator (TMA) and Trailer Attenuator (TA)”.

3. Page 2: Technical Specifications

Insert “ITEM 800 SPECIAL SPECIFICATION, SPEED HUMPS, 12-FOOT PARABOLIC ASPHALT CONCRETE HUMPS”.

4. Page 2: Technical Specification

Remove Item 100 Mobilization and replace with “Special Specification Item 100 Mobilization”

5. Page 2: Details

Insert Detail, 12-Foot Parabolic Asphalt Concrete Speed Hump

**INVITATION TO BIDDERS**

1. Remove the last sentence of the first paragraph and replace with the following:

*Sealed bids are requested by the San Antonio Water System for 2019 Annual Asphalt Overlay Work Order Construction Contract, Package I, SAWS Job No. 19-0116. This contract includes, but is not limited to, furnishing all materials, equipment, labor and supervision for asphalt and street construction services and associated work throughout the SAWS service area on **an annual work order contract basis.***

**CHANGES TO THE BID PROPOSAL**

1. Remove the Bid Proposal in its entirety and replace with the version included in this Addendum. This is the version Bidder’s should use when submitting a bid for this project.

## **CHANGES TO THE SUPPLEMENTAL CONDITIONS**

### **1. Page SS-4: ARTICLE VIII. - CONTRACT COMPLETION TIME**

Remove Section 8.6 in its entirety and replace with the following:

*Section 8.6 Liquidated Damages for Failure to Complete on Time: of the General Conditions shall be amended as follows:*

*Add the following to the end of the paragraph:*

*Liquidated damages will be assessed at \$500.00 per work order per day over according the Section 2.7 Performance Time under the Special Conditions. Liquidated Damages will be withheld from the monthly invoice payment.*

*The remaining sections of Article VIII shall remain the same.*

## **CHANGES TO THE SPECIAL CONDITIONS**

### **1. Page SC-1: SC-1.1 GENERAL**

Remove the first paragraph and replace with the following:

*The San Antonio Water System (hereinafter referred to as "the System") is soliciting Bids for the purpose of retaining a Contractor to provide asphalt and street construction services and associated work on an annual work order contract basis through the SAWS service area.*

All other items shall remain

### **2. Page SC-1: SC-1.2 TERMS**

Remove the second paragraph in its entirety and replace with the following:

*Term of Service Agreement: The construction contract will remain in full force from the notice to proceed date for a period of one year (365 calendar days) or until funds are exhausted, whichever comes first. SAWS reserves the right to renew and/or extend the contract for one additional one-year period, as stated above, should such an extension be mutually agreeable to SAWS and the Contractor, and the Contractor agrees to hold their bid prices for the subsequent contract renewed period.*

### **3. Page SC-3: SC-1.5 TERMS AND CONDITIONS**

Remove section in its entirety.

4. Page SC-5: SC-2.3 WORK ORDERS

1. Remove item number 5 and replace with the following:

*5. Work orders shall be issued by the owner representative. It is the intent of the owner to group an average of **ten (10) to fifteen (15)** work orders together prior to issuing any work, but the Owner is not limited to this amount. Work orders may be issued individually.*

2. Remove item number 10 and replace with the following:

*10. Contractor shall submit to the owner the schedule of operations as set forth in **SC2.7, PERFORMANCE TIME**. A schedule of operation and progress is needed for each work order issued and it must be revised as necessary during the course of work. All schedules shall be submitted and/or updated when requested electronically using Microsoft Project or another format acceptable to SAWS. Cost associated with this work is inclusive to the contract and no separate payment will be made.*

All other items shall remain.

5. Page SC-7: SC-2.5 SUBMITTALS

Remove first paragraph in its entirety.

All other items shall remain

6. Page SC-9: SC-2.7 PERFORMANCE TIME

Remove the last sentence in the last paragraph regarding performance time for work orders issued for concrete work.

All other items shall remain

7. Page SC-9: SC-2.8 NOTIFICATION

Remove the first two (2) paragraphs and replace with the following:

*Except for emergency work, the Contractor shall notify the SAWS Inspector by 8:00 a.m. each work day of the work locations for that day. The Contractor shall also notify the appropriate Right of Way inspector and/or any other jurisdictions as may be required by the permit. Repeated failure to properly notify SAWS and others of work locations may result in stoppage of work and a formal review by SAWS regarding contract compliance prior to allowing the resumption of work. Extension of the contract completion date will not be extended due to such work stoppage for SAWS review. Compensation for daily notifications is considered subsidiary to the cost of the **asphalt** work. Additional compensation will not be allowed.*

*Night and weekend work will be allowed as required only if agreed and approved by SAWS and the governing right-of-way jurisdiction.*

All other items shall remain.

8. Page SC-10: SC-2.10 TRAFFIC CONTROL

Add the following two (2) paragraphs to the end of this section:

*When truck mounted Attenuators are required please refer to TXDoT Special Specification 6185, located in the Specifications section of this document. This item will be paid according to 4.1 of the Specification.*

*When Arrow Boards and/or Message Boards are required according to the Traffic Control Plan they shall be paid by the day where the day is measured per each set up and operation on the worksite. Arrow Boards is listed as item 6185.4.4 and Message Board is measured as item 6185.4.3.*

All other items shall remain.

9. Page SC-11: SC-2.14 PROTECTION OF LIVES AND HEALTH

Remove the first and third paragraphs of this section.

All other items shall remain.

10. Page SC-12: SC-3.2 STORMWATER CONTROL

Remove section in its entirety

Renumber sections 3.3 to 3.8

11. Page SC-13: SC-3.4 DETECTABLE WARNING AREA (formally SC-3.5)

Remove section in its entirety

Renumber sections 3.4 to 3.8

12. Page SC-13: SC-3.5 TOPSOIL (formally SC-3.6)

Remove section in its entirety

Renumber remaining sections section SC-3.0 Construction Technical Requirements.

