

**ADDENDUM NO. 1**

**PROJECT NAME: 2017-2018 RECONSTRUCTION-RECLAMATION TASK ORDER**

**CONTRACT PACKAGE 6**

**- 23-01474-6**

DATE: 10/10/2016

**ADDENDUM NO. 1**

This addendum should be included in and be considered part of the plans and specifications for the name of the project. The contractor shall be required to sign an acknowledgement of the receipt of this addendum and submit with their bid.

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**1. Remove and Replace the following:**

- a. 025 Unit Pricing Form

**2. Insert the following:**

- a. Plans & Specifications for 2017-2018 Reconstruction-Reclamation Task Order Contract Package 6



10/10/2016

**CITY OF SAN ANTONIO  
TRANSPORTATION AND CAPITAL IMPROVEMENTS**



**SPECIFICATIONS**

**FOR**

**2017-2018 RECONSTRUCTION-RECLAMATION  
TASK ORDER CONTRACT PACKAGE 6**

**CITY MANAGER  
SHERYL L. SCULLEY**

**DIRECTOR OF TRANSPORTATION AND CAPITAL IMPROVEMENTS  
MIKE FRISBIE, P.E.**

**Prepared By:**

 **Lockwood, Andrews  
& Newnam, Inc.**  
A LEO A DALY COMPANY  
Firm ID No. 2614



*Stephen J. Aniol*  
10/10/2016

**10101 REUNION PLACE, STE. 200  
SAN ANTONIO, TEXAS 78216**

**OCTOBER 2016**

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# Project Description

## Project Duration

This task order construction contract shall be terminated five hundred and forty (540) calendar days after issuance of the first task order. The construction time (in calendar days) for each individual task order will be negotiated between the City Engineer or Project Manager and the Contractor. The Contractor will be expected to begin construction for each individual site in accordance with Article 1- General Provisions, Section 1.2.4, Notice to Proceed and Commencement of Contract Times in the General Conditions-City of San Antonio Construction Contracts. The Contractor may also be limited to the amount of individual project sites open at any given time. Liquidated damages for construction time will be assessed on a per task order basis should the contractor fail to complete the construction in the specified calendar days as negotiated by the City Engineer or Project Manager.

## Task Order Duration

The contractor will negotiate calendar days for each task order issued by the City. Contractor will not receive the full 540 calendar days to complete each task order due to City fiscal year goals. If contractor exceeds calendar days for specified task order, liquidated damages will be assessed.

## Project Scope

Project construction may include but is not limited to: full depth reclamation, full reconstruction, base and pavement replacement, seal coat, concrete curbs, sidewalks, driveways, concrete retaining walls-combination type, concrete bus pads, wheel chair ramps, removing and relocating mail boxes, asphalt speed humps, topsoil, sodding, signage, striping, elevated sidewalks, sidewalk pipe railing, adjusting existing meter boxes, valve boxes and manholes, tree pruning, removal and/or replacement, and any other items required due to the site conditions to accomplish the project scope.

**Quantities included in this contract, as well as the entire bid amount are not guaranteed. Unit prices established shall remain valid throughout the duration of the contract.**

## Project Location

The sites shall be assigned by the City Engineer or Project Manager and shall be located throughout the City. Each project site will be issued as a separate Task Order and quantities will be provided to the Contractor.

## Important Notes

No direct payment shall be made for the following specification items. Contractor shall include cost of these items in various other bid items:

- 100.1 Mobilization
- 100.2 Insurance and Bond
- 101.1 Preparing Right-of-Way
- 530.1 Barricades, Signs, and Traffic Handling

Excavation due to construction of curb, sidewalk, retaining walls, driveways, and parkway grading (edge of pavement/curb to property line) shall not be paid for directly but shall be included in various other bid items of which it forms a component part.

**Curb Construction Method:**

See details in the specifications.

**Concrete Curb, Curb and Gutter, and Mountable (Roll Over) Curb:**

All cost to install this type of curb shall be paid under Item 500.1 Concrete Curb, Curb and Gutter, and Mountable Curb.

**Sidewalk Pipe Railing:**

All sidewalk pipe railing shall be painted in accordance with Specification 514 Paint and Painting.

**Concrete Sidewalk Drain:**

Concrete sidewalk drain shall be installed in accordance with Miscellaneous Construction Standard I.

City of San Antonio Traffic Engineering Department will typically recommend traffic control layout at each project location.

All City of San Antonio Specifications & Construction Detail sheets available on the City's Website at:

<http://www.sanantonio.gov/TCI/CurrentVendorResources/StandardSpecificationsandDetails.aspx>

All Construction and Material Specifications for SAWS bid items are available at:

[http://www.saws.org/business\\_center/specs/constspecs/](http://www.saws.org/business_center/specs/constspecs/)

[http://www.saws.org/business\\_center/specs/matspecs/](http://www.saws.org/business_center/specs/matspecs/)

The Specific Contract Documents for this project are available on the City's Website at:

<http://www.sanantonio.gov/RFPListings/RFPList.aspx>

Click on the following link "2017-2018 Reconstruction-Reclamation Task Order Contract Package 6"

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# CITY OF SAN ANTONIO

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Project Name: 2017-2018 Reconstruction-Reclamation Task Order Contract Package 6  
ID NO.: 23-01474-6

Date Issued: November 7, 2016  
Page 1 of 1

*The estimated construction budget for this contract is \$5,000,000.00*

**020**  
**BID FORM**

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Legal Name of Company (print)

**I. BASE BID**

Total Amount of Base Bid Insert Amount in Words and Numbers):

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\$

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Person Authorized to Sign Bid/Contract (Print)

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Title of Person Signing

---

Address

---

Fax No.

Local Headquarters (Check one)

Local Branch Office

---

City, State and Zip Code

---

Telephone No.

---

E-mail Address

Name of the proposed **Project Manager**: \_\_\_\_\_

Name of the proposed **Site Superintendent**: \_\_\_\_\_

CITY OF SAN ANTONIO  
025 UNIT PRICING FORM

PROJECT NAME: FY 2017-2018 RECONSTRUCTION-RECLAMATION TASK ORDER CONTRACT - PACKAGE 6  
PROJECT NO. 23-01474-6

ALT. NO.	ITEM NO.	DESC. CODE	S.P. NO	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
				<b>The City only will accept bid pricing to the hundredths. Any pricing extended out to three decimal points will be truncated to two decimal points in the City's favor.</b>					
	103.1			REMOVE CONCRETE CURB	LF	12,500			
	103.3			REMOVE SIDEWALKS AND DRIVEWAYS	SF	26,000			
	103.4			REMOVE MISCELLANEOUS CONCRETE	SF	2,000			
	104.1			STREET EXCAVATION	CY	17,500			
	107.1			EMBANKMENT (FINAL) (ORDINARY COMPACTION) (TY B)	CY	500			
	108.1			LIME TREATED SUBGRADE (6-INCH COMPACTED DEPTH)	SY	17,500			
	108.2			LIME	TON	265			
	200.1A			FLEXIBLE BASE (10-INCH COMPACTED DEPTH)	SY	8,000			
	200.1B			FLEXIBLE BASE (14-INCH COMPACTED DEPTH)	SY	5,000			
	200.2			FLEXIBLE BASE (LOOSE)	CY	1,000			
	202.1			PRIME COAT	GAL	2,600			
	203.1			TACK COAT	GAL	5,000			
	205.2			HOT MIX ASPHALTIC PAVEMENT, TYPE B (6-INCH COMPACTED DEPTH)	TON	5,200			
	205.2			HOT MIX ASPHALTIC PAVEMENT, TYPE B (8-INCH COMPACTED DEPTH)	TON	1,500			
	205.4			HOT MIX ASPHALTIC PAVEMENT, TYPE D (2-INCH COMPACTED DEPTH)	TON	8,800			
	209.1			BUS STOP CONCRETE PAVEMENT (10" DEPTH)	SY	1,250			
	230.3A			REPLACING BASE & PAVEMENT WITH TYPE B PVMT (6-INCH COMPACTED DEPTH)	TON	2,200			
	230.3B			REPLACING BASE & PAVEMENT WITH TYPE B PVMT (12-INCH COMPACTED DEPTH)	TON	800			
	234.1			BASE REINFORCEMENT (TX 5)	SY	15,000			
	236.1			EMULSION (CSS-1H)	GAL	50,600			
	236.2			EMULSION TREATMENT (EXISTING BASE) (6-INCH COMPACTED DEPTH)	SY	20,000			
	236.3			EMULSION TREATMENT (MIXING EXISTING MATERIAL AND NEW BASE) (6-INCH COMPACTED DEPTH)	SY	2,000			
	250			SEAL COAT	SY	22,000			
	500.1			CONCRETE CURB, GUTTER AND CONCRETE CURB AND GUTTER	LF	14,000			
	502.1			CONCRETE SIDEWALKS	SY	9,750			
	502.1A			CURB RAMPS	EA	140			
	503.1			PORTLAND CEMENT CONCRETE DRIVEWAY	SY	5,800			
	503.2			PORTLAND CEMENT CONCRETE DRIVEWAY - COMMERCIAL	SY	1,800			
	505.1			CONCRETE RIPRAP (5" THICK)	SY	200			
	506.1			CONCRETE RETAINING WALLS - COMBINATION TYPE	CY	50			
	507.1			CHAIN LINK FENCE - 4 FT HIGH	LF	150			
	507.2			CHAIN LINK FENCE - 6 FT HIGH	LF	100			
	507.4			GATES-PEDESTRIAN	EA	5			

CITY OF SAN ANTONIO  
025 UNIT PRICING FORM

PROJECT NAME: FY 2017-2018 RECONSTRUCTION-RECLAMATION TASK ORDER CONTRACT - PACKAGE 6  
PROJECT NO. 23-01474-6

ALT. NO.	ITEM NO.	DESC. CODE	S.P. NO	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
	507.5			GATES-VEHICULAR	OPEN	5			
	508.1			RELOCATING WIRE FENCE	LF	100			
	508.2A			RELOCATING WROUGHT IRON FENCE	LF	60			
	510.1			TIMBER GUARD POSTS (< 50 UNITS)	EA	35			
	512.1A			ADJUSTING EXISTING MANHOLES (STORM SEWER)	EA	7			
	512.1B			ADJUSTING EXISTING MANHOLES (AT&T)	EA	5			
	512.3			VALVE BOX ADJUSTMENT (NON-SAWS)	EA	25			
	513.1			REMOVING AND RELOCATING MAIL BOXES	EA	150			
	513.1A			DECORATIVE MAILBOX (GIBRALTAR, #PED0000B)	EA	30			
	515.1			TOPSOIL	CY	1,500			
	516.1			BERMUDA SODDING	SY	7,000			
	516.2			ST. AUGUSTINE SODDING	SY	7,000			
	520.1			HYDROMULCHING (RESIDENTIAL OR COMMERCIAL)	SY	1,200			
	522.1			SEWALK PIPE RAILING	LF	150			
	523.1			ADJUSTING CHAIN LINK VEHICULAR GATE	EA	20			
	523.3			ADJUSTING CHAIN LINK PEDESTRIAN GATE	EA	12			
	523.4			ADJUSTING WROUGHT IRON VEHICULAR GATE	EA	5			
	523.5			ADJUSTING WROUGHT IRON VEHICULAR GATE (MOTORIZED)	EA	3			
	523.6			ADJUSTING WROUGHT IRON PEDESTRIAN GATE	EA	3			
	524.1			CONCRETE STEPS	CY	50			
	531.3			R1-1 STOP (30") (HIGH DENSITY)	EA	10			
	531.5			R1-4 ALL WAY PLATE (18"X6") (HIGH DENSITY)	EA	10			
	531.21			R7-1 NO PARKING ANYTIME (18"X24") (HIGH DENSITY)	EA	10			
	531.5			W13-1 ADVISORY SPEED SIGN (20 MPH)	EA	25			
	531.6			9 INCH (229MM) STREET NAME, BLOCK NUMBER (VARIES AS DENSITY)	EA	50			
	531.6			W17-3 SPECIAL SIGN (HUMP AHEAD SYMBOL SIGN)	EA	30			
	531.59			W17-3 SPECIAL SIGN (HUMP SYMBOL SIGN)	EA	30			
	535.1			4-INCH WIDE YELLOW LINE	LF	6,000			
	535.2			4-INCH WIDE WHITE LINE	LF	3,500			
	535.4			8-INCH WIDE WHITE LINE	LF	450			
	535.5			12-INCH WIDE WHITE LINE	LF	600			
	535.7			24-INCH WIDE WHITE LINE	LF	1,250			
	535.7B			24-INCH WIDE YELLOW LINE	LF	200			
	535.8			RIGHT WHITE ARROW	EA	10			
	535.9			LEFT WHITE ARROW	EA	10			
	535.1			COMBINATION THRU/RIGHT WHITE ARROW	EA	10			
	535.11			COMBINATION THRU/LEFT WHITE ARROW	EA	10			
	535.12			WORD "ONLY"	EA	10			
	535.13			STRAIGHT WHITE ARROW	EA	8			

CITY OF SAN ANTONIO  
025 UNIT PRICING FORM

PROJECT NAME: FY 2017-2018 RECONSTRUCTION-RECLAMATION TASK ORDER CONTRACT - PACKAGE 6  
PROJECT NO. 23-01474-6

ALT. NO.	ITEM NO.	DESC. CODE	S.P. NO	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
	535.14			RAILROAD CROSSING SYMBOL, INCLUDING TWO R'S, CROSSBUCK AND 3 TRANSVERSE BARS	EA	5			
	535.16			STRAIGHT WHITE ARROW BICYCLE FACILITY	EA	10			
	535.17			BICYCLE RIDER SYMBOL	EA	10			
	535.22			WHITE SHARROW (BIKE SHARED LANE)	EA	5			
	536.1			4-INCH WIDE YELLOW LINE	LF	300			
	536.2			4-INCH WIDE WHITE LINE	LF	300			
	536.4			8-INCH WIDE WHITE LINE	LF	50			
	536.5			12-INCH WIDE WHITE LINE	LF	100			
	536.7			24-INCH WIDE WHITE LINE	LF	100			
	537.1			TRAFFIC BUTTON (TYPE W)	EA	75			
	537.2			TRAFFIC BUTTON (TYPE Y)	EA	75			
	537.6			PAVEMENT MARKER (TYPE I-C)	EA	100			
	537.8			PAVEMENT MARKER (TYPE II A-A)	EA	100			
	537.9			PAVEMENT MARKER (TYPE II C-R)	EA	250			
	540.1A			ROCK FILTER DAMS (INSTALL/REMOVE) TYPE 2	LF	100			
	540.1B			ROCK FILTER DAMS (SACK GABIONS) (INSTALL/REMOVE) TYPE 4	LF	100			
	540.10			CURB INLET GRAVEL FILTERS	LF	200			
	552.1			REMOVING AND RELOCATING IRRIGATION SYSTEMS	LF	2,300			
	556.1			CAST IN PLACE DETECTABLE WARNING SURFACE TILES	EA	35			
	798			ASPHALT CONCRETE SPEED HUMP, TYPE III	EA	30			
	801.2			LEVEL IIA PROTECTIVE FENCING	LF	1,000			
	801.3			LEVEL IIB PROTECTIVE FENCING	LF	250			
	802.1			LEVEL II PRUNING	EA	25			
	804.1			TREE INSTALLATION (3-INCH CALIPER)	EA	10			
	SUP 1			REMOVING AND RELOCATING SIGN	EA	75			
	SUP 2			ELEVATED SIDEWALK	LF	100			
	SUP 3			SIDEWALK DRAIN BOX (1/2 INCH THICK)	EA	10			
	SUP 4			REMOVAL AND HAUL OFF OF EXISTING ROCK/MASONRY MAILBOX	EA	30			
	SUP 5			TREE REMOVAL (8" - 36" DIAMETER)	EA	15			
	SUP 6			ADJUSTING TRAFFIC SIGNAL BOX	EA	5			
	SUP 7			TCI "AT WORK" PROJECT SIGNS	EA	20			
	SUP 8			POLICE OFFICER	HR	80			
	SUP 9			REMOVAL OF EXISTING ASPHALT SPEED HUMP	SF	400			
	SUP 10			REMOVAL OF SPEED HUMP, TYPE II MODULAR RUBBER CUSHION	EA	12			
	SUP 11			ADJUSTING METAL BEAM GUARD RAIL	LF	60			
	SUP 12			RAILROAD INSURANCE & PERMIT	LS	1			
	SUP 13			DOOR HANGERS	LS	1			
	SUP 14			PORTABLE CHANGEABLE MESSAGE SIGN (ELECTRONIC MESSAGE BOARD)	MO	12			

CITY OF SAN ANTONIO  
025 UNIT PRICING FORM

PROJECT NAME: FY 2017-2018 RECONSTRUCTION-RECLAMATION TASK ORDER CONTRACT - PACKAGE 6  
PROJECT NO. 23-01474-6

ALT. NO.	ITEM NO.	DESC. CODE	S.P. NO	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
	SUP 15			ADDITIONAL MOBILIZATION	EA	5			
						<b>Total CoSA Bid Amount:</b>			
	<b>SAWS WATER BID ITEMS</b>								
	826			SAWS VALVE BOX ADJUSTMENT	EA	125			
	826A			SAWS VALVE BOX LOCATE & ADJUSTMENT	EA	5			
	833			SAWS EXISTING METER & METER BOX RELOCATION	EA	10			
	833A			SAWS ADJUSTING EXISTING METER BOX	EA	150			
				<b>Subtotal SAWS Water Bid Amount:</b>					
	<b>SAWS SANITARY SEWER BID ITEMS</b>								
	851			SAWS ADJUSTING EXISTING MANHOLE	EA	100			
	851A			SAWS LOCATING & ADJUSTING EXISTING MANHOLE	EA	5			
	854A			SAWS ADJUSTING EXISTING SANITARY SEWER CLEANOUT	EA	5			
				<b>Subtotal SAWS Sanitary Sewer Bid Amount:</b>					
				<b>Total SAWS Bid Amount:</b>					
				<b>Total (CoSA + SAWS) Bid Amount:</b>					

\_\_\_\_\_ certifies that the unit prices shown on this complete computer print-out for all of the bid items and the alternates contained in this proposal are the unit prices intended and that its bid will be tabulated using these unit prices and no other information from this print-out.

\_\_\_\_\_ Acknowledged and agrees that the total bid amount shown will be read as its total bid and further agrees that the official total bid amount will be determined by multiplying the unit bid prices shown in this print-out by the respective estimated quantities shown in the proposal and then totaling all of the extended amounts. \_\_\_\_\_ agrees to the terms, conditions, and requirements of the bidder's bid proposal.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

**CITY OF SAN ANTONIO, TEXAS**

**GOVERNING SPECIFICATIONS, SPECIAL SPECIFICATIONS, SPECIAL  
PROVISIONS, AND SUPPLEMENTAL SPECIFICATIONS**  
FOR

**2017-2018 Reconstruction-Reclamation Task Order Contract Package 6**

All Standard Specifications and Special Specifications applicable to this project are identified as follows:

**CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION  
JUNE, 2008 AND SPECIAL PROVISIONS DATED MAY 2009, FEBRUARY 2010,  
JUNE 2010 and NOVEMBER 2013**

<u>ITEM</u>	<u>DESCRIPTION</u>
100	- MOBILIZATION
101	- PREPARING RIGHT-OF-WAY
103	- REMOVE CONCRETE
104	- STREET EXCAVATION
107	- EMBANKMENT
108	- LIME TREATED SUBGRADE
200	- FLEXIBLE BASE
202	- PRIME COAT
203	- TACK COAT
204	- SURFACE TREATMENTS
205	- HOT MIX ASPHALTIC CONCRETE PAVEMENT
209	- CONCRETE PAVEMENT
210	- ROLLING
220	- BLADING

- 230 - BASE AND PAVEMENT REPLACEMENT
- 234 - GEOGRID FOR BASE OR EMBANKMENT REINFORCEMENT
- 236 - FULL DEPTH RECLAMATION
- 300 - CONCRETE
- 301 - REINFORCING STEEL
- 302 - METAL FOR STRUCTURES
- 303 - WELDED WIRE FLAT SHEETS
- 307 - CONCRETE STRUCTURES
- 311 - CONCRETE SURFACE FINISH
- 407 - CONCRETE ENCASEMENT, CRADLES, SADDLES, AND COLLARS
- 500 - CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER
- 502 - CONCRETE SIDEWALKS
- 503 - ASPHALTIC CONCRETE, PORTLAND CEMENT CONCRETE, AND GRAVEL DRIVEWAYS
- 505 - CONCRETE RIPRAP
- 506 - CONCRETE RETAINING WALLS – COMBINATION TYPE
- 507 - CHAIN LINK WIRE FENCE
- 508 - RELOCATING WIRE FENCE
- 509 - METAL BEAM GUARD RAIL
- 510 - TIMBER GUARD POSTS
- 512 - ADJUSTING EXISTING MANHOLES AND VALVE BOXES
- 513 - REMOVING AND RELOCATION MAILBOXES
- 514 - PAINT AND PAINTING
- 515 - TOPSOIL

- 516 - SODDING
- 520 - HYDROMULCHING
- 522 - SIDEWALK PIPE RAILING
- 523 - ADJUSTING OF VEHICULAR AND PEDESTRIAN GATES
- 524 - CONCRETE STEPS
- 530 - BARRICADES, SIGNS, AND TRAFFIC HANDLING
- 531 - SIGNS
- 533 - CLEANING AND REMOVAL OF PAVEMENT MARKINGS AND MARKERS
- 535 - HOT APPLIED THERMOPLASTIC PAVEMENT MARKINGS
- 536 - PREFORMED PAVEMENT MARKINGS
- 537 - RAISED PAVEMENT MARKERS
- 540 - TEMPORARY EROSION, SEDIMENTATION AND WATER POLLUTION PREVENTION AND CONTROL
- 552 - REMOVING AND RELOCATING IRRIGATION SYSTEMS
- 556 - CAST IN PLACE DETECTABLE WARNING SURFACE TILES
- 1000 - WEB PORTAL

SAN ANTONIO WATER SYSTEM  
STANDARD SPECIFICATIONS FOR CONSTRUCTION

- 826 - VALVE BOX ADJUSTMENT
- 833 - EXISTING METER AND METER BOX RELOCATION
- 833A - ADJUSTING EXISTING METER BOX
- 851 - ADJUSTING EXISTING MANHOLE
- 854A - ADJUSTING EXISTING SEWER CLEANOUT

## SPECIAL PROVISIONS FOR CONSTRUCTION

- 100 - MOBILIZATION
- 101 - PREPARING RIGHT-OF-WAY
- 205 - HOT MIX ASPHALTIC CONCRETE PAVEMENT
- 230 - BASE AND PAVEMENT REPLACEMENT
- 502 - CONCRETE SIDEWALKS
- 503 - ASPHALTIC CONCRETE, PORTLAND CEMENT CONCRETE, AND GRAVEL DRIVEWAYS
- 505 - CONCRETE RIPRAP
- 513 - REMOVING & RELOCATING MAILBOXES
- 523 - ADJUSTING OF VEHICULAR AND PEDESTRIAN GATES
- 530 - BARRICADES, SIGNS AND TRAFFIC HANDLING
- 540 - TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION PREVENTION AND CONTROL
- 552 - REMOVING AND RELOCATING IRRIGATION SYSTEMS
- 556 - CAST IN PLACE DETECTABLE WARNING SURFACE TILES
- 804 - NEW TREE AND SHRUB PLANTING AND MAINTENANCE
- 851 - ADJUSTING EXISTING MANHOLE

## SUPPLEMENTAL SPECIFICATIONS FOR CONSTRUCTION

SUP 1 – REMOVING AND RELOCATION SIGN

SUP 2 – ELEVATED SIDEWALK

SUP 3 – SIDEWALK DRAIN BOX (1/2 INCH THICK)

SUP 4 – REMOVAL AND HAUL OFF OF EXISTING ROCK/MASONRY MAILBOX

SUP 5 – TREE REMOVAL (8' – 36' DIAMETER)

SUP 6 – ADJUSTING TRAFFIC SIGNAL BOX

SUP 7 – TCI “AT WORK” PROJECT SIGNS

SUP 8 – POLICE OFFICER

SUP 9 – REMOVAL OF EXISTING ASPHALT SPEED HUMP

SUP 10 – REMOVAL OF SPEED HUMP, TYPE II MODULAR RUBBER CUSHION

SUP 11 – ADJUSTING METAL BEAM GUARD FENCE

SUP 12 – RAILROAD INSURANCE & PERMIT

SUP 13 – DOOR HANGERS

SUP 14 – PORTABLE CHANGEABLE MESSAGE SIGN (ELECTRONIC MESSAGE BOARD)

SUP 15 – ADDITIONAL MOBILIZATION

SPECIAL SPECIFICATIONS FOR CONSTRUCTION

ITEM 250 – SEAL COAT

ITEM 798 – SPEED HUMPS TYPE III, ASPHALT CONCRETE CUSHION

ITEM 801 – PROTECTIVE FENCING

ITEM 802 – TREE PRUNING, SOIL AMENDING, AND FERTILIZATION

ITEM 826A – VALVE BOX LOCATE AND ADJUSTMENT

ITEM 851A – MANHOLE LOCATE AND ADJUSTMENT

SPECIAL DETAILS FOR CONSTRUCTION

TCI “AT WORK” PROJECT SIGN DETAIL

MANHOLE ENCASEMENT DETAIL

COSA TREE PROTECTION DETAILS

COSA SPEED HUMP TYPE III, ASPHALT CONCRETE CUSHION DETAILS

COSA ELEVATED SIDEWALK AND RETARD STANDARDS DETAILS

COSA MISCELLANEOUS CONSTRUCTION STANDARDS I

COSA MISCELLANEOUS CONSTRUCTION STANDARDS II

COSA SW3P STANDARDS I

COSA SW3P STANDARDS II

COSA CONCRETE BUS PAD STANDARD

COSA CONCRETE DRIVEWAY STANDARDS

COSA BARRICADE AND CONSTRUCTION STANDARDS

COSA WHEELCHAIR RAMP STANDARDS

TXDOT PEDESTRIAN FACILITIES – CURB RAMPS

TXDOT PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) BC (6)-13

SPECIAL NOTES FOR CONSTRUCTION

GENERAL NOTES FOR RECLAMATION & RECONSTRUCTION PROJECTS

## SPECIAL PROVISION

### Item 100 Mobilization

Delete:

**Section 100.2 Measurement in its entirety**

**Section 100.3 Payment in its entirety**

**Section 100.4 Bid Item in its entirety**

Add:

**100.2 Measurement:**

Mobilization and Insurance/Bond will not be measured for payment for this contract.

**100.3 Payment:**

Payment will not be made for Mobilization and Insurance/Bond under this contract. Cost incurred for these items shall be considered subsidiary.

## SPECIAL PROVISION

### Item 101 Preparing Right-of-Way

Delete:

**Section 101.5 Measurement in its entirety**

**Section 101.6 Payment in its entirety**

**Section 101.7 Bid Item in its entirety**

Add:

**101.5 Measurement:**

“Preparing Right-of-Way” will not be measured for payment for this contract.

**101.6 Payment:**

Payment will not be made for “Preparing Right-of-Way” under this contract. Cost incurred for these items shall be considered subsidiary.

## SPECIAL PROVISION

### Item 205 Hot Mix Asphaltic Concrete Pavement

Delete:

**Section 205.5 Measurement in its entirety**

**Section 205.6 Payment 1<sup>st</sup> paragraph**

**Section 205.7 Bid Item in its entirety**

Add:

**Section 205.4 Construction G. Placement 7. Acceptable mat ranges**

The thickness type used for Type D Asphalt for this Contract shall be 2.0" Compacted depth. Below are acceptable average ranges for 2.0" thick Type D:

Type D, 2.0" Compacted Depth

Shall be applied at 220 LBS/SY

Minimum Average Rate – 210 LBS/SY

Maximum Average Rate – 230 LBS/SY

**Section 205.5 Measurement:**

Hot Mix Asphaltic Concrete Pavement shall be measured by the tonnage, complete in place, as per the thickness specified by the plans, Engineer or Project Manager. Limits of payment for Type D will be from face of curb to face of curb. Pavement area shall not exceed the limits shown on the plans without written authorization. In the event the average rate for 2.0" Type D Asphalt falls below the approved ranges as stated in this provision, the newly laid asphalt will not be measured for payment and shall be removed and replaced at the contractor's expense. For situations where the contractor exceeds the maximum average rate for 2.0" Type D Asphalt, the excess asphalt will not be measured for payment.

**Section 205.6 Payment:**

The work performed and materials furnished, as described by this item and measured as provided in this provision, shall be paid for at the contract unit bid price per ton of "Hot Mix Asphaltic Concrete Pavement," which price shall be full compensation for furnishing and placing all materials, and for all labor, tools, equipment and incidentals necessary to complete the work. The prime and tack coat, when required, shall be paid under the provisions of Item Nos. 202 and 203, respectively.

Trial batches will not be paid for unless they are incorporated into pavement work approved by the Engineer or Project Manager.

Pay adjustment for ride quality, when required on the plans, will be determined in accordance with TxDOT Standard Specification Item 585, "Ride Quality for Pavement Surfaces."

As specified in the Measurement section of this provision, if the specified thickness is not achieved and falls below the average acceptable rate, the contractor will not be paid and will be required to remove and replace the entire area that did not fall within the acceptable range at his expense. Once the average rate is satisfactorily met, the contractor will be paid at the contract unit bid price per ton of "Hot Mix Asphaltic Concrete Pavement" for the successful surface course mat.

If the contractor exceeds the maximum average rate as specified in this provision for Type D at the depth specified, the amount laid over maximum average rate for the specified thickness will not be paid.

**Section 205.7 Bid Item:**

Item 205.4 – Hot Mix Asphaltic Pavement, Type D (2.0" Thick) – Per TON

## SPECIAL PROVISION

### Item 230 Base and Pavement Replacement

Delete:

**Section 230.5 Measurement in its entirety**

**Section 230.6 Payment in its entirety**

**Section 230.7 Bid Item in its entirety**

Add:

**Section 230.4 Construction G. Placement & Acceptable Base Repair Ranges**

If not indicated on the plans, the Engineer or Project Manager will make the determination on site what thickness is required for each base replacement. The thickness types used for Type B Base and Pavement Replacement for this Contract shall be either 6.0" or 12.0" Compacted depth as specified by the Engineer or Project Manager. Below are acceptable average ranges for 6.0" and 12.0" thick Type B asphalt base replacement layers:

**6.0" Compacted Depth (Type B)**

Shall be applied at 660 LBS/SY

Minimum Average Rate – 630 LBS/SY

Maximum Average Rate – 690 LBS/SY

**12.0" Compacted Depth (Type B)**

Shall be applied at 1320 LBS/SY

Minimum Average Rate – 1255 LBS/SY

Maximum Average Rate – 1385 LBS/SY

**Section 230.5 Measurement:**

Type B Hot Mix Asphaltic Concrete Pavement Base and Pavement Replacement shall be measured by the tonnage, complete in place, as per the thickness specified by the Engineer or Project Manager. Base replacement area shall not exceed the limits discussed and confirmed between the Contractor and Engineer or Project Manager. In the event the average rate for a 6.0" Type B Asphalt base replacement falls below the approved minimum rate as stated in this provision, measurement will not be taken and the Contractor will be required to remove and replace at his expense to meet the acceptable base replacement range for 6.0". For situations where the contractor exceeds the maximum average rate for 6.0" or 12.0" Type B Asphalt for base replacement, the excess asphalt will not be measured for payment.

**Section 230.6 Payment:**

The work performed and materials furnished, as described by this item and measured as provided in this provision, shall be paid for at the contract unit bid price per ton of "Base and Pavement Replacement. This price shall be full compensation for scarifying, removing objectionable or unstable material; furnishing and placing all materials; maintaining completed

section before surfacing; applying tack or prime coat; hauling, sprinkling, spreading and compacting; and for all labor, tools, equipment and incidentals necessary to complete the work.

As specified in the Measurement section of this provision, if the specified thickness for a 6.0" base replacement falls below the average acceptable rate, the contractor will not be paid and will be required to remove and replace the entire area that did not fall within the acceptable range at his expense. Once the average rate for 6.0" is satisfactorily met, the contractor will be paid at the contract unit bid price per ton of "Hot Mix Asphaltic Concrete Pavement" for the successful base course mat.

If the contractor exceeds the maximum average rate as specified in this provision for 6.0" or 12.0" Type B asphalt base replacement, the amount laid over maximum average rate for the specified thickness will not be paid.

**Section 230.7 Bid Item:**

Item 230.3A – Replacing Base and Pavement with Type B Pavement (6.0" Thick) – Per TON

Item 230.3B – Replacing Base and Pavement with Type B Pavement (12.0" Thick) – Per TON

## SPECIAL PROVISION

### Item 502 Concrete Sidewalks

For this project, Item 502 "Concrete Sidewalks" of the Standard Specifications is hereby amended with respect to the clauses cited below, and no other clauses or requirements on the Item are waived or changed hereby.

**Article 502.4. Construction F. Joints.** This paragraph is void and replaced with the following:

Unless otherwise specified on plans or as agreed to by the Engineer, tooled joints with rounded edges will be placed at intervals equal to the sidewalk width and will be opened with one-half inch ( $\frac{1}{2}$ " ) radius by one and one-half inch ( $1 \frac{1}{2}$ " ) depth and closed by one-half inch ( $\frac{1}{2}$ " ) radius by one-inch (1" ) depth.

1. **Expansion Joints.** Provide sidewalk sections separated by pre-molded or board joint  $\frac{1}{2}$  inch thick, or as shown on the plans, in lengths greater than 8 feet but less than 50 feet, unless otherwise directed. Terminate workday production at an expansion joint. Expansion joint material shall also be placed where the new construction abuts the existing curbs or driveway if the Engineer deems it necessary. The expansion joint material shall be placed vertically and shall extend the full depth and width of the concrete.
2. **Expansion Joint Dowels.** Unless otherwise shown on the plans, a minimum of two (2) round smooth dowel bars  $\frac{3}{8}$  inch in diameter and 18 inches in length shall be spaced 18 inches apart at each expansion joint. Nine inches (9") of each dowel shall be thoroughly coated with hot oil asphalt or greased, so that it will not bond to the concrete. Approved types of slip joints may be used in lieu of coating ends of dowels.
3. **Transverse Joints.** Sidewalks shall be marked with transverse "dummy" joints as shown on detail sheets, by the use of City approved jointing tools.

**Article 502.4. Construction G. Curb Ramps.** This paragraph is void and replaced with the following:

Curb ramps must include a detectable warning surface and conform to the details shown on the plans. Confirm that abrupt changes in sidewalk elevation do not exceed  $\frac{1}{4}$  inch, sidewalk cross slope does not exceed 2%, curb ramp grade does not exceed 8.3%, and flares adjacent to the ramp do not exceed 10% slope.

Construct curb ramp to include the following provisions (no separate pay):

- Construct detectable warning surface with truncated domes conforming to the City of San Antonio Wheelchair Ramp Standards sheet.

- Remove existing flatwork in accordance with the specification for Item 103, except measurement and payment. Flatwork is defined as concrete curb, sidewalk, driveway, retaining wall, and miscellaneous concrete.
- Construct new curb in accordance with the specification for Item 500, except measurement and payment.
- Construct concrete retaining wall (combination type), up to a maximum height of 6 inches, in accordance with the specification for Item 506, except measurement and payment.
- Adjust or relocate existing signs as directed.
- Contractor shall not leave the ramp unattended more than 1 day.
- Concrete work shall be maintained free from graffiti of any kind.
- Relocate irrigation systems in accordance with the specification for Item 552, except measurement and payment.
- Contractor shall deliver flyers at least 2 days in advance.
- Relocate landscape as directed.
- Avoid damage to the property of others. Contractor will be held liable for damage.

**Article 502.5. Measurement.** This article is void and replaced with the following:

Sidewalks will be measured by the square yard of surface area at the depth specified.

Curb ramps will be measured by each unit. "Each unit" will consist of one curb ramp of the type specified in the plan, removal of existing curb and flatwork, one landing and up to two wings, one detectable warning surface, new curb up to 24 feet in length, concrete retaining wall (combination type up to 6" in height), concrete surfaces up to a maximum of 13 square yards, sign adjustment or relocation, irrigation relocation, landscape relocation, and graffiti removal. Type I and Type III as per City of San Antonio Wheelchair Ramp Standards shall be measured as 2 EA of this item.

**Article 502.6. Payment.** This article is void and replaced with the following:

For Sidewalks – 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 square yard for "Concrete Sidewalks – Conventionally Formed". The price is full compensation for

surface preparation of base; materials; excavation, hauling and disposal of excavated material; drilling and doweling into existing concrete curb, sidewalk and pavement; repair of adjacent street or pavement structure damaged by these operations; and equipment, labor, tools and incidentals.

For Curb Ramps – 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 “Curb Ramps”. This price is full compensation for removal and disposal of existing concrete; surface preparation of base; materials, excavation, hauling and disposal of excavated material; drilling and doweling into existing concrete curb, sidewalk and pavement; repair of adjacent street or pavement structure damaged by these operations; and equipment, labor, tools and incidentals. Concrete surface for a curb ramp exceeding 13 SY will be paid as Concrete Sidewalk per square yard. New concrete installation for a curb ramp exceeding 24 feet in length will be paid as Curb Item 500.

**Article 502.7. Bid Item.** This article is void and replaced with the following:

Item 502.1 – Concrete Sidewalks – Conventionally Formed – per SY

Item 502.1A – Curb Ramps - EA

## SPECIAL PROVISION

### Item 503 Asphaltic Concrete, Portland Cement Concrete and Gravel Driveways

Delete in its entirety:

#### **Section 503.6 Payment**

Add:

#### **Section 503.6 Payment:**

The work performed as prescribed by this item will be paid for at the contract unit price bid per square yard for "Portland Cement Concrete Driveway", Portland Cement Concrete Driveway – Commercial", "Asphaltic Concrete Driveway", or "Gravel Driveway", which price shall be full compensation for preparing the subgrade, for furnishing and placing all materials, manipulations, labor, tools, equipment and incidentals necessary to complete the work.