## TECHNICAL SPECIFICATIONS

1. Insert TXDoT SPECIAL SPECIFICATION 6185 TRUCK MOUNTED ATTENUATOR (TMA) AND TRAILER ATTENUATOR (TA)
2. Remove ITEM NO. 100, MOBILIZATION and Replace with the revised SPECIAL SPECIFICATION ITEM 100 MOBILIZATION.
3. Insert ITEM 800 SPECIAL SPECIFICATION, SPEED HUMPS, 12-FOOT PARABOLIC ASPHALT CONCRETE HUMPS
4. Insert Detail, 12-Foot Parabolic Asphalt Concrete Speed Hump

## DETAILS

1. Insert Detail, 12-Foot Parabolic Asphalt Concrete Speed Hump

### END OF ADDENDUM 3

This Addendum is twenty (20) pages in its entirety. Attachments are as follows:

Bid Proposal – *three (3) pages*

Special Specifications Item 6185 Truck Mounted Attenuator (TMA) and Trailer Attenuator (TA) - *one (1) page*

Special Specification Item 100 Mobilization - *four (4) pages*

Special Specification Item 800 Speed Humps, 12-Foot Parabolic Asphalt Concrete Humps– *four (4) pages*

Detail, 12-Foot Parabolic Asphalt Concrete Speed Hump - *two (2) pages*

The seal appearing on this document was authorized by

KATHLEEN MARIE PRICE  
on 12/7/2018



A handwritten signature in black ink, appearing to read "Kathleen M. Price", written over a horizontal line.

BID PROPOSAL

PROPOSAL OF \_\_\_\_\_, a corporation

a partnership consisting of

\_\_\_\_\_

an individual doing business as

\_\_\_\_\_

**THE SAN ANTONIO WATER SYSTEM:**

Pursuant to Instructions and Invitation to Bidders, the undersigned proposes to furnish all labor and materials as specified and perform the work required for the project as specified, in accordance with the Plans and Specifications for the following prices to wit:

**(PLEASE SEE ATTACHED PDF LIST OF BID ITEMS)**

**TOTAL BID PRICE**

**\$ \_\_\_\_\_**

Pursuant to Instruction and Invitations to Bidders, the undersigned proposes to furnish all labor, materials, and equipment as specified and required to perform street maintenance construction and required appurtenances for the San Antonio Water System (SAWS) in accordance with the Plans and Specifications for the 2019 Annual Asphalt Overlay Work Order Construction Contract, Package I, Job No. 19-0116. The undersigned acknowledges and understands that all projects are unspecified at the time of bidding, all quantities are estimated, and it is the intent of this proposal and the quantities herein to establish a unit price for various line items to be paid to the Contractor by SAWS on an annual basis. No change in the unit price will be made, regardless of the actual quantity of the item of work performed. The work will be performed for the following prices to wit:

\_\_\_\_\_  
BIDDER'S SIGNATURE & TITLE

\_\_\_\_\_  
FIRM'S NAME (TYPE OR PRINT)

\_\_\_\_\_  
FIRM'S ADDRESS

\_\_\_\_\_  
FIRM'S PHONE NO. /FAX NO.

\_\_\_\_\_  
FIRM'S EMAIL ADDRESS

The Contractor herein acknowledges receipt of the following:  
Addendum Nos. \_\_\_\_\_

**OWNER RESERVES THE RIGHT TO ACCEPT THE OVERALL MOST RESPONSIBLE BID.**

The bidder offers to construct the Project in accordance with the Contract Documents for the contract price, and to complete the Project within **365** calendar days after the start date, or until funds are exhausted, whichever comes first, as set forth in the Authorization to Proceed. **The bidder understands and accepts the provisions of the contract Documents relating to liquidated damages of the project if not completed on time.**

Complete the additional requirements of the Bid Proposal which are included on the following pages.

Rev. 07/15

BP-7

Item No	Item Description	New Units	Unit	Unit Price (Figures)	Total Price (Figures)
100.1	<b>Emergency Mobilization (24-Hour Response); per Each</b>	5	EA	\$_____	\$_____
100.2	Small Project Mobilization (900 SF or less); per Each	50	EA	\$_____	\$_____
104.1	Street Excavation; per Cubic Yard	25	CY	\$_____	\$_____
200.1	Flexible Base(Compacted in place); Per Cubic Yard	10	CY	\$_____	\$_____
202.1	Prime Coat; per Gallon	10	GAL	\$_____	\$_____
203.1	Tack Coat; per Gallon	7500	GAL	\$_____	\$_____
204.1	One Course Surface Treatment; Per Square Yard	2000	SY	\$_____	\$_____
205.3A	Hot Mix Asphaltic Pavement Type "C" (2" Compacted Depth); per square yard	25	SY	\$_____	\$_____
205.3B	Hot Mix Asphaltic Pavement Type "C" (3" Compacted Depth); per Square Yard	1000	SY	\$_____	\$_____
205.4A	Hot Mix Asphaltic Pavement Type "D" (2" Compacted Depth); per Square Yard	60000	SY	\$_____	\$_____
205.4B	Hot Mix Asphaltic Pavement Type "D" (3" Compacted Depth); per Square Yard	750	SY	\$_____	\$_____
205.2	Hot Mix Asphaltic Pavement Type "B" (4" Compacted Depth); per Square Yard	2000	SY	\$_____	\$_____
205.4D	Hot Mix Asphaltic Pavement Type C (70-22) 4" Thick (Type C Class A Rock)	500	SY	\$_____	\$_____
205.4E	Hot Mix Asphaltic Pavement Type B (64-22) 10" Thick (Type B)	100	SY	\$_____	\$_____
206.1	Asphalt Treated Base (compacted in place); per Cubic	50	CY	\$_____	\$_____
207.1	Single Course Bituminous Slurry Seal; per Square Yard	500	SY	\$_____	\$_____
208.2	Milling of Asphaltic Concrete Pavement (Salvaging, Hauling, and Stockpiling Reclaimable Asphaltic	5000	CY	\$_____	\$_____
230.1A	Flexible Pavement Structure Repair (2" HMAC over 6" ATB); perSquare Yard	50	SY	\$_____	\$_____
230.1B	Flexible Pavement Structure Repair (2" HMAC over 8" ATB); perSquare Yard	25	SY	\$_____	\$_____
230.1C	Flexible Pavement Structure Repair (3" HMAC over 10" ATB); per Square Yard	100	SY	\$_____	\$_____
230.2A	Concrete Pavement Full-Depth Repair (2" HMAC over 6" ATB); per Square Yard	25	SY	\$_____	\$_____
230.2B	Concrete Pavement Full-Depth Repair (2" HMAC over 8" ATB); per Square Yard	25	SY	\$_____	\$_____
230.2C	Concrete Pavement Full-Depth Repair (3" HMAC over 10" ATB); per Square Yard	25	SY	\$_____	\$_____
234.1	Geogrid Reinforcement	100	SY	\$_____	\$_____
530.1	<b>Barricades, Signs, and Traffic Handling (Traffic Control)</b>	250	EA	\$_____	\$_____
530.2	Police Officer (Maximum Bid of \$40.00 per HR); per	50	HR	\$_____	\$_____
535.01	Hot Applied Thermoplastic Pavement Markings (4" Wide Yellow Line); per Linear Foot	10000	LF	\$_____	\$_____
535.02	Hot Applied Thermoplastic Pavement Markings (4" Wide White Line); per Linear Foot	5000	LF	\$_____	\$_____
535.03	Hot Applied Thermoplastic Pavement Markings (8" Wide Yellow Line); per Linear Foot	1000	LF	\$_____	\$_____