## SPECIAL PROVISION

### Item 505 Concrete Riprap

Delete in its entirety:

**Section 505.4.A Concrete Reinforcement**

Add:

**Section 505.4.A Concrete Reinforcement:**

Unless otherwise shown on the plans, reinforce concrete riprap with 6 x 6 – W6 x W6 welded wire fabric or with No. 4 reinforcing bars spaced at a maximum of 18 in. in each direction unless otherwise shown. A combination of welded wire fabric and reinforcing bars may be provided when both are permitted. Provide a minimum 6-in. lap at all splices. At the edge of the riprap, provide a minimum horizontal cover of 1 in. and a maximum cover of 3 in. Place the first parallel bar no more than 6 in. from the edge of concrete. Use approved supports to hold the reinforcement approximately equidistant from the top and bottom surface of the slab. Adjust reinforcement during concrete placement to maintain correct position. Reinforcement protruding from existing riprap shall be thoroughly cleaned.

## SPECIAL PROVISION

### ITEM 513 Removing and Relocating Mailboxes

- Delete Item 513.4 Construction
- Delete Item 513.5 Measurement
- Delete Item 513.6 Payment
- Delete Item 513.7 Bid Item

**Add:**

**Item 513.4 Construction:**

Mail boxes and any supporting posts shall be removed from their present location, installed in a temporary, serviceable location or locations during construction and replaced in a permanent location as shown on the plans. Contractor shall install temporary mailbox for each property during construction so mail delivery is undisturbed. Contractor may use existing mailbox or provide another temporary, secure mailbox for continuous delivery. Any supporting posts found to be set in concrete at the time of their removal shall be reset in the permanent location in concrete. As a minimum, each individual mailbox shall be set on a 4 inch x 4 inch wood post, equal or better than the original, at the location and to the height shown on the plans. Relocate mailbox assemblies at the discretion of the Engineer or Project Manager to permanent locations upon completion of construction work. In the event mailbox is considered unsatisfactory, or out of ADA or US Postal Service requirements, Contractor shall install new mailbox and post as shown in the plans and specifications.

All rock/masonry mailboxes shall be removed from the project site and replaced with the decorative mailbox specified in the plans. Contractor to install decorative mailbox and post combination with style name Gibraltar and Model #PED000B.

Temporary community boxes may be required in lieu of temporarily relocating existing mailboxes. Community boxes will be installed by the US Postal Service on concrete slabs installed by the Contractor as part of this contract. Contractor shall install temporary concrete pads at locations and dimensions as shown on the plans, or as directed by the Engineer, Project Manager, or Inspector. Contractor shall remove concrete slabs upon completion of the project after mail delivery has been switched back to permanent mailboxes. If the contractor chooses to install a community mailbox slab in lieu of providing temporary mailboxes, they shall provide the Engineer or City Project Manager at least one (1) months advanced notice so coordination can be completed with the US Postal Service.

Existing ornamental mailboxes may be reinstalled if they meet ADA and US Postal Service requirements. Contractor shall secure ornamental mailbox to prevent damage during construction operations. The Engineer or Project Manager will dictate if the existing ornamental mailbox meets requirements or if it shall be replaced.

Maintain mailbox assemblies in a serviceable condition while in their temporary locations. The Contractor is not responsible for damage to the mailbox not of their causing while in the temporary locations. Any damage to the mail boxes, posts, supporting members, braces etc. caused by negligence of the Contractor shall be remedied by the Contractor at his expense. All such repairs shall be made in such a manner so as to insure the unit to be in as good as, or better condition than it was originally. Any such repairs shall be subject to approval by the Engineer.

**Section 513.5 Measurement:**

- A. Removing and Relocating Mail Boxes.** "Removing and Relocating Mail Boxes" will be measured by the number of mail boxes so removed and relocated, or replaced.
- B. Community Mailbox Slabs.** Concrete slabs for community mail boxes will be measured by the square yard, complete and in place, to include removal at job completion.
- C. Decorative Mailbox.** Decorative mailboxes will be measured by the number of decorative mailboxes installed. Removal of rock/masonry mailboxes to be measured under Supplemental Specification 4.

**Section 513.6 Payment:**

- A. Removing and Relocating Mail Boxes.** The work performed as prescribed by this item will be paid for at the contract unit price bid, per mail box, for "Removing and Relocating Mail Boxes" which price shall be full compensation for removing mail boxes from their present position, temporary relocation in a serviceable position, and relocation or replacement to permanent designated location, for resetting in concrete if required, for furnishing all materials, labor, tools, equipment and incidentals necessary to complete the work.
- B. Community Mailbox Slabs.** Work performed as prescribed by this item will be paid for at the contract unit price bid per square yard of Item 502.1 "Concrete Sidewalks," which price shall be full compensation for the construction and removal of the concrete slab(s), materials including reinforcing, labor, tools, equipment and incidentals necessary to complete the work.
- C. Decorative Mailbox.** Work performed as prescribed by this item will be paid for at the contract unit price bid, per decorative mail box installed, which price shall be full compensation for furnishing all materials, installation, for setting on a concrete foundation if required, labor, tools, equipment and incidentals necessary to complete the work. Removal and haul off of existing rock/masonry mailbox to be paid under SUP Item 4.

**Section 513.7 Bid Item:**

Item 513.1 – Removing and Relocating Mail Boxes – per Each (EA)

Item 513.1A – Decorative Mailbox (Gibraltar, #PED0000B) – per each (EA)



Gibraltar, Model# PED0000B

## SPECIAL PROVISION

### Item 523 Adjusting of Vehicular & Pedestrian Gates

Delete in its entirety:

#### **Item 523 Adjusting of Vehicular & Pedestrian Gates**

Add:

**523.1. DESCRIPTION:** This item shall govern for the adjustment of manual or motorized, chain link or wrought iron, vehicular or pedestrian gates made necessary by the construction of new driveways or sidewalk entrances.

**523.2. MATERIALS:** Additional materials needed to perform chain link fences gate adjustments shall conform to those specified in Item 507, "Chain Link Wire Fence". Materials used to adjust wrought iron gates shall be of the same type of material and configuration as the existing gate including any masonry. A combination of new and existing materials may be used if approved by the Engineer and property owner.

**523.3. EQUIPMENT:** Provide the machinery, tools and equipment necessary for proper prosecution of the work. All machinery, tools and equipment used shall be maintained in a satisfactory and workmanlike manner.

**523.4. CONSTRUCTION:** Approval from the property owner and Engineer shall be obtained by the Contractor in order to perform the necessary work required. The Contractor shall adjust gates vertically and or relocated gates horizontally by removing the existing gate from the gate posts and relocating and/or replacing (if necessary) the existing hinges, sliding mechanism, or rollers at a level such that the gate shall be provided with the necessary clearance to operate properly. Contractor shall coordinated extent of adjustments to be made with the property owner and Engineer prior to commencing any gate adjustments. Contractor shall notify property owner or tenant 48 hours in advance of any gate adjustments.

All fabric, posts, braces, gates, fittings, bolts, tension wire, tracks, wheels, rollers, operating mechanism, electrical service, wiring and miscellaneous hardware shall be carefully removed in such a manner that they will not be marred or damaged. After removal of the existing gate has been complete, any material deemed not useable shall be replaced by the Contractor with new material of the same design and quality as the existing material. A new gate constructed of the same type of material and configuration as the existing gate may be installed if so desired by the Contractor. All fences and gates shall be cut and welded by a qualified welder.

If necessary, the existing fence may be extended, reinforced, or offset in a manner that will not detract from the decorative appeal of the fence. All extensions and offsets of existing fences and gates shall be approved by the property owner.

All gates adjusted vertically shall be extended vertically so that the height of the gate will match existing fence height. Gates that are adjusted vertically shall be provided with a concrete channel for track, gate, sliding mechanism as detailed on plans or as approved by the Engineer and property owner.

All welding will be performed in a workman-like manner with solid joints of minimum protrusion. The adjusted gate will be constructed in such a manner to have minimal flexure.

Any excessive splatter of the weld will be ground off. Existing wrought iron fences and gates will be cleaned and any surface imperfections, any rust and paint will be removed completely. All surfaces of the existing gates will be roughened to accept a new coat of paint. All newly added areas will be completely primed and painted to match existing paint. A second coat will be required to cover any holidays or spots of insufficient coverage. The existing fence and gate will be spot primed in areas where surface imperfections or rust have been removed.

Painting will be by hand or spray. Areas to be painted shall be primed in accordance with paint manufacturer's recommendations. Two coats of paint shall be applied to the existing fence and gate and all newly added parts. The final surface will be of even color without streaks, drips bubbles, or any other surface imperfection. Paint used shall match existing paint in color and texture. **Color shall be approved in writing by the property owner.**

**523.5 MEASUREMENT:** Vehicular and pedestrian gates will be measured for each driveway or sidewalk entrance and/or exit of each type that is adjusted. Additional fencing that may be required for relocation or adjustment of gates will be subsidiary to gate adjustments or gate relocation and will not be measured as a separate pay item.

**523.6 PAYMENT:** The work performed and the materials furnished as prescribed by this item will be paid for at the bid price per gate for "Adjusting of Vehicular & Pedestrian Gates," which price shall be full compensation for removing and installing the existing gate and for furnishing all additional materials, all labor, tools, equipment and incidentals necessary to complete the work.

**523.7 Bid Item:**

- Item 523.1 – Adjusting Chain Link Vehicular Gate – Each
- Item 523.2 – Adjusting Chain Link Vehicular Gate (Motorized) - Each
- Item 523.3 – Adjusting Chain Link Pedestrian Gate – Each
- Item 523.4 – Adjusting Wrought Iron Vehicular Gate – Each
- Item 523.5 – Adjusting Wrought Iron Vehicular Gate (Motorized) - Each
- Item 523.6 – Adjusting Wrought Iron Pedestrian Gate – Each

## SPECIAL PROVISION

### Item 530 Barricades, Signs & Traffic Handling

Delete:

**Section 530.5 Measurement in its entirety**

**Section 530.6 Payment in its entirety**

**Section 530.7 Bid Item in its entirety**

Add:

**530.5 Measurement:**

Barricades, Signs, & Traffic Handling will not be measured for payment for this contract. It is the contractor's sole responsibility to provide and implement an Engineered Traffic Control Plan at no cost to the City.

**530.6 Payment:**

Payment will not be made for "Barricades, Signs & Traffic Handling" under this contract. Cost incurred for these items shall be considered subsidiary.

## SPECIAL PROVISION

### Item 540 Temporary Erosion, Sedimentation & Water Pollution Prevention and Control

Delete:

**Section 540.5 Measurement in its entirety**

**Section 540.6 Payment in its entirety**

**Section 540.7 Bid Item in its entirety**

Add:

**540.5 Measurement:**

It is the contractor's sole responsibility to implement temporary erosion, sedimentation and water pollution prevention and control measures whether it is provided or not. The prevention measures shall prevent soil erosion, sedimentation and water pollution which may degrade receiving water. The Engineer reserves the right to employ outside assistance or to use City forces to provide the necessary corrective measures. All costs including engineering costs will be deducted from any moneys due or to become due to the Contractor.

The following items under Item 540 will be measured for payment under this contract:

- Item 540.1 – Rock Filter Dams (Install/Remove) by the linear foot along the centerline of the top of the dam. Measurement includes installation and removal.
- Item 540.10 – Curb Inlet Gravel Filters by the linear foot, as measured on the centerline of the gravel bags installed.

All other Temporary Erosion, Sedimentation and Water Pollution Prevention and Control measures required for construction completion will not be measured for payment for this contract.

**540.6 Payment:**

Payment will be made for the following items under Item 540:

- Rock Filter Dams – 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 as follows:
  - o Installation/Removal – Installation/Removal will be paid for as “Rock Filter Dams (Install/Remove)” of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools and incidentals necessary to complete the work.
- Curb Inlet Gravel Filters – The work performed and the materials furnished as specified herein, measured as provided under “Measurement” will be paid for at the unit price bid per linear foot for “Curb Inlet Gravel Filter,” which payment shall be full compensation for furnishing all materials, labor, tools, equipment and incidentals necessary to complete the work as specified, including maintaining and replacing the gravel bags as required by these specifications, removal of accumulated silt, and

removal and proper disposal of the "Curb Inlet Gravel Filter" upon completion of site stabilization.

For all other measures under Item 540 required for completion of construction, payment will not be made under this contract. Cost incurred for these items shall be considered subsidiary.

**540.7 Bid Item:**

Item 540.1A – Rock Filter Dams (Install/Remove) Type 2 – per linear foot (LF)

Item 540.1B – Rock Filter Dams (Sack Gabions) (Install/Remove) Type 4 – per linear foot (LF)

Item 540.10 – Curb Inlet Gravel Filters – per linear foot (LF)

## SPECIAL PROVISION

### Item 552 Removing and Relocating Irrigation Systems

Delete in its entirety:

**Section 552.5 Measurement**

**Section 552.6 Payment**

**Section 552.7 Bid Item**

Add:

**Section 552.5 Measurement:**

Irrigation systems outside the scope of work for Curb Ramps as outlined in Special Provision 502 Concrete Sidewalks will be measured per linear foot completed in place. Payment for removing and relocating irrigation systems must be approved by Project Manager or Engineer. Irrigation systems that fall within the scope of work for Curb Ramps as outlined in Special Provision 502 Concrete Sidewalks, will not be measured for payment directly, but will be included in Item 502.1A Curb Ramps.

**Section 552.6 Payment:**

The work performed as prescribed by this item that is outside the scope of work for Curb Ramps outlined in Special Provision 502 Concrete Sidewalks will be paid for at the contract unit price bid, per linear foot for “removing and relocating irrigation systems” which price shall be full compensation for removing irrigation systems from their present location and relocation to permanent location as shown on the plans or as directed by the engineer, for furnishing all materials, labor, tools, equipment and incidentals necessary to complete the work.

**Section 552.7 Bid Item:**

Item 552.1 – Removing and Relocating Irrigation Systems – per linear foot (LF)

## SPECIAL PROVISION

### Item 556 Cast In Place Detectable Warning Surface Tiles

Delete in its entirety:

**Section 556.5 Measurement**

**Section 556.6 Payment**

**Section 556.7 Bid Item**

Add:

**Section 556.5 Measurement:**

Cast in Place Detectable Warning Surface Tiles will be measured by the unit of each surface tile installed that is outside the scope of a standard curb ramp as defined in the Special Provision for Item 502 Concrete Sidewalks. For curb ramps that include a single surface tile, or for Type I or III Ramps, payment for the surface tile will be covered by the Special Provision to Item 502 Concrete Sidewalks. The Special Provision to Item 556 covers payment for landings that require multiple surface tiles along a single radius. Payment for this instance must be approved by the Project Manager or Engineer.

**Section 556.6 Payment:**

The work performed as prescribed by this item will be paid for at the contract unit price bid, per surface tile, for "Cast In Place Detectable Warning Surface Tiles" which price shall be full compensation for furnishing and placing all materials, manipulation, labor, tools, equipment and incidentals necessary to complete the work.

**Section 556.7 Bid Item:**

Item 556.1 – Cast In Place Detectable Warning Surface Tile – per Each (EA)

## SPECIAL PROVISION

### Item 804 New Tree and Shrub Planting and Maintenance

General:

**None**

Add:

**Item 804** – New Tree & Shrub Planting and Maintenance Specifications (dated November 2013) in its entirety.

**ITEM**

**804 New Tree & Shrub Planting and Maintenance**

**804.1 DESCRIPTION:** *This item shall govern the procedure for selecting planting and maintaining trees and other vegetation to be used as enhancements or for mitigation on a construction project*

**804.2 SELECTION OF TREES:**

- A. Size-grading of trees is in accordance with the Texas Association of Nurseryman Grades and Standards. Following is a summary (caliper is measured by a "slot" type caliper, "pincer" type caliper or a diameter tape):
- B. For Shade trees caliper takes precedence. Caliper is measured at 6 inches above soil level in the pot ground for trees up to and including 4 inch caliper size, and 12 inches above the ground for larger trees
- C. For flowering trees, height takes precedence for trees up to 6 feet in height and then caliper
- D. Trees will be a minimum of 2 inch caliper and/or 6 feet in height unless specified.
- E. Trees will be straight, single trunked unless specified or approved.
- F. Trees will be containerized/boxed /balled and burlaped/b&b
- G. No species substitution unless authorized
- H. Trees will be free of insect and diseases with a well-developed rootball no girdling roots
- I. For palm trees, measurement will be by overall height or trunk height and will specify to species or to type; palmate or pinnate
  - If a tree transplant or ball and burlap is approved or specified, it must have been grown out in a nursery for at least 2 growing seasons and ball size must comply with ANSI

**804.3 PLANTING:**

- A. Excavate pits, beds and trenches with vertical sides and with bottom of excavation slightly raised at center to provide proper drainage
- B. Depth of the excavated area is to be the same as the length of the root ball so that the top of the root flare is at the ground surface level. Minimum depths shall be measured from finished grade
- C. Width of excavation must be a minimum of 3 times the diameter of the root ball.
- D. Loosen hard subsoil in bottom of excavation
- E. Fill excavation for tree/plant with water and allow it to percolate out before planting.
- F. Use excavated parent soil material in the backfill mixture at a ratio of 70:30 with the soil amendment as specified in item 802. Particle size of backfill material must be less than 4 inch diameter

- G. Saturate with water when the pit or bed is half full of backfill and again when full.
- H. Cover excavation area with mulch as specified in item 802
- I. Water to prevent soil from dying out
- J. Plants will be rejected if the ball of earth surrounding roots has been disturbed or damaged prior to or during installation. Replacement tree/plant to be of equal or better quality
- K. Control growth of weeds. Apply a glyphosate type (Round-up 41%) herbicide in the excavated area in accordance with manufacture's label instructions

**804.4 QUALITY ASSURANCE:**

- A. All tree installation work shall be performed by a single firm specializing in tree transplanting work, with a minimum of 3 years experience in the acceptable performance of similar work to that specified. The firm performing the work shall have the following minimum certifications.
- B. Texas Nurseryman & Landscape Association (TNLA) certification
- C. Be licensed for application and use of pesticides
- D. Meet state requirements for insurance
- E. Must be bonded

**804.5 TREE MAINTENANCE POST TRANSPLATATION:**

**WATERING THE TREE:**

- A. The key to newly planted tree survival is providing adequate water
- B. Contractor shall water the newly planted trees weekly until the end of the one-year warranty. Contractor shall provide a schedule and method of watering the trees to the City for the project
- C. Initially, a newly planted tree needs to be properly watered with an adequate amount to pack the soil, to remove root-drying air and to moisten the root ball.
- D. On adequately draining soils, 5 gallons of initial water should be enough.
- E. Fast draining soils may need more frequent watering than a slow draining soil.
- F. Critical period to provide adequate water during the annual growing season, between late spring and autumn
- G. Use of Gatorbags is acceptable method of irrigation. Follow prescribed irrigation schedule for proper establishment

**804.6 MULCHING THE TREE:**

- A. Mulching a newly planted tree ensures that moisture is available to roots over time and reduces grass competition
- B. Good mulch (organic materials like leaves, bark, needles and fine wood chips) should ring the tree base (over the critical root zone) but never touch the trunk of the tree. Use local/native hardwood mulch. No fertilizer is necessary when quality composted mulch is used
- C. Maintain the mulch level with no more than 4 inches of material over the roots; mulch should not touch the trunk of the tree. A 3' to 6' minimum radius of mulch should be placed around the tree (the wider the better)

**804.7 STAKING THE TREE:**

- A. Not all newly planted trees need staking to remain standing straight. Stake only if the root ball is unstable or the tree trunk is bending. Use only loosely-tied wide straps (recommend use of 'Chain-Lock' staking system) and limit the number of straps to a minimum for support
- B. Use tree stakes only when needed. Every tree does not require automatic staking.
- C. Inspect all stakes and straps during spring and autumn for loose fit and alter to prevent trunk damage. All straps should be removed after the first or second year

**804.8 INSPECTING TREE HEALTH:**

- A. Checking a tree's health should be done by a certified arborist, a Landscape Architect or registered Landscape Professional an expert. Things that can be done to alert of tree health problems
- B. When inspecting a tree consider the following:
- C. Is the current year's growth much less than past years' growth? Although fast growth does not necessarily mean good health, a dramatic reduction in growth rate may be an indication of poor health
- D. Are there dead limbs, odd colors on leaves and bark or a patchy canopy. These tree symptoms can be the first indicators that a tree is unhealthy and should be inspected in detail
- E. Remember that planting a healthy tree in the beginning is the best way to assure its future health

**804.9 PRUNING THE TREE:**

- A. Prune only critical branches that are either dead or broken after planting. Remove multiple leaders to leave only one central stem. (may be best to postpone pruning to avoid transplanting shock due to loss of leaves)
- B. Prune only critical branches and/or eliminate extra leaders in the tree's first year. Prune lightly in Year 2 or 3

**804.10 REPLACEMENT:**

- A. Any dead trees or shrubs during the warranty period shall be replaced by the contractor at no cost to the city
- B. At the end of the one-year warranty, any tree or shrub that is not in good condition as determined by the city arborist and project manager shall be replaced by the contractor at no cost to the city

**804.11 MEASUREMENT:**

Tree installations will be measured by the number and size of trees/plants (cost should include installation, warranty, mulch, irrigation/gatorbags, monitoring/treatments as needed, staking, etc.)

**804.12 PAYMENT:**

Payment shall be made per each of the type and size of tree specified on the bid proposal

**804.13 BID ITEM:**

Item 804 – New Tree & Shrub Planting and Maintenance

## SPECIAL PROVISION

### Item 851 Adjusting Existing Manholes

For this project, Item 851 "Adjusting Existing Manholes" of the Standard Specifications is hereby amended with respect to the clauses cited below, and no other clauses or requirements on the Item are waived or changed hereby.

**Article 851.3. Construction.** The following items are added:

Contractor shall furnish and install a 5' x 5' x 1" thick steel plate over concrete collars at the discretion of the City inspector or Project Manager until concrete has reached its ultimate strength. Steel plate shall not be removed until concrete collar around the manhole has reached its ultimate strength.

**Article 851.4. Measurement.** The following items are added:

The furnishing and installation of 5' x 5' x 1" steel plates will not be measured for payment.

**Article 851.5. Payment.**

The following items shall be deleted:

Entire paragraph regarding payment information

The following items are added:

The work performed as prescribed by this item will be paid for at the contract unit price bid per manhole for "Adjusting Existing Manholes," which price shall be full compensation for all excavation, including saw cutting of surfaces as required, reinforced concrete and disposal of material excavated, 5' x 5' x 1" thick steel plate; for furnishing and placing all materials and for all labor, tools, equipment and incidentals necessary to complete the work.

# SUPPLEMENTAL SPECIFICATION 1

## Removing and Relocating Sign

**SUP 1.1 DESCRIPTION:** Remove and Relocate signs that are in conflict with proposed improvements.

**SUP 1.2 MATERIALS:** N/A

**SUP 1.3 EQUIPMENT:** Provide equipment necessary to conduct the work specified herein or as directed by the Engineer.

**SUP 1.4 CONSTRUCTION:** Perform all work in conformance with this section unless otherwise shown on the plans. Remove and relocate signs in situations where the proposed improvements are in conflict with the sign.

All signs removed shall be relocated directly near the existing location of the sign outside of the proposed improvements. In situations where there is not sufficient right-of-way to install a sign behind the improvements, the sign must be placed in the proposed sidewalk path and must follow all City and ADA requirements for height clearances and minimum sidewalk widths. Signs that control traffic movement that are removed must be temporarily relocated near the same location to prevent impacting traffic movements. Said signs must be relocated near original location after improvements are in place.

**SUP 1.5 MEASUREMENT:** The sign removed and relocated, as prescribed above, will be measured by the unit of each sign. The excavation, concrete and fill necessary to fill the excavated area, if required, will not be measured for payment. Temporary relocation of signs that control traffic movement will not be measured for payment.

**SUP 1.6 PAYMENT:** The work performed as prescribed by this item will be paid for at the contract unit price bid per sign for "Removing and Relocating Sign" which price shall be full compensation for all excavation, disposal of material excavated, temporary relocation of sign, storage and protection of sign removed until relocation takes place; required concrete and fill necessary to fill the area excavated; for furnishing and placing all materials and for all labor, tools, equipment and incidentals necessary to complete the work.

**BID ITEM:**

SUP 1 – Removing and Relocating Sign – per Each (EA)

## SUPPLEMENTAL SPECIFICATION 2

### Elevated Sidewalk

**SUP 2.1 DESCRIPTION:** Construct elevated sidewalk in accordance with the design plans.

**SUP 2.2 MATERIALS:** Furnish materials conforming to the following:

- A. Hydraulic Cement Concrete:** Item 300, "Concrete." Use Class "A" concrete or other concrete as specified. Use Grade 8 course aggregate for extruded Class A concrete. Use other grades if approved by the Engineer.
- B. Reinforcing Steel:** Item 301, "Reinforcing Steel."
- C. Membrane Curing Compound:** Item 305, "Membrane Curing."
- D. Concrete Structures:** Item 307, "Concrete Structures."

**SUP 2.3 EQUIPMENT:** Furnish equipment as required and/or in accordance with the pertinent Items.

**SUP 2.4 CONSTRUCTION:** Location of elevated sidewalk structure shall be indicated by plans or as directed by the Engineer.

- A. Removal of Existing Sidewalk.** If an existing sidewalk is present at the location of the proposed elevated sidewalk, remove existing sidewalk to the depths and limits shown on the plans or identified by the Engineer. All concrete sidewalks to be repaired shall be cut with a concrete saw or other equipment approved by the Engineer from existing sidewalks, driveways, or other concrete structures. If necessary, remove adjacent soil and vegetation to prevent contamination of the sidewalk area, and place it in a windrow or stockpile. Do not damage adjacent sidewalk or other structures during removal and reconstruction operations. Remove and dispose of existing concrete and other materials from the work area.
- B. Subgrade Preparation.** Shape and compact subgrade to the line, grade, and cross-section shown on the plans. Mechanically tamp and sprinkle foundation when placement is directly on subgrade.
- C. Sub-base Placement.** A cushion, 6 inch minimum thickness, of crusher screenings, gravel, crushed rock or flexible base material shall be spread, wetted thoroughly, tamped and leveled. The cushion shall be moist at the time the concrete is placed. Where the subgrade is rock or gravel, 70% of which is rock, the 6 inch cushion need not be used. The Engineer will determine if the subgrade meets the above requirements.

If the subgrade is undercut, or the natural ground is below "top of subgrade," the necessary backfill shall be made with an approved material and compacted with a mechanical tamper. Hand tamping will not be permitted.

The foundation shall be level and uniformly compacted to prevent future settlement.

- D. Reinforcement.** Concrete sidewalks shall be reinforced as shown in the plans. Concrete reinforcement for elevated sidewalks will consist of longitudinal and transverse reinforcing steel as shown on the detail sheet, "Elevated Sidewalk and Retard Standards."
- E. Joints.** Unless otherwise specified on plans or as agreed to by Engineer, tooled joints with rounded edges will be placed every six feet (6') and will be opened with one-half inch ( $\frac{1}{2}$ ") radius by one and one-half inch ( $1\frac{1}{2}$ ") depth and closed by one-half inch ( $\frac{1}{2}$ ") radius by one-inch (1") depth.
- 1. Transverse Joints.** Sidewalks shall be marked with transverse "dummy" joints as shown on detail sheets, by the use of City approved jointing tools.
- F. Concrete Placement.** Forms shall be of metal or wood and shall extend for the full depth of the concrete. All forms shall be free from warp and of sufficient strength to resist the pressure of the concrete without displacement. Bracing and staking of forms shall be such that the forms remain in both horizontal and vertical alignment until their removal. All forms shall be cleaned and coated with an approved form release agent or form oil before concrete is placed. Divider plates shall be of metal. Forms shall conform to the specified radius when placed on curves.
- G. Finish and Curing.** Provide finished work with a well-compacted mass, a surface free from voids and honeycomb, and the required true-to-line shape and grade. After finishing each portion of the sidewalk, the surface shall be textured with heavy broom finish. Within twenty minutes of broom finish, a curing compound shall be used to protect the sidewalk. The curing compound shall be of a high solid content, greater than thirty percent (+30%). All edges shall be tooled to have slight radius. Surface water retention is not acceptable. Concrete must be cured and protected from freezing temperatures for at least three (3) days.
- H. Backfilling.** Once elevated sidewalk has cured, sidewalk will need to be backfilled to a height determined by the Engineer with material approved by the Engineer. The top 4 inches of fill shall be tamped and sloped using clean topsoil. Heavy equipment must remain off elevated sidewalk and surrounding sidewalk at all times.

All necessary excavation for the elevated sidewalk section, will be considered incidental work pertaining to this item, and will not be paid for directly. The

adjacent excavation and grading of the slopes shall be done in a manner acceptable to the Engineer.

**SUP 2.5 MEASUREMENT:** Elevated sidewalks will be measured by the linear foot at the depth specified on the Elevated Sidewalk and Retard Standards detail sheet. The beams that serve as the foundation of the elevated sidewalk structure, retaining walls, and concrete flooring (6-inch depth) that are associated with the elevated sidewalk, will not be measured for payment directly, but shall be included in the cost of Elevated Sidewalk.

**SUP 2.6 PAYMENT:** The work performed and materials furnished with this item and measured as provided under "Measurement" will be paid for at the contract unit price bid per linear feet for "Elevated Sidewalk" which price shall be full compensation for surface preparation of base; materials; reinforcement; excavation, hauling and disposal of excavated material; drilling and doweling into existing concrete curb, sidewalk and pavement; repair of adjacent street or pavement structure damaged by these operations; and equipment, labor, materials, tools and incidentals necessary to complete the work.

**BID ITEM:**

SUP 2 – Elevated Sidewalk – per Linear Foot (LF)

## SUPPLEMENTAL SPECIFICATION 3

### Sidewalk Drain Box (1/2 inch thick)

**SUP 3.1 DESCRIPTION:** Construct sidewalk drain box in accordance with the design plans.

**SUP 3.2 MATERIALS:** Furnish materials conforming to the following:

- A. Hydraulic Cement Concrete:** Item 300, "Concrete." Use Class "A" concrete or other concrete as specified. Use Grade 8 course aggregate for extruded Class A concrete. Use other grades if approved by the Engineer.
- B. Reinforcing Steel:** Item 301, "Reinforcing Steel."
- C. Membrane Curing Compound:** Item 305, "Membrane Curing."
- D. Concrete Structures:** Item 307, "Concrete Structures."
- E. ¼" Thick Galvanized Steel Checkered Plate**

**SUP 3.3 EQUIPMENT:** Furnish equipment as required and/or in accordance with the pertinent items.

**SUP 3.4 CONSTRUCTION:** Location of sidewalk drain box shall be indicated by plans or as directed by the Engineer.

- A. Removal of Existing Sidewalk.** If an existing sidewalk is present at the location of the proposed sidewalk drain box, remove existing sidewalk to the depths and limits shown on the plans or identified by the Engineer. All concrete sidewalks to be repaired shall be cut with a concrete saw or other equipment approved by the Engineer from existing sidewalks, driveways, or other concrete structures. If necessary, remove adjacent soil and vegetation to prevent contamination of the sidewalk area, and place it in a windrow or stockpile. Do not damage adjacent sidewalk or other structures during removal and reconstruction operations. Remove and dispose of existing concrete and other materials from the work area.
- B. Subgrade Preparation.** Shape and compact subgrade to the line, grade, and cross-section shown on the plans. Mechanically tamp and sprinkle foundation when placement is directly on subgrade.
- C. Sub-base Placement.** A cushion, 4 inch minimum thickness, of crusher screenings, gravel, crushed rock or flexible base material shall be spread, wetted thoroughly, tamped and leveled. The cushion shall be moist at the time the concrete is placed. Where the subgrade is rock or gravel, 70% of which is rock, the 4 inch cushion need not be used. The Engineer will determine if the subgrade meets the above requirements.

The foundation shall be level and uniformly compacted to prevent future settlement.

- D. Reinforcement.** Concrete sidewalks shall be reinforced as shown in the plans. Concrete reinforcement for the concrete foundation of the sidewalk drain box can be found on the detail sheet titled, "Miscellaneous Construction Standards 1."
- E. Joints.** Unless otherwise specified on plans or as agreed to by Engineer, tooled joints with rounded edges will be placed every six feet (6') and will be opened with one-half inch ( $\frac{1}{2}$ " ) radius by one and one-half inch ( $1\frac{1}{2}$ " ) depth and closed by one-half inch ( $\frac{1}{2}$ " ) radius by one-inch (1" ) depth.
  - 1. Expansion Joints.** Provide sidewalk sections separated by pre-molded or board joint  $\frac{1}{2}$  inch thick or as shown on the plans, on each side of the sidewalk drain unless otherwise directed. The expansion joint material shall be placed vertically and shall extend the full depth and width of the concrete.
- F. Concrete Placement.** Forms shall be of metal or wood and shall extend for the full depth of the concrete. All forms shall be free from warp and of sufficient strength to resist the pressure of the concrete without displacement. Bracing and staking of forms shall be such that the forms remain in both horizontal and vertical alignment until their removal. All forms shall be cleaned and coated with an approved form release agent or form oil before concrete is placed. Divider plates shall be of metal. Forms shall conform to the specified radius when placed on curves.
- G. Finish and Curing.** Provide finished work with a well-compacted mass, a surface free from voids and honeycomb, and the required true-to-line shape and grade. After finishing each portion of the sidewalk, the surface shall be textured with heavy broom finish. Within twenty minutes of broom finish, a curing compound, clear in color, shall be used to protect the sidewalk. Colored curing compound will not be allowed. The curing compound shall be of a high solid content, greater than thirty percent (+30%). All edges shall be tooled to have slight radius. Surface water retention is not acceptable. Concrete must be cured and protected from freezing temperatures for at least three (3) days.
- H. Backfilling.** Once concrete has cured, sidewalk will need to be backfilled to a height determined by the Engineer with material approved by the Engineer. The top 4 inches of fill shall be tamped and sloped using clean topsoil. Heavy equipment must remain off sidewalk drain box and surrounding sidewalk at all times.

All necessary excavation for the sidewalk drain box will be considered incidental work pertaining to this item, and will not be paid for directly. The adjacent excavation and grading of the slopes shall be done in a manner acceptable to the Engineer.

**SUP 3.5 MEASUREMENT:** Sidewalk Drain Box will be measured by each at the width specified on the plans or by the Engineer. The concrete structure that serves as the foundation for the sidewalk drain box shall not be measured for payment, but shall be included in the cost of Sidewalk Drain Box.

**SUP 3.6 PAYMENT:** The work performed and materials furnished with this item and detail and measured as provided under "Measurement" will be paid for at the contract unit price bid per each for "Sidewalk Drain Box" which price shall be full compensation for surface preparation of base; materials; reinforcement; excavation, hauling and disposal of excavated material; steel plate; drilling and doweling into existing concrete curb, sidewalk and pavement; repair of adjacent street or pavement structure damaged by these operations; and equipment, labor, materials, tools and incidentals necessary to complete the work.

Payment for Sidewalk Drain Box (1/2 inch thick) includes up to a surface area of 15 square feet. Any drain box installed greater than a surface area of 15 square feet will be negotiated with the Engineer or Project Manager.

**BID ITEM:**

SUP 3 – Sidewalk Drain Box (1/2 inch thick) – per Each (EA)

## SUPPLEMENTAL SPECIFICATION 4

### Removal & Haul Off of Existing Rock/Masonry Mailbox

**SUP 4.1 DESCRIPTION:** Remove and haul off existing rock/masonry mailbox as directed by the Project Manager or City Engineer.

**SUP 4.2 MATERIALS:** N/A

**SUP 4.3 EQUIPMENT:** Provide equipment necessary to conduct the work specified herein or as directed by the Engineer.

**SUP 4.4 CONSTRUCTION:** Perform all work in conformance with this section unless otherwise shown on the plans. Remove and haul off existing rock/masonry mailboxes in situations where the proposed improvements are in conflict with the mailbox.

All rock/masonry mailboxes removed will be replaced with a decorative mailbox in accordance with Special Provision to City Specification 513.1 – Removing and Relocating Mailboxes.

**SUP 4.5 MEASUREMENT:** The rock/masonry mailbox removed, as prescribed above, will be measured by the unit of each rock/masonry mailbox removed. The excavation and fill necessary to fill the excavated area, if required, will not be measured for payment.

**SUP 4.6 PAYMENT:** The work performed as prescribed by this item will be paid for at the contract unit price bid per each for “Removal & Haul Off of Existing Rock/Masonry Mailbox” which price shall be full compensation for all excavation, including saw cutting of surfaces as required, disposal of material excavated; required fill necessary to fill the area excavated; for furnishing and placing all materials and for all labor, tools, equipment and incidentals necessary to complete the work.

**BID ITEM:**

SUP 4 – Removal & Haul Off of Existing Rock/Masonry Mailbox – per Each (EA)

## SUPPLEMENTAL SPECIFICATION 5

### Tree Removal

**SUP 5.1 DESCRIPTION:** Remove trees in conflict with proposed improvements.

**SUP 5.2 MATERIALS:** Contractor to furnish materials necessary to remove trees.

**SUP 5.3 EQUIPMENT:** Provide equipment necessary to conduct the work specified herein or as directed by the Engineer.

**SUP 5.4 CONSTRUCTION:** Perform all work in conformance with this section unless otherwise shown on the plans. Remove trees in situations where the proposed sidewalk and/or curb ramp is in conflict with an existing tree and there is no alternate route to offset the sidewalk or curb ramp around the tree. All tree removals must be approved by the Project Manager and City Arborist.

Contractor shall receive a free maintenance license (TML) issued by Development Services prior to removing any trees under this contract in accordance with city code section 21-171.

**SUP 5.5 MEASUREMENT:** Tree removals, as prescribed above, will be measured by the unit of each tree removed. The excavation and fill necessary to fill the excavated area, if required, will not be measured for payment. Traffic control devices needed for tree removals will also not be measured for payment. Tree removals for trees less than 8" in diameter will not be measured for payment. Tree removals for trees greater than 36" in diameter will be negotiated with the Project Manager. Tree maintenance license, application and fees will not be measured for payment.

**SUP 5.6 PAYMENT:** The work performed as prescribed by this item will be paid for at the contract unit price bid per each for "Tree Removal" which price shall be full compensation for all excavation, disposal of excavated area and trees removed, required fill necessary to fill the area excavated, traffic control devices, and for furnishing and placing all materials and for all labor, tools, equipment and incidentals necessary to complete work. Tree removals for trees less than 8" in diameter shall be considered prep right-of-way. Tree removals for trees greater than 36" in diameter will be negotiated with the Project Manager.