535.04	Hot Applied Thermoplastic Pavement Markings (8" Wide White Line); per Linear Foot	500	LF	\$_____	\$_____
535.05	Hot Applied Thermoplastic Pavement Markings (12" Wide White Line); per Linear Foot	250	LF	\$_____	\$_____
535.06	Hot Applied Thermoplastic Pavement Markings (16" Wide White Line); per Linear Foot	10	LF	\$_____	\$_____
535.07	Hot Applied Thermoplastic Pavement Markings(24" Wide White Line); per Linear Foot	1000	LF	\$_____	\$_____
535.08	Hot Applied Thermoplastic Pavement Markings (Right White Arrow); per Each	10	EA	\$_____	\$_____
535.09	Hot Applied Thermoplastic Pavement Markings (Left White Arrow); per Each	5	EA	\$_____	\$_____
535.10	Hot Applied Thermoplastic Pavement Markings (Comb. Thru Right White Arrow); per Each	1	EA	\$_____	\$_____
535.11	Hot Applied Thermoplastic Pavement Markings (Comb. Thru Left White Arrow); per Each	1	EA	\$_____	\$_____
535.12	Hot Applied Thermoplastic Pavement Markings (Word "ONLY"); per Each	50	EA	\$_____	\$_____
535.13	Hot Applied Thermoplastic Pavement Markings (Straight White Arrow); per Each	10	EA	\$_____	\$_____
535.14	Hot Applied Thermoplastic Pavement Markings (Railroad Crossing Symbol, including two R's,	1	EA	\$_____	\$_____
535.15	Hot Applied Thermoplastic Pavement Markings (White Diamond); per Each	5	EA	\$_____	\$_____
535.17	Hot Applied Thermoplastic Pavement Markings (Bicycle Rider Symbol); per Each	5	EA	\$_____	\$_____
537	Raised Pavement Markers (all types); per Each	500	EA	\$_____	\$_____
712	Cleaning and Sealing Joints and Cracks; per Gallon	50	GAL	\$_____	\$_____
800	12-Foot Parabolic Asphalt Concrete Speed Hump	120	FT	\$_____	\$_____
826	Valve Box Adjustment; per Each	5	EA	\$_____	\$_____
851	Adjusting Existing Manholes; per Each	1	EA	\$_____	\$_____
1010	Painting Concrete Curbs; per Square Foot	250	SF	\$_____	\$_____
3142.1	Ultra-Thin Bonded Hot Mix Wearing Course (Membrane) (Type A); per Gallon	25	GAL	\$_____	\$_____
3142.2	Ultra-Thin Bonded Hot Mix Wearing Course (Asphalt) (PG 64-22) (Type A); per Ton	1	TON	\$_____	\$_____
3142.3	Ultra-Thin Bonded Hot Mix Wearing Course (Aggregate) (SAC A) (Type A); per Ton	1	TON	\$_____	\$_____
6185.4.1	Truck Mounted Attenuator and Trailer Attenuator	1	DAY	\$_____	\$_____
6185.4.3	Arrow Boards	1	DAY	\$_____	\$_____
6185.4.4	Message Boards	1	DAY	\$_____	\$_____
8970.1A	VIVDS Processor System – 1 channel; per Each	1	EA	\$_____	\$_____
8970.1B	VIVDS Processor System – 2 channel; per Each	1	EA	\$_____	\$_____
8970.2	VIVDS Camera Assembly; per Each	1	EA	\$_____	\$_____
8970.3	VIVDS Set-up System; per Each	1	EA	\$_____	\$_____
8970.4	VIVDS Communication Cable (Coaxial); per Linear Foot	25	LF	\$_____	\$_____

# Special Specification 6185

## Truck Mounted Attenuator (TMA) and Trailer Attenuator (TA)



### 1. DESCRIPTION

Furnish, operate, maintain and remove upon completion of work, Truck Mounted Attenuator (TMA) or Trailer Attenuator (TA).

### 2. MATERIALS

Furnish, operate and maintain new or used TMAs or TAs. Assure used attenuators are in good working condition and are approved for use. A list of approved TMA/TA units can be found in the Department's Compliant Work Zone Traffic Control Devices List. The host vehicle for the TMA and TA must weigh a minimum of 19,000 lbs. Host vehicles may be ballasted to achieve the required weight. Any weight added to the host vehicle must be properly attached or contained within it so that it does not present a hazard and that proper energy dissipation occurs if the attenuator is impacted from behind by a large truck. The weight of a TA will not be considered in the weight of the host vehicle but the weight of a TMA may be included in the weight of the host vehicle. Upon request, provide either a manufacturer's curb weight or a certified scales weight ticket to the Engineer.

### 3. CONSTRUCTION

Place or relocate TMA/TAs as shown on the plans or as directed. The plans will show the number of TMA/TAs needed, for how many days or hours, and for which construction phases.

Maintain the TMA/TAs in good working condition. Replace damaged TMA/TAs as soon as possible.

### 4. MEASUREMENT

4.1. **Truck Mounted Attenuator/Trailer Attenuator (Stationary).** This Item will be measured by the each or by the day. TMA/TAs must be set up in a work area and operational before a calendar day can be considered measurable. When measurement by the day is specified, a day will be measured for each TMA/TA set up and operational on the worksite.