**BID ITEM:**

SUP 5 – Tree Removal (8" – 36" diameter) – per Each (EA)

## SUPPLEMENTAL SPECIFICATION 6

### Traffic Signal Box Adjustment

**SUP 6.1 DESCRIPTION:** Adjustment of all impacted existing traffic signal boxes by either lowering or raising the signal box to match the final sidewalk profile grade line.

**SUP 6.2 MATERIALS:** Contractor to furnish materials necessary to adjust impacted traffic signal boxes.

**SUP 6.3 EQUIPMENT:** Provide equipment necessary to conduct the work specified herein or as directed by the Engineer.

**SUP 6.4 CONSTRUCTION:** Perform all work in conformance with this section unless otherwise shown on the plans. Adjust existing traffic signal boxes in situations where the finished profile of the sidewalk will be changed from its existing elevation. Contractor shall take all necessary measures to prevent damage to existing signal equipment and box covers from equipment and materials used in or taken through the work area. If an existing or new box and/or cover is/are damaged by the Contractor, it shall be replaced, as directed by the Engineer, by the Contractor at his expense.

The adjusted traffic signal box shall be centered and plumb over the signal equipment. Traffic signal boxes shall be located so that the signal equipment opening is readily accessible for operation through the opening of the signal box.

All signal box covers shall be raised or lowered a sufficient distance so as to be level with the finished surface of the sidewalk.

**SUP 6.5 MEASUREMENT:** Traffic signal boxes, as prescribed above, will be measured by the unit of each signal box adjusted. The excavation and fill necessary to fill the excavated area, if required, will not be measured for payment.

**SUP 6.6 PAYMENT:** The work performed as prescribed by this item will be paid for at the contract unit price bid per signal box for "Traffic Signal Box Adjustment" which price shall be full compensation for all excavation, including saw cutting of surfaces as required, disposal of material excavated; required fill necessary to fill the area excavated, if necessary; for furnishing and placing all materials and for all labor, tools, equipment and incidentals necessary to complete the work.

**BID ITEM:**

SUP 6 – Traffic Signal Box Adjustment – per Each (EA)

## SUPPLEMENTAL SPECIFICATION 7

### TCI “At Work” Project Sign

**SUP 7.1 DESCRIPTION:** Purchase & display project sign for the Department of Transportation & Capital Improvements (TCI) for length of construction of individual project.

**SUP 7.2 MATERIALS:** Contractor to furnish materials necessary to display the “At Work” project sign.

**SUP 7.3 EQUIPMENT:** Provide equipment necessary to conduct the work specified herein or as directed by the Engineer.

**SUP 7.4 CONSTRUCTION:** TCI project signs shall be installed at the project site prior to construction start. TCI project signs shall remain in place until after all construction has been completed. The Project Manager will determine the number of signs needed for each project.

**SUP 7.5 MEASUREMENT:** TCI “At Work” Project Sign, as prescribed above, will be measured by the unit of each project sign purchased and utilized up to the amount in the contract. The storage and transfer of sign from project to project, as well as the equipment & material required to mount the sign, will not be measured for payment.

**SUP 7.6 PAYMENT:** The work performed as prescribed by this item will be paid for at the contract unit price bid per project sign for TCI “At Work” Project Sign which price shall be full compensation for sign purchase, equipment & materials required to mount each sign, storage and transfer of each sign from project to project; for furnishing and placing all materials and for all labor, tools, equipment and incidentals necessary to complete the work

**BID ITEM:**

SUP 7 – TCI “At Work” Project Sign – per Each (EA)

## SUPPLEMENTAL SPECIFICATION 8

### POLICE OFFICER

**SUP 8.1 DESCRIPTION:** Provide uniformed off-duty police officer(s) as directed by the City of San Antonio Project Manager and Traffic Engineer where two-way traffic is to be maintained at major intersections.

**SUP 8.2 MATERIALS:** N/A

**SUP 8.3 CONSTRUCTION:** Coordinate with City of San Antonio Construction Inspector to determine the duration and locations where off-duty police officers will be deployed. At project sites that require police officers, contractor will not be allowed to start any form of work until police officer is on-site and directing traffic.

**SUP 8.4 MEASUREMENT:** Police Officer services will be measured by the hour per officer. Contractor must provide time statements showing documentation of hours worked per officer.

**SUP 8.5 PAYMENT:** The accepted quantity of man-hours shall be paid at the contract unit price for each hour

**BID ITEM:**

SUP 8 – Police Officer – per Hour (HR)

## SUPPLEMENTAL SPECIFICATION 9

### Removal of Existing Asphalt Speed Hump

**SUP 9.1 DESCRIPTION:** Remove existing asphalt speed humps in accordance with the design plans.

**SUP 9.2 MATERIALS:** N/A.

**SUP 9.3 EQUIPMENT:** Provide equipment necessary to conduct the work specified herein or as directed by the Engineer.

**SUP 9.4 CONSTRUCTION:** Perform all work in conformance with this section unless otherwise shown on the plans. Remove existing asphalt speed humps as directed by the Engineer. Contractor shall take all necessary measures to prevent damage to existing pavement from equipment and materials used in or taken through the work area. If existing pavement is damaged by the Contractor, it shall be replaced, as directed by the Engineer, by the Contractor at his expense.

**SUP 9.5 MEASUREMENT:** Removal of Existing Asphalt Speed Hump will be measured by square foot of asphalt speed hump removed.

**SUP 9.6 PAYMENT:** The work performed and materials furnished with this item and measured as provided under "Measurement" will be paid for at the contract unit price bid per square foot for "Removal of Existing Asphalt Speed Hump" for materials and equipment; excavation, hauling and disposal of excavated material; fill or asphalt required to fill the excavated area; and equipment, labor, materials, tools and incidentals necessary to complete the work.

**BID ITEM:**

SUP 9 – Removal of Existing Asphalt Speed Hump – per Square Foot (SF)

## **SUPPLEMENTAL SPECIFICATION 10**

### **Removal of Speed Hump, Type II Modular Rubber Cushion**

**SUP 10.1 DESCRIPTION:** Remove existing rubber speed humps in accordance with the design plans.

**SUP 10.2 MATERIALS:** N/A.

**SUP 10.3 EQUIPMENT:** Provide equipment necessary to conduct the work specified herein or as directed by the Engineer.

**SUP 10.4 CONSTRUCTION:** Perform all work in conformance with this section unless otherwise shown on the plans. Remove existing rubber speed humps as directed by the Engineer. Contractor shall take all necessary measures to prevent damage to existing pavement from equipment and materials used in or taken through the work area. If existing pavement is damaged by the Contractor, it shall be replaced, as directed by the Engineer, by the Contractor at his expense. Existing rubber speed humps removed shall become the property of the contractor.

**SUP 10.5 MEASUREMENT:** Removal of Speed Hump, Type II Modular Rubber Cushion will be measured by each rubber speed hump removed.

**SUP 10.6 PAYMENT:** The work performed and materials furnished with this item and measured as provided under "Measurement" will be paid for at the contract unit price bid per each for "Removal of Speed Hump, Type II Modular Rubber Cushion" for materials and equipment; excavation, hauling and disposal of excavated material; fill or asphalt required to fill the excavated area; and equipment, labor, materials, tools and incidentals necessary to complete the work.

**BID ITEM:**

SUP 10 – Removal of Speed Hump, Type II Modular Rubber Cushion – per Each (EA)

## SUPPLEMENTAL SPECIFICATION 11

### Adjusting Metal Beam Guardrail

**SUP 11.1 DESCRIPTION:** Adjust metal beam guard rail in accordance with the design plans.

**SUP 11.2 MATERIALS:** Contractor to furnish materials necessary to adjust metal beam guardrail.

**SUP 11.3 EQUIPMENT:** Provide equipment necessary to conduct the work specified herein or as directed by the Engineer.

**SUP 11.4 CONSTRUCTION:** Perform all work in conformance with this section unless otherwise shown on the plans. Adjust metal beam guardrail and timber posts in situations where the proposed improvements are in conflict with the existing metal beam guardrail and/or timber posts. Contractor shall take all necessary measures to prevent damage to existing guardrail and timber posts from equipment and materials used in or taken through the work area. If existing metal beam guardrail or timber post is damaged by the Contractor, it shall be replaced, as directed by the Engineer, by the Contractor at his expense.

If Timber Posts are found to be rotten after they are removed from the ground, the Contractor shall discard of the existing post and install new timber posts in accordance with Item 510 Timber Guard Posts. Disposal of existing timber posts will not be paid for directly, but shall be included in the cost of Adjusting Metal Beam Guardrail. New Timber Guard Posts installed will be paid under Item 510 Timber Guard Posts.

**SUP 11.5 MEASUREMENT:** Adjusting Metal Beam Guardrail will be measured by linear foot of rail adjusted. Removal and relocation of timber posts shall not be paid for directly, but shall be included in the cost of Adjusting Metal Beam Guardrail.

**SUP 11.6 PAYMENT:** The work performed and materials furnished with this item and measured as provided under "Measurement" will be paid for at the contract unit price bid per linear foot for "Adjusting Metal Beam Guardrail" removal of existing guardrail and timber posts if necessary; relocation or adjustment of existing rail and timber posts; materials; excavation, hauling and disposal of excavated material; fill required to fill the excavated area; and equipment, labor, materials, tools and incidentals necessary to complete the work.

**BID ITEM:**

SUP 11 – Adjusting Metal Beam Guardrail – per Linear Foot (LF)

## SUPPLEMENTAL SPECIFICATION 12

### Railroad Insurance and Permit

**SUP 12.1 DESCRIPTION:** Each Contractor is to include a \$5,000 allowance for the SUP 12 RAILROAD INSURANCE AND PERMIT bid item. Contractor to secure all required railroad permits. All fees associated with such permits shall be included in this item.

**SUP 12.2 MATERIALS:** N/A

**SUP 12.3 CONSTRUCTION:** N/A.

**SUP 12.4 MEASUREMENT:** Railroad Insurance and Permit will not be measured per each project; rather, it will be based on a lump sum at a maximum value of \$5,000.00.

**SUP 12.5 PAYMENT:** Railroad Insurance and Permit shall be paid at the contract unit price per Lump Sum as specified under measurement.

**BID ITEM:**

SUP 12 – Railroad Insurance and Permit – Lump Sum (LS)

## SUPPLEMENTAL SPECIFICATION 13

### DOOR HANGER

**SUP 13.1 DESCRIPTION:** Provide door hanger to properties impacted by reconstruction or reclamation operations.

**SUP 13.2 MATERIALS:** N/A

**SUP 13.3 CONSTRUCTION:** The City of San Antonio is to provide template/verbiage for the door hangers. Contractor will be responsible for reproduction of door hanger for each project. Contractor shall place hangers with every business and resident within each segment of the project.

**SUP 13.4 MEASUREMENT:** Door Hangers will not be measured per each project; rather, it will be based on a one time lump sum measurement for the contract.

**SUP 13.5 PAYMENT:** Door Hangers shall be paid at the contract unit price per Lump Sum. Payment for additional door hangers required due to construction delays will not be paid for directly, but shall be figured in the Lump Sum cost for door hangers.

**BID ITEM:**

SUP 13 – Door Hangers – Lump Sum (LS)

## SUPPLEMENTAL SPECIFICATION 14

### Portable Changeable Message Sign (PCMS) (Electronic Message Board)

**SUP 14.1 DESCRIPTION:** Provide portable electronic message boards to notify the general public of construction activities for upcoming and ongoing projects.

**SUP 14.2 MATERIALS:** N/A.

**SUP 14.3 EQUIPMENT:** Provide equipment necessary to conduct the work specified herein or as directed by the Engineer.

**SUP 14.4 CONSTRUCTION:** Perform all work in conformance with this section unless otherwise shown on the plans. Provide two (2) portable electronic message boards as directed by Project Manager or Engineer per location. Text for message boards will be provided by Project Manager or Engineer. Not all projects will require portable electronic message boards. Project locations will be determined by the Project Manager or Engineer. Contractor must be able to provide electronic message boards for the duration of specified projects throughout the duration of the contract. Contractor must also have one (1) portable electronic message board on standby in the event one of the message boards in use breaks down.

**SUP 14.5 MEASUREMENT:** Portable Electronic Message Boards, as prescribed above, will be measured by the month. The equipment required to store, relocate and transport the message boards will not be measured for payment. Adjusting messages will also not be measured for payment. The standby electronic message board will also not be measured for payment.

**SUP 14.6 PAYMENT:** The work performed as prescribed by this item will be paid for at the contract unit price bid per month for "Portable Electronic Message Boards" which price shall be full compensation for all storage, transportation, set up and maintenance; for furnishing and placing all materials and for all labor, tools, equipment and incidentals necessary to complete the work.

**BID ITEM:**

SUP 14 – Portable Changeable Message Sign (Electronic Message Board) – per Month

## SUPPLEMENTAL SPECIFICATION 15

### Additional Mobilization

The City will pay mobilization accordingly for the following situations:

1. For special request projects where the Project Manager requires immediate mobilization (within a 24 to 48-hour period) by the Contractor.
2. For instances where the contractor has mobilized equipment to a specific site, then is asked by the City to relocate equipment to a new project without performing any work on the original project.

**BID ITEM:**

SUP 15 – Mobilization – per Each (EA)

The City will not pay additional mobilization for the following situations. The situations below are considered subsidiary and should be figured into the bid through various other bid items.

1. Mobilization for projects not considered special requests or when the contractor is not redirected as outlined above will not be paid, no matter what the total project cost is.
2. Some projects shall have working time restrictions due to school zones and other factors that may impact a project. The contractor will not be paid extra for projects that have working time restrictions. The extra time on a project required due to a project with time restrictions shall be included in various other bid items.
3. Weekend work required by Contractor due to Contractor delays or expediting operations to complete construction in negotiated calendar days.

## ITEM NO. 826-a

### LOCATING AND ADJUSTING EXISTING VALVE BOXES

**826-a 1. DESCRIPTION:** This item shall consist of locating valve boxes, cutting asphalt, replacing asphalt, and adjustment of all existing valve boxes in accordance with these applications and as directed by the Engineer or Project Manager.

**826-a 2. MATERIALS:** The materials for valve boxes shall conform to the specifications contained within the latest revision of SAWS Material Specification Item No. 10-20, Valve Boxes."

**826-a 3. CONSTRUCTION:** Construction Methods: Locate valve box using maps and metal detectors. Cut and replace asphalt as necessary. The valve box shall be placed in such a manner to prevent shock or stress from being transmitted to the valve. It shall be centered and plumb over the operating nut of the valve with the box cover flush with the surface of the finished pavement or at such other level as may be directed by the Engineer or Project Manager.

Valve box shall be located so that the valve operating nut is readily accessible for operation through the opening to the valve box. The valve box shall be set flush with the surface of the finished pavement or at such other elevations as may be specified. Pits shall be constructed to permit trainer valve repairs and to afford protection to valve and pipe from impact where they pass through the pit walls.

Existing Valve Box: Existing covered valve boxes shall be defined as those boxes which are located within the right-of-way of the specified area of construction operations which are covered by asphalt. These boxes shall be adjusted to match proposed finished grades.

Adjustment of new valve boxes installed by SAWS will be paid at the contract unit price bid for Item 826 Valve Box Adjustment

**826-a 4. MEASUREMENT:** Valve Boxes located and completely adjusted, as prescribed above, will be measured by the unit of each valve box located and adjusted to the finished grade. The excavation and the amount of asphalt required to fill the area excavated will not be measured for payment.

**826-a 5. PAYMENT:** The work performed as prescribed by this item will be paid for at the contract unit price bid per valve box for "Locating and Adjusting Existing Valve Boxes" which price shall be full compensation for all excavation, including saw cutting of surfaces as required, and disposal of material excavated; for furnishing and placing all materials and for all labor, tools, equipment and incidentals necessary to complete the work.

## ITEM NO. 851-a

### LOCATING AND ADJUSTING EXISTING MANHOLES

**851-a 1. DESCRIPTION:** This item shall consist of the locating manholes, cutting asphalt, replacing asphalt, and adjustment of all existing manholes to include the replacing of existing manhole covers and rings regardless of type shown on the plans and in conformity with the provisions of these specifications.

**851-a 2. CONSTRUCTION:** Locate manholes using maps and metal detectors. Cut and replace asphalt as necessary. Manholes shall be lowered below subgrade before placing base materials and openings shall be protected by temporary hatch covers. Existing manhole rings and covers which are determined by the SAWS inspector to be in an unacceptable condition, will be removed and replaced with new rings and cover. Contractor shall take all necessary measures to prevent damage to existing or new rings, covers, or cones from equipment and materials used in, or taken through, the work area. If an existing or new manhole cover, ring, or cone is damaged by the Contractor, it shall be replaced (as directed by SAWS inspector) by the Contractor at his expense. Manholes shall be adjusted after the base material has been laid and before placement of the final surface course. Manholes that are going to be adjusted on an existing surface course (not planned for replacement) will be in accordance with City of San Antonio Utility Excavation Criteria Manual Standard Drawing No. 8.8. All manholes shall then be raised, or lowered a sufficient height so as to be level with the finished surface course. Adjustment in height will be made by the addition or removal of "throat rings" above the manhole cone, where feasible. A minimum of two and a maximum of six "throat rings" shall be used at each adjusted manhole. Material excavation from around the manholes shall be replaced with concrete in accordance with Standard Drawings, and select materials from the excavation (as shown on the plans or specified by the SAWS). All excess materials shall be disposed of by the Contractor at his own expense in an approved location. Contractor shall furnish and install a 5' x 5' x 1" thick steel plate over concrete collars at the discretion of the city inspector or project manager until concrete has reached its ultimate strength. Steel plate shall not be removed until concrete collar around manhole has reached its ultimate strength.

**851-a 3. MEASUREMENT:** Manholes located and completely adjusted, as prescribed above, will be measured by the unit of each manhole located and adjusted. The excavation, steel plate and the amount of asphalt, concrete or reinforced concrete as necessary to fill the area excavated will not be measured for payment.

**851-a 4. PAYMENT:** The work performed as prescribed by this item will be paid for at the contract unit price bid per manhole for "Locating and Adjusting Existing Manholes" which price shall be full compensation for all excavation, including saw cutting of surfaces as required, reinforced concrete and disposal of material excavated, 5' x 5' x 1" thick steel plate; for furnishing and placing all materials and for all labor, tools, equipment and incidentals necessary to complete the work.

**ITEM 250**  
**Special Specification**

**SEAL COAT**

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**250.1 DESCRIPTION:**

This item shall consist of a single asphalt surface treatment composed of asphalt surface treatment composed of asphalt material covered with aggregate for the purposed of sealing existing pavements in accordance with these specifications.

**250.2 MATERIALS:**

**A. AGGREGATE:**

Aggregates shall be of the type as shown on the plans and shall meet all the requirements of the Texas Department of Transportation (TxDOT) Item No. 302, "Aggregate for Surface Treatments" and subsequent revisions thereto. Gradation requirements when tested by TxDOT Test Method Tex-200F, Part I, shall be as shown on the plans.

**B. ASPHALTIC MATERIALS:**

Asphalt cement, emulsified asphalts, other miscellaneous asphaltic materials, and latex additives shall conform to TxDOT Item No. 300, "Asphalt, Oils, and Emulsions" and subsequent revisions thereto.

**250.3 EQUIPMENT**

**A. DISTRIBUTOR:**

The distributor shall be a self-propelled pressure type, equipped with an asphaltic material heater and a distributing pump capable of pumping the material at the specified rate through the distributor spray bar. The distributor spray bar shall be capable of fully circulating the asphaltic material. The distributor spray bar shall contain nipples and valves so constructed that the nipples will not become partially plugged with congealing asphaltic material, in order to prevent streaking or irregular distribution of asphaltic material. Distributor equipment shall include a tachometer, pressure gauges, volume measuring devices, and thermometer for reading the temperature of tank contents.

The distributor tank shall have been calibrated within three (3) years from the date it is first used on this project. The tank calibration procedure shall be in accordance with Test Method Tex-922-K, Part 1, and shall be signed and sealed by a registered professional engineer. Unless otherwise shown on the plans, the Contractor shall provide the tank calibration and shall furnish the Engineer an accurate and satisfactory calibration record prior to beginning the work. The Engineer may at any time verify calibration accuracy in accordance with Test Method Tex-922-K, Part II, and may perform the recalibration if the calibration is found to be in error.

**B. AGGREGATE SPREADER:**

A self-propelled continuous-feed aggregate spreader shall be used which will uniformly spread aggregate at the rate specified by the Engineer.

**C. ROLLERS:**

Approved rolling equipment shall be of the self-propelled type and shall be so designed such that a 12 ton load may be obtained by ballast loading. The roller shall be equipped with tires that will afford ground contact pressures to 90 psi or more. Individual tire inflation pressures shall be within 5 psi of each other. The operation load and tire air pressure shall be within the range of the manufacture's chart.

**D. SWEEPERS:**

A rotary, self-propelled power broom shall be acceptable for sweeping existing pavement surfaces.

Vacuum sweepers or other approved equally capable equipment shall be suitable for removing loose aggregate from compacted Seal Coat.

**ITEM 798**  
**SPECIAL SPECIFICATION**

**ASPHALT CONCRETE CUSHION**  
**SPEED HUMPS, TYPE 3**

**Asphalt Concrete Speed Humps**

**Description**

Work consists of construction of speed humps as required in contract documents and as directed by Project Engineer.

For the purpose of this specification, all references are in accordance with COSA Standard Specifications latest edition.

**General**

Locations of speed hump to be approved by COSA Traffic Engineer Division prior to installation.

Speed hump shall not be installed such that roadway drainage is compromised.

The Contractor shall contact the Engineer for coordination a minimum of three (3) working days prior to the construction of the speed humps.

The Contractor shall furnish and use canvas tarpaulins to cover all loads of asphalt from the time that the mixture is loaded until it is discharged from the delivery vehicle, unless otherwise directed in writing by the Engineer.

**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**

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 535 "Hot Applied Thermoplastic Pavement Markings." White temporary tabs shall be placed the same day the speed humps are installed. Payment for temporary tabs is subsidiary to the cost of speed humps. Permanent striping shall be completed 7 to 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 DETAILS**

### **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 COSA Traffic Engineering at 207-2075 minimum of 10 working days in advance of commencing construction of speed hump.

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 quarter inches (3 1/4") in height or that is not of the shape shown in the Type 3, 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**

Speed humps are to be constructed of asphalt surface course as described in speed hump details.

Use any method necessary to form shape as described in Asphalt Concrete Speed Hump Detail and to achieve proper height of speed hump.

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 535 Hot Applied Thermoplastic Pavement Markings.

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. 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.

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.

### **Measurement**

Speed humps shall be measured by each hump placed. 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 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 535 "Hot Applied Thermoplastic 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 Each for "Asphalt Concrete Speed Cushion, Type 3." 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, saw cutting, excavation, asphalt, tack coat, installation, and equipment, labor, materials, tools and other incidentals required to complete the task.

Payment for linear pavement markings will be placed under applicable items for Item 535 "Hot Applied Thermoplastic Pavement Markings."

Payment for triangular markings on asphalt cushions shall not be paid for directly, but shall be considered subsidiary to the cost of the individual cushion.

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.

## ITEM 801

### TREE AND LANDSCAPE PROTECTION

This item shall govern the placing of protection for trees and other landscape plant material or natural areas to be protected during construction. No site preparation work shall begin in areas where tree preservation and treatment measures have not been completed and approved. *Where removal of trees is indicated on the drawings, they shall be marked as directed by the engineer or designated representatives.* This item shall also govern the excavation, filling, *trenching and boring* around trees described on the plans, and for furnishing all materials, water, labor, tools, equipment and supplies required as specified by this item or as indicated on the plans.

Reference Standards: City of San Antonio Tree Preservation ordinance # 85262

#### **MATERIALS:**

##### **LEVEL I FENCE PROTECTION (Detail 1.1.2):**

Fabric: Fabric (4 foot height or 1.2 m) shall consist of orange plastic fencing as shown on the plans and shall be woven with 2-inch (50 mm) mesh openings such that in a vertical dimension of 23 inches (584 mm) along the diagonals of the openings there shall be at least seven meshes.

1. Installation Posts: Installation posts shall be a minimum of 72 inches (1.5 m) long and steel "T" shaped with a minimum weight of 1.3 pounds per linear foot (6.3 kg per meter).
2. Tie Wire: Wire for attaching the fabric to the t-posts shall be not less than No. 12 gauge galvanized wire. Sufficient fastening material shall be furnished to provide for the securing of the fabric to the "T" line posts.
3. Used Materials: Previously-used materials, meeting the above requirements and when approved by the Engineer, may be used.

##### **LEVEL IIA FENCE PROTECTION (Detail 1.1.3):**

Materials same as Level I -OR-

##### **LEVEL IIB FENCE PROTECTION (Detail 1.1.4):**

1. Sleeve: 2x4 lumber to a height of 4 feet above the root crown.
2. 2x4 shall be utilized as called for on plan.
3. Tie Wire: Wire for securing the 2x4s shall not be less than No. 12 gauge.

#### **OTHER MATERIALS:**

1. Tree Dressing - Asphaltic Tree Wound Paint

#### **CONSTRUCTION METHODS:**

##### **LEVEL I FENCE PROTECTION:**

All trees and shrubs in the proximity of the construction site shall be protected prior to beginning any development activity.

Protective fencing shall be erected outside the dripline at locations shown in the plans or as directed by the Inspector and/or City Arborist or in accordance with the details shown on the plans at the drip line of trees (Root Protection Zone, RPZ) and/or landscape plant material including natural areas. Fencing shall be maintained and repaired by the contractor during site construction.

Protective fence locations in close proximity to street intersections or drives shall adhere to the City of San Antonio's site distance criteria.

The protective fencing shall be erected before site work commences and shall remain in place during the entire construction phase. Access to fenced areas will be permitted only with the approval of the engineer.

The installation posts will be placed every 6 feet (2 m) around the drip line or RPZ and embedded to 18 inches (457 mm) deep. Fabric attachment shall be attached to the installation posts by the use of sufficient wire ties to securely fasten the fabric to the "T" posts as to hold the fabric in a stable and upright position.

1. Do not clear, fill or grade in the RPZ of any tree.
2. Do not store, stockpile or dump any job material, soil or rubbish under the spread of the tree branches.
3. Do not park or store any equipment or supplies under the spread of the tree branches.
4. Do not set up any construction operations under the spread of the tree branches. (E.g. pipe cutting and threading, mortar mixing, painting or lumber cutting)
5. Do not nail or attach temporary signs, meters, switches, wires, bracing or any other item to the trees.
6. Do not permit runoff from waste materials including solvents, concrete washouts, asphalt tack coats (MC-30 oil), etc. to enter the RPZ. Barriers are to be provided to prevent such runoff substances from entering the RPZ whenever possible, including in an area where rain or surface water could carry such materials to the root system of the tree.

The contractor shall avoid cutting roots larger than one inch in diameter when excavation occurs near existing trees. Excavation in the vicinity of trees shall proceed with caution. The contractor shall contact the city inspector.

Remove all trees, shrubs or bushes to be cleared from protected root zone areas as directed by engineer by hand.

Trees damaged or lost due to contractor's negligence during construction shall be mitigated at the contractor's expense and to the engineer's satisfaction.

Any tree removal shall be approved by the city arborist prior to its removal.

Cover exposed roots at the end of each day with soil, mulch or wet burlap.

*In critical root zone areas that cannot be protected during construction and where heavy traffic is anticipated, cover those areas with (8) inches of organic mulch to minimize soil compaction. This (8) inch depth of mulch shall be maintained throughout construction.*

*Water all trees, most heavily impacted by construction activities, deeply once a week during periods of hot dry weather. Spray tree crowns with water periodically to reduce dust accumulation on the leaves.*

*When installing concrete adjacent to the root zone of a tree, use a plastic vapor barrier behind the concrete to prohibit leaching of lime into the soil. See related specifications.*

*When an excavation or embankment is placed within the dripline of any tree greater than (8) inches in diameter, a Tree well shall be constructed to protect the tree as indicated, when the cut or fill exceeds (8) inches. See related specifications.*

*Where paving or filling is necessary within the dripline of any tree (8) inches or greater, a permeable pavement and aeration system must be installed as indicated. See related specifications.*

## **CONSTRUCTION METHODS:**

### **LEVEL II A FENCE PROTECTION:**

Protective fencing shall be erected within the RPZ at locations shown in the plans or as directed by the Inspector and/or City Arborist or in accordance with the details shown on the plans at the drip line of trees (Root Protection Zone, RPZ) and/or landscape plant material including natural areas. Fencing shall be maintained and repaired by the contractor during site construction.

Fabric: Fabric (4 foot height or 1.2 m) shall consist of orange plastic fencing as shown on the plans and shall be woven with 2-inch (50 mm) mesh openings such that in a vertical dimension of 23 inches (584 mm) along the diagonals of the openings there shall be at least seven meshes.

1. Installation Posts: Installation posts shall be a minimum of 72 inches (1.5 m) long and steel "T" shaped with a minimum weight of 1.3 pounds per linear foot (6.3 kg per meter).
2. Tie Wire: Wire for attaching the fabric to the t-posts shall be not less than No. 12 gauge galvanized wire. Sufficient fastening material shall be furnished to provide for the securing of the fabric to the "T" line posts.
3. Used Materials: Previously-used materials, meeting the above requirements and when approved by the Engineer, may be used.

### **LEVEL II B FENCE PROTECTION:**

Trunk protection shall be erected at locations shown in the plans or as directed by the Inspector and/or City Arborist shall be maintained and repaired by the contractor during site construction.

1. Installation Sleeve: 2x4 lumber to a height of 4 feet above the root crown.
2. Tie Wire for securing the 2x4s shall not be less than No. 12 gauge

### **MEASUREMENT:**

Protective fencing will be measured by the linear foot of accepted work, complete in place for the duration of construction activity.

### **PAYMENT:**

Tree and Landscape Protective Fencing will be paid for at the unit price bid per linear foot (meter), which price shall be full compensation for furnishing and placing all materials, manipulation, labor, tools, equipment and incidentals necessary to complete the work.

## **BID ITEMS**

Item 801.1: Level I Protective Fencing - per linear foot (meter)

Item 801.2: Level IIA Protective Fencing - per linear foot (meter)

Item 801.3: Level IIB Protective Fencing - per linear foot (meter)

## ITEM 802

### TREE PRUNING, SOIL AMENDING AND FERTILIZATION

#### PART 1 GENERAL

##### 1.01 DESCRIPTION:

The purpose of this specification is to describe a procedure for maintaining preserved trees before, during and after construction and for furnishing all materials, water, labor, tools, equipments and supplies required as specified by this item or as indicated on the plans.

##### 1.02 REFERENCE STANDARDS:

The contractor shall comply with the applicable provisions and recommendations of the publication listed below and these shall be utilized as reference standards, and form a part of this specification to the extent indicated by reference:

American National Standard Institute - ANSI A300-2002

#### PART 2 PRODUCTS

##### 2.01 MATERIALS:

1. Tree pruning paint: Any latex, oil or asphalt base wound dressing.
2. Soil amendment: Organic soil amendment with nitrogen content 10% or less.
3. Commercial fertilizer: Urea form based liquid suspension, which is soil injected. Salt Index is less than 3.5 (True Green, Boost) and a longevity period of up to 2 years.
4. Mulch: Shredded wood residue with size of pieces not more than 6 inches in length.
5. Water-By truck for trees.

#### PART 3 EXECUTION

##### 3.01 CARE OF TREES PRIOR TO AND DURING CONSTRUCTION:

1. Prior to erecting tree enclosure and the start of any phase of construction, arborist will provide mycorrhizal inoculation and deep root fertilization to the tree roots, using 3 lbs. of actual nitrogen per 1000 square feet of root area in a slow release soil injection method. Then a certified arborist will perform pruning before construction to remove dead wood, improve the health of the trees to better tolerate the stresses endured during construction activities. In addition all pruning shall adhere to the standard practices in the American National Standard Institute ANS/A300-1995, and to improve the level of safety
  - a. Crown Cleaning – shall consist of the removal of dead, dying, and diseased wood one inch in diameter and greater. Many of the existing trees are above and within the proposed walkway. This dead wood shall be removed to improve safety and liability issues.
2. No site preparation work shall begin in areas where tree preservation and treatment measures have not been completed and approved.
  - a. Crown Raising – shall consist of removing lower limbs to provide a clearance specification of 8 feet over walkways and 13 feet over the

main road for vehicle clearance. Branches may be tied back instead of removed, in order to alleviate conflict. These specifications should protect the existing trees. Tree contractor is to be briefed by Project Engineer/Arborist prior to project commencement. All pruning and removals shall be overseen by a Certified Arborist. The awarded company shall have a Certified Arborist on staff to be able to bid on this Project.

3. No pruning or removal of limbs shall be allowed to provide clearance for work unless approved by the engineer.
4. Removal of limbs which are 6 inches in diameter or greater is prohibited without consent of the City Arborist. Occasional branches, up to 1/4 inch in diameter, which are dead, dying, diseased may remain when it is not practical to remove it.
5. Oak wounds must be painted with wound paint within 30 minutes to prevent infection of the Oak Wilt fungal organism.
6. Soil amendments will be applied within the drip line (RPZ).
7. Soil fertilization will be completed by a soil injection method, which will occur at a spacing of 3 feet on center around the tree within the drip line (Root Protection Zone, RPZ) only for those trees specified.
8. Excavate within drip line of trees only where required. Where excavating for new construction is required within drip line of trees, hand excavate to minimize damage to root systems. Use narrow spading forks and comb soil to expose roots. Relocate roots back into backfill areas wherever possible. If large main lateral roots are encountered, expose beyond excavation limits as required to bend and relocate without breaking. If root relocation is not practical, then contact Client representative for approval to cut roots 1/2" or greater. If approved, clean cut roots using handsaw or chainsaw approximately 3 inches back from new construction. Where existing grade is above new finish grade, carefully excavate within the drip line to the new finish grade. Carefully hand excavate an additional 8 inch below the finish grade. Use narrow line spading forks to comb the soil to expose the roots and prune the exposed root structure as recommended by the Arborist. After pruning and treatment is complete, backfill to within the finish grade with 8" of approved landscape fill material. Temporarily support and protect roots against damage until permanently relocated and do not allow exposure of root to air to occur beyond 12 hours. Cover with damp soil, peat moss, 8"bark or gunny sacks in order to keep moist so as not to dry out and permanently cover roots as soon as possible. Where it has been determined that trenching for utilities can seriously impact the roots of a desirable tree, then bore or tunnel under tree to minimize root impact.
9. The Contractor shall be responsible for coordinating all construction activities that may impact trees with clients representative and the Arborist, who will do the necessary pruning and deep root fertilization deemed necessary by the Arborist.

### **3.02 POST CONSTRUCTION CARE OF TREES:**

1. The Contractor shall water when it is necessary to supplement natural rainfalls required preventing excess drying of the tree root area.

2. The Contractor is responsible for a fall and spring fertilization of the following year using a deep root fertilization method on trees deemed necessary by the Client.
3. The Contractor shall perform post construction care under the supervision of the arborist.

### **3.03 QUALITY ASSURANCE:**

All tree pruning and fertilization work shall be performed by a single firm specializing in tree pruning work, with a minimum of 3 years experience in the acceptable performance of similar work to that specified. Pruning is to be performed by personnel who, by training and on the job experience, are familiar with the techniques and hazards of this work. The firm performing the work shall have the following minimum qualifications and certifications.

NAA - National Arborist Association Certified or  
ISA - International Society of Arborists Certification  
Be licensed for application and use of pesticides  
Meet state requirements for insurance  
Must be bonded

The Arborist shall:

- a. Establish lines of communication for all work which may potentially impact trees, under story, or areas that are to be protected from construction activity.
- b. Locate and properly identify or mark in the field trees, under story and areas that are to be protected from construction activity and are the responsibility of the Prime Contractor to protect.
- c. Identify limits and extent of protective fencing around these trees, under story vegetation and other areas.

### **LEVEL II:**

#### **3.04 CARE OF TREES PRIOR TO AND DURING CONSTRUCTION:**

1. Prior to erecting tree enclosure and the start of any phase of construction; provide mycorrhizal inoculation and deep root fertilization to the tree roots, using 3 lbs. of actual nitrogen per 1000 square feet of root area. Then pruning will be performed by a certified arborist before construction to remove dead wood, improve the health of the trees to better tolerate the stresses endured during construction activities. In addition all pruning shall adhere to the standard practices in the American National Standard Institute ANS/A300-1995, and to improve the level of safety
2. No site preparation work shall begin in areas where tree preservation and treatment measures have not been completed and approved.
3. No pruning or removal of limbs shall be allowed to provide clearance for work unless approved by the engineer.
4. Removal of limbs which are 6 inches in diameter or greater is prohibited without consent of the City Arborist. Occasional branches, up to 1/4 inch in diameter, which are dead, dying, diseased may remain when it is not practical to remove it.
5. Oak wounds must be painted with wound paint within 30 minutes to prevent infection of the Oak Wilt fungal organism.

6. Excavate within drip line of trees only where required. Where excavating for new construction is required within drip line of trees, hand excavate to minimize damage to root systems. Use narrow spading forks and comb soil to expose roots. Relocate roots back into backfill areas wherever possible. If large main lateral roots are encountered, expose beyond excavation limits as required to bend and relocate without breaking. If root relocation is not practical, then contact Client representative for approval to cut roots 1/2" or greater. If approved, clean cut roots using a handsaw or chainsaw approximately 3 inches back from new construction. Where existing grade is above new finish grade, carefully excavate within the drip line to the new finish grade. Carefully hand excavate an additional 8 inch below the finish grade. Use narrow line spading forks to comb the soil to expose the roots and prune the exposed root structure as recommended by the Arborist. After pruning and treatment is complete, backfill to within the finish grade with 8" of approved landscape fill material. Temporarily support and protect roots against damage until permanently relocated and do not allow exposure of root to air to occur beyond 12 hours. Cover with damp soil, peat moss, bark or gunny sacks in order to keep moist so as not to dry out and permanently cover roots as soon as possible. Where it has been determined that trenching for utilities can seriously impact the roots of a desirable tree, then bore or tunnel under tree to minimize root impact.
7. Water deeply trees that are substantially trimmed or within drip line of excavation work for the duration of this contract.
8. Water deeply trees that show signs of stress and are located in areas where the groundwater table has been lowered due to construction activities.
9. The Contractor shall be responsible for coordinating all construction activities that may impact trees with clients representative and the Arborist, who will do the necessary pruning and deep root fertilization deemed necessary by the Architect.

### **3.05 POST CONSTRUCTION CARE OF TREES:**

1. The Contractor shall water when it is necessary to supplement natural rainfalls required preventing excess drying of the tree root area. Barring natural rainfall, the Contractor should apply 1" per week over entire root protection zone.
2. The Arborist shall monitor and authorize for removal the trees which show symptoms of stress, which might be indicated by branch die back chlorosis or fringe browning of the leaves. This would indicate that the crown is not in equilibrium with roots and additional pruning would be necessary. Subsequent pruning should remove only as much green wood as deemed necessary to reestablish equilibrium. If trees die during construction due to contractor negligence up to a one year post construction period, the Contractor will be required to replace trees at his or her own expense as called for in Paragraph 3.6.
3. The Contractor shall perform post construction care under the supervision of an arborist.

### **3.06 QUALITY ASSURANCE:** Same as Level I

### **3.07 MEASUREMENT:**

"Maintenance Pruning" Soil Amendment, and Fertilization" , ½" or larger of dead, diseased wood.

"Maintenance Pruning" 1" or larger of dead, diseased wood.

**3.08 PAYMENT:**

Work performed and materials furnished as prescribed by this item and measured as provided under "Measurement" will be paid for as follows:

"Level I Pruning, Soil Amendment, and Fertilization" Will be paid for at the unit price bid per each tree receiving "Level I Pruning, Soil Amendment, and Fertilization" of the size called for , which price shall be full compensation for furnishing all materials; preparation, hauling, handling charges, placement, labor, tools, and incidentals necessary to complete the work.

Level II Pruning will be paid for at the unit price bid per each location which price shall be full compensation for work herein specified, including the furnishing of all materials, equipment, tools, labor, and incidentals necessary to complete the work.

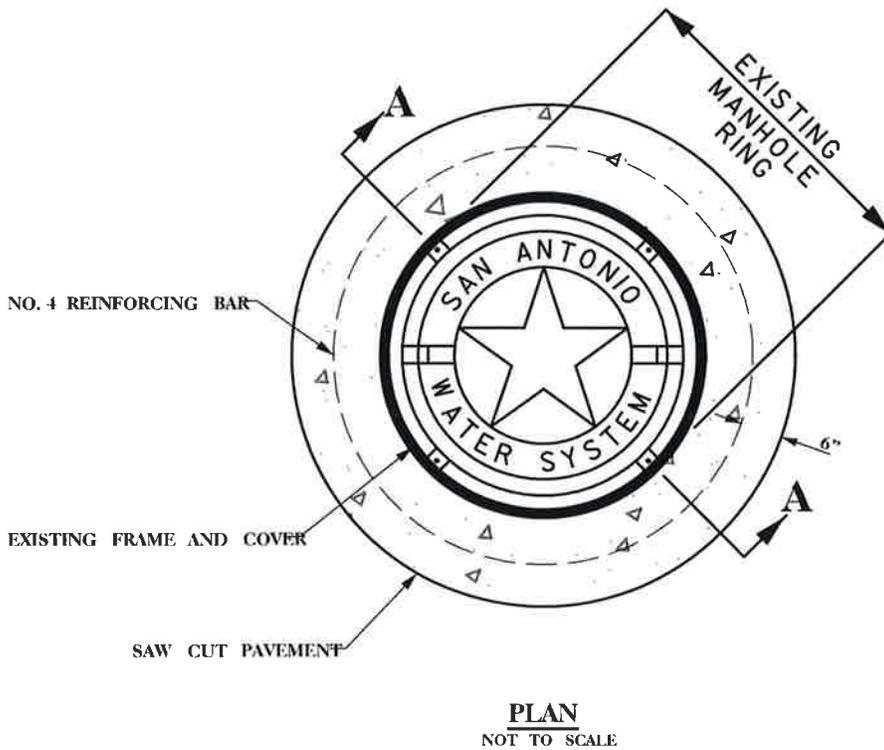
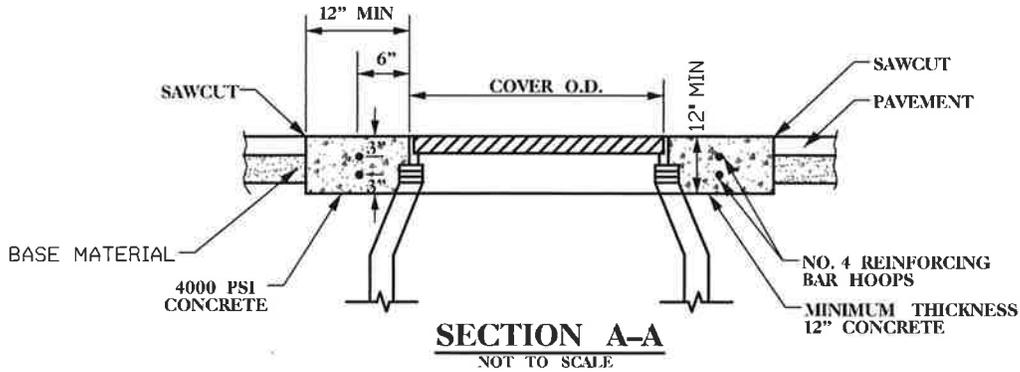
**3.09 BID ITEM:**

Item 802.1 - Level II Pruning - per each

Item 802.2 - Level I Pruning, Soil Amendment, and Fertilization - per each

# IMP Transportation and Capital Improvements sign specs.





NOTE:

1. CONCRETE SHALL BE 4000 PSI, MIN., AND REINFORCED WITH NO. 4 BARS, AS SHOWN.
2. THE CONCRETE SHALL EXTEND TO THE EDGE OF SAWCUT PAVEMENT.
3. MANHOLE RING ENCASEMENT IS REQUIRED ON ALL NEW, EXISTING, OR ADJUSTED MANHOLES.



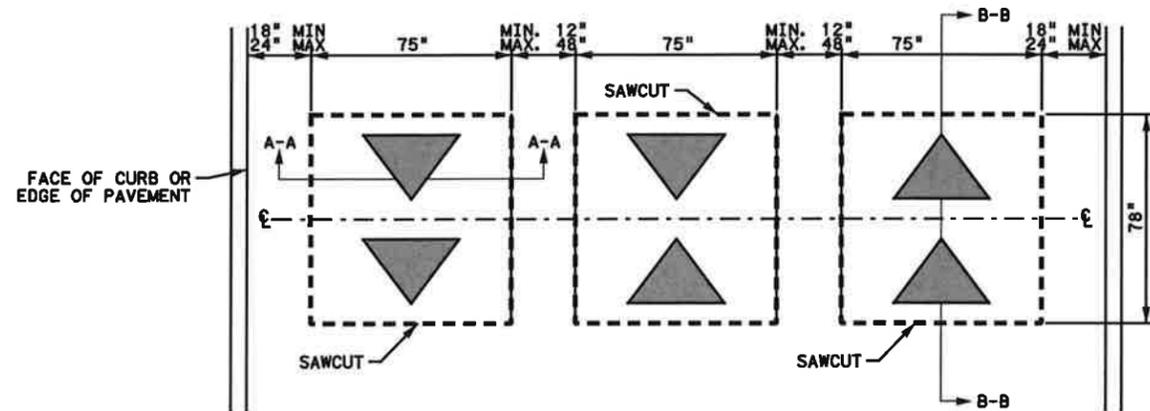
*Stephen J. Aniol*  
10/10/2016

	<b>Lockwood, Andrews &amp; Newnam, Inc.</b> <small>A LEO A. DALY COMPANY</small>	
<b>TBPE REGISTRATION NO. F-2614</b>		
<b>CITY OF SAN ANTONIO</b> TRANSPORTATION & CAPITAL IMPROVEMENTS		
COSA STREET MAINTENANCE CONTRACT MANHOLE ADJUSTMENTS		
<b>MANHOLE CONCRETE          ADJUSTMENT DETAIL</b>		
SUBMITTAL	PROJECT NO.: _____	DATE: SEP. 2015
DRAWN BY: _____	DESIGN BY: _____	CHECKED BY: _____
		SHEET 1 OF 1



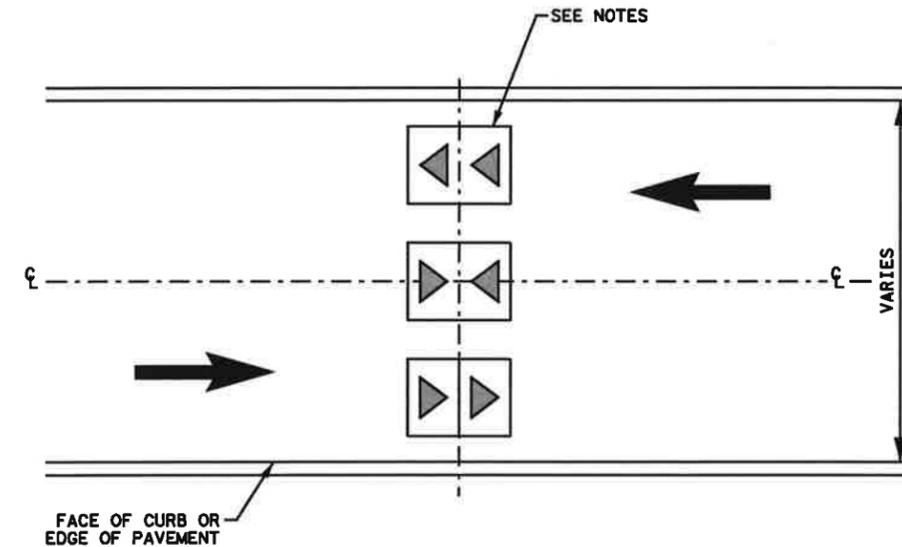
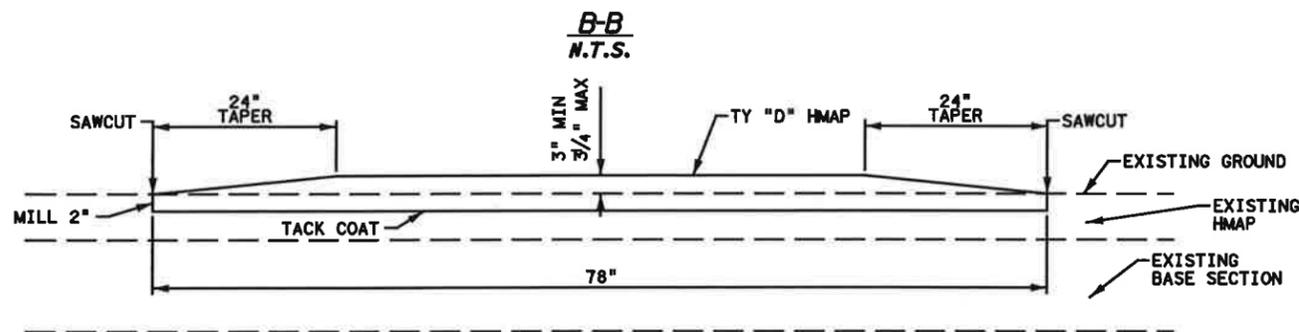
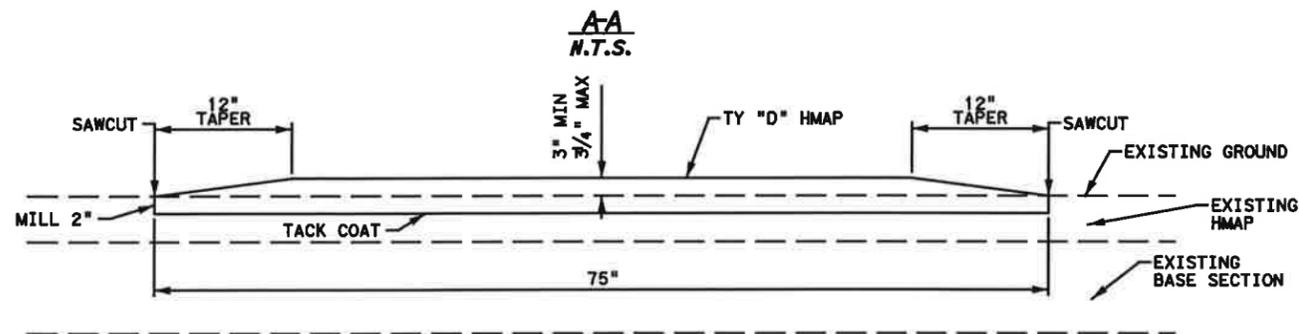


Plotted on: \$DATE\$ \$TIME\$



**NOTE:**

1. CONTRACTOR TO TAKE INTO ACCOUNT COMPACTION TO ACHIEVE REQUIRED DIMENSIONS.
2. SPEED HUMP HEIGHT SHALL BE 3" MINIMUM WITH A MAXIMUM HEIGHT OF 3/4" AFTER COMPACTION.
3. ASPHALT MILL AND OVERLAY LIMITS TO BE VERIFIED BY THE ENGINEER OR PROJECT MANAGER PRIOR TO INSTALLATION OF TYPE III SPEED CUSHION. CITY MAY CHOOSE TO COMPLETE BASE AND PAVEMENT REPLACEMENT AS PART OF MILL AND OVERLAY LIMITS. BASE AND PAVEMENT REPLACEMENT SHALL FOLLOW CITY OF SAN ANTONIO SPECIFICATION 230. PAYMENT FOR BASE AND PAVEMENT REPLACEMENT SHALL FOLLOW CoSA ITEM 230.
4. EXISTING RUBBER CUSHIONS THAT ARE REMOVED FOR INSTALLATION OF TYPE III SPEED CUSHIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
5. ACTUAL MILL AND OVERLAY LIMITS TO VARY DEPENDING ON CONDITION OF EXISTING PAVEMENT. PAYMENT FOR MILL LIMITS TO BE UNDER ITEM 208.1 SALVAGING, HAULING, & STOCKPILING RECLAIMABLE ASPHALTIC MATERIAL.



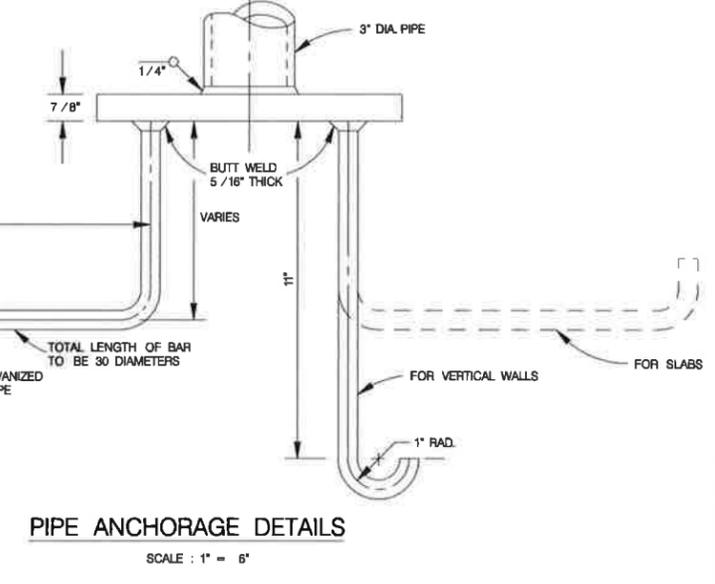
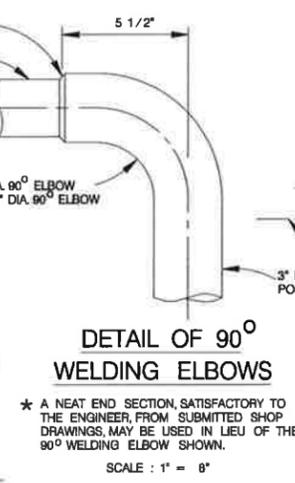
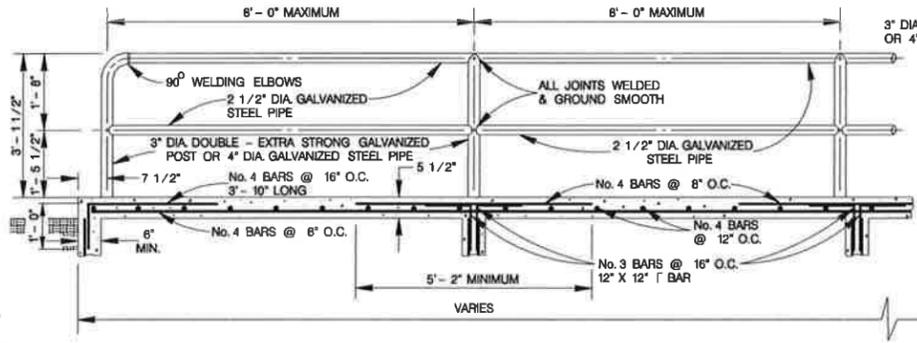
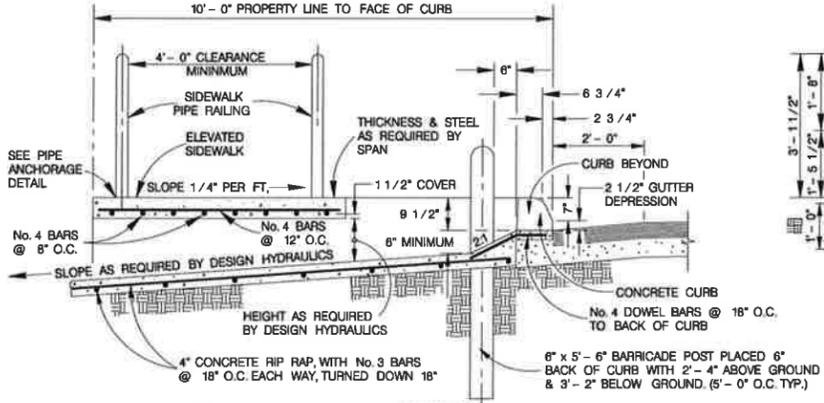
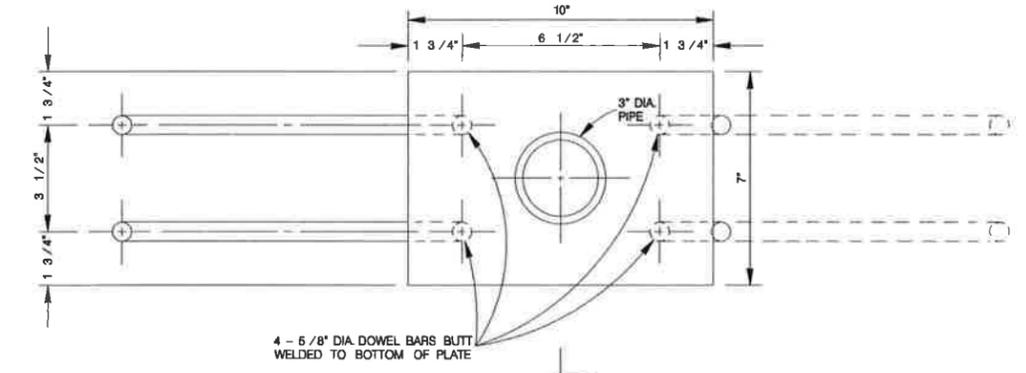
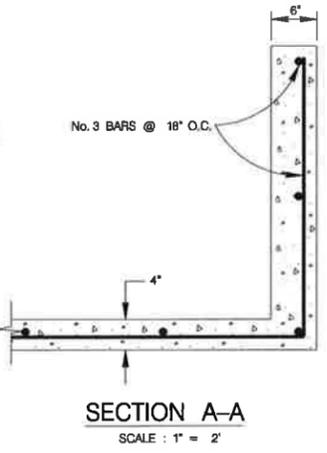
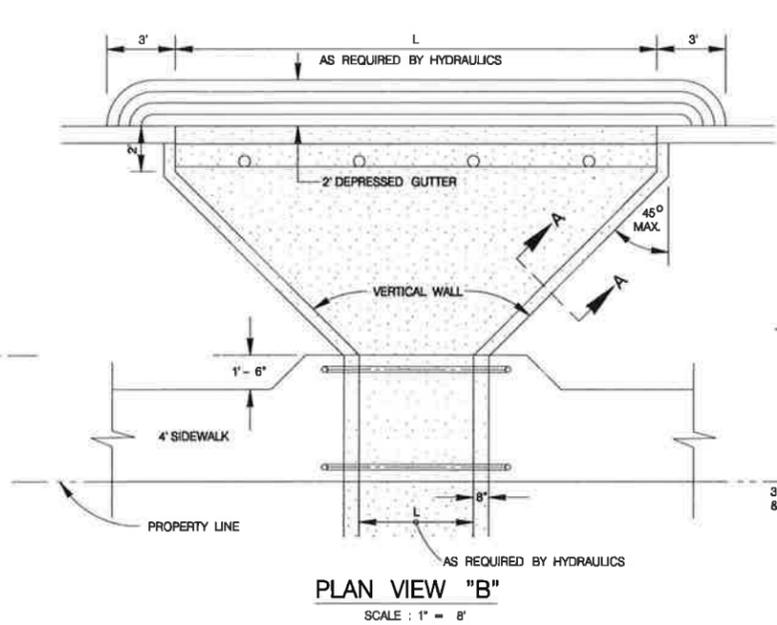
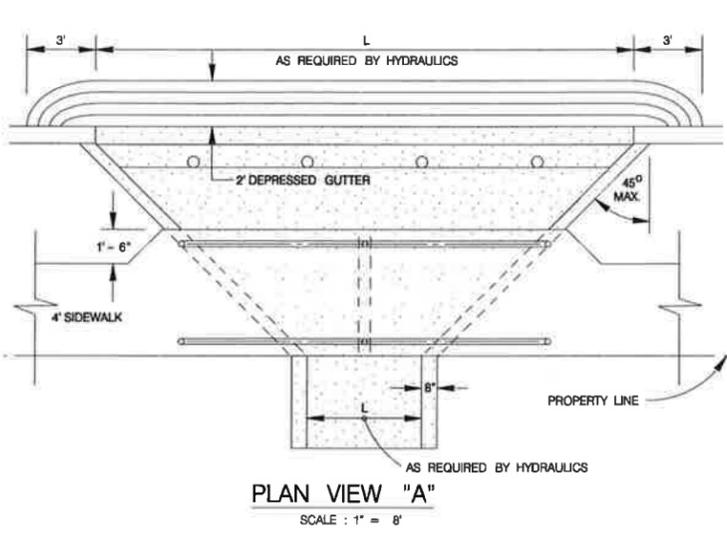
MILL AND OVERLAY LIMITS  
NTS

SEPTEMBER 2016


**CITY OF SAN ANTONIO**  
TRANSPORTATION AND CAPITAL IMPROVEMENTS  
**ASPHALT CONCRETE SPEED CUSHION TYPE III DETAIL**

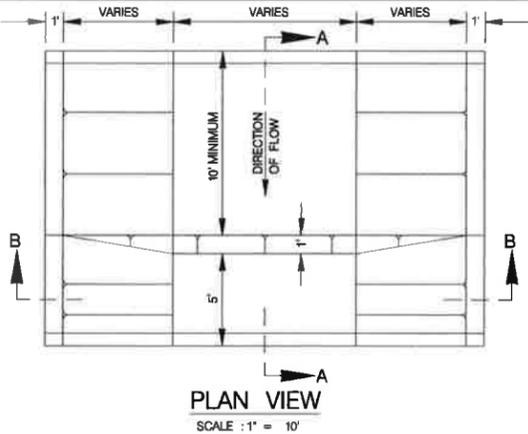
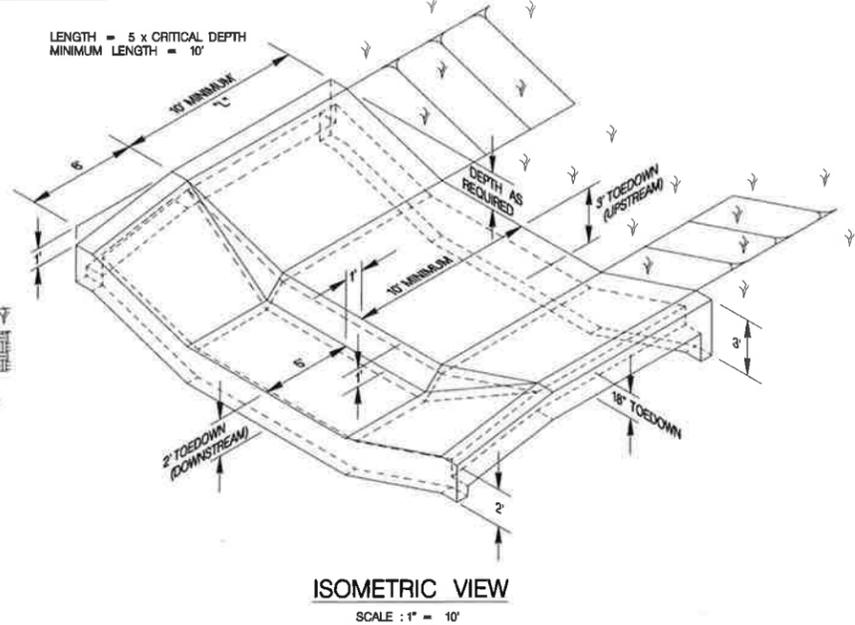
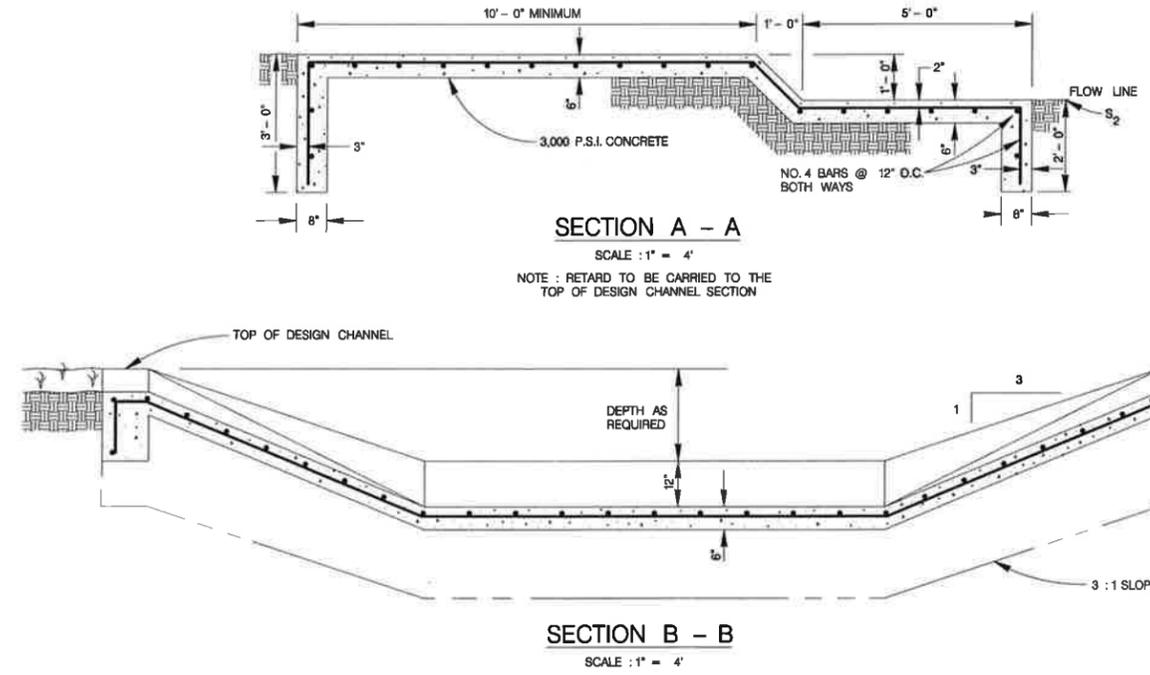
100% SUBMITTAL	PROJECT NO. 1	DATE: 9/30/16
DRAWN BY:	DSGN. BY:	CHKD. BY:
		SHEET NO. 1

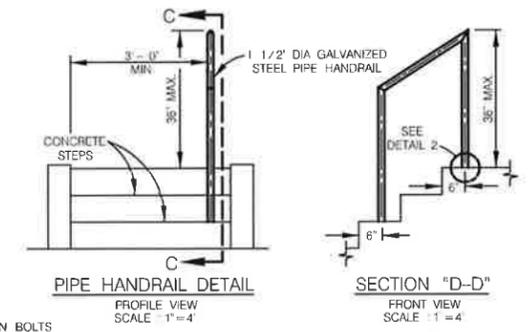
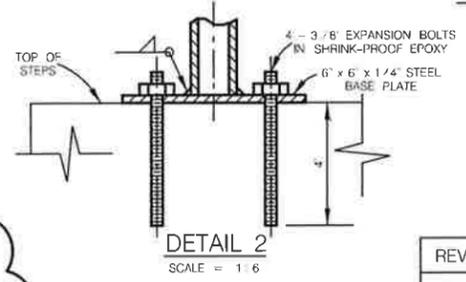
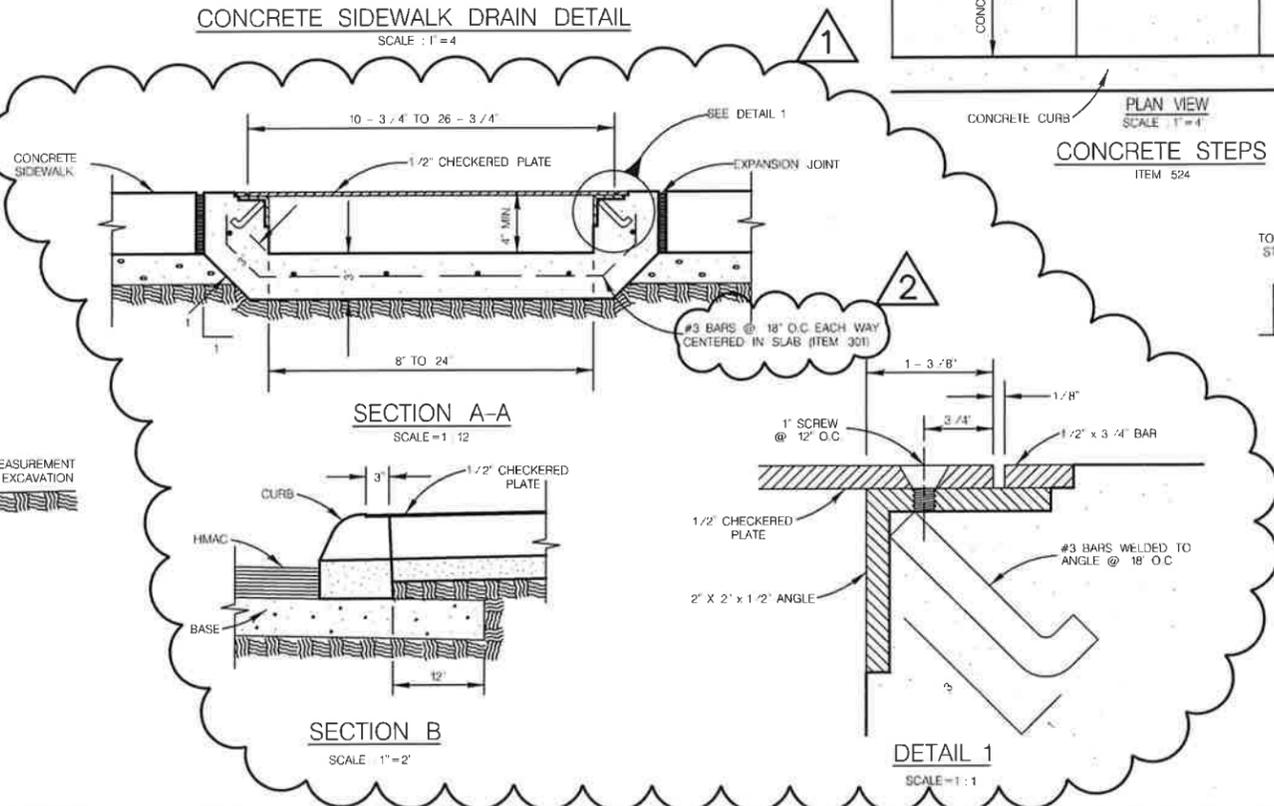
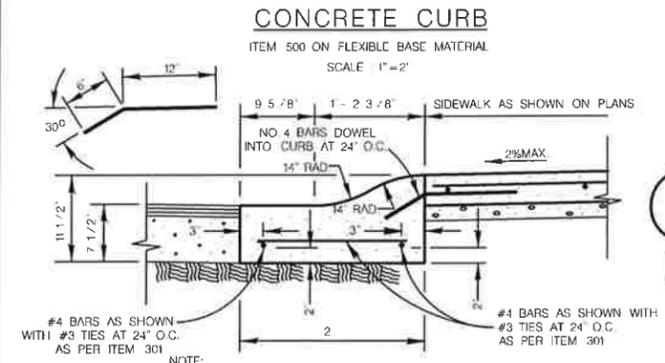
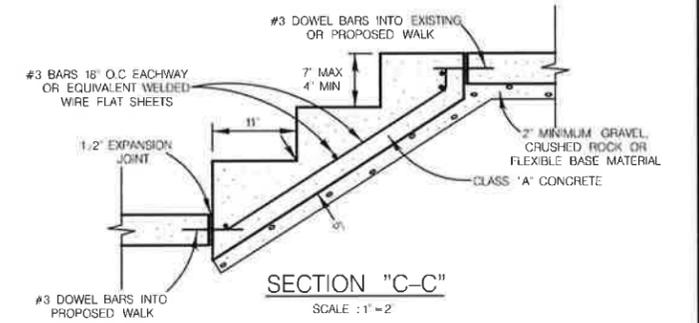
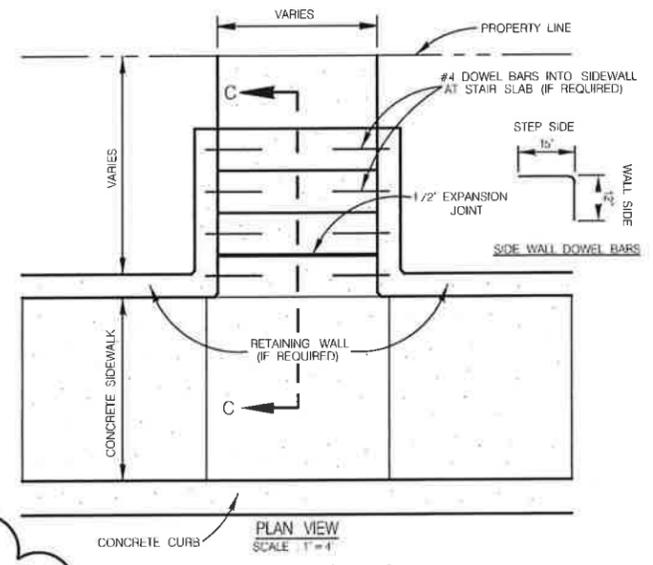
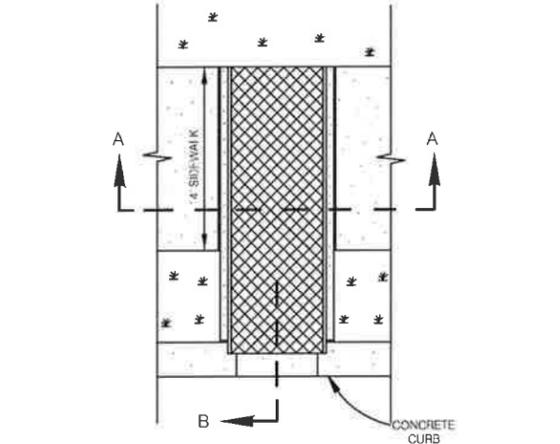
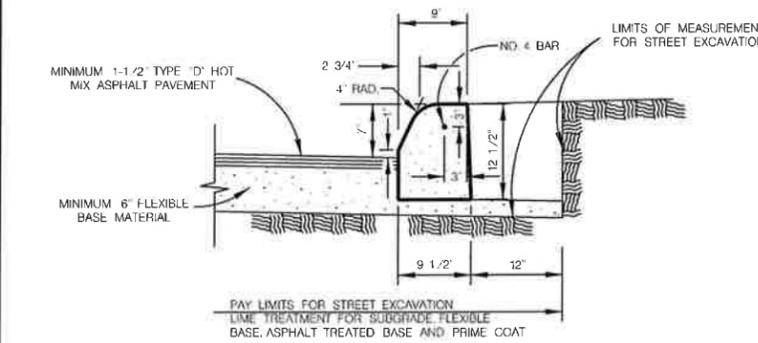
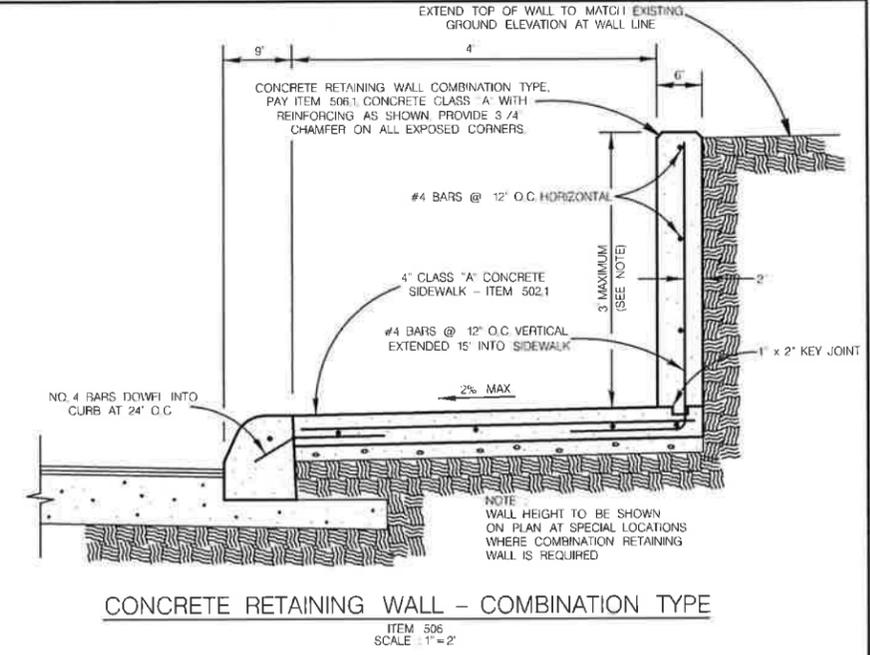
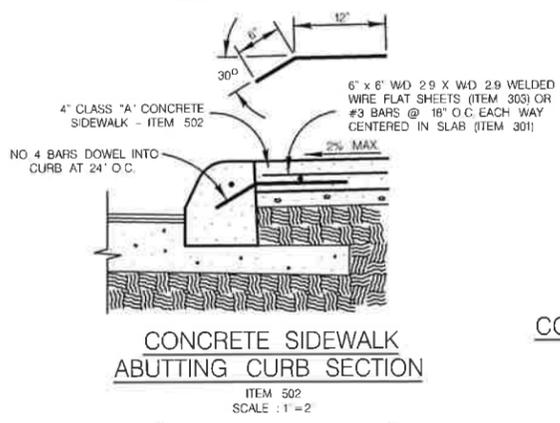
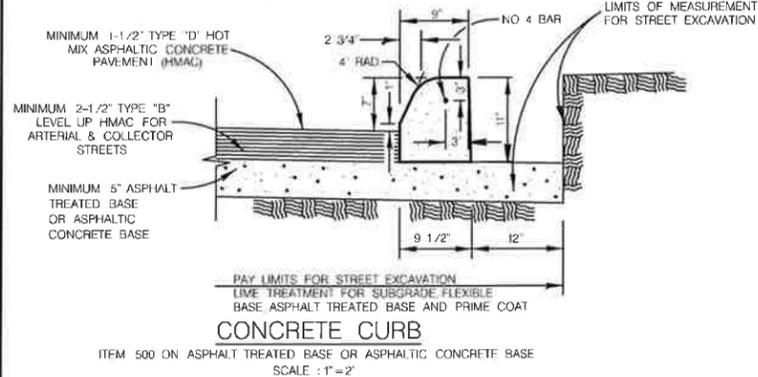
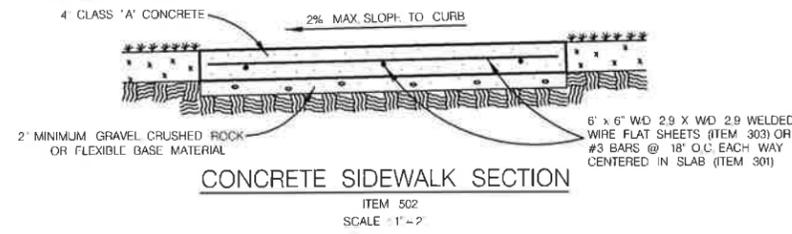
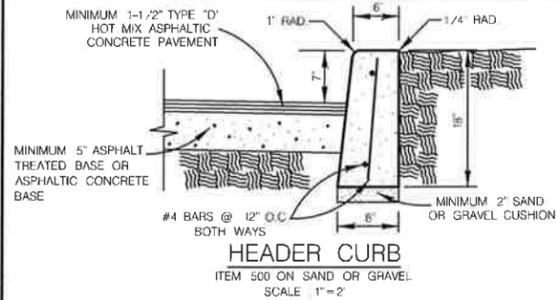
Design File names: \$FILES\$



NOTE: 1. ALLOW FOR REFLECTOR BUTTONS ON BARRICADE POST. USE ONE 3/4" BUTTON PER POST.  
2. POST SHALL RECEIVE TWO COATS OF ALUMINUM PAINT.