4.2. **Truck Mounted Attenuator/Trailer Attenuator (Mobile Operation).** This Item will be measured by the hour. The time begins once the TMA/TA is ready for operation at the predetermined site and stops when notified by the Engineer. A minimum of 4 hr. will be paid each day for each operating TMA/TA used in a mobile operation.

### 5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Truck Mounted Attenuators/Trailer Attenuators (Stationary)," or "Truck Mounted Attenuators/Trailer Attenuators (Mobile Operation)." This price is full compensation for furnishing TMA/TA: set up; relocating; removing; operating; fuel; and equipment, materials, tools, labor, and incidentals.

## SPECIAL SPECIFICATION ITEM 100 MOBILIZATION

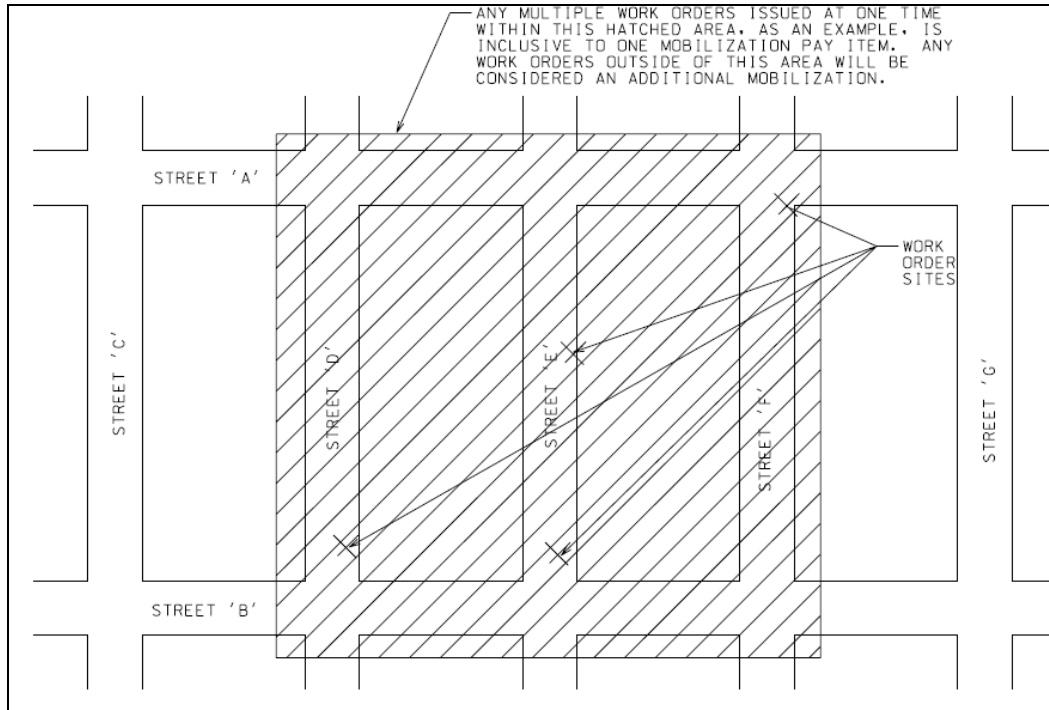
Item No. 100, “Mobilization” of the standard specification shall be replaced with the following:

**DESCRIPTION:** This item shall govern the mobilization and demobilization of personnel, equipment, and supplies at the project site in preparation for beginning and completion of work on other contract items that are in size of 900 square feet or less and/or on an emergency basis as assigned by the Owner. Mobilization shall include, but is not limited to, the movement of equipment, personnel, supplies, etc. to the project site and the establishment of other facilities necessary prior to beginning the work. This item shall also govern preparing right-of-way in accordance to Item 101 of the San Antonio Water Systems Standard Specifications. Preparing right-of-way includes the removal and disposal of all obstructions to the new construction, together with other objectionable materials, not provided for elsewhere by the contract documents.

**MEASUREMENT:** Mobilization on normal work orders issued on a routine basis will not be measured for any work order or project site in excess of 900 square feet in size with the exception of emergency responses. Mobilization for project sites or work orders 900 square feet or less will be measured as specified herein and on any assigned emergency responses that are required by the owner on any sized project site. Therefore mobilization will be classified into two categories if such measurement is required.

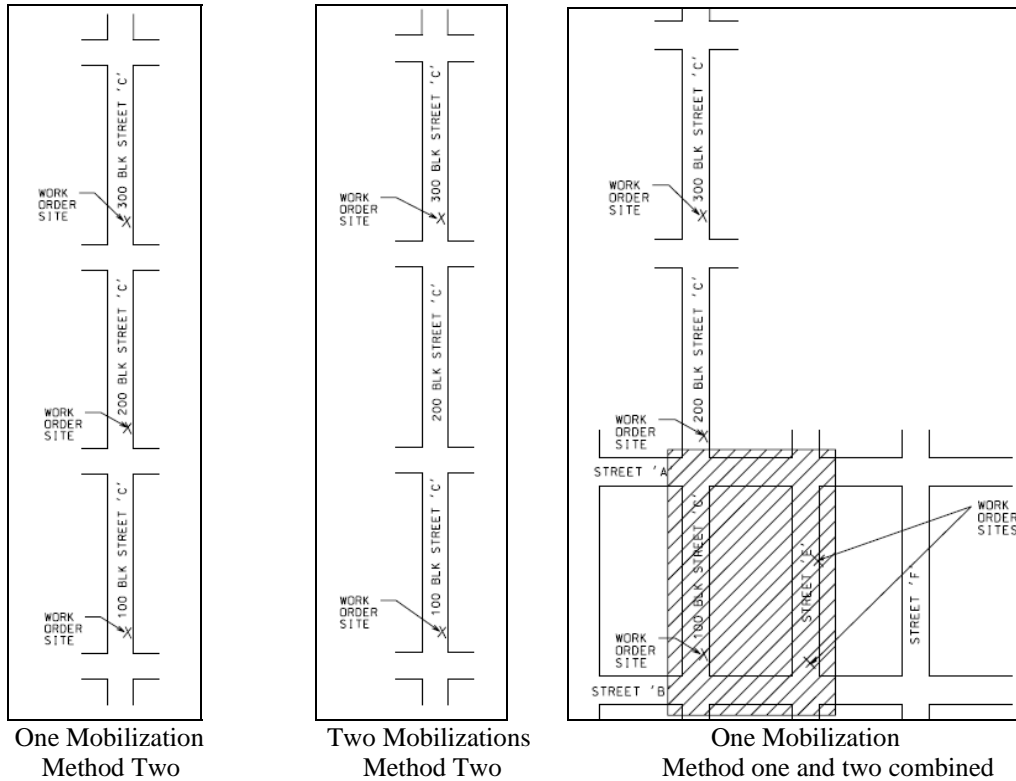
- I. Emergency Mobilization (24-hour Response), which is defined as work orders issued on an emergency basis that require the Contractor to be on the jobsite and mobilized within 24-hours of notification or less, shall be measured by the unit for each such work order issued regardless of size of such project. This item is intended to compensate the Contractor for additional costs incurred to mobilize due to the short response time required by the owner.
- II. Small Project Mobilization will be measured by the unit of “each” in association to an individual project site, location, or issued work order 900 square feet or less with the exception of the following two described methods for grouping of small projects.