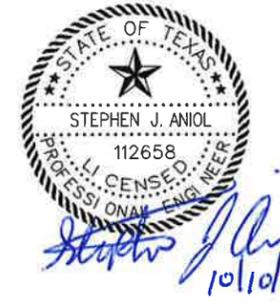
**RETARD DETAILS**



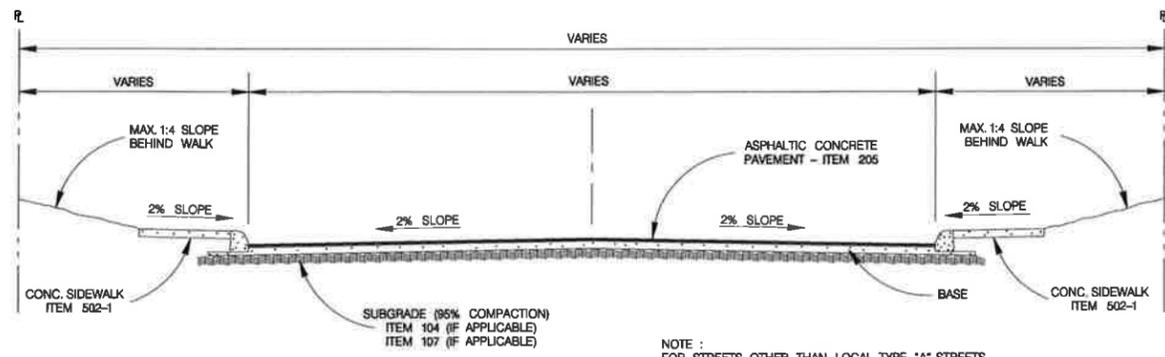


NOTES:  
1. PLACE STEPS TO CONFORM WITH PROPOSED PARKWAY GRADING  
2. 1-1/2" DIA GALVANIZED STEEL PIPE HANDRAIL REQUIRED ON ONE SIDE OF THE STEPS WHEN 3 OR MORE RISERS ARE USED, OR AS DESIGNED BY ENGINEER TO BE PAID UNDER ITEM 522

REV. NO.	DESCRIPTION	DATE
1	SIDEWALK DRAIN THICKNESS	10/10/16
2	SIDEWALK DRAIN BOX REINFORCEMENT	10/10/16

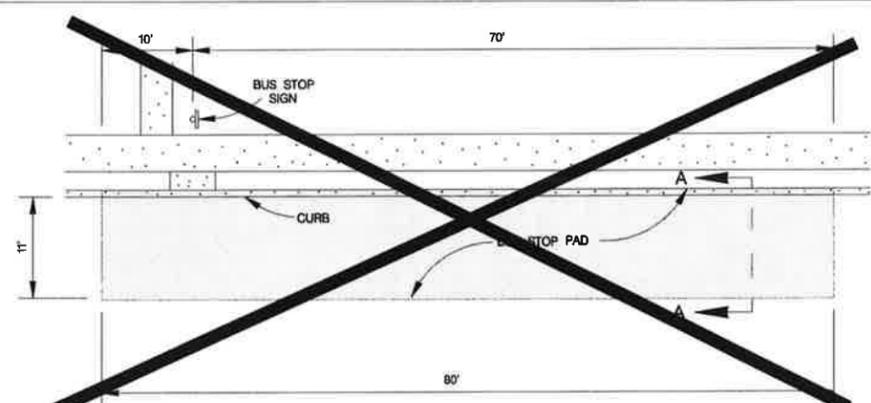


MAY 2009  
CITY OF SAN ANTONIO  
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT  
MISCELLANEOUS CONSTRUCTION STANDARDS I

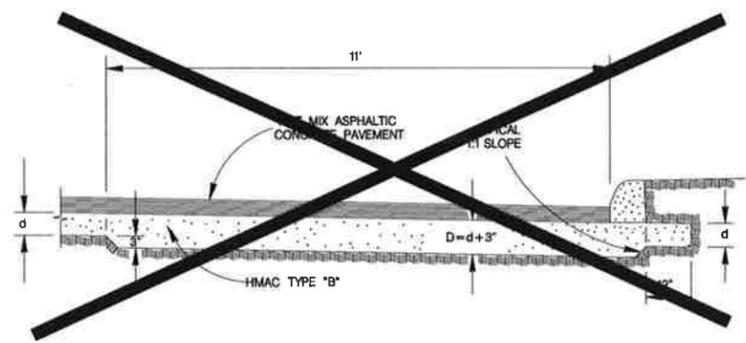


**TYPICAL STREET SECTION**  
SCALE : 1"=8'

NOTE :  
FOR STREETS OTHER THAN LOCAL TYPE "A" STREETS,  
THE EDGE OF THE SIDEWALK MUST BE LOCATED A  
MINIMUM OF TWO FEET AWAY FROM THE BACK OF  
THE CURB.



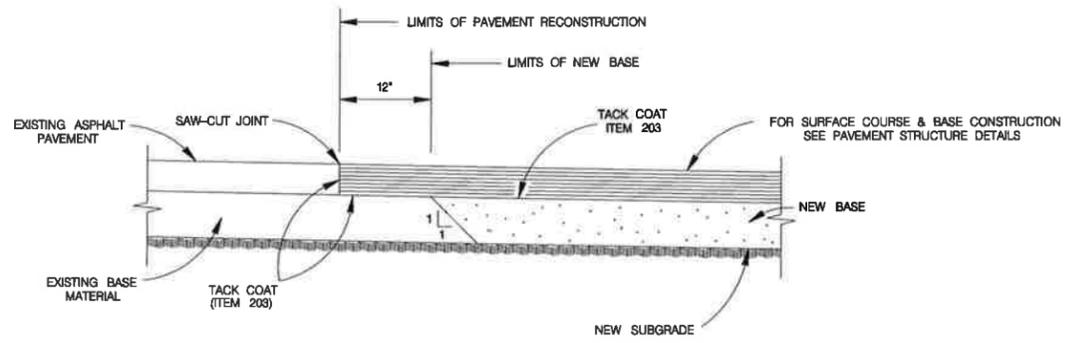
**PLAN VIEW**  
SCALE : 1"=20'



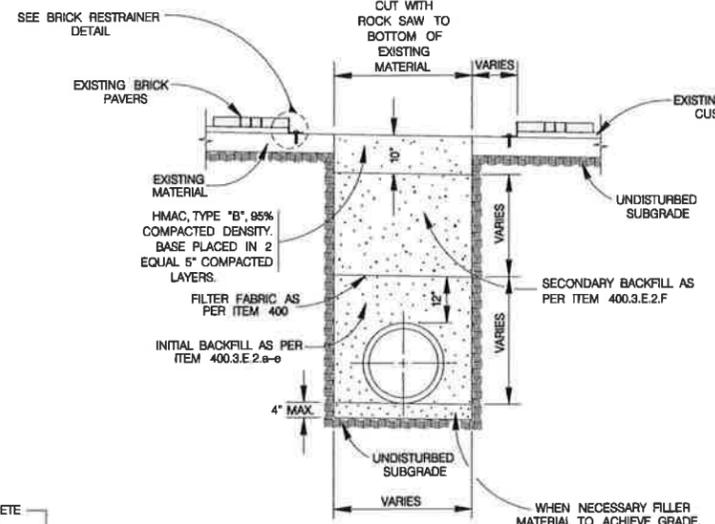
**SECTION "A-A"**  
SCALE : 1"=4'

NOTES :  
1. EXCAVATION FOR UNFINISHED PAVEMENT SECTION WILL BE PAID UNDER ITEM NO. 104 "UTILITY EXCAVATION".  
2. BASE MATERIALS :  
A) IF THE MEASUREMENT FOR THE BASE MATERIAL IS PER SQUARE YARD, THE FINISHED PAVEMENT SECTION WILL BE PAID FOR UNDER ITEM NO. 205 "ASPHALTIC CONCRETE PAVEMENT" - PER TON.  
B) IF THE MEASUREMENT FOR THE HMAC MATERIAL IS PER SQUARE YARD, NO EXTRA PAYMENT WILL BE MADE FOR THE FINISHED PAVEMENT.

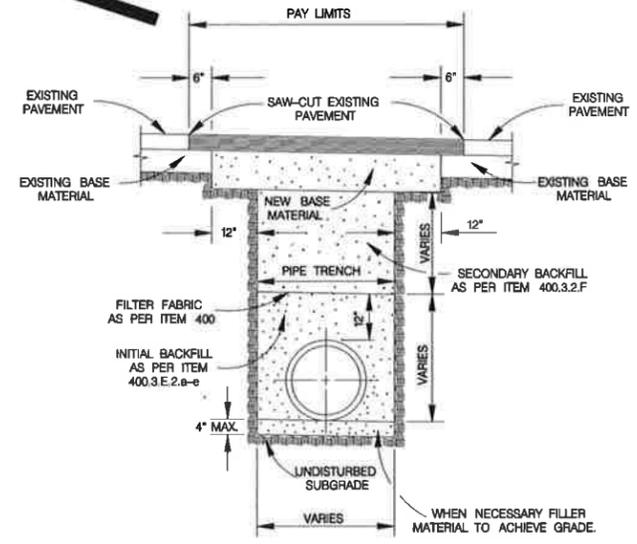
**HMAC BUS STOP PAD**  
NEED CITY ENGINEER'S APPROVAL  
TO USE HMAC BUS PAD



**PAVEMENT JUNCTION DETAILS**  
SCALE : 1"=2'

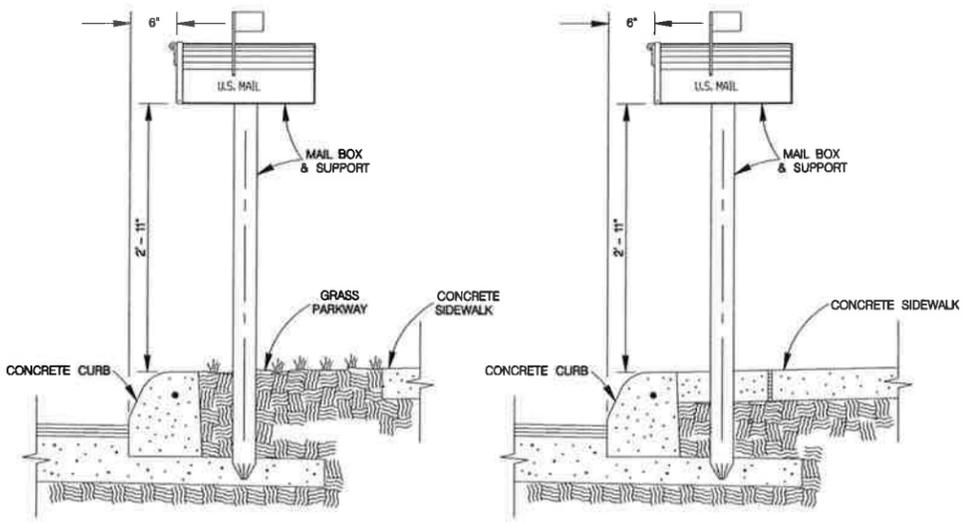


**TYPICAL BASE REPLACEMENT FOR BRICK SURFACED STREET SECTION**  
ITEM 511.3  
SCALE : 1"=4'

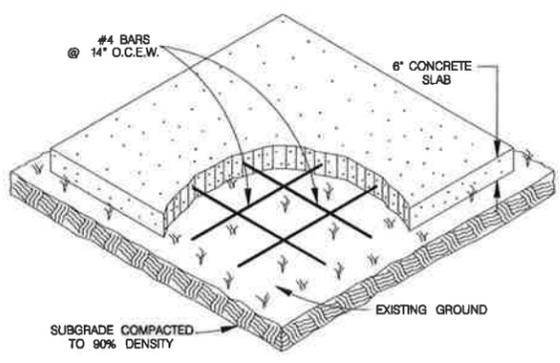


NOTES :  
1. FOR LOCAL TYPE "A" & "B" STREETS (RESIDENTIAL) USE 6" ASPHALT CONCRETE BASE TYPE "B" WITH 1-1/2" TYPE "D" HOT MIX ASPHALTIC CONCRETE PAVEMENT.  
2. FOR ARTERIAL & SECONDARY STREETS (COMMERCIAL) USE 12.5" TYPE "B" HOT MIX ASPHALTIC CONCRETE PAVEMENT LEVELING-UP COURSE & 1-1/2" TYPE "D" HOT MIX ASPHALTIC CONCRETE PAVEMENT SURFACE COURSE.

**TYPICAL PAVEMENT REPLACEMENT**  
ITEM 511  
SCALE : 1"=4'

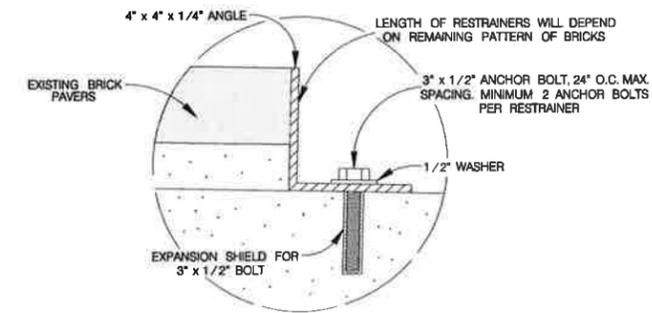


**MAIL BOX LOCATION**  
ITEM 513.1



**MAIL BOX PAD NOTES :**  
1. THE CONTRACTOR WILL CONSTRUCT SLABS FOR "TEMPORARY MAIL BOX COLLECTION PAD" FOR THE UNITED STATES POSTAL SERVICE WITH LOCATIONS AND SIZES SPECIFIED BY THE CITY ENGINEER DURING CONSTRUCTION.  
2. THE CONSTRUCTION OF SLABS SHALL CONFORM TO ITEM 513 "REMOVING AND RELOCATING MAILBOXES".  
3. PAYMENT WILL BE MADE UNDER ITEM 513.2 "COMMUNITY MAILBOX SLAB - PER SQUARE YARD".  
4. UNIT PRICE WILL INCLUDE REMOVAL OF "TEMPORARY MAIL BOX COLLECTION PAD" SLABS AT THE END OF THE PROJECT. NO SEPARATE PAY ITEM.

**COMMUNITY MAIL BOX SLAB**  
ITEM 513.2  
SCALE : 1"=4'

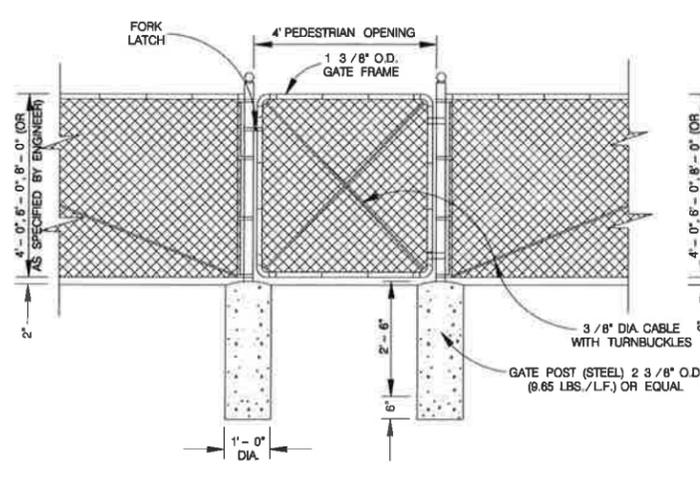


**BRICK RESTRAINER DETAIL**  
SCALE = 1 : 8

**FEBRUARY 2010**  
**CITY OF SAN ANTONIO**  
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

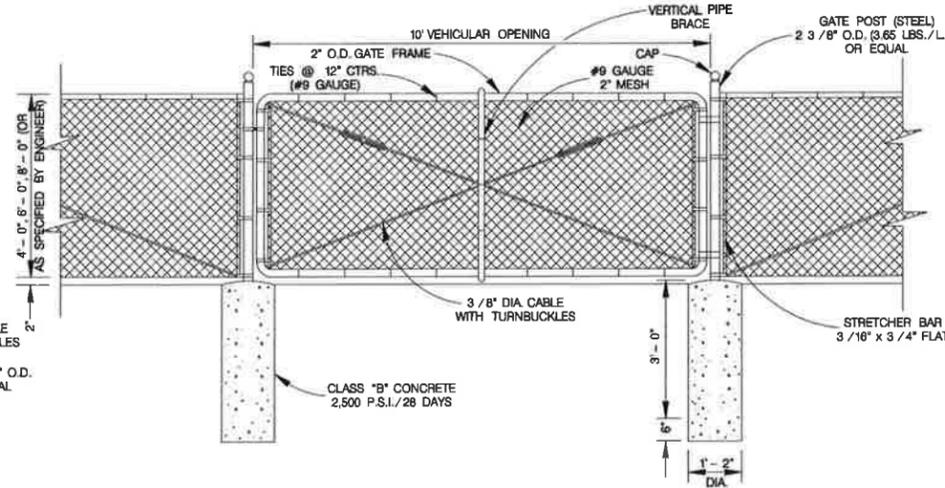
**MISCELLANEOUS CONSTRUCTION STANDARDS II**

% SUBMITTAL	PROJECT NO.:	DATE:	
DRWN. BY: V. VASQUEZ	DSGN. BY:	CHKD. BY: P.S. HOSSEINI, P.E.	SHEET NO. OF



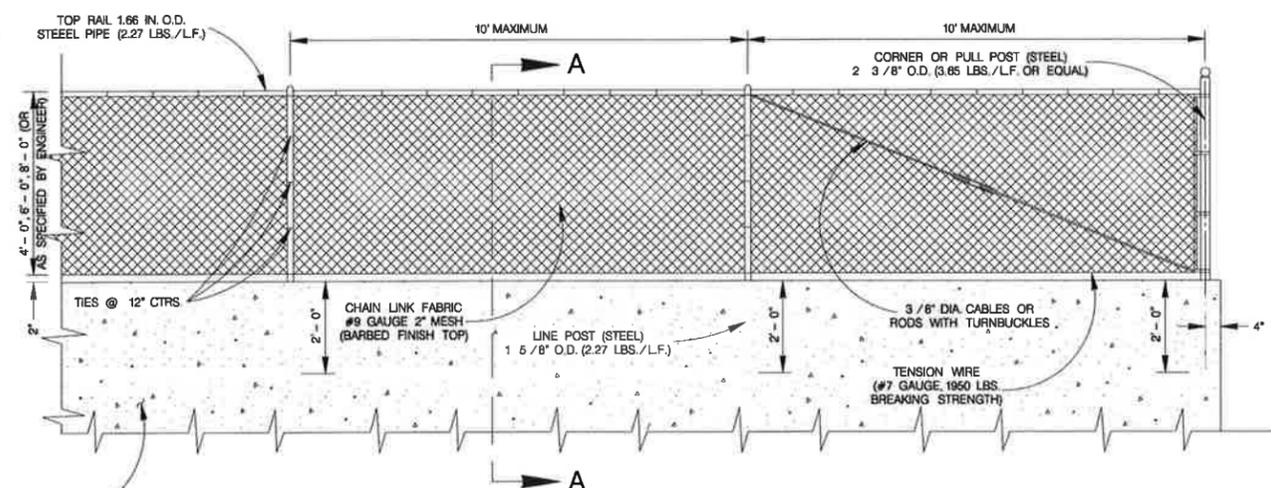
**PEDESTRIAN GATE**

ITEM 507.4  
SCALE: 1" = 4'



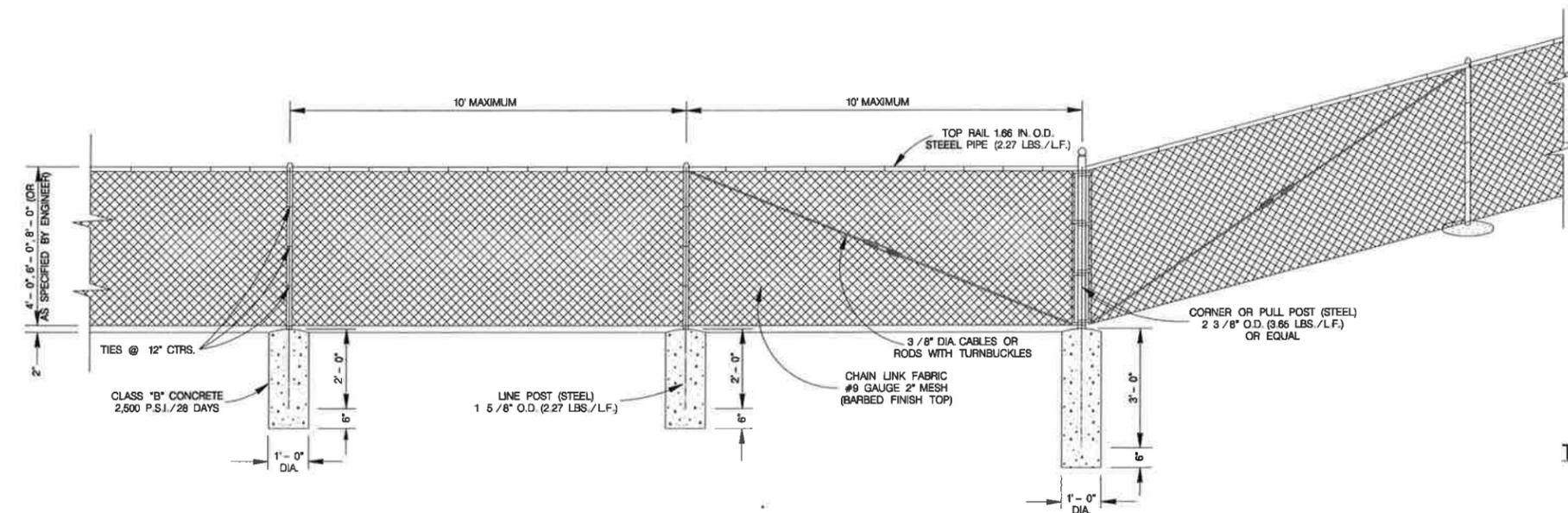
**VEHICULAR GATE**

ITEM 507.5  
SCALE: 1" = 4'



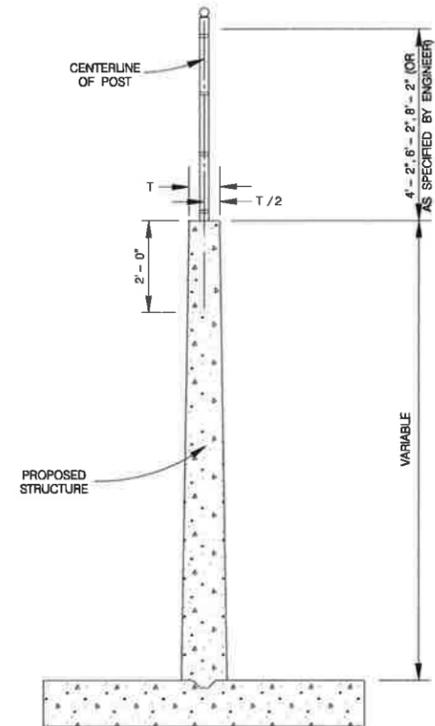
**FRONT ELEVATION**

SCALE: 1" = 4'



**TYPICAL FENCE DETAIL**

SCALE: 1" = 4'



**SECTION VIEW "A-A"**

SCALE: 1" = 4'

TYPICAL FOR FENCING IN RETAINING WALLS, HEADWALLS & WINGWALLS

**GENERAL NOTES**

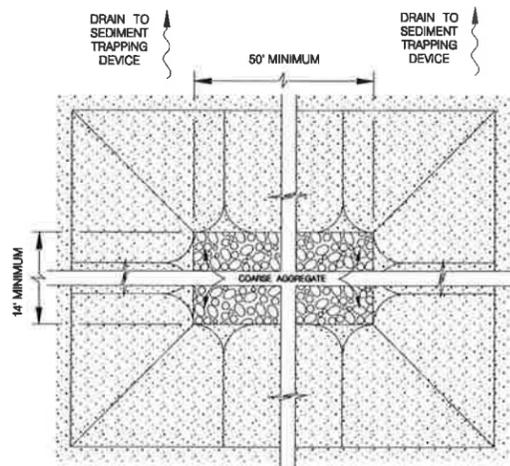
1. ALL CONCRETE FOOTINGS SHALL BE CROWNED A MINIMUM OF 1" ABOVE THE EXISTING GROUND, WHERE FOOTINGS ARE REQUIRED ONLY.
2. FENCING SHALL BE LOCATED IN RETAINING WALLS, HEADWALLS & WINGWALLS AT LOCATIONS SHOWN ON THE PLANS.
3. CORNER OR PULL POSTS WILL BE REQUIRED AT ALL END POINTS AND ANGLE POINTS.
4. CONCRETE FOR SEPARATE POST FOOTINGS SHALL BE IN ACCORDANCE WITH ITEM 300-B CLASS B CONCRETE.
5. PAYMENT SHALL BE MADE AS SPECIFIED IN ITEM NO. 507 "CHAIN LINK WIRE FENCE OF CITY OF SAN ANTONIO" STANDARD SPECIFICATIONS FOR CONSTRUCTION.

MAY 2009

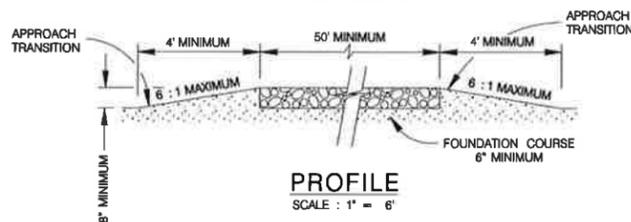
CITY OF SAN ANTONIO  
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

**CHAIN LINK WIRE FENCE  
STANDARDS**

DATE:	PROJECT NO.:	SUBMITTAL:
DATE:	DRGN. BY: V. VASQUEZ	CHKD. BY: R.S. HOSSEINI, P.E.
DATE:	SHEET NO.:	OF:



**PLAN**  
SCALE: 1" = 6'

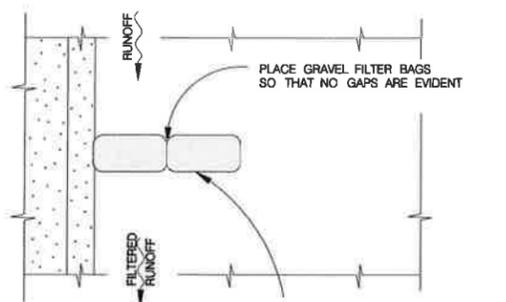


**PROFILE**  
SCALE: 1" = 6'

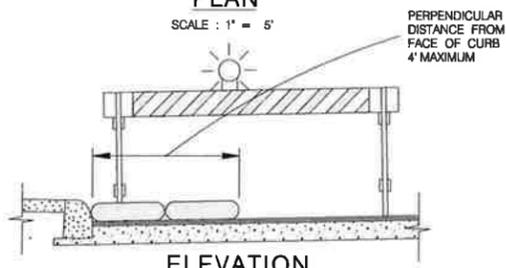
**GENERAL NOTES**

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

**CONSTRUCTION EXIT - TYPE 1**



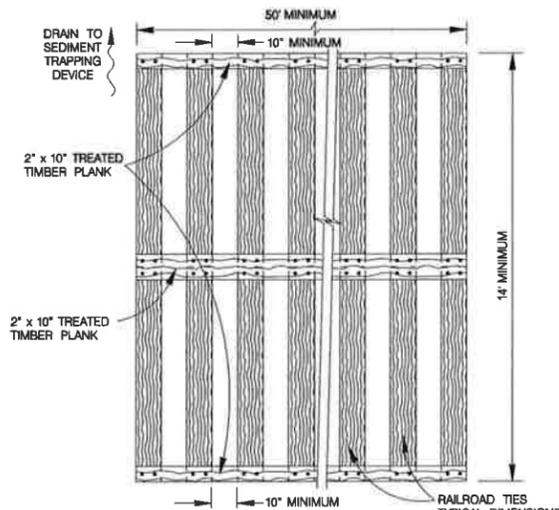
**PLAN**  
SCALE: 1" = 5'



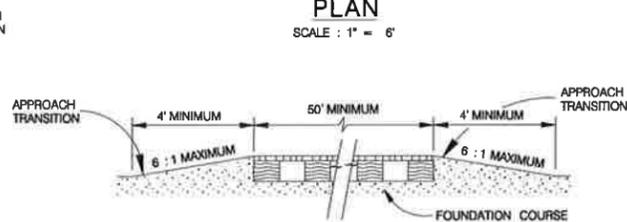
**ELEVATION**  
SCALE: 1" = 5'

NOTE: STRADDLE GRAVEL FILTER BAGS WITH TYPE 1 BARRICADES MOUNTED WITH TYPE "A" FLASHING WARNING LIGHT. SEE BARRICADE CONSTRUCTION SIGN DETAILS. PLACE FLASHING LIGHTS AWAY FROM GUTTER, FLUSH WITH OUTSIDE EDGE OF BAG CONFIGURATION.

**GRAVEL FILTER BAGS**



**PLAN**  
SCALE: 1" = 6'

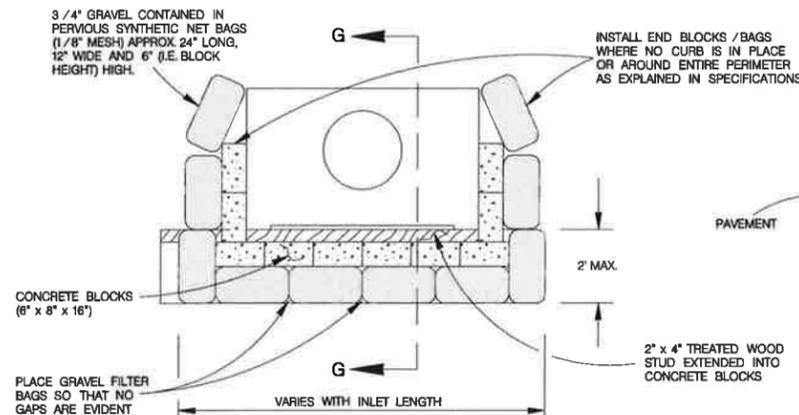


**PROFILE**  
SCALE: 1" = 6'

**GENERAL NOTES**

1. THE LENGTH OF THE TYPE 2 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE TREATED TIMBER PLANKS SHALL BE ATTACHED TO THE RAILROAD TIES WITH 1/2" x 6" MIN. LAG BOLTS. OTHER FASTENERS MAY BE USED AS APPROVED BY THE ENGINEER.
3. THE TREATED TIMBER PLANKS SHALL BE #2 GRADE MIN., AND SHOULD BE FREE FROM LARGE AND LOOSE KNOTS.
4. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
6. THE CONSTRUCTION EXIT SHOULD BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
7. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

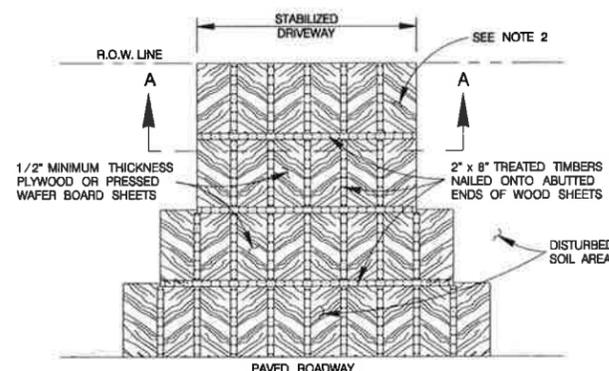
**CONSTRUCTION EXIT - TYPE 2**



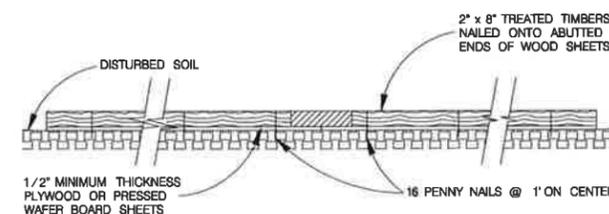
**PLAN**  
SCALE: 1" = 5'

NOTE: GRAVEL FILTERS CAN BE USED ON PAVEMENT OR BARE GROUND.

**CURB INLET GRAVEL FILTER**



**PLAN**  
SCALE: 1" = 20'

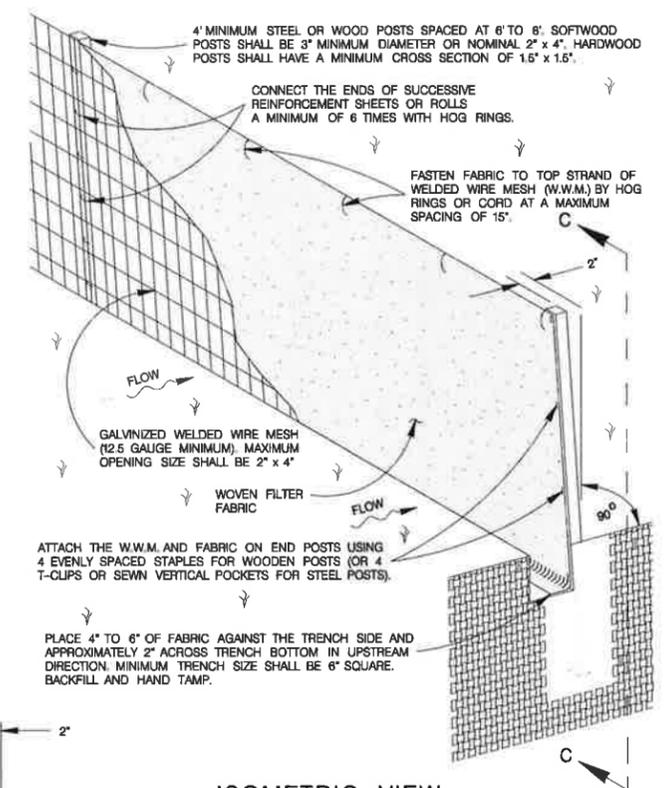


**SECTION A-A**  
SCALE: 1" = 2'

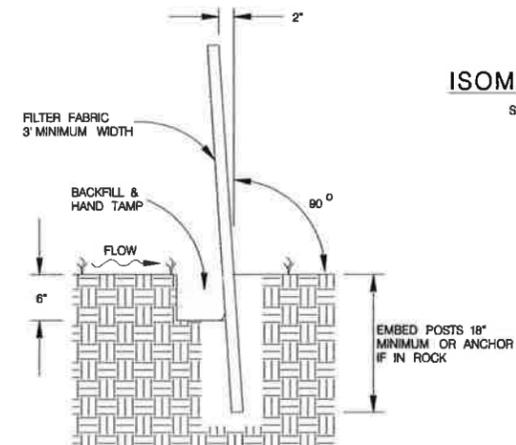
**GENERAL NOTES**

1. THE LENGTH OF THE TYPE 3 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
2. THE TYPE 3 CONSTRUCTION EXIT MAY BE CONSTRUCTED FROM OPEN GRADED CRUSHED STONE WITH A SIZE OF 2 TO 4 INCHES SPREAD A MINIMUM OF 4 INCHES THICK TO THE LIMITS SHOWN ON THE PLANS.
3. THE TREATED TIMBER PLANKS SHALL BE #2 GRADE MIN., AND SHOULD BE FREE FROM LARGE AND LOOSE KNOTS.
4. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

**CONSTRUCTION EXIT - TYPE 3**



**ISOMETRIC VIEW**  
SCALE: 1" = 2'



**SECTION C-C**  
SCALE: 1" = 2'

**SEDIMENT CONTROL FENCE USAGE GUIDELINES**

A SEDIMENT CONTROL FENCE MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUN-OFF. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED.