Method One: Any multiple assigned small project work orders or projects sites (900 SF or less) issued under this contract at one time within the same block or adjacent block’s parallel street shall be considered inclusive to the measurement of one single small project mobilization for that group of projects. Any small project sites, locations, or work orders (900 SF or less) issued under this contract outside of this area or any additional areas that create overlaps in area as described above will be measured and compensated as a separate measurement for an additional mobilization. The below diagram illustrates the area as described.



Method One example of one small project mobilization with multiple work sites

**Method Two:** In addition to the above measurement for grouped projects, any small projects, locations, or work orders (900 SF or less) issued at one time that are adjacent to one another on a single street within consecutive block numbers up to three total typical city blocks shall be measured as one single small project mobilization. Any project sites, locations, or work orders (900 SF or less) issued under this contract outside of this area or nonconsecutive blocks will be measured and compensated as a separate small project measurement for an additional small project mobilization. If Method One and Two pose a conflict, both shall be grouped for one small project mobilization. See below examples.



**PAYMENT:**

**No direct payment shall be made for Mobilization on normal work orders in excess of 900 square feet issued on a routine basis, and all costs in connection therewith shall be included in the applicable contract price for the items to which the work pertains. Only Emergency Mobilization (24-Hour Response) will be eligible as deemed by the owner on work orders in excess of 900 square feet in size for payment.**

For work orders 900 square feet or less, Small Project Mobilization and Emergency Mobilization (24-Hour Response) bid items will be paid for at the contract bid price as measured in the previous section in regards to full compensation for all work herein specified to move and remove equipment, personal, supplies, etc. to any assigned project site or work order issued under this contract. Payment will be made after the completion of the work assigned.

In the event both Small Project Mobilization (900 SF or less) and Emergency Mobilization (24-Hour Response) may be required for a particular work order; Emergency Mobilization (24-Hour Response) will be measured separately “per each” such work order issued regardless of the proximity to other routine, small project mobilization(s) or emergency work orders issued. There shall be no individual work order that is eligible for both Small Project Mobilization (900 SF or less) and Emergency Mobilization (24-Hour Response) payment.

**BID ITEM:**

Item 100.1 Emergency Mobilization (24-Hour Response) – per Each

Item 100.2 Small Project Mobilization (900 SF or less) – per Each

NOTES: Cost for Insurance and Bond is inclusive to the contract and no separate payment will be made.

There may be no work orders issued that require Emergency Mobilization (24-Hour Response) and/or Small Project Mobilization as defined herein, in which case there will be no measurement or payment made for Item 100.1 or 100.2.

**ITEM 800**  
**SPECIAL SPECIFICATION**

**SPEED HUMPS,**  
**12-FOOT PARABOLIC ASPHALT CONCRETE HUMPS**

**DESCRIPTION:**

*This item shall govern for installation of Speed Humps, 12-foot Parabolic Asphalt Concrete Humps and shall be constructed of materials and workmanship as prescribed by these specifications, at such places as shown on the plans or as designated by the Project Engineer, and in accordance with the designated plan and typical details shown. For the purpose of this specification, all references are in accordance with COSA Standard Specifications latest edition.*

**MATERIALS:**

**Asphalt**

Asphalt concrete shall be Type D, PG 64-22, in accordance with the provisions of Item 205, "Hot Mix Asphaltic Concrete Pavement," of the Standard Specifications.

**Tack Coat**

All Tack Coat shall conform to the provisions of Item 203, "Tack Coat." Tack coat must be applied prior to installation of all speed humps along all edges of milled limits. Tack coat shall be SS-1H type emulsion applied at a rate of 0.02 gallons per square yard up to a maximum of 0.10 gallons per square yard.

The area to which tack coat has been applied shall be closed to public traffic. Care shall be taken to avoid tracking binder material onto existing pavement and concrete surfaces beyond the limits of construction.

No traffic shall be allowed on to the area to which tack coat has been applied with the exception of vehicles unloading asphalt concrete. All vehicles involved with the Contractor's operations shall turn around within the road right-of-way. Driveways and other private property shall not be used without prior written consent of the involved property owner, a dated copy of which shall be delivered to the Engineer prior to the use thereof.

**Striping**

Pavement markings shall be white in color, triangular in shape, and placed on the Asphalt Hump as shown on Hump detail. Striping to be placed in accordance with Item 536 "Preformed Pavement Markings." White and yellow temporary tabs shall be placed the same day the speed humps are installed in accordance with the speed hump detail. Payment for temporary tabs is subsidiary to the cost of speed humps. Permanent striping shall be completed 14 days after installation of the speed humps.

**Signs and Sign Post**

Signs and Sign post shall be supplied by the contractor and installed per COSA specification 531 "Signs."

## **CONSTRUCTION DETAIL:**

### **General**

At least 5 calendar days prior to commencing installation of speed humps, contractor is to provide written notification of planned work to the residents of the street receiving such treatment, residents of any intersecting streets up to one block away, and to Project manager.

Project Manager will notify Office of Emergency Services, local City office, City School Districts and any other interested parties that installation of speed humps is scheduled to take place.

Notification of residents is to be type written and shall contain information informing the residents of planned work, and is to be approved by Project Manager before distribution. Notification is to be placed on front door and distributed to all residents as required. Contractor shall not place notices in property owner's mailbox.

In conjunction with construction of speed humps, contractor will install all required signage and sign posts. Contractor is responsible to coordinate installation of required signage and sign posts with the construction of speed hump, and is to notify.