SEDIMENT CONTROL FENCE SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 100 GPM /FT SQUARED. SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN 2 ACRES.

**GENERAL NOTES**

1. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

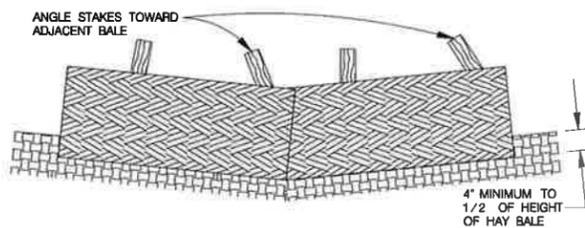
**TEMPORARY SEDIMENT CONTROL FENCE**

JANUARY 2005

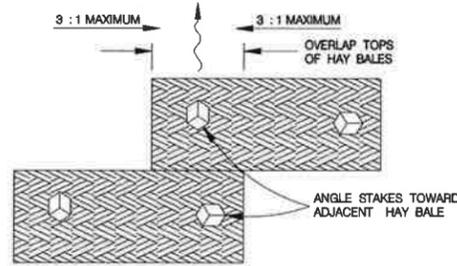
CITY OF SAN ANTONIO  
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

**TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 1**

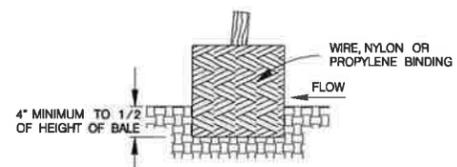
% SUBMITTAL	PROJECT NO.:	DATE:
DRWN BY: V. VASQUEZ	DSGN. BY.:	CHKD. BY.:
		SHEET NO. OF



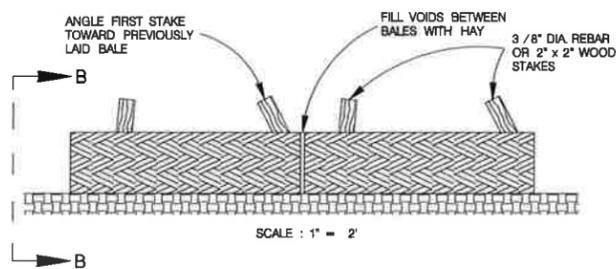
**PROFILE VIEW**  
SCALE : 1" = 2'



**PLAN VIEW**  
SCALE : 1" = 2'



**SECTION B-B**  
SCALE : 1" = 2'



**SECTION B-B**  
SCALE : 1" = 2'

**BALED HAY USAGE GUIDELINES**

A BALED HAY INSTALLATION MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A TWO YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED. THE INSTALLATION SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 5 GPM / FT SQUARED OF CROSS SECTIONAL AREA. BALED HAY MAY BE USED AT THE FOLLOWING LOCATIONS:

1. WHERE THE RUNOFF APPROACHING THE BALED HAY FLOWS OVER DISTURBED SOIL FOR LESS THAN 100'. IF THE SLOPE OF THE DISTURBED SOIL EXCEEDS 10 %, THE LENGTH OF SLOPE UPSTREAM OF THE BALED HAY SHOULD BE LESS THAN 50'.
2. WHERE THE INSTALLATION WILL BE REQUIRED FOR LESS THAN 3 MONTHS.
3. WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1/2 ACRE.

FOR BALED HAY INSTALLATIONS IN SMALL DITCHES, THE FOLLOWING ADDITIONAL CONSIDERATIONS APPLY:

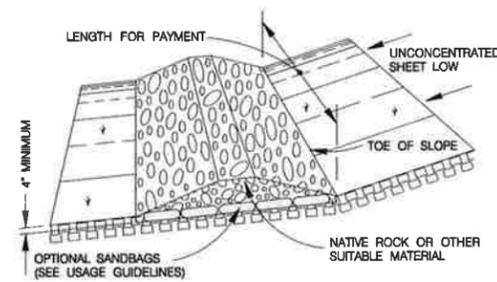
1. THE DITCH SIDESLOPES SHOULD BE GRADED AS FLAT AS POSSIBLE TO MAXIMIZE THE DRAINAGE FLOW RATE THRU THE HAY.
2. THE DITCH SHOULD BE GRADED LARGE ENOUGH TO CONTAIN THE OVERLAPPING DRAINAGE WHEN SEDIMENT HAS FILLED TO THE TOP OF THE BALED HAY.

BALES SHOULD BE REPLACED USUALLY EVERY 2 MONTHS OR MORE OFTEN DURING WET WEATHER WHEN LOSS OF STRUCTURAL INTEGRITY IS ACCELERATED.

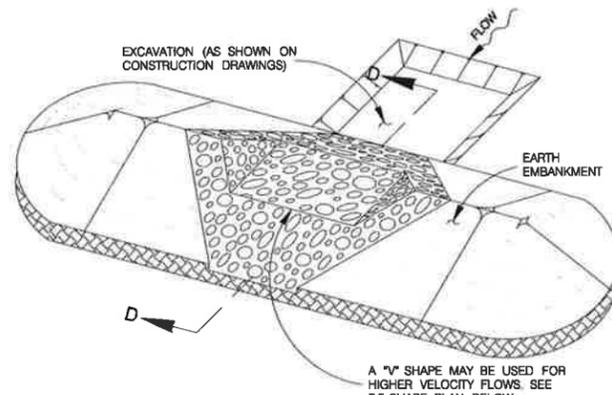
**GENERAL NOTES**

1. HAY BALES SHALL BE A MINIMUM OF 30" IN LENGTH AND WEIGH A MINIMUM OF 50 LBS.
2. HAY BALES SHALL BE BOUND BY EITHER WIRE OR NYLON OR POLYPROPYLENE STRING. THE BALES SHALL BE COMPOSED ENTIRELY OF VEGETABLE MATTER.
3. HAY BALES SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4" AND, WHERE POSSIBLE, ONE-HALF THE HEIGHT OF THE BALES.
4. HAY BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES. THE BALES SHALL BE PLACED WITH BINDINGS PARALLEL TO THE GROUND.
5. HAY BALES SHALL BE SECURELY ANCHORED IN PLACE WITH 3 / 8" DIA REBAR OR 2" x 2" WOOD STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE SHALL BE ANGLED TOWARDS THE PREVIOUSLY LAID BALES TO FORCE THE BALES TOGETHER.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

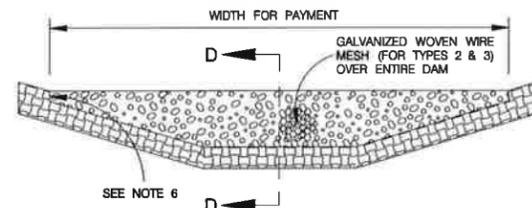
**BALED HAY FOR EROSION CONTROL**



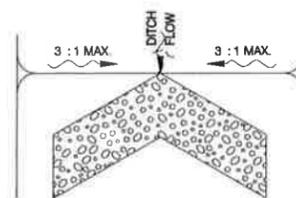
**TYPE 1 FILTER DAM AT TOE OF SLOPE**  
SCALE : 1" = 10'



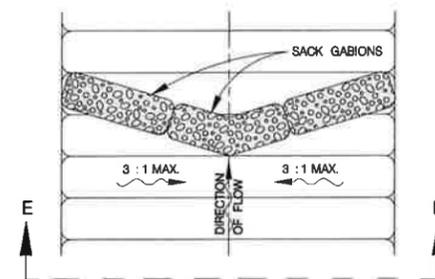
**TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP**  
SCALE : 1" = 10'



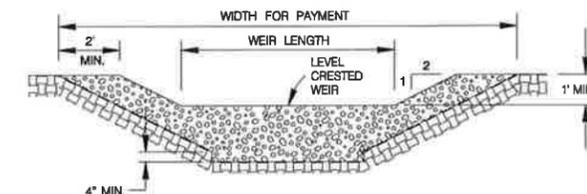
**TYPE 1, 2 & 3 FILTER DAM AT CHANNEL SECTIONS**  
SCALE : 1" = 6'



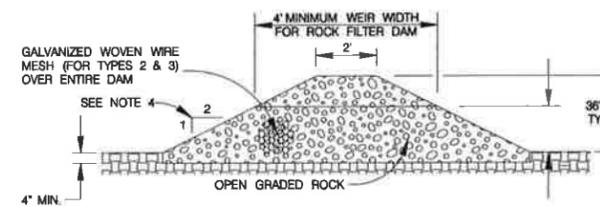
**"V" SHAPE PLAN VIEW**  
NOT TO SCALE



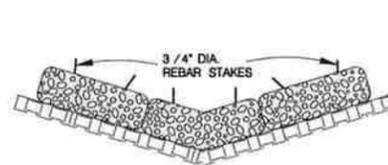
**PLAN VIEW**  
SCALE : 1" = 10'



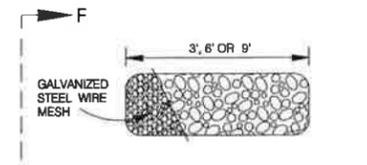
**PROFILE OF TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP**  
SCALE : 1" = 6'



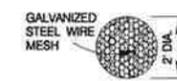
**SECTION D-D**  
SCALE : 1" = 6'



**SECTION E-E**  
SCALE : 1" = 10'



**TYPE 4 SACK GABION DETAIL**  
SCALE : 1" = 6'



**SECTION F-F**  
SCALE : 1" = 6'

**TYPE 4 FILTER DAM AT DITCHES & SMALLER CHANNELS PLAN VIEW**

**ROCK FILTER DAMS**

**ROCK FILTER DAM USAGE GUIDELINES**

ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLOAD RUNOFF AND / OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 60 GPM / FT SQUARED OF CROSS SECTIONAL AREA. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.

**TYPE 1 (18" HIGH WITH NO WIRE MESH) :**

TYPE 1 MAY BE USED AT THE TOE OF SLOPES, AROUND INLETS, IN SMALL DITCHES AND AT DIKE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED HIGH VELOCITY FLOWS (APPROXIMATELY 8 FT./SEC OR MORE) IN WHICH AGGREGATE WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

**TYPE 2 (18" HIGH WITH WIRE MESH) :**

TYPE 2 MAY BE USED IN DITCHES AND AT DIKE OR SWALE OUTLETS.

**TYPE 3 (36" HIGH WITH WIRE MESH) :**

TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.

**TYPE 4 (SACK GABIONS) :**

TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FORM AN EROSION CONTROL DAM.

**GENERAL NOTES**

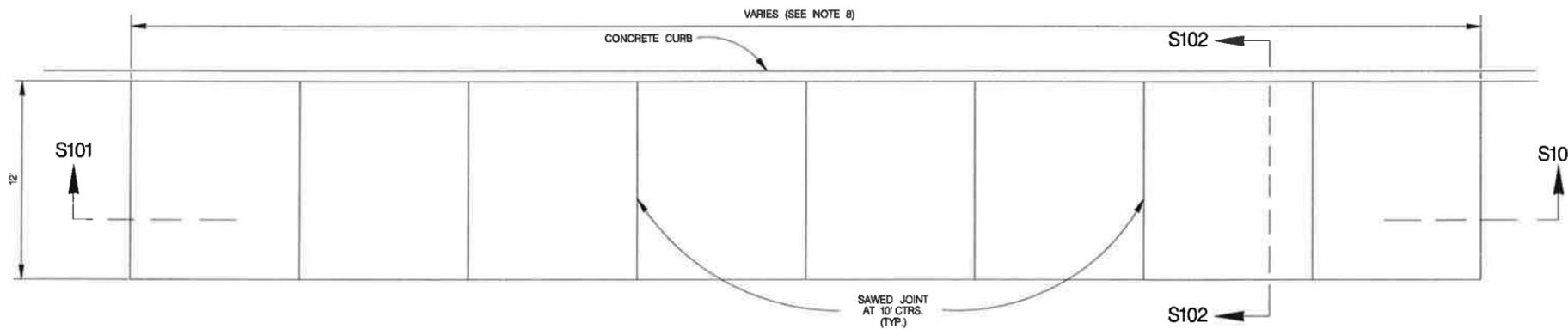
1. IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED, UPSTREAM AND / OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.
2. MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL BE AS INDICATED BY THE SPECIFICATION FOR ROCK FILTER DAMS FOR EROSION AND SEDIMENTATION CONTROL.
3. THE ROCK FILTER DAM DIMENSIONS SHALL BE AS INDICATED ON THE STORM WATER POLLUTION PREVENTION PLANS.
4. SIDE SLOPES SHOULD BE 2 : 1 OR FLATTER. DAMS WITHIN THE SAFETY ZONE SHALL HAVE SIDE SLOPES OF 6 : 1 OR FLATTER.
5. MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.
6. FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4" INTO THE EXISTING GROUND.
7. THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS.
8. ROCK FILTER DAM TYPES 2 & 3 SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT AND SLOPES SPECIFIED. THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE, THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.
9. SACK GABIONS SHOULD BE STAKED DOWN WITH 3 / 4" DIA REBAR STAKES.
10. FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA (VEGETATION, ROCK, ETC.).
11. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

JANUARY 2005

CITY OF SAN ANTONIO  
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

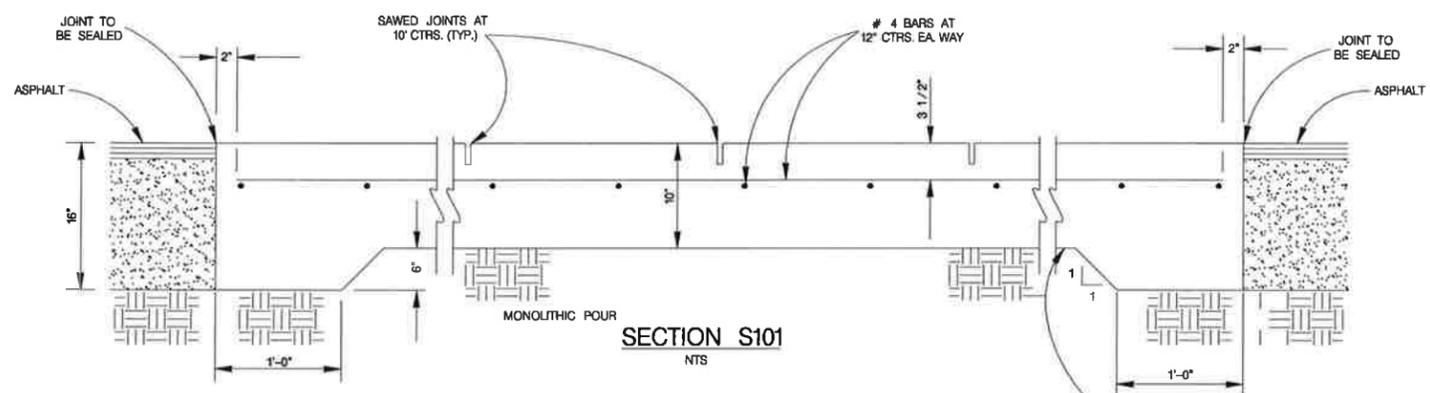
**TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 2**

DATE:	
DRWN. BY: V. VASQUEZ	DGN. BY: _____
CHKD. BY: _____	SHEET NO.: _____ OF _____

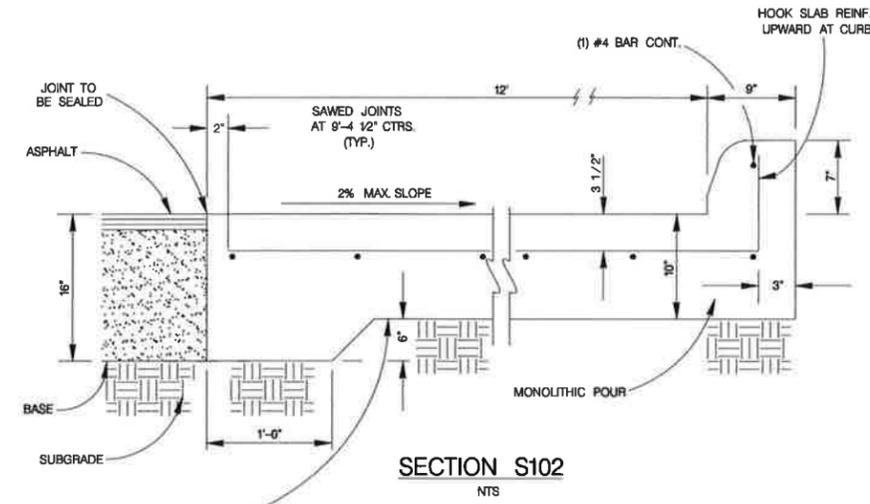


**PLAN VIEW**  
NTS

- GENERAL NOTES**
1. ALL CONCRETE SHALL TEST 4,000 P.S.I. AT 28 DAYS.
  2. BUS STOP CONCRETE PAD CONSTRUCTION SHALL BE PAID UNDER ITEM 209 AT THE UNIT PRICE BID, WHICH PRICE SHALL BE FULL COMPENSATION FOR ALL DEMOLITION, REMOVAL OF EXISTING CURB, EXCAVATION, HAULING, CRUSHED LIMESTONE, REINFORCING STEEL, CONCRETE, CONCRETE CURB, JOINTS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
  3. BUS PAD AND CURB SHALL BE MONOLITHICALLY POURED. ALL EXISTING CURBING SHALL BE REMOVED AND REPLACED AS PER STANDARD DETAILS.
  4. THE CONTRACTOR SHALL CONSTRUCT AN EXPANSION JOINT MIDWAY IF THE "CONCRETE BUS STOP PAD" IS LONGER THAN 150 FEET. NO DIRECT PAYMENT SHALL BE MADE FOR CONSTRUCTION OF AN EXPANSION JOINT.
  5. ACTUAL BUS PAD LENGTH AND WIDTH TO BE FIELD DETERMINED BY CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE.
  6. DO NOT DRIVE ON PAD UNTIL CONCRETE HAS REACHED A STRENGTH OF 2,800 P.S.I.
  7. BREAK TEST CYLINDERS AS FOLLOWS:
    - 2 AT 3 DAYS
    - 2 AT 7 DAYS
    - 2 AT 28 DAYS
  8. CONCRETE BUS PAD LENGTH (OR AS SHOWN ON THE PLANS):
    - 30 M.P.H. - 100'
    - 35 M.P.H. - 160'
    - 40 M.P.H. - 160'
    - 45 M.P.H. - 200'



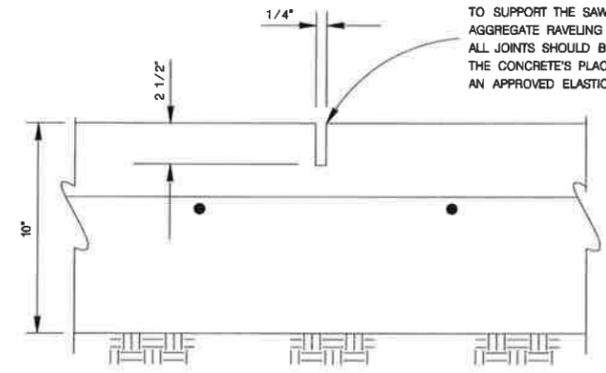
**SECTION S101**  
NTS



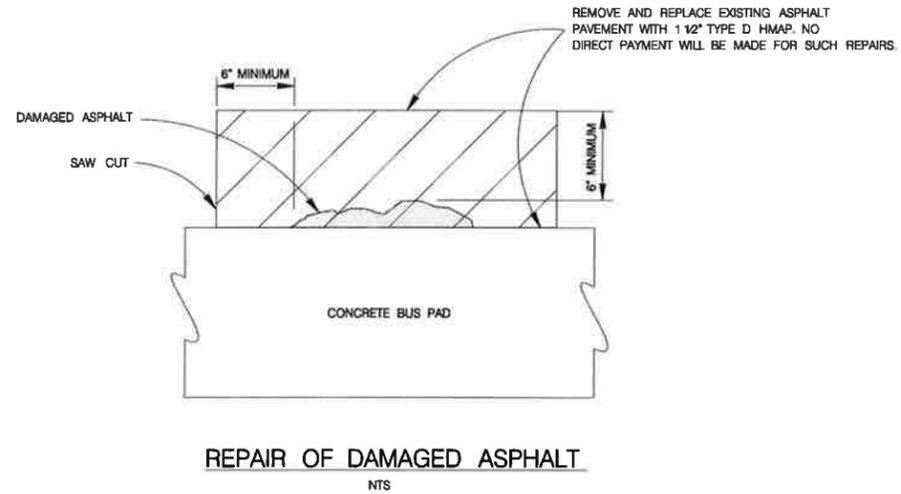
**SECTION S102**  
NTS

PROOFROLL EXISTING SUBGRADE WITH BACKHOE OR SIMILAR EQUIPMENT TO LOCATE POTENTIAL SOFT REGIONS OF SUBGRADE. REPLACE SOFT AREAS WITH 12" OF SUITABLE MATERIAL.

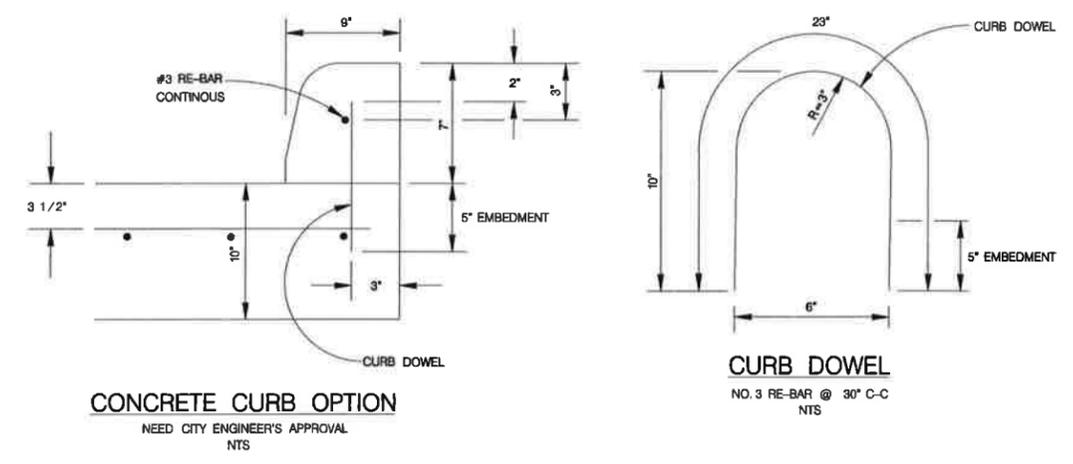
SAWCLUT AS SOON AS THE CONCRETE IS STRONG ENOUGH TO SUPPORT THE SAWING EQUIPMENT AND TO PREVENT AGGREGATE RAVELING DURING THE SAWING OPERATION. ALL JOINTS SHOULD BE SAW CUT WITHIN 12 HOURS OF THE CONCRETE'S PLACEMENT. JOINTS SHALL BE FILLED WITH AN APPROVED ELASTIC TYPE MATERIAL AFTER SAW CUTTING.



**SAWED JOINT DETAIL**  
NTS



**REPAIR OF DAMAGED ASPHALT**  
NTS



**CONCRETE CURB OPTION**  
NEED CITY ENGINEER'S APPROVAL  
NTS

**CURB DOWEL**  
NO. 3 RE-BAR @ 30° C-C  
NTS

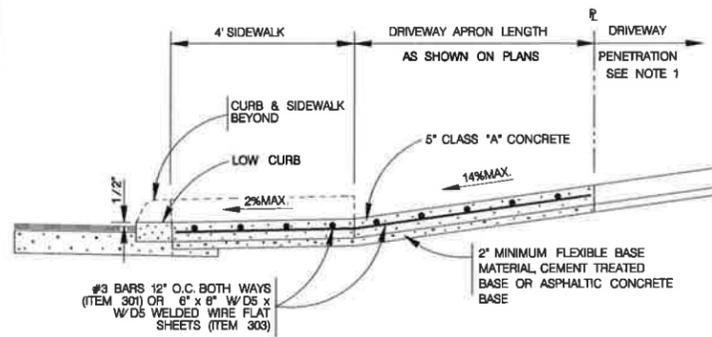
NOTE:  
THE CONTRACTOR SHALL CONSTRUCT AN EXPANSION JOINT MIDWAY IF THE "CONCRETE BUS STOP PAD" IS LONGER THAN 150 FEET. NO DIRECT PAYMENT SHALL BE MADE FOR CONSTRUCTION OF AN EXPANSION JOINT.

**EXPANSION JOINT DETAIL**  
SCALE : 1" = 1"

MAY 2009  
CITY OF SAN ANTONIO  
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

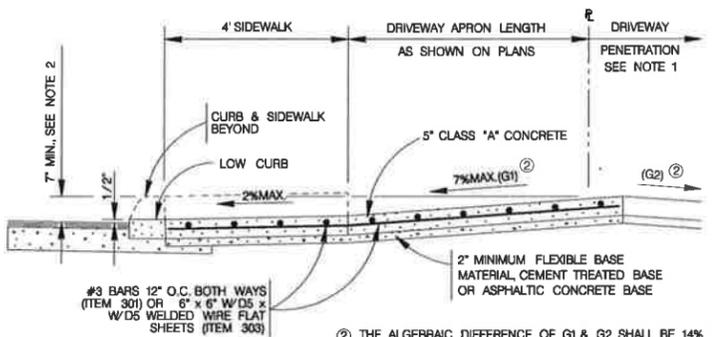
**CONCRETE  
BUS STOP PAD**

% SUBMITTAL	PROJECT NO.:	DATE:
DRWN BY: V. VASQUEZ	DSGN BY: L. MALTOS	CHKD BY: R.S. HOSSEINI, P.E.
SHEET NO.:		OF



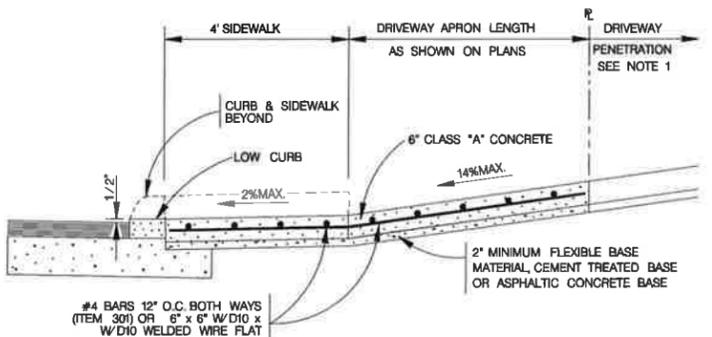
**TYPICAL RESIDENTIAL DRIVEWAY SECTION**

WITH SIDEWALK ABUTTING CURB  
ITEM 503.1



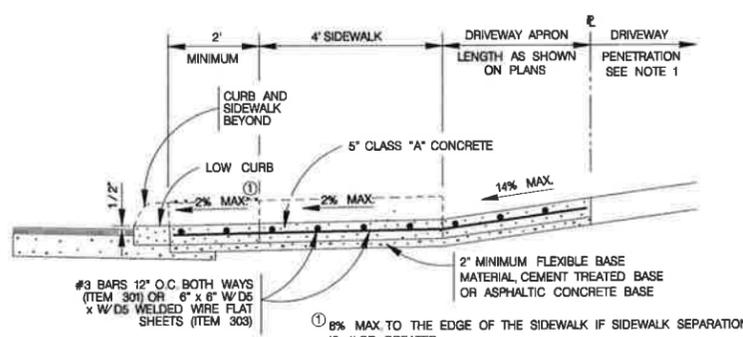
**TYPICAL RESIDENTIAL DRIVEWAY SECTION**

WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS ABUTTING CURB  
ITEM 503.1



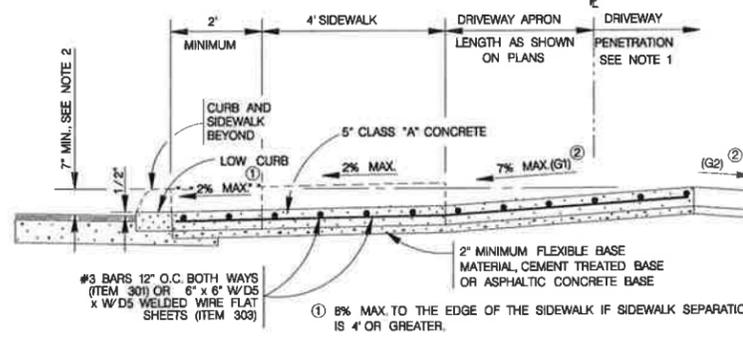
**TYPICAL COMMERCIAL DRIVEWAY SECTION**

WITH SIDEWALK ABUTTING CURB  
ITEM 503.2



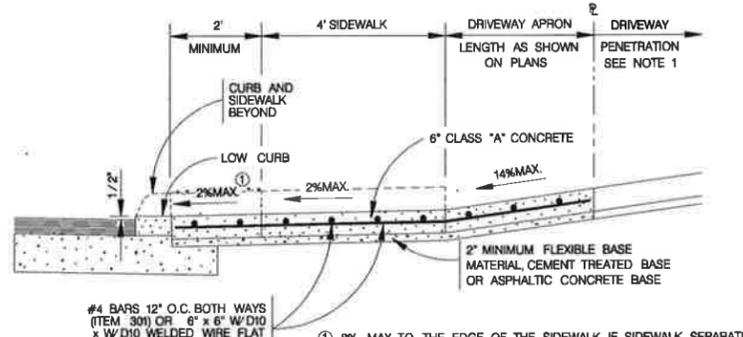
**TYPICAL RESIDENTIAL DRIVEWAY SECTION**

WITH SIDEWALK SEPARATED FROM CURB  
ITEM 503.1



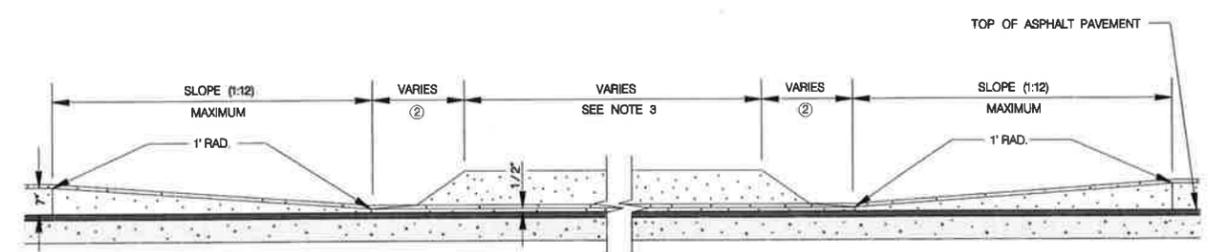
**TYPICAL RESIDENTIAL DRIVEWAY SECTION**

WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS SEPARATED FROM CURB  
ITEM 503.1



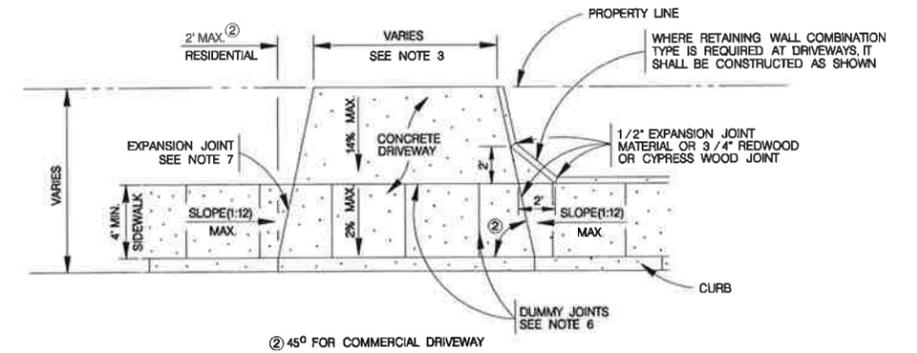
**TYPICAL COMMERCIAL DRIVEWAY SECTION**

WITH SIDEWALK SEPARATED FROM CURB  
ITEM 503.2



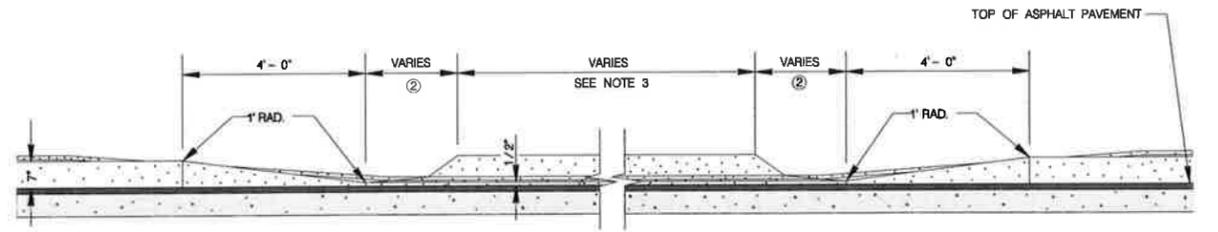
**CURB PROFILE AT DRIVEWAY**

WITH SIDEWALK ABUTTING CURB



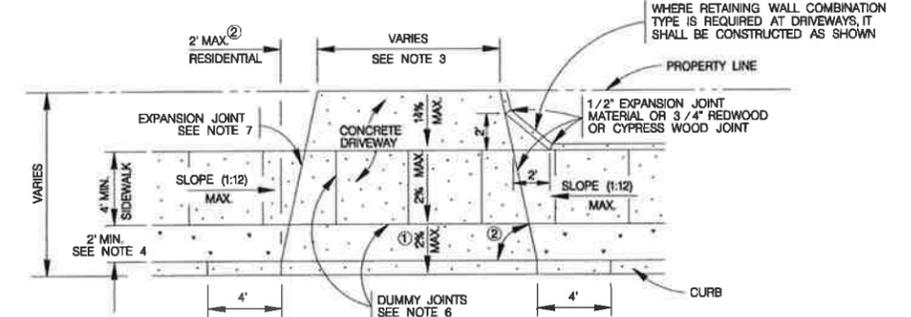
**TYPICAL DRIVEWAY PLAN VIEW**

WITH SIDEWALK ABUTTING CURB



**CURB PROFILE AT DRIVEWAY**

WITH SIDEWALK SEPARATED FROM CURB



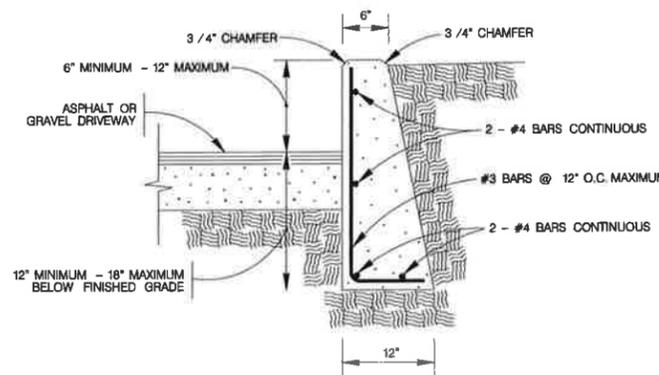
**TYPICAL DRIVEWAY PLAN VIEW**

WITH SIDEWALK SEPARATED FROM CURB

**CONCRETE DRIVEWAY NOTES**

- DRIVEWAY PENETRATION REFERS TO A PORTION OF THE DRIVEWAY THAT MAY BE NECESSARY TO RECONSTRUCT WITHIN PRIVATE PROPERTY TO COMPLY WITH A MAXIMUM DRIVEWAY SLOPE. THIS PORTION OF THE DRIVEWAY SHALL BE PAID FOR UNDER THE FOLLOWING ITEMS AS MAY APPLY:  
A) CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.1 OR 503.2.  
B) ASPHALTIC CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.4 AND SHALL INCLUDE A MINIMUM OF 1" ASPHALT TYPE 'D' & 6" FLEXIBLE BASE  
C) GRAVEL DRIVEWAY PAID FOR UNDER ITEM NO. 503.5 AND SHALL INCLUDE A MINIMUM OF 6" FLEXIBLE BASE
- 7" MINIMUM HEIGHT WILL NOT NECESSARILY OCCUR AT THE PROPERTY LINE. IT MAY OCCUR WITHIN THE RIGHT OF WAY OR WITHIN THE DRIVEWAY PENETRATION ON PRIVATE PROPERTY.
- THE PROPOSED DRIVEWAY SHOULD MATCH THE EXISTING WIDTH AT THE PROPERTY LINE BUT UNLESS AUTHORIZED BY THE CITY TRAFFIC ENGINEER, THE WIDTH SHALL BE WITHIN THE FOLLOWING VALUES:  

TYPE	MINIMUM	MAXIMUM
RESIDENTIAL	10'	20'
COMMERCIAL - ONE WAY	12'	20'
COMMERCIAL - TWO WAY	24'	30'
- FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 2' FROM THE BACK OF CURB.
- FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND SEPARATED A MINIMUM OF 2' FROM THE BACK OF CURB OR, AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
- DUMMY JOINTS PARALLEL TO THE CURB SHALL BE PLACED WHERE THE SIDEWALK MEETS THE DRIVEWAY. DUMMY JOINTS PERPENDICULAR TO THE CURB, AND WITHIN THE BOUNDARIES OF THE PARALLEL DUMMY JOINTS, SHALL BE PLACED AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.
- A MINIMUM OF TWO ROUND AND SMOOTH DOWEL BARS 3/8" IN DIAMETER AND 18" IN LENGTH SHALL BE SPACED 18" APART AT EACH EXPANSION JOINT.
- SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE. WHERE SIDEWALKS CROSS DRIVEWAYS, SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- SIDEWALK RAMP SURFACE SHALL BE BRUSH FINISHED.



- NOTE:
- COST OF REINFORCEMENT TO BE INCLUDED IN UNIT COST OF ITEM 307.1.
  - CONCRETE RETAINING WALL COMBINATION TYPE SHALL BE USED FOR CONCRETE DRIVEWAYS.