Existing street can be temporarily closed on daily basis and during working hours only while speed hump construction is taking place. Existing street must be fully accessible to vehicular traffic at end of each work day. Street closure is to be done with use of appropriate traffic control signs and devices required to maintain and protect traffic per applicable TMUTCD standards.

Adjacent areas disturbed or damaged during construction are to be restored, in kind to satisfaction of Project Manager, immediately following completion of speed hump construction at contractor's expense.

### **Construction Performance Standards**

The Engineer will not accept any speed hump that is less than three inches (3") in height or exceeds a maximum three and one-half inches (3-1/2") in height or that is not of the shape shown in the 12-Foot Parabolic Asphalt Concrete Speed Hump Detail.

Cross section and profile of each and every speed hump are to be surveyed to verify that each speed hump has been constructed in required shape, and that it falls with required tolerance range.

Take any steps necessary to correct any deficiencies that fall outside of required tolerance.

### **Construction Installation**

Asphaltic concrete pavements shall be cut with a concrete saw. Sawcut existing asphalt to the shape of the new speed hump and mill out a minimum of 2.0 inches of existing material for installation of proposed speed hump. The depth of the cut shall be such that upon removal of the asphaltic concrete, the sides of the cut will be straight and square. Thoroughly clean pavement surface and apply tack coat making sure to completely cover surface area. Tack coat



must be applied before placement of new asphalt material, and between any and subsequent asphalt courses.

Milling of the existing concrete shall conform to Item 208, “Salvaging, Hauling & Stockpiling Reclaimable Asphaltic Pavement.”

12-Foot Parabolic Asphalt Concrete Hump:

- a. A template shall be constructed to verify accuracy of then hump profile and to ensure that the desired vertical dimensions are attained within 0.5-inch tolerance, provided that the hump does not exceed 3.5-inches in height.
- b. Humps shall be constructed under this item with hot mix asphaltic concrete pavement, in the thickness, dimensions and type shown on the plans.
- c. Placing and shaping hump: The asphaltic mixture shall only be dumped and spread on the approved prepared surface. The template shall be constructed to ensure that the desired shape and dimensions of the speed hump are in conformity with the plans and details shown.
- d. The hump shall be constructed one-half width at a time, the contractor must construct the full width of the hump before the end of each working day. No partial speed hump shall be left overnight. Street closures shall comply with Part VI of the *Texas Manual on Uniform Traffic Control Devices*.

Do not perform final rolling operation until required shape of each speed hump in turn has been verified in accordance with applicable tolerances. Contractor to take into account compaction to achieve required dimensions.

Pavement Markings are to be installed according to item 536 “Preformed Pavement Markings.”

Unless otherwise directed by the engineer or designated City Staff, the Contractor shall install posts, speed hump warning and advisory speed signs at the exact locations marked by the Engineer or designated City staff on the pavement in advance of each speed hump. The sign location list and map provided with the Notice to Proceed will show the general locations only. Permanent warning and advisory signs may be installed prior to construction of speed humps. If installed more than one week prior to construction, signs shall remain covered until construction is completed. If not installed prior to construction, warning and advisory signs must be installed within 48 hours of construction.

The Contractor shall construct speed humps at the exact locations marked on the pavement by the Engineer or designated City staff. The speed hump street list and location maps provided with the Notice to Proceed for each phase of the project will show the general locations only.

Street widths in exhibits provided with each Notice to Proceed are measured from lip-of-gutter to lip-of-gutter or face of curb to face of curb as applicable. Measurements are approximate only.

## **MEASUREMENTS:**

Accepted work as prescribed by this Item will be measured by the linear foot perpendicular to the short axis of the 12-foot parabolic speed hump. Saw cutting, excavating and disposal of existing material underneath proposed location of asphalt speed hump will not be measured for payment. Tack Coat will also not be measured for payment.

The Engineer shall make final measurements in the field.

White and yellow temporary tabs will not be measured for payment as they are considered subsidiary to the cost of speed humps.

Permanent striping will be measured the linear footage of striping installed as per Item 536 "Preformed Pavement Markings."

## **PAYMENT:**

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid per linear foot, measured as prescribed above for "Speed Hump, 12-Foot Parabolic Asphalt Concrete Hump." This price is full compensation for removal and disposal of existing speed hump (rubber or asphalt), removal and disposal of existing asphaltic material where proposed speed hump is to be installed, furnishing all materials, preparation, cutting, milling, removing and disposing all surplus materials, furnishing and placing all new materials, and for all manipulations, work, tools, template(s), equipment, traffic control, labor and all other incidentals necessary to complete the work/task.

Payment for pavement markings will be placed under applicable items for Item 536 "Preformed Pavement Markings."

Payment for signs will be placed under applicable items for Item 531 Signs.

Surface restoration shall consist of restoring all areas within the limits of work to their original existing condition prior to construction.

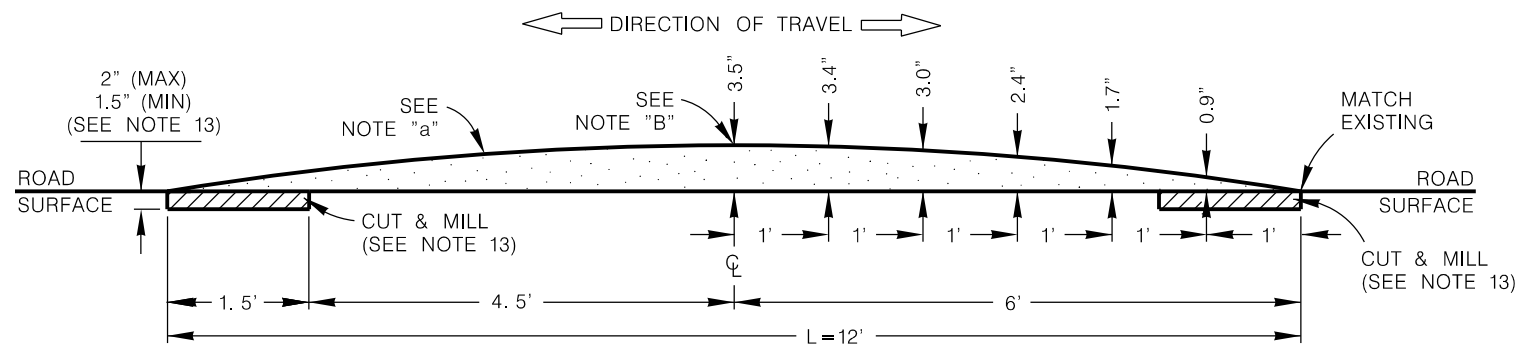
The Contractor shall restore all paved areas, such as driveways, curb and gutter, roadway surfaces, ditches, landscaped areas, etc., and all other improvements disturbed or damaged by his operations at no additional cost to the City.

Payment for the restoration of damaged areas, for which specific bid items are not provided, shall be included in the contract prices paid for various items of work, and no additional compensation will be allowed therefore.

## **BID ITEM:**

Item 800: Speed Hump, 12-Foot Parabolic Asphalt Concrete Hump – per linear foot





a) TYPE D HOT MIX ASPHALTIC CONCRETE PAVEMENT AS PER ITEM (205).

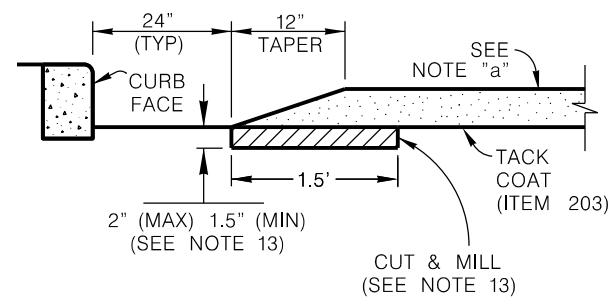
A) TO GAIN MAXIMUM EFFECT, SPEED HUMPS MUST BE CONSTRUCTED AT THE FULL 3.5" IN HEIGHT BASED ON CONSIDERATIONS FOR SAFETY AND EFFECTIVENESS. ANY SPEED HUMPS CONSTRUCTED OVER THE ESTABLISHED MAXIMUM HEIGHT OF 3.5" MUST BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

B) CROSS-SECTION SHOWS APPROXIMATE ELEVATIONS FOR THE 3.5" (MAXIMUM ALLOWABLE) SPEED HUMP, WITHIN 0.5" TOLERANCE, NOT TO EXCEED 3.5".

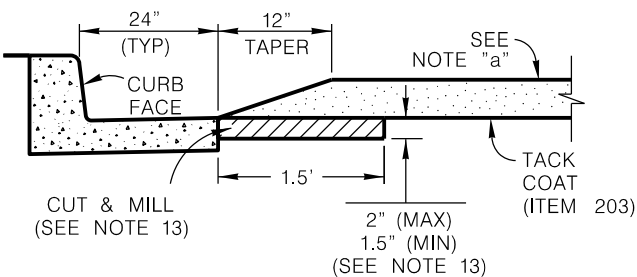
ESTIMATED QUANTITIES

HMAC TYPE "D" FOR CONTRACTOR'S INFO ONLY	STREET PAVEMENT WIDTH (FT)							
	22	24	26	27	30	36	40	44
CY	2.0	2.2	2.3	2.4	2.7	3.3	3.6	4.0

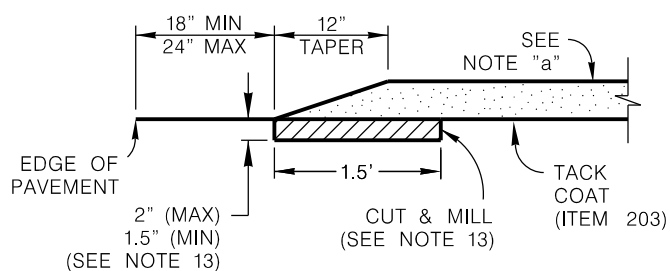
**SECTION A-A**  
PARABOLIC CROWN PROFILE



(STANDARD CURB)

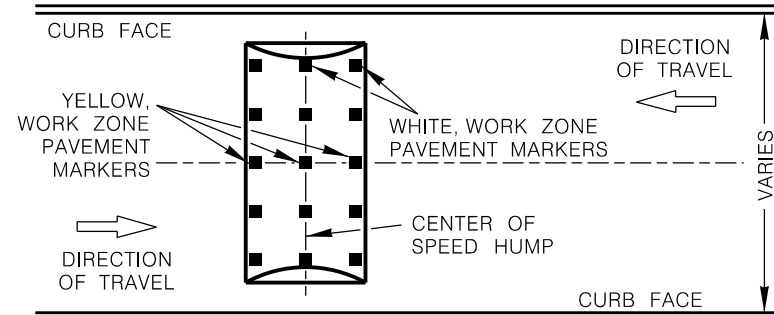


(CURB & GUTTER)



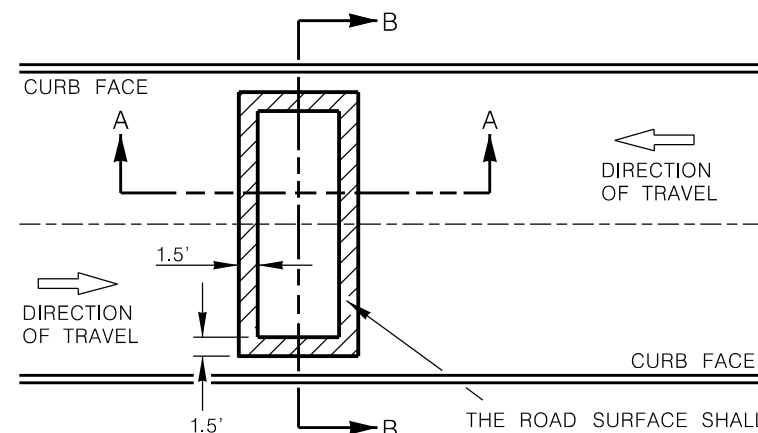
(NO CURB)

**SECTION B-B**  
EDGE DETAIL



NOTE: ALL TEMPORARY WORK ZONE PAVEMENT MARKERS SHALL BE WHITE. YELLOW TEMPORARY WORK ZONE PAVEMENT MARKERS SHALL BE PLACED ALONG THE CENTERLINE OF THE ROADWAY OR ALIGNED WITH ANY EXISTING CENTERLINE MARKINGS.