**DRIVEWAY - CONCRETE RETAINING WALL**

ON COMPACTED SUBGRADE  
ITEM 307.1

MAY 2009

CITY OF SAN ANTONIO  
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

**CONCRETE DRIVEWAY STANDARDS**

% SUBMITTAL	PROJECT NO.	DATE:
DRWN. BY: V. VASQUEZ	DSGN. BY:	CHKD. BY: R.S. HOSSEINI, P.E.
		SHEET NO.: OF

## TRAFFIC NOTES

### TRENCHING / EXCAVATING

The following notes shall apply to excavations of trenches or pits that are located in the pavement or are within six (6) feet of the edge of roadway:

- 1.) Trench walls shall not be closer than three (3) feet from the edge of the traveled way at any stage of construction.
- 2.) Traffic control devices shall be in place before starting any excavation.
- 3.) Trenches or pits will not be permitted to be bridged by steel plates and open to traffic unless they are temporarily backfilled to finished street grade.
- 4.) For pits or trenches along or in a roadway that are going to be left open over night that are zero to fifty (0 - 50) feet in length, the following applies. GUARD RAIL OR CONCRETE BARRIER SHALL BE USED.
- 5.) For pits or trenches along or in roadway that are going to be left open over night and are longer than 50 feet in length. CONCRETE BARRIERS MUST BE USED.
- 6.) Plastic construction fencing shall be required for any trench or pit left open over night.
- 7.) When using any guardrail or concrete barrier, protected end must be used as per the TEXAS-M.U.T.C.D.
- 8.) For vertical drop-offs greater than two (2) feet along roadway, low profile concrete with appropriate end protection must be installed.
- 9.) All concrete barriers placed on City R.O.W shall be low profile. No high profile barriers will be allowed.

### REFLECTIVE SHEETING

The reflectorized white and reflectorized orange stripes for channelizing devices such as barricade drums and vertical panels shall be constructed of reflective sheeting meeting the color and retro-reflectivity requirements of high intensity, unless otherwise specified in the plans.

### MAINTENANCE

- 1.) All traffic signs shall be kept in proper position, clean and legible at all times. Damaged barricades, signs, and other traffic control devices shall be replaced without undue delay.
- 2.) To ensure adequate maintenance, a suitable schedule for inspection, cleaning, and replacement of barricades, lights, and signs shall be established.
- 3.) Special attention and necessary action shall be taken to see that weeds, trees, shrubbery and construction materials do not obscure the face of any sign or barricades.

### TRAINING

Each person whose actions affect maintenance and construction zone safety, from the upper-level management personnel through construction and maintenance field personnel, should receive training appropriate to the job decision each individual is required to make. Only those individuals who are qualified by means of adequate training in safe traffic control practices and have a basic understanding of the principles established by applicable standards and regulations, including those of the TEXAS M.U.T.C.D. should supervise the selection, placement, and maintenance of traffic control devices in maintenance and construction areas.

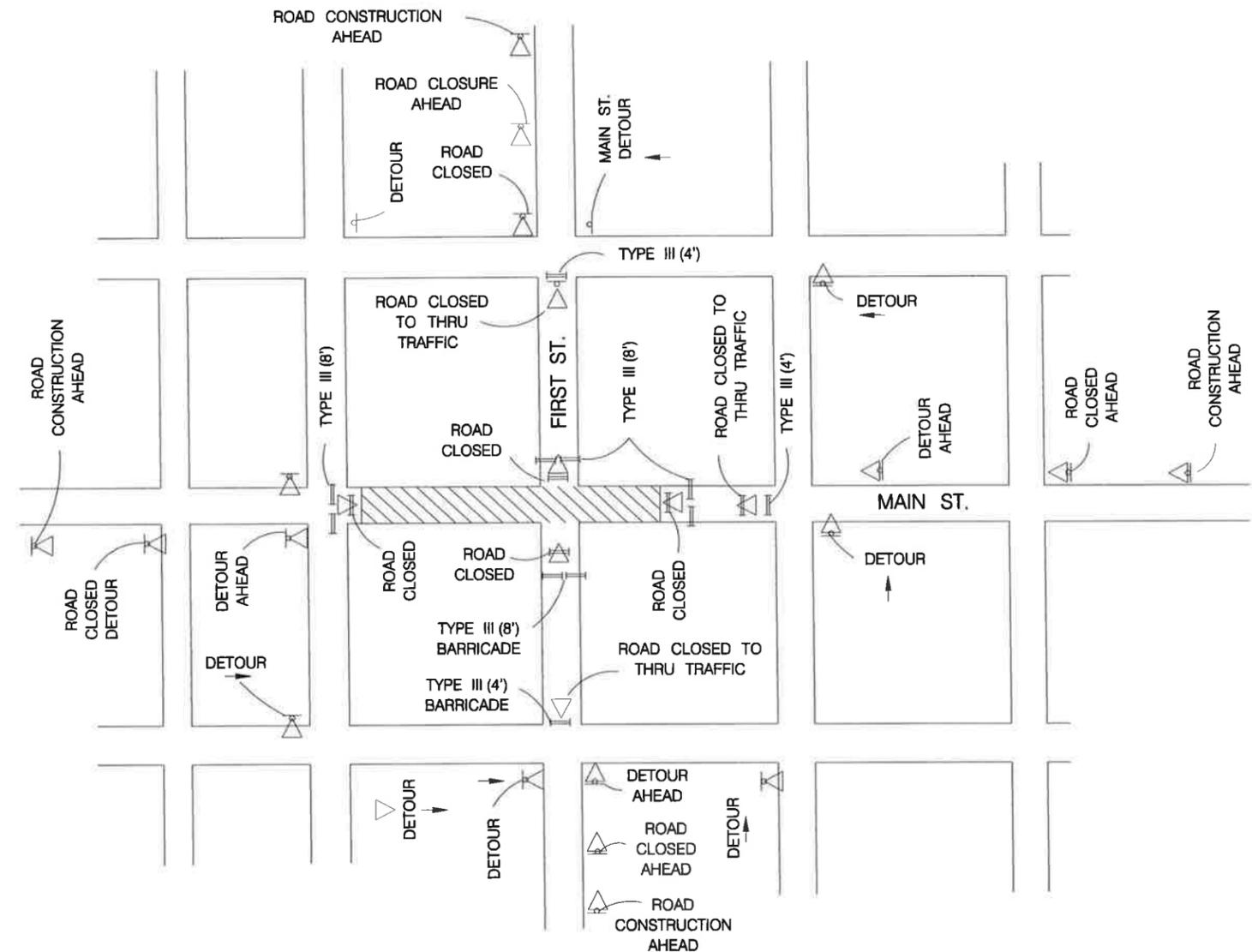
### SPECIAL EVENTS BARRICADING

All Type I, (8') barricades used for special events (Dome, Runs, Walks, Parades etc.) shall be a minimum of 42" high and 96" wide. Any necessary signs will require proper sign stands.

### USE OF CITY R.O.W.

The City of San Antonio reserves the right to allow contracting and barricading sub-contractors to use the City's R.O.W. The City also reserves the right to advise contractors and barricading sub-contractors to remove stored or unused traffic control devices from the City of San Antonio R.O.W. It is the barricading sub-contractor's responsibility to remove any traffic control device from City's R.O.W. when instructed to do so by a City representative.

## CLOSURE DIAGRAMS



**TYPICAL INTERSECTING STREET CLOSURE  
FOR TWO LANE STREETS**

NOTE:  
ALL SIGNS WILL BE  
MOUNTED ON SIGN  
SUPPORTS ONLY

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY JOHN D. FRIEBLE, #46394 ON 06-20-05 AND IS ON FILE WITH THE TRAFFIC ENGINEERING DIVISION OF THE PUBLIC WORKS DEPARTMENT, CITY OF SAN ANTONIO.

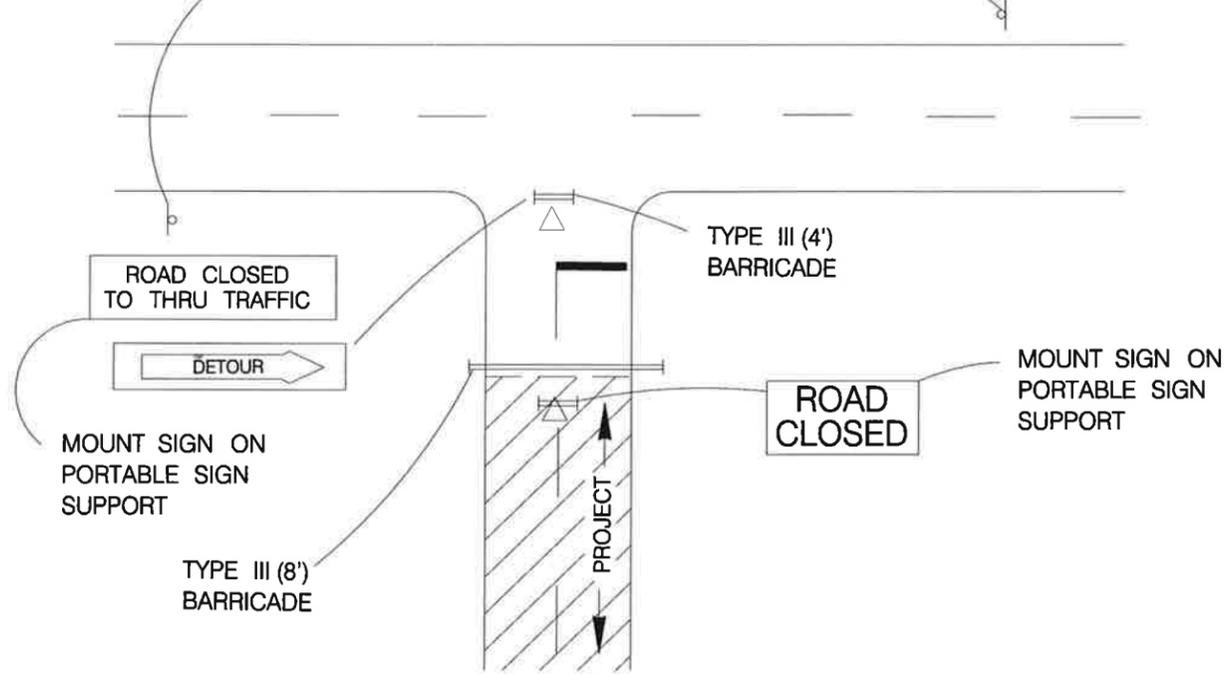
JUNE 2005

**CITY OF SAN ANTONIO**  
DEPARTMENT OF PUBLIC WORKS

TRAFFIC STANDARDS  
**BARRICADE AND CONSTRUCTION  
STANDARDS**  
SHEET 1 OF 4

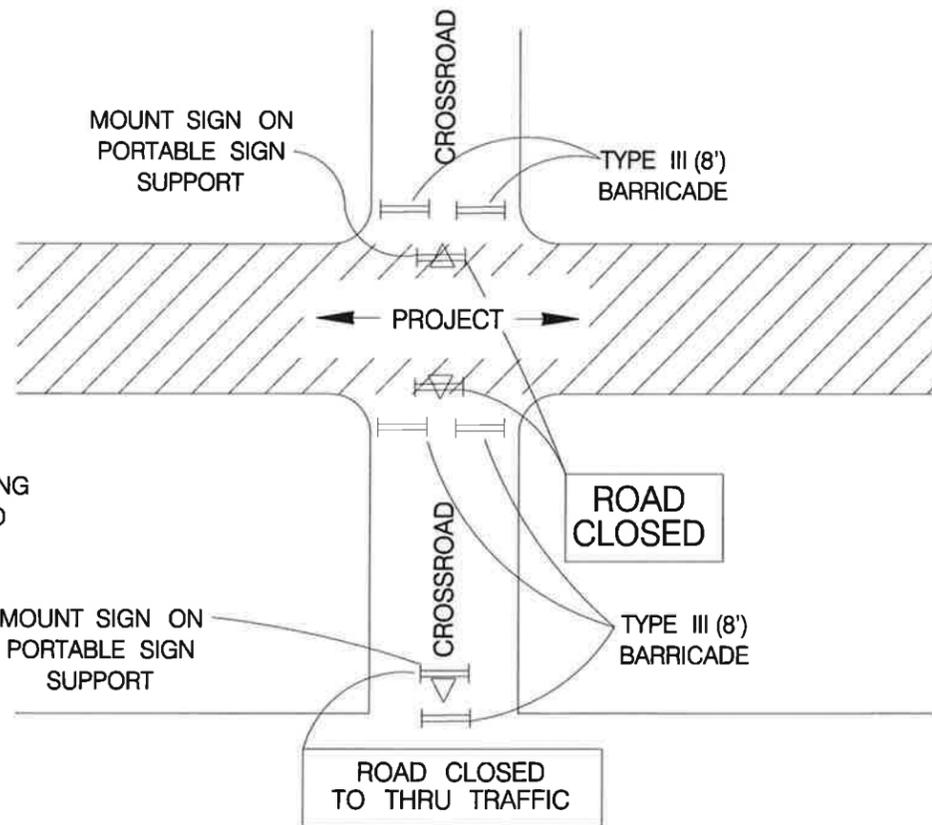
% SUBMITTAL	PROJECT NO.:	DATE:	SHEET NO.:
DRWN. BY: A.F.G.	DSGN. BY: E.N.M.	CHKD. BY: J.D.F./E.N.M.	OF

APPROPRIATE WARNING, REGULATORY OR GUIDE SIGNS



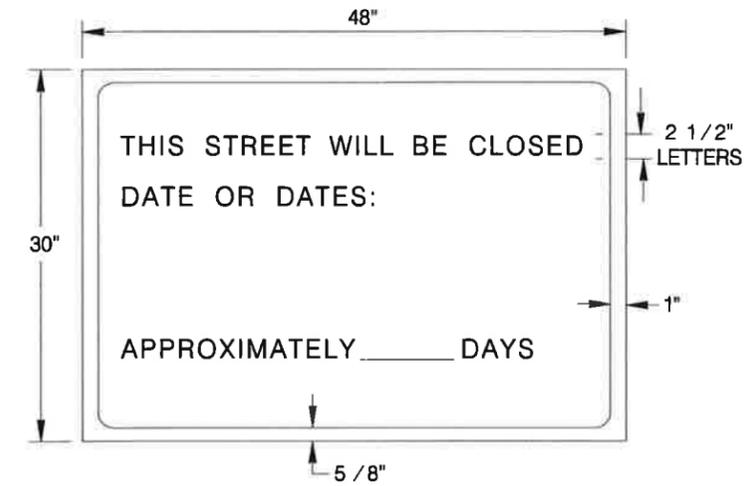
**PROJECT LIMITS FOR CLOSED ROADWAY**

BARRICADES SHALL BE ERECTED COMPLETELY ACROSS ROADWAY. CHANNELIZING DEVICES MAY BE DRUMS, VERTICAL PANELS OR CONES AS SPECIFIED IN THE PLANS

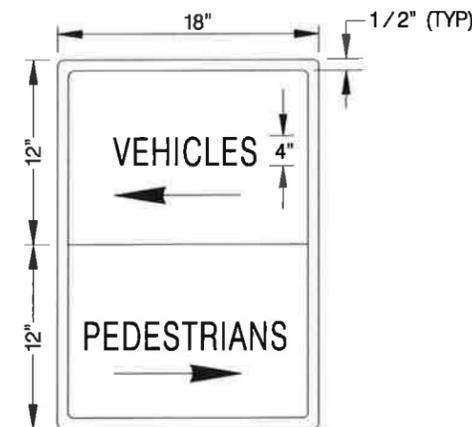


NOTE:  
ADVANCE WARNING  
SIGNS WILL ALSO  
BE NECESSARY

**CROSS STREET SIGNING AND BARRICADING  
TOTALLY CLOSED**

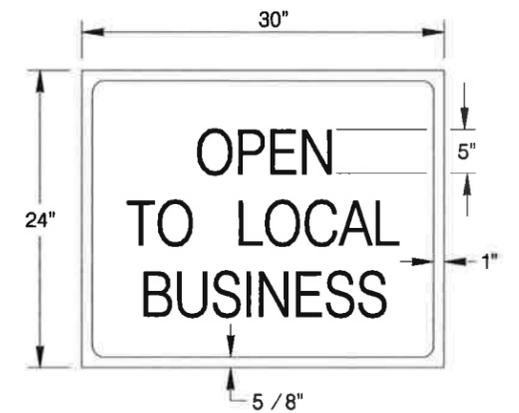


LETTERS- BLACK  
BORDER- BLACK  
BACKGROUND- ORANGE



LETTERS- BLACK  
BORDER- BLACK  
BACKGROUND- ORANGE  
SPACING-3 SIGNS PER BLOCK

DIRECTION OF ARROWS  
ARE REVERSIBLE



LETTERS- WHITE  
BORDER- WHITE  
BACKGROUND- BLUE REFLECTIVE

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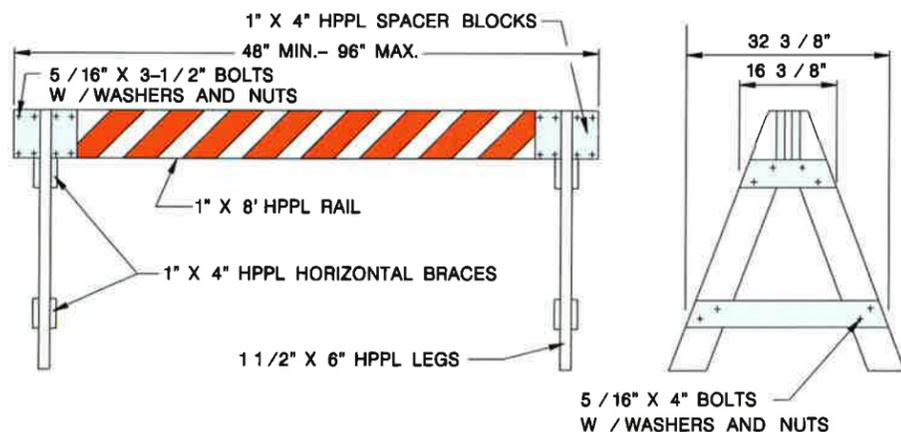
JUNE 2005

CITY OF SAN ANTONIO  
DEPARTMENT OF PUBLIC WORKS

TRAFFIC STANDARDS  
**BARRICADE AND CONSTRUCTION  
STANDARDS**  
SHEET 2 OF 4

DATE:	PROJECT NO.:	% SUBMITTAL:
DRWN BY: A.F.G.	DSGN BY: EN.M.	CHKD BY: J.D.F./E.N.M.
SHEET NO.:	OF	

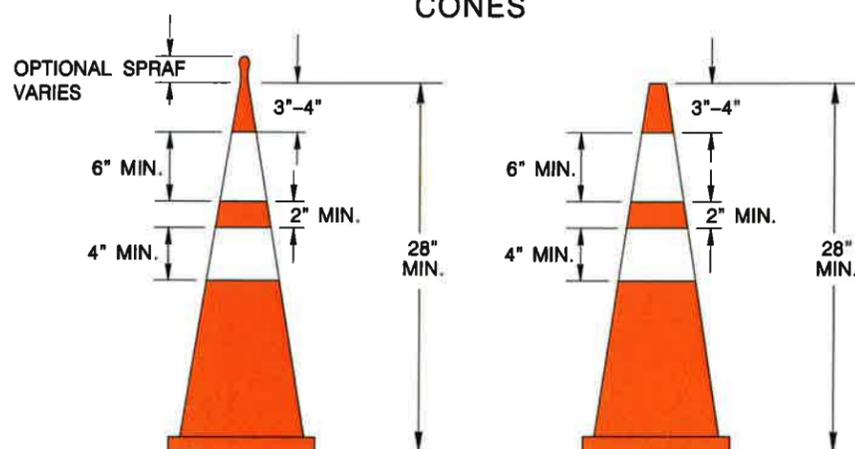
## TYPE I BARRICADE



- 1.) Only the following Type I barricade shall be used in the City of San Antonio Right-Of-Way:
  - A. 1" x 8" plastic rail with 2" x 6" wooden legs.
  - B. 1" x 8" wooden rail with plastic legs.
  - C. 1" x 8" wooden rail with 2" x 6" wood legs.
  - D. No screws allowed for assembly of A-legs or rail.
  - E. Warning lights will be used as directed by the Traffic Engineer.
  - F. All Type I (4') barricades will be a minimum of 36" high and 60" wide. (For Construction Use Only)
  - G. All Type I (8') barricades with wooden legs shall be 2" X 6" wood only.
  - H. All Type I (4') barricades with wooden legs shall be 1" X 8" wood only.
- 2.) Type I Barricades shall not be used for partial and total street closures in construction work zones. Only Type III barricades shall be used for this purpose.
- 3.) Warning lights shall not be mounted on Type I barricades.

(See TxDOT BC-03 Sheets for specific construction information)

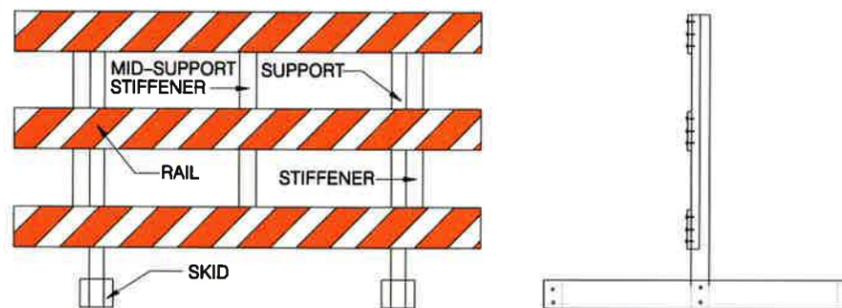
## CONES



- 1.) Base for 28" high cones must weigh at least 9.5 lbs.
- 2.) Night time cones must have reflective collars.

(See TxDOT BC-03 Sheets for specific construction information)

## Type III BARRICADE



- 1.) Only the following Type III barricade shall be used in the City of San Antonio Right-Of-Way.
  - A. Hollow polyvinyl or fiberglass tubing post with 1" X 8" wooden rails.
  - B. Hollow polyvinyl or fiberglass tubing post with plastic rails.
  - C. Skids must be wood or solid plastic only.
  - D. Warning lights shall not be mounted on Type III barricades.

(See TxDOT BC-03 Sheets for specific construction information)

## TEMPORARY MARKINGS

- 1.) Solid double yellow painted lines shall be installed for temporary division of traffic or construction duration longer than five (5) days, with repainting to occur once monthly or at the discretion of the Traffic Engineer. (All cost of upkeep will be at the contractor's expense.)
- 2.) Solid double yellow tabs, or V/P panels shall be installed for temporary division of traffic for construction duration less than five (5) days, with re-tapping to occur at the discretion of the Traffic Engineer. NAILS SHALL NOT BE USED TO FIX TABS TO CEMENT OR BASE (All cost of upkeep will be at the contractor's expense.)

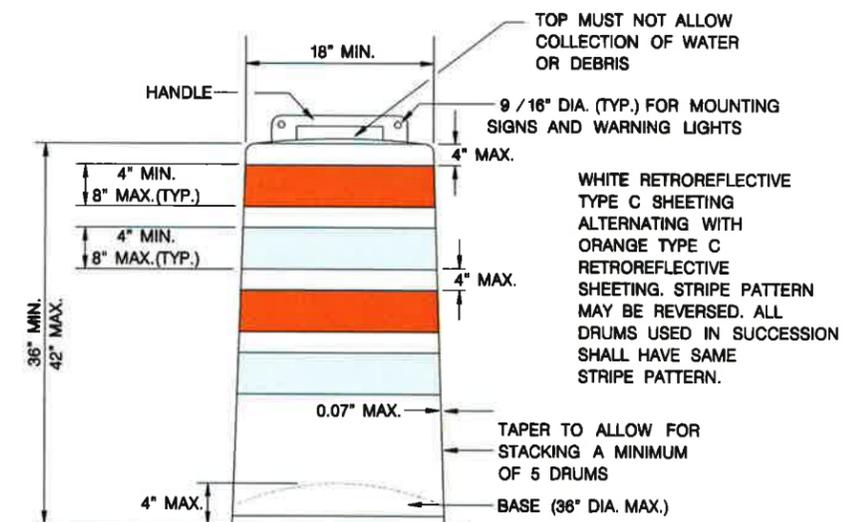
(See TxDOT BC-03 Sheets for specific construction information.)

## TEMPORARY CONCRETE BARRIER

- 1.) All concrete barriers placed on City R.O.W. shall be low profile.
- 2.) No high profile barriers will be allowed.
- 3.) Reflectors will be required on each concrete barrier.

(See TxDOT BC-03 Sheets for specific construction information)

## PLASTIC DRUMS



- 1.) Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
- 2.) Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
- 3.) The Engineer/Inspector shall provide written notice to the Contractor regarding the replacement of drums or other traffic control devices. The Contractor shall have a maximum of 24 hours to replace any plastic drums or other traffic control devices identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.
- 4.) Each drum must have a 40 lb. rubber or plastic snap on.
- 5.) No signs larger than 18" X 24" will be allowed to be mounted on plastic drums.
- 6.) No warning lights will be allowed to be mounted on plastic barrels.
- 7.) In lieu of a warning light, a yellow reflector will be acceptable.

(See TxDOT BC-03 Sheets for specific construction information)

JUNE 2005

CITY OF SAN ANTONIO  
DEPARTMENT OF PUBLIC WORKS

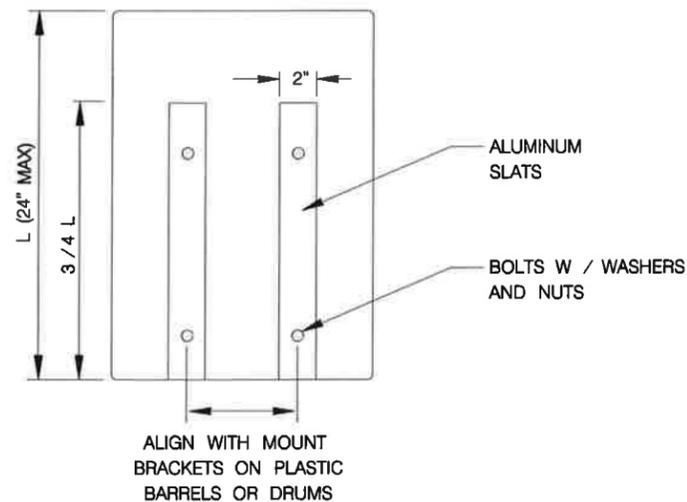
TRAFFIC STANDARDS  
BARRICADE AND CONSTRUCTION  
STANDARDS  
SHEET 3 OF 4

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY JOHN D. FRIESELE #48384 ON 09-20-05 AND IS ON FILE WITH THE TRAFFIC ENGINEERING DIVISION OF THE PUBLIC WORKS DEPARTMENT, CITY OF SAN ANTONIO.

DATE:	PROJECT NO.:	DATE:
DRWN. BY: A.F.G.	DSGN. BY: E.N.M.	CHKD. BY: J.D.F./E.N.M.
SHEET NO.:	OF	

## SIGNS

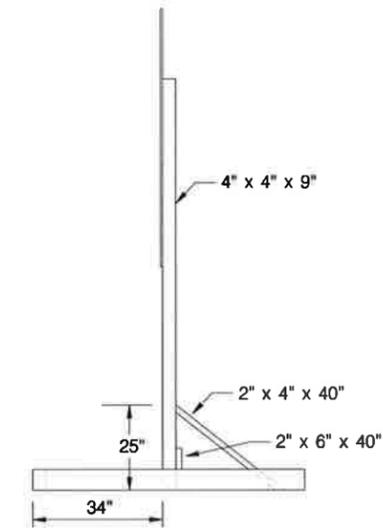
- 1.) A maximum of two signs can be mounted on any one Long / Intermediate Term Stationary Portable Sign Support.
- 2.) 48" X 48" signs shall be mounted separately on the Long / Intermediate Term Stationary Portable Sign Support.
- 3.) For Short Term Stationary Portable Sign Support the distance from the bottom of the vinyl sign to the existing ground must be one (1) foot.
- 4.) Long / Intermediate Term Stationary Portable Signs must be made of wood or plastic only.
- 5.) No signs shall be mounted to any Type I, Type III, or folding barricades.
- 6.) Signs shall be mounted only on TxDOT approved sign supports.
- 7.) Detour signs will be mounted on single "D" legs w / 7' clearance from the bottom of the sign.
- 8.) **WORK DURATION TERMINOLOGY**  
 Long Term Stationary = occupies a location 3 or more days.  
 Intermediate-Term Stationary = occupies a location for overnight to 3 days.  
 Short Term Stationary = daylight work that occupies a location from 1 to 12 hours.  
 Short Duration = occupies a location up to 1 hour.
- 9.) Signs shall adhere to the following requirements:
  - Signs placed on plastic barrels or drums shall be made of ABS plastic or plywood.
  - Signs placed on skids shall be made of plywood or aluminum.
  - Aluminum signs shall have a minimum thickness of 0.08".
  - Plywood signs shall have a minimum thickness of 1 / 2".
  - ABS Plastic signs shall have a minimum thickness of 0.13".
  - Plastic signs cannot exceed 18" by 24" in size and shall be reinforced with 2" wide, 0.08" thick aluminum slats, as depicted below:



- No other material shall be accepted without the express written approval of the Traffic Engineer.

(See TxDOT BC-03 Sheets for specific construction information.)

## LONG TERM / INTERMEDIATE TERM SIGN SUPPORT



- 1.) 48" X48" signs must be mounted independently.
- 2.) A maximum of two signs can be mounted on any one long term / intermediate sign support.
- 3.) Sand bag all sign supports.
- 4.) Distance from the bottom of the sign to the existing ground shall be 7'.
- 5.) Distance from the header barricade rail to the face of the sign panel shall be 2' min. and 10' max.
- 6.) Steel tripods shall not be allowed.

(See TxDOT BC-03 Sheets for specific construction information)

JUNE 2005

CITY OF SAN ANTONIO  
DEPARTMENT OF PUBLIC WORKS

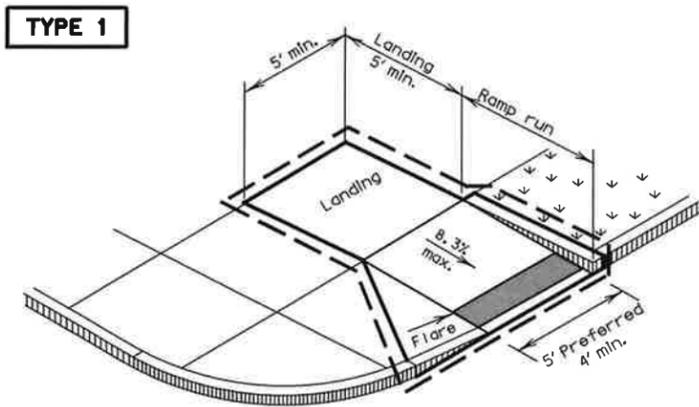
TRAFFIC STANDARDS  
**BARRICADE AND CONSTRUCTION STANDARDS**  
SHEET 4 OF 4

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY JOHN D. FRIEBELE #48384 ON 06-20-05 AND IS ON FILE WITH THE TRAFFIC ENGINEERING DIVISION OF THE PUBLIC WORKS DEPARTMENT, CITY OF SAN ANTONIO.

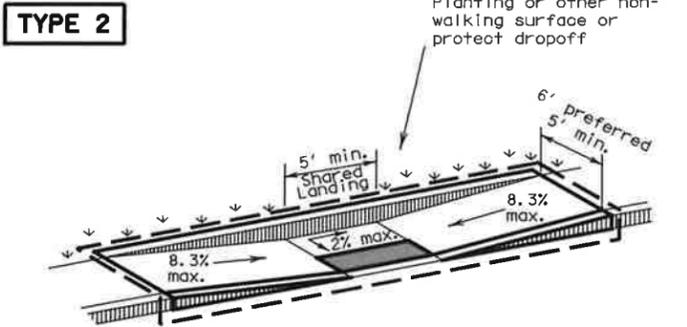
DATE:	PROJECT NO.:	% SUBMITTAL:
DRWN. BY: A.F.G.	DSGN. BY: EN.M.	CHKD. BY: J.D.F./EN.M.
SHEET NO.:	OF	



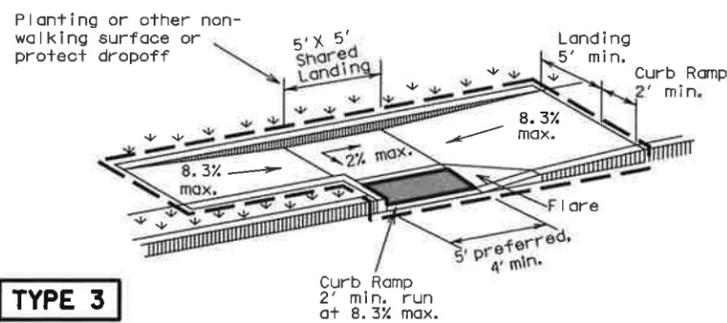
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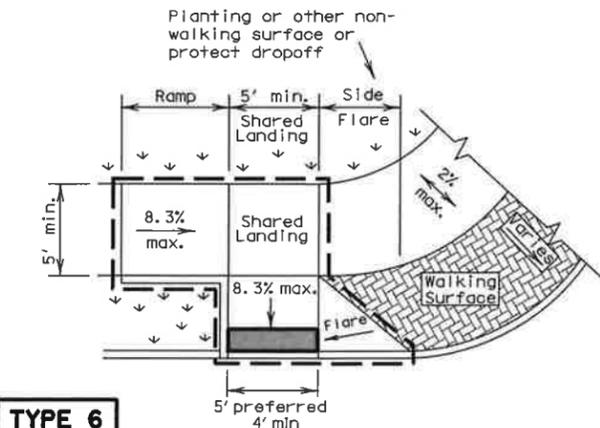
**PERPENDICULAR CURB RAMP**



**PARALLEL CURB RAMP**  
(Use only where water will not pond in the landing.)

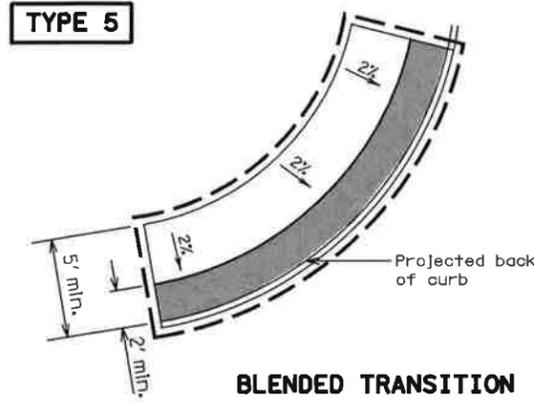


**TYPE 3**

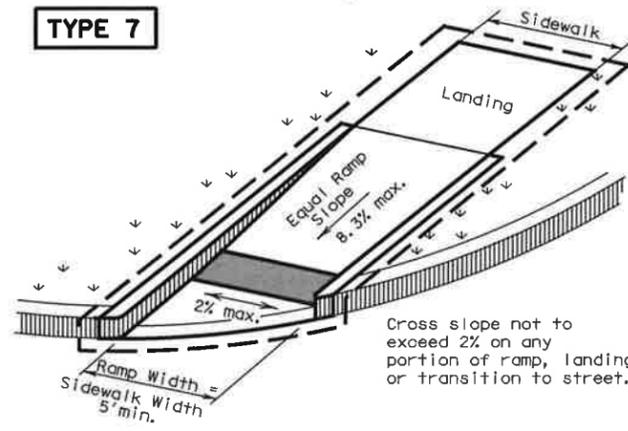


**TYPE 6**

**COMBINATION CURB RAMPS**

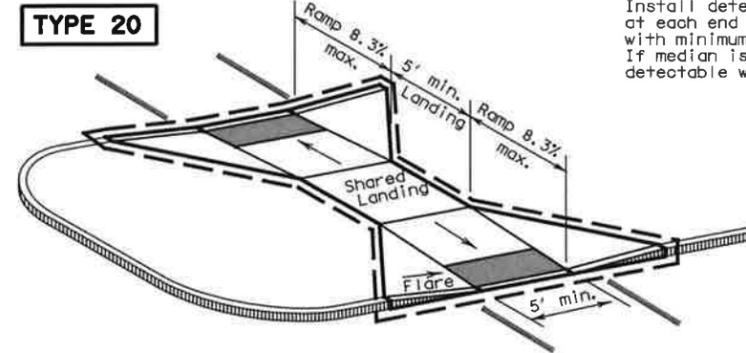


**BLENDED TRANSITION**

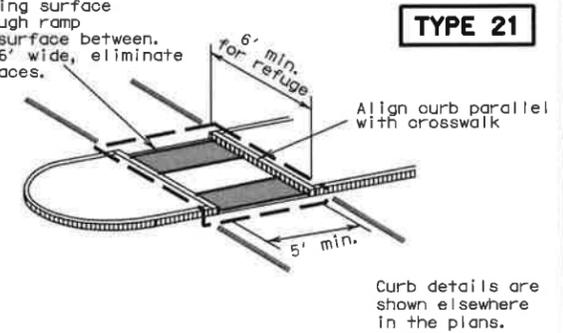


(Sidewalk set back from curb)

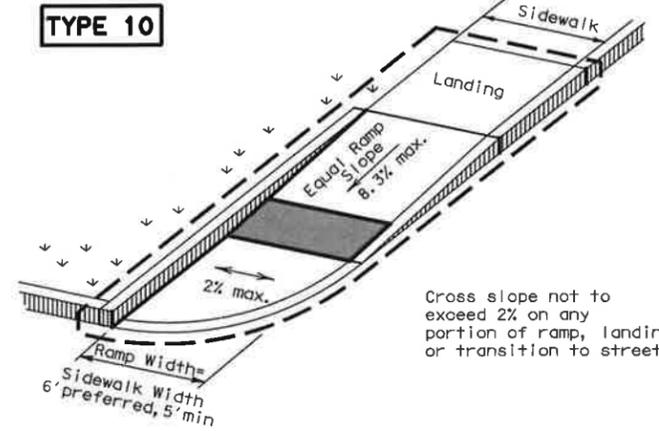
**DIRECTIONAL RAMPS WITHIN RADIUS**



**CURB RAMPS AT MEDIAN ISLANDS**

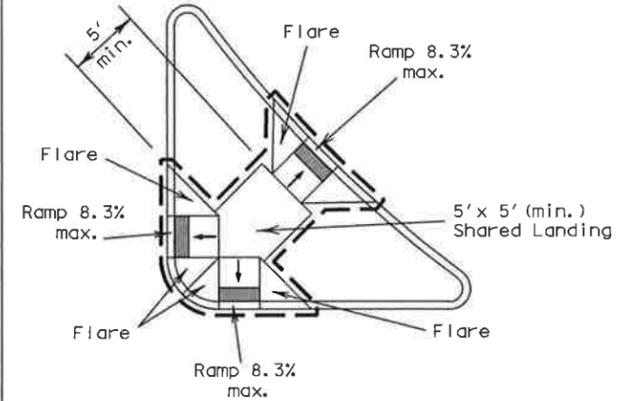


Curb details are shown elsewhere in the plans.