**TEMPORARY MARKINGS DETAIL - TAB PLACEMENT**



THE ROAD SURFACE SHALL BE CUT AND MILLED AT TAPERED EDGES AROUND THE PERIMETER OF THE SPEED HUMP. SEE GENERAL NOTE 13 ON THIS SHEET.

**CUT & MILL DETAIL**

**GENERAL NOTES**

- 1) SPEED HUMPS WILL BE CONSTRUCTED AT LOCATIONS DESIGNATED BY THE TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT (TCI).
- 2) 12-FOOT PARABOLIC ASPHALT CONCRETE SPEED HUMP SHALL BE COMPRISED OF ASPHALT AS OUTLINED IN SPECIAL SPECIFICATION ITEM 800.
- 3) CONTRACTOR SHALL CONTACT THE RIGHT-OF-WAY DIVISION AT 210-207-6949 BEFORE ANY STREET IS TEMPORARILY CLOSED FOR CONSTRUCTION.
- 4) THE 12-FOOT LONG VERTICAL CROSS-SECTION OF THE 12-FOOT SPEED HUMP, MEASURED THE DIRECTION OF TRAFFIC FLOW, SHALL BE A PARABOLIC CURVE WITH A MAXIMUM HEIGHT OF 3.5 INCHES AT THE MID-POINT, AND 12-FEET IN LENGTH AS DETAILED IN SECTION A-A OF THIS SHEET.
- 5) TCI WILL IDENTIFY THE LOCATIONS OF ALL TRAFFIC SIGNS RELATED TO THE SPEED HUMPS BY MARKING THE LOCATIONS IN THE FIELD.
- 6) NO PART OF A SPEED HUMP SHALL BE LOCATED IN FRONT OF A DRIVEWAY APPROACH. SPEED HUMP SHOULD BE A MINIMUM OF 6 FEET FROM THE EDGE OF DRIVEWAY, WHERE PRACTICAL.
- 7) SPEED HUMPS AND TRAFFIC SIGNS SHOULD BE PLACED AS CLOSE AS POSSIBLE TO PROPERTY LINES INSTEAD OF MID-LOT, WHEN PRACTICAL.
- 8) SPEED HUMPS SHOULD BE INSTALLED AS A RIGHT ANGLE TO THE CENTERLINE TANGENT OF THE ROADWAY.
- 9) TRAFFIC CONTROL CONSISTING OF TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL BE PROVIDED TO ADVISE ROADWAY USERS OF A SPEED HUMP'S PRESENCE AND TO GUIDE THEIR SUBSEQUENT ACTION. TRAFFIC SIGNS SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD). PAVEMENT MARKINGS SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) FIGURE 3B-29, OPTION C.
- 10) ALL TRAFFIC SIGNS AND PAVEMENT MARKINGS WILL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AS PER ITEM 531, 533, 535, AND 536.
- 11) A TEMPLATE SHALL BE CONSTRUCTED TO VERIFY ACCURACY OF THE HUMP PROFILE AND TO ENSURE THAT THE DESIRED VERTICAL DIMENSIONS ARE ATTAINED WITHIN A 0.5 INCH TOLERANCE, PROVIDED THAT THE HUMP DOES NOT EXCEED 3.5 INCHES IN HEIGHT. CONTRACTOR SHALL PROVIDE VERIFICATION OF CROSS-SECTION DIMENSIONS BOTH THROUGH ELEVATION MEASUREMENTS AND PROFILE COMPLIANCE.
- 12) A PNEUMATIC ROLLER FIRST, THEN A VIBRATORY STEEL DOUBLE-DRUM ROLLER, MINIMUM 10 TON, SHALL BE USED FOR FINAL MATERIAL COMPACTION.
- 13) THE ROAD SURFACE SHALL BE CUT-MILLED AT TAPERED EDGES AROUND THE PERIMETER OF THE SPEED HUMP, A MAXIMUM OF 2 INCHES AND MINIMUM OF 1.5 INCHES AS ILLUSTRATED IN SECTION A-A AND B-B OF THIS SHEET.
- 14) ONCE THE FINAL INSPECTION BY THE STREETS DIVISION HAS BEEN MADE ON COMPLETED STREET WORK, THE CITY OF SAN ANTONIO WILL ACCEPT SUCH APPROVED WORK FOR ALL PERPETUAL MAINTENANCE COSTS.
- 15) CONTRACTOR SHALL NOT OPEN SPEED HUMP TO TRAFFIC UNTIL ALL REQUIRED WARNING SIGNS AND PAVEMENT MARKINGS ARE COMPLETE. TEMPORARY MARKINGS SHALL BE WORK ZONE PAVEMENT MARKERS, SHORT-TERM TABS AND PLACED AS SHOWN IN TEMPORARY MARKINGS DETAIL - TAB PLACEMENT ON SHEET 2 OF 2. TEMPORARY FLEXIBLE REFLECTIVE ROADWAY MARKER TABS PROVIDED SHALL MEET TxDOT'S DMS-8242.
- 16) CONTRACTOR WILL ALSO MAINTAIN TEMPORARY PAVEMENT MARKINGS UNTIL PERMANENT PAVEMENT MARKINGS ARE INSTALLED. THE SHORT-TERM TABS SHALL BE REPLACED EVERY 14 CALENDAR DAYS UNTIL PERMANENT MARKINGS ARE PLACED.
- 17) CONTRACTOR SHALL INSTALL PERMANENT PAVEMENT MARKINGS NO SOONER THAN 7 CALENDAR DAYS AND NO LATER THAN 14 CALENDAR DAYS AFTER SPEED HUMP CONSTRUCTION. WHEN INCLEMENT WEATHER PROHIBITS PLACEMENT OF PERMANENT MARKINGS, THE 14-DAY PERIOD MAY BE EXTENDED UNTIL WEATHER PERMITS PROPER APPLICATION.

AUG 2017

**CITY OF SAN ANTONIO**  
TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT

TRANSPORTATION SERVICES CONSTRUCTION STANDARDS

**12-FOOT PARABOLIC ASPHALT CONCRETE SPEED HUMP**

100% SUBMITTAL	PROJECT NO.: 2017_DTL_SHT_RVSNS	DATE: 8.15.17
DRWN. BY: VV	RVSD. BY: AF	CHKD. BY: KMB, PE
		SHEET NO.: 2 OF 2