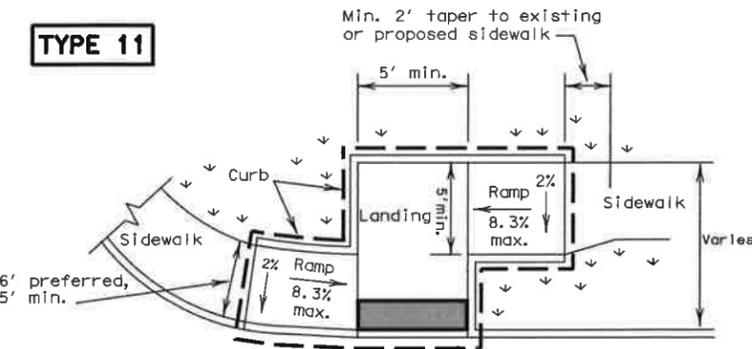


(Sidewalk adjacent to curb)

**TYPE 22**



**COMBINATION ISLAND RAMPS**



**OFFSET PARALLEL CURB RAMP**

**NOTES / LEGEND:**

See General Notes on sheet 2 of 4 for more information.

↓ ↓ ↓ Denotes planting or non-walking surface not part of pedestrian circulation path.

— Ramp Limits of Payment

■ Detectable Warning Surface

**PEDESTRIAN FACILITIES  
CURB RAMPS**

**PED-12A**

FILE: ped12a.dgn	DN: TxDOT	CK: RM	DW: TxDOT	CK: VP
© TxDOT March 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS				
VP June 13, 2012	DIST	COUNTY	SHEET NO.	

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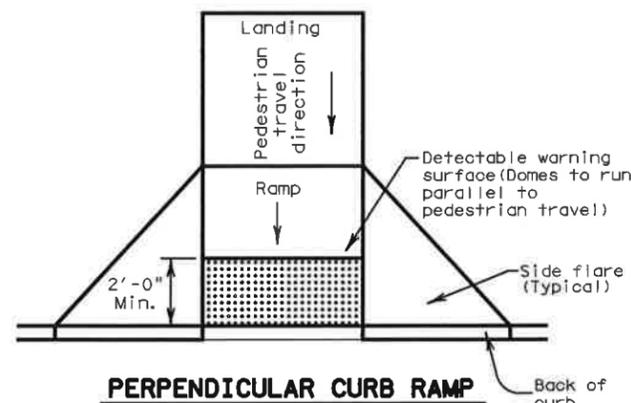
## General Notes

### Curb Ramps

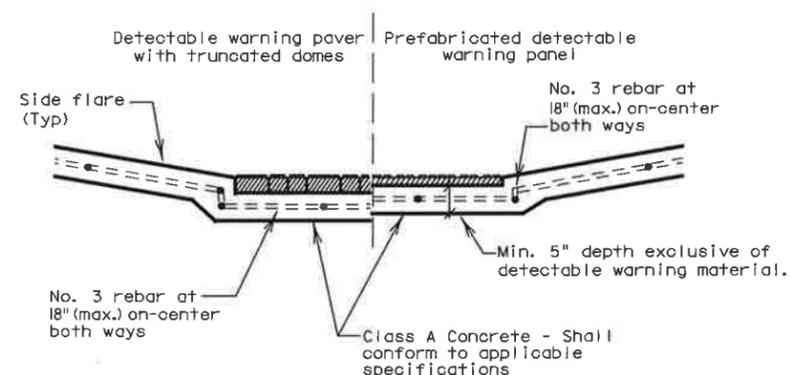
1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Lesser slopes that will still drain properly should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5' x 5' passing areas at intervals not to exceed 200' are required.
4. Landings shall be 5' x 5' minimum with a maximum 2% slope in any direction.
5. Maneuvering space at the bottom of curb ramps shall be a minimum of 4' x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
6. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the current edition of the Texas Accessibility Standards (TAS) and 16 TAC 68.102.
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5' x 5' landing at the top of curb ramps, shall be out through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Handrails are not required on curb ramps. Provide curb ramps wherever on accessible route crosses (penetrates) a curb.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Provide a smooth transition where the curb ramps connect to the street.
16. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
17. Existing features that comply with TAS may remain in place unless otherwise shown on the plans.

### Detectable Warning Material

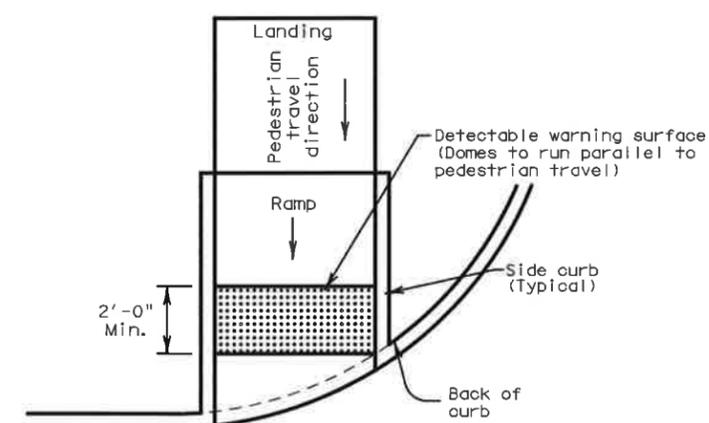
18. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with Section 705 of the TAS. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
19. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
20. Detectable warning surfaces must be slip resistant and not allow water to accumulate.
21. Detectable warning surfaces shall be a minimum of 24" in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
22. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb. Align the rows of domes to be perpendicular to the grade break between the ramp run and the street. Detectable warning surfaces may be curved along the corner radius.
23. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.



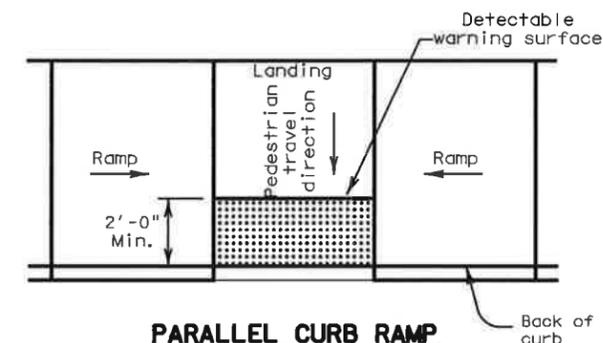
Typical placement of detectable warning surface on sloping ramp run.



### DETECTABLE WARNINGS



Typical placement of detectable warning surface on sloping ramp run.



Typical placement of detectable warning surface on landing at street edge.

### Detectable Warning Pavers

24. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.
25. Lay full-size units first followed by closure units consisting of at least 25 percent of a full unit. Cut detectable warning paver units using a power saw.

### Sidewalks

26. Provide clear ground space at operable parts, including pedestrian push buttons. Operable parts shall be placed within one or more reach ranges specified in TAS 308.
27. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
28. Street grades and cross slopes shall be as shown elsewhere in the plans.
29. Changes in level greater than 1/4 inch are not permitted.
30. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than 5% must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with TAS 505.
31. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
32. Driveways and turnouts shall be constructed and paid for in accordance with Item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item, "Sidewalks".
33. Sidewalk details are shown elsewhere in the plans.

SHEET 2 OF 2



## PEDESTRIAN FACILITIES CURB RAMPS

PED-12A

FILE: ped12a.dgn	DW: TxDOT	CK: RM	DW: TxDOT	CK: VP
© TxDOT March 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS				
VP June 13, 2012	DIST	COUNTY	SHEET NO.	

WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

# RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

(The Engineer may approve other messages not specifically covered here.)

## PORTABLE CHANGEABLE MESSAGE SIGNS

- The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
- Messages on PCMS should contain no more than 8 words (about four to eight characters per word), not including simple words such as "TO," "FOR," "AT," etc.
- Messages should consist of a single phase, or two phases that alternate. Three-phase messages are not allowed. Each phase of the message should convey a single thought, and must be understood by itself.
- Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
- Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
- When in use the bottom of a stationary PCMS message panel should be a minimum 7 feet above the roadway, where possible.
- The message term "WEEKEND" should be used only if the work is to start on Saturday morning and end by Sunday evening at midnight. Actual days and hours of work should be displayed on the PCMS if work is to begin on Friday evening and/or continue into Monday morning.
- The Engineer/Inspector may select one of two options which are available for displaying a two-phase message on a PCMS. Each phase may be displayed for either four seconds each or for three seconds each.
- Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
- Do not present redundant information on a two-phase message; i.e., keeping two lines of the message the same and changing the third line.
- Do not use the word "Danger" in message.
- Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
- Do not display messages that scroll horizontally or vertically across the face of the sign.
- The following table lists abbreviated words and two-word phrases that are acceptable for use on a PCMS. Both words in a phrase must be displayed together. Words or phrases not on this list should not be abbreviated, unless shown in the TMUTCD.
- PCMS character height should be at least 18 inches for trailer mounted units. They should be visible from at least 1/2 (1.5) mile and the text should be legible from at least 600 feet at night and 800 feet in daylight. Truck mounted units must have a character height of 10 inches and must be legible from at least 400 feet.
- Each line of text should be centered on the message board rather than left or right justified.
- If disabled, the PCMS should default to an illegible display that will not alarm motorists and will only be used to alert workers that the PCMS has malfunctioned. A pattern such as a series of horizontal solid bars is appropriate.

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

WORD OR PHRASE	ABBREVIATION	WORD OR PHRASE	ABBREVIATION
Access Road	ACCS RD	Major	MAJ
Alternate	ALT	Miles	MI
Avenue	AVE	Miles Per Hour	MPH
Best Route	BEST RTE	Minor	MNR
Boulevard	BLVD	Monday	MON
Bridge	BRDG	Normal	NORM
Canot	CANT	North	N
Center	CTR	Northbound	(route) N
Construction Ahead	CONST AHD	Parking	PKING
CROSSING	XING	Road	RD
Detour Route	DETOUR RTE	Right Lane	RT LN
Do Not	DONT	Saturday	SAT
East	E	Service Road	SERV RD
Eastbound	(route) E	Shoulder	SHLDR
Emergency	EMER	Slippery	SLIP
Emergency Vehicle	EMER VEH	South	S
Entrance, Enter	ENT	Southbound	(route) S
Express Lane	EXP LN	Speed	SPD
Expressway	EXPWY	Street	ST
XXXX Feet	XXXX FT	Sunday	SUN
Fog Ahead	FOG AHD	Telephone	PHONE
Freeway	FRWY, FWY	Temporary	TEMP
Freeway Blocked	FWY BLKD	Thursday	THURS
Friday	FRI	To Downtown	TO DWN TN
Hazardous Driving	HAZ DRIVING	Traffic	TRAF
Hazardous Material	HAZMAT	Travelers	TRVLRS
High-Occupancy	HOV	Tuesday	TUES
Vehicle	VEH	Time Minutes	TIME MIN
Highway	HWY	Upper Level	UPR LEVEL
Hour(s)	HR, HRS	Vehicles (s)	VEH, VEHS
Information	INFO	Warning	WARN
It Is	ITS	Wednesday	WED
Junction	JCT	Weight Limit	WT LIMIT
Left	LFT	West	W
Left Lane	LFT LN	Westbound	(route) W
Lane Closed	LN CLOSED	Wet Pavement	WET PVMT
Lower Level	LWR LEVEL	Will Not	WONT
Maintenance	MAINT		

Roadway designation # IH-number, US-number, SH-number, FM-number

## Phase 1: Condition Lists

### Road/Lane/Ramp Closure List

FREEWAY CLOSED X MILE
ROAD CLOSED AT SH XXX
ROAD CLSD AT FM XXXX
RIGHT X LANES CLOSED
CENTER LANE CLOSED
NIGHT LANE CLOSURES
VARIOUS LANES CLOSED
EXIT CLOSED
MALL DRIVEWAY CLOSED
XXXXXXXXX BLVD CLOSED

### Other Condition List

FRONTAGE ROAD CLOSED
SHOULDER CLOSED XXX FT
RIGHT LN CLOSED XXX FT
RIGHT X LANES OPEN
DAYTIME LANE CLOSURES
I-XX SOUTH EXIT CLOSED
EXIT XXX CLOSED X MILE
RIGHT LN TO BE CLOSED
X LANES CLOSED TUE - FRI
ROADWORK XXX FT
FLAGGER XXXX FT
RIGHT LN NARROWS XXXX FT
MERGING TRAFFIC XXXX FT
LOOSE GRAVEL XXXX FT
DETOUR X MILE
ROADWORK PAST SH XXXX
BUMP XXXX FT
TRAFFIC SIGNAL XXXX FT
ROAD REPAIRS XXXX FT
LANE NARROWS XXXX FT
TWO-WAY TRAFFIC XX MILE
CONST TRAFFIC XXX FT
UNEVEN LANES XXXX FT
ROUGH ROAD XXXX FT
ROADWORK NEXT FRI-SUN
US XXX EXIT X MILES
LANES SHIFT *

\* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

## Phase 2: Possible Component Lists

### Action to Take/Effect on Travel List

MERGE RIGHT
DETOUR NEXT X EXITS
USE EXIT XXX
STAY ON US XXX SOUTH
TRUCKS USE US XXX N
WATCH FOR TRUCKS
EXPECT DELAYS
REDUCE SPEED XXX FT
USE OTHER ROUTES
STAY IN LANE *

### Location List

AT FM XXXX
BEFORE RAILROAD CROSSING
NEXT X MILES
PAST US XXX EXIT
XXXXXXXXX TO XXXXXXXX
US XXX TO FM XXXX

### Warning List

SPEED LIMIT XX MPH
MAXIMUM SPEED XX MPH
MINIMUM SPEED XX MPH
ADVISORY SPEED XX MPH
RIGHT LANE EXIT
USE CAUTION
DRIVE SAFELY
DRIVE WITH CARE

### \*\* Advance Notice List

TUE-FRI XX AM-X PM
APR XX-XX X PM-X AM
BEGINS MONDAY
BEGINS MAY XX
MAY X-X XX PM - XX AM
NEXT FRI-SUN
XX AM TO XX PM
NEXT TUE AUG XX
TONIGHT XX PM-XX AM

\*\* See Application Guidelines Note 6.

## APPLICATION GUIDELINES

- Only 1 or 2 phases are to be used on a PCMS.
- The 1st phase (or both) should be selected from the "Road/Lane/Ramp Closure List" and the "Other Condition List".
- A 2nd phase can be selected from the "Action to Take/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists".
- A Location Phase is necessary only if a distance or location is not included in the first phase selected.
- If two PCMS are used in sequence, they must be separated by a minimum of 1000 ft. Each PCMS shall be limited to two phases, and should be understandable by themselves.
- For advance notice, when the current date is within seven days of the actual work date, calendar days should be replaced with days of the week. Advance notification should typically be for no more than one week prior to the work.

## WORDING ALTERNATIVES

- The words RIGHT, LEFT and ALL can be interchanged as appropriate.
- Roadway designations IH, US, SH, FM and LP can be interchanged as appropriate.
- EAST, WEST, NORTH and SOUTH (or abbreviations E, W, N and S) can be interchanged as appropriate.
- Highway names and numbers replaced as appropriate.
- ROAD, HIGHWAY and FREEWAY can be interchanged as needed.
- AHEAD may be used instead of distances if necessary.
- FT and MI, MILE and MILES interchanged as appropriate.
- AT, BEFORE and PAST interchanged as needed.
- Distances or AHEAD can be eliminated from the message if a location phase is used.

PCMS SIGNS WITHIN THE R.O.W. SHALL BE BEHIND GUARDRAIL OR CONCRETE BARRIER OR SHALL HAVE A MINIMUM OF FOUR (4) PLASTIC DRUMS PLACED PERPENDICULAR TO TRAFFIC ON THE UPSTREAM SIDE OF THE PCMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFFIC, THE FOUR DRUMS SHOULD BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF THE UNIT.

## FULL MATRIX PCMS SIGNS

- When Full Matrix PCMS signs are used, the character height and legibility/visibility requirements shall be maintained as listed in Note 15 under "PORTABLE CHANGEABLE MESSAGE SIGNS" above.
- When symbol signs, such as the "Flagger Symbol" (CW20-7) are represented graphically on the Full Matrix PCMS sign and, with the approval of the Engineer, it shall maintain the legibility/visibility requirement listed above.
- When symbol signs are represented graphically on the Full Matrix PCMS, they shall only supplement the use of the static sign represented, and shall not substitute for, or replace that sign.
- A full matrix PCMS may be used to simulate a flashing arrow board provided it meets the visibility, flash rate and dimming requirements on BC(7), for the same size arrow.

SHEET 6 OF 12



Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

BC(6) - 13

FILE: bc-13.dgn	DN: TxDOT	CK: TxDOT	DR: TxDOT	CK: TxDOT
© TxDOT November 2002	CONF	SECT	JOB	HIGHWAY
REVISIONS				
9-07				
7-13				
	DIST	COUNTY		SHEET NO.

**CITY OF SAN ANTONIO GENERAL NOTES**

1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO (COSA) STANDARDS SPECIFICATIONS FOR CONSTRUCTION DATED JUNE 2008, OR LATEST REVISION THERE OF.
2. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES.
3. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE AT ALL TIMES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES, DRIVEWAYS, OR SIDEWALKS (NO SEPARATE PAY ITEM).
5. CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO SCHEDULE FOR DENSITY TEST AS REQUIRED.
6. CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
7. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO EXCAVATION OPERATION:
  - SAN ANTONIO WATER SYSTEM (SAWS) 233-2010,
  - COSA DRAINAGE 207-8048
  - COSA SIGNAL OPERATIONS 207-7720 / 207-7765
  - TEXAS STATE WIDE ONE CALL LOCATOR 1-800-344-8377
  - CITY PUBLIC SERVICE ENERGY
  - TIME WARNER
  - AT&T
  - MCI
8. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND HE SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.
9. ALL WASTE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE REPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE

PROJECT. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE.

10. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
11. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND / OR TRACKED CONSTRUCTION MATERIALS AND / OR DEBRIS.
12. IF THE CONTRACTOR ENCOUNTERS ANY ARCHAEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST STOP EXCAVATION IMMEDIATELY, CONTACT THE CITY INSPECTOR, AND CALL THE CITY HISTORIC PRESERVATION OFFICE AT 207-7306 OR 207-3327 FOR AN ARCHAEOLOGICAL INVESTIGATION. THE CONTRACTOR CANNOT BEGIN EXCAVATION AGAIN WITHOUT WRITTEN PERMISSION FROM THE CITY. IF MORE THAN THREE (3) DAYS ARE REQUIRED FOR INVESTIGATION (NOT INCLUDING HOLIDAY AND WEEKENDS) AND IF THE CONTRACTOR IS UNABLE TO WORK IN OTHER AREAS, THEN THE CONTRACTOR WILL BE ALLOWED TO NEGOTIATE FOR ADDITIONAL CONSTRUCTION TIME UPON WRITTEN REQUEST WITHIN TEN (10) DAYS AFTER THE FIRST NOTICE TO THE CITY OF ARCHAEOLOGICAL INVESTIGATION FOR EACH EVENT. IF THE TIME REQUIRED FOR INVESTIGATION IS LESS THAN OR EQUAL TO THREE (3) DAYS FOR EACH EVENT, CONTRACT DURATION WILL NOT BE EXTENDED.
13. IF SUSPECTED CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION OPERATIONS, COSA SHALL BE NOTIFIED IMMEDIATELY WHEN CONTAMINATED SOILS AND / OR GROUNDWATERS ARE ENCOUNTERED AT LOCATIONS NOT IDENTIFIED IN THE PLANS. THE NOTIFICATION SHOULD INCLUDE THE STATION NUMBER, TYPE OF CONTAMINATED MEDIA, EVIDENCE OF CONTAMINATION AND MEASURES TAKEN TO CONTAIN THE CONTAMINATED, MEDIA AND PREVENT PUBLIC ACCESS. THE CONTAMINATED SOIL AND / OR GROUNDWATER SHALL NOT BE REMOVED FROM THE LOCATION WITHOUT PRIOR COSA APPROVAL. THE CONTRACTOR MUST STOP THE EXCAVATION IMMEDIATELY AND CONTACT THE C.O.S.A. INSPECTOR. THE CONTRACTOR CANNOT BEGIN EXCAVATION ACTIVITIES WITHOUT WRITTEN PERMISSION FROM THE CITY.
14. FOR AREAS WITH SIDEWALK INSTALLATION/REPLACEMENT, CONTRACTOR IS TO INCLUDE A MAILBOX POST BLOCKOUT FOR VACANT LOTS AND ALL RESIDENCES WHICH DO NOT HAVE MAILBOXES AT THE CURB. BLOCKOUTS ARE PROVIDED FOR FUTURE USE BY THE POST OFFICE (NO SEPARATE PAY ITEM). CONTRACTOR SHALL INSTALL SIDEWALK AND MAILBOX BLOCKOUT TO WHERE A MINIMUM OF 36' CLEARANCE IS MAINTAINED FROM BACK OF BOX.
15. CONTRACTOR SHALL NOT REMOVE OR ADJUST ANY VIA FACILITIES. THE CONTRACTOR MUST CONTACT VIA FOURTEEN DAYS PRIOR, FOR THE REMOVAL OF BENCHES, STOP POLES OR ANY OTHER VIA FACILITIES THAT MAY BE PRESENT. PLEASE PROVIDE THIRTY DAYS PRIOR NOTICE FOR SHELTER REMOVAL (TELEPHONE NOS: (210) 362-2155 OR (210) 362-2096). THE CONTRACTOR WILL BE LIABLE FOR ANY DAMAGES TO VIA FACILITIES NOT REMOVED BY VIA. THE CONTRACTOR IS REQUIRED TO REPLACE ALL FLATWORK REMOVED OR DAMAGED IN THE COURSE OF EXECUTING THE CONTRACT UNLESS OTHERWISE NOTED BY VIA. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING VIA FACILITIES IF ADJACENT TO WORK AREA.

16. AS DIRECTED BY THE COSA, THE STREET PAVEMENT, ADJACENT DRIVEWAYS, SIDEWALKS, AND WALKWAYS SHALL BE SWEEPED AND ALL DEBRIS REMOVED FROM THE WORK AREA (NO SEPARATE PAY ITEM).
- SUBSEQUENT TO RECLAMATION/ RECONSTRUCTION OPERATIONS
  - PRIOR TO LAYING A SURFACE COURSE
  - AS OFTEN AS NECESSARY PER DIRECTION OF CITY STAFF OR REPRESENTATIVES TO REMOVE LOOSE MATERIAL
17. THE CONTRACTOR SHALL PROVIDE THE CITY AN EMERGENCY TELEPHONE NUMBER FOR EVENINGS, WEEKENDS AND HOLIDAYS BY THE FIRST WORKING DAY FOR THE PROJECT. THIS TELEPHONE NUMBER MUST BE A COMMERCIAL ANSWERING SERVICE. THE ANSWERING SERVICE MUST BE ABLE TO CONTACT THE CONTRACTOR AND HAVE THE CONTRACTOR RESPOND TO CITY STAFF WITHIN TWO (2) HOURS OF THE INITIAL CONTACT.
18. IF THE CONTRACTOR WISHES TO WORK NIGHTS OR WEEKENDS, HE SHALL SUBMIT A REQUEST TO THE ENGINEER AND CITY INSPECTOR FOR APPROVAL SEVENTY TWO (72) HOURS PRIOR TO WORKING THE NIGHT OR WEEKEND THEY WISH TO WORK. NIGHT OR WEEKEND WORK WILL NOT RECEIVE ADDITIONAL COMPENSATION.
19. UPON COMPLETION OF ALL WORK PROVIDED FOR IN THE CONTRACT FOR ANY INDIVIDUAL STREET, THE CITY ENGINEER AND INSPECTOR WILL MAKE AN INSPECTION. IF THE WORK IS FOUND TO BE SATISFACTORY, THE CONTRACTOR WILL BE RELEASED FROM FURTHER MAINTENANCE FOR THAT STREET. A SATISFACTORY INSPECTION WILL BE CONSIDERED A "PARTIAL ACCEPTANCE" OF THE WORK. SAID ACCEPTANCE WILL BE MADE IN WRITING AND SHALL IN NO WAY VOID OR ALTER ANY TERMS OF THE CONTRACT.
20. THE CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS IN ADVANCE OF EACH DAY'S WORK. THIS NOTIFICATION SHALL INCLUDE THE MATERIAL SOURCE LOCATION AND THE LOCATION AT WHICH THE MATERIAL WILL BE PLACED. PHONE NUMBERS WILL BE PROVIDED AT THE PRECONSTRUCTION MEETING.
21. ALL COSTS ASSOCIATED WITH THE FOLLOWING ITEMS SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS, AND SHALL NOT BE SEPARATELY COMPENSATED.
- 100 "MOBILIZATION"
  - 100.1 "INSURANCE AND BOND"
  - 101 "PREPARE RIGHT OF WAY"
  - 530 "BARRICADES, SIGNS & TRAFFIC HANDLING"
  - 540 "TEMPORARY EROSION, SEDIMENTATION AND WATER POLLUTION PREVENTION AND CONTROL"
22. THE CONTRACTOR SHALL PROVIDE UPDATED CONSTRUCTION SCHEDULES AT THE BEGINNING OF EACH MONTH, VIA E-MAIL FOR THE DURATION OF THE CONTRACT. THE CITY RESERVES THE RIGHT TO DIRECT THE CONTRACTOR WHERE TO WORK WHEN NECESSARY (NO SEPARATE PAY ITEM).
23. THE CONTRACTOR IS RESPONSIBLE FOR OBEYING ALL FEDERAL, STATE AND LOCAL

LAWS AND REGULATIONS.

24. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING CITY RIGHT OF WAY PERMITS FOR CONSTRUCTION. ALL RIGHT OF WAY PERMIT FEES RELATED TO THIS PROJECT WILL BE WAIVED.
25. THE CONTRACTOR SHALL CONDUCT OPERATIONS IN A MANNER SUCH THAT TRUCKS AND OTHER VEHICLES DO NOT CREATE A DIRT NUISANCE OR SAFETY HAZARD IN ANY STREETS, PUBLIC OR PRIVATE. CLEAN UP OF STREETS SHALL BE DONE DAILY AT A MINIMUM (NO SEPARATE PAY ITEM).
26. THE CONTRACTOR SHALL BE AWARE THAT THE QUANTITIES SHOWN IN THE TASK ORDER MAY CHANGE. THE CITY RESERVES THE RIGHT TO MAKE ADJUSTMENTS IN THE FIELD. PAYMENT FOR PERFORMING THE WORK SHALL BE MADE AT THE ESTABLISHED BID UNIT PRICE IN THE CONTRACT.
27. THE CITY WILL PROVIDE A TEMPLATE/VERBAGE FOR THE DOOR HANGER. CONTRACTOR SHALL PLACE HANGERS ON EVERY BUSINESS OR RESIDENCE WITHIN EACH SEGMENT LIMITS AND ANY OTHER LOCATIONS AS SPECIFIED BY THE INSPECTOR. AN ADDITIONAL DOOR HANGER SHALL BE PLACED AT ALL CORNER LOTS THAT WILL BE RECEIVING CURB RAMPS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE A PREVIEW COPY OF THE DOOR HANGER TO THE CITY SEVEN (7) DAYS PRIOR TO DISTRIBUTION. DOOR HANGERS MUST BE DISTRIBUTED AT LEAST ONE (1) WEEK PRIOR TO EQUIPMENT MOBILIZATION.
28. ALL CONCRETE SURFACES AND CONSTRUCTION JOINTS THAT WILL CONTACT THE PROPOSED HMAP SHALL BE PAINTED WITH A THIN UNIFORM COAT OF SS-IH TACK COAT. TACK COAT SHALL MEET THE REQUIREMENTS OF ITEM 203.
29. AT INTERSECTIONS WITH SIDEWALKS, THE FOLLOWING GUIDELINES WILL BE USED FOR THE PLACEMENT OF CURB RAMPS:
  - ALL CURB RAMPS SHALL HAVE TRUNCATED DOMES INSTALLED.
  - CURB RAMPS SHALL BE INSTALLED ACCORDING TO THE PLANS OR AT THE DIRECTION OF THE PROJECT MANAGER.
  - REFERENCE SPECIAL PROVISION TO ITEM 502 FOR PAYMENT INFORMATION OF CURB RAMPS
  - DETECTABLE ADA APPROVED WARNINGS, SHALL BE CAST IN PLACE 24 INCHES X 60 INCHES MANUFACTURED BY ARMOR-TILE MODEL NUMBER 465C2460RD UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
30. USE VACUUM OR REGENERATIVE AIR SWEEPERS ONLY WHEN SWEEPING WORK AREA (NO SEPARATE PAY ITEM).
31. ALL ASPHALT CUTTINGS AND AGGREGATE SHALL BE CONFINED TO THE STREET SURFACE WHERE THEY SHALL BE SWEEPED UP AND REMOVED FROM THE RIGHT-OF-WAY BY THE END OF EACH WORK DAY.
32. CONTRACTOR SHALL TRANSITION PROPOSED CURB TO EXISTING CURB AT A DISTANCE NOT LESS THAN 4 FEET OR NO MORE THAN 8 FEET. CONTRACTOR TO MATCH THE EXISTING CURB ELEVATION AT TIE-IN. CURB CONSTRUCTION SHALL BE PERFORMED BY EQUIPMENT APPROVED BY THE CITY AND SHALL NOT PRESENT A HAZARD TO TRAFFIC.

ALL SAW CUTS SHALL BE FULL DEPTH SAWCUTS.

33. ALL QUANTITIES SHALL BE PRE-APPROVED BY THE CITY ENGINEER AND INSPECTOR.
34. AT INTERSECTING STREETS, CURB INLETS, DRIVEWAYS AND RETAINING WALLS, CONTRACTOR SHALL TIE PROPOSED FLATWORK TO EXISTING FLATWORK AND MATCH GRADES AT TIE-IN LOCATION. REFERENCE MISCELLANEOUS CONSTRUCTION STANDARDS FOR ACCEPTABLE TIE-INS.
35. GRAVEL FILTER BAGS SHOULD BE PLACED AT INLET STRUCTURES TO PREVENT MATERIAL FROM ENTERING INLETS AND STORM SEWERS. ALL MATERIAL ENTERING INLETS AND STORM SEWERS SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.
36. ALL TRUCK TICKETS SHALL HAVE THE NAME OF THE STREET THE MATERIAL WAS PLACED AND BE HANDED TO THE INSPECTOR AT THE END OF EACH DAY'S WORK.
37. THE CONTRACTOR SHALL VIDEO TAPE ALL PROJECTS PRIOR TO ANY CONSTRUCTION. A BACK UP COPY WILL BE SUBMITTED TO THE CITY OF SAN ANTONIO BEFORE PROJECTS COMMENCE IN A FORMAT ACCEPTABLE TO THE COSA. ITEMS TO BE VIDEOTAPED NEED TO BE IDENTIFIED BY ADDRESS (NO SEPARATE PAY ITEM):
  - FENCES
  - MAILBOX FROM ALL SIDES
  - DRIVEWAY ENTRIES
  - CURBS, SIDEWALK, AND PEDESTRIAN WALKWAYS
  - ANY FORM OF LANDSCAPING ON RIGHT OF WAY (TREES, PLANTS, ETC.)
38. THE CONTRACTOR SHALL PROVIDE A SCHEDULE OF WORK FOR THE ENTIRE PROJECT WITHIN FOURTEEN (14) DAYS OF THE NOTICE TO PROCEED (NO SEPARATE PAY ITEM).
39. FOR RECLAMATION PROJECTS THAT ENCOUNTER SUBGRADE DURING TREATMENT, SUBGRADE MUST BE REMOVED AND FLEXIBLE BASE ADDED TO ACHIEVE 6-INCH RECLAMATION. THIS SCENARIO WILL BE PAID UNDER ITEM 236.3 EMULSION TREATMENT (MIXING EXISTING MATERIAL AND NEW BASE) (6- INCH COMPACTED DEPTH). THIS SCENARIO IS IDENTIFIED AS LISTED BELOW:
  - PAVEMENT WIDENING WHERE THE CONTRACTOR EXCAVATES NATURAL SOIL AND/OR SUBGRADE TO UTILIZE EXISTING EXCAVATED BASE/MILLINGS AND/OR INSTALL NEW FLEXIBLE BASE (LOOSE, NONCOMPACTED). WHERE FLEXIBLE BASE IS REQUIRED TO COMPLETE THE PROPOSED 6-INCH RECLAMATION DEPTH, THE CONTRACTOR WILL BE COMPENSATED FOR FLEXIBLE BASE ONLY UNDER ITEM 200.2 – FLEXIBLE BASE (LOOSE).
  - EXCAVATION IN THE EXISTING ROADWAY WHICH CAUSES REMOVAL OF SUBGRADE AND UTILIZATION OF EXCAVATED BASE/MILLINGS AND/OR INSTALLATION OF NEW FLEXIBLE BASE TO COMPLETE THE PROPOSED 6-INCH RECLAMATION DEPTH. WHERE NEW FLEXIBLE BASE IS REQUIRED TO COMPLETE THIS 6-INCH RECLAMATION SECTION, ONLY FLEXIBLE BASE WILL BE PAID UNDER ITEM 200.2 FLEXIBLE BASE (LOOSE).
  - ALL EXCAVATION AND HAUL OFF ASSOCIATED WITH THIS SCENARIO WILL BE PAID UNDER ITEM 104.1 STREET EXCAVATION AS A CUBIC YARD MEASUREMENT.
40. BASE REPLACEMENT WILL BE PAID UNDER ITEM 230.3 BASE & PAVEMENT REPLACEMENT WITH TYPE B PAVEMENT AT THE DEPTH SPECIFIED IN THE ASSOCIATED BID ITEM

- LOCATIONS THAT MAY REQUIRE BASE REPLACEMENT WILL BE IDENTIFIED BY CITY OR IT'S REPRESENTATIVES PRIOR TO START OF CONSTRUCTION
- WHERE BASE REPLACEMENT IS SHOWN, THE CONTRACTOR SHALL REMOVE AND HAUL OFF THE EXISTING BASE REQUIRED TO INSTALL A NEW TYPE B COMPACTED DEPTH BASE SECTION (DEPTH CALLED OUT ON PLANS THAT WILL BE PROVIDED TO CONTRACTOR PRIOR TO ISSUANCE OF THE TASK ORDER).
- ALL EXCAVATION AND HAUL OFF ASSOCIATED WITH BASE & PAVEMENT REPLACEMENT WILL NOT BE PAID FOR DIRECTLY. EXCAVATION IS CONSIDERED SUBSIDIARY TO ITEM 230 BASE & PAVEMENT REPLACEMENT PER CITY OF SAN ANTONIO SPECIFICATIONS.

41. MATERIAL SUBMITTALS SHALL BE PROVIDED TO THE CITY OF SAN ANTONIO PROJECT MANAGER AND QUALITY ASSURANCE MANAGER PRIOR TO STARTING CONSTRUCTION.
42. ALL COSTS FOR REMOVING THE EXISTING SURFACE AND BASE SECTIONS FOR BOTH RECLAMATION AND RECONSTRUCTION PROJECTS WILL BE PAID FOR UNDER ITEM 104.1 STREET EXCAVATION AS A CUBIC YARD MEASUREMENT, REGARDLESS OF MEANS AND METHOD USED BY CONTRACTOR.
43. FOR RECONSTRUCTION PROJECTS, THE CONTRACTOR SHALL PROVIDE DRIVEWAY RAMPS USING TYPE B HMAP FOR EACH DRIVEWAY UNTIL FINAL BASE COURSE IS INSTALLED. ALL COSTS ASSOCIATED WITH THESE DRIVEWAY RAMPS SHALL BE SUBSIDIARY TO STREET EXCAVATION.
44. NOT ALL PROJECTS WILL RECEIVE ENGINEERED PLANS. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE STREETS ARE GRADED TO DRAIN. ANY SURVEY COSTS INCURRED BY CONTRACTOR FOR ENSURING POSITIVE DRAINAGE IS MAINTAINED ON STREETS WILL BE AT THE CONTRACTORS EXPENSE AND AT NO ADDITIONAL COST TO THE CITY.
45. FOR RECLAMATION PROJECTS, THE CONTRACTOR MUST PRODUCE A MINIMUM OF 6' EMULSION TREATMENT SECTION PRIOR TO INSTALLATION OF SEAL COAT AND SURFACE COURSE. PRIOR TO INSTALLATION OF SEAL COAT, THE CITY WILL HIRE AN OUTSIDE MATERIAL TESTING COMPANY TO COMPLETE DENSITY TESTS TO CONFIRM COMPACTION REQUIREMENTS NOTED IN CITY'S SPECIFICATION'S ARE MET. THE CONTRACTOR MAY NOT PROCEED WITH SEAL COAT UNTIL AUTHROIZATION IS GIVEN BY TCI INSPECTOR. IN THE EVENT COMPACTION REQUIREMENTS ARE NOT MET IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO RECOMPACT THE TREATED BASE THEN HIRE A MATERIAL TESTING COMPANY APPROVED BY THE CITY TO RETEST THE COMPACTED BASE. COST INCURRED BY THE CONTRACTOR FOR RECOMPACTION AND ADDITIONAL TESTING SHALL BE AT THE CONTACTOR'S EXPENSE.
46. FOR RECLAMATION PROJECTS THAT ENTAIL FLATWORK REPLACEMENT (CURB, SIDEWALK, DRIVEWAY, ETC.) THE CONTRACTOR SHALL GUARANTEE NEW ASPHALT IS NOT DAMAGED DURING INSTALLATION OF FLATWORK. IF THE CONTRACTOR CHOOSES TO INSTALL SURFACE COURSE PRIOR TO REPLACEMENT OF FLATWORK, THE CONTRACTOR SHALL INSTALL A CURB AND GUTTER IN ACCORDANCE WITH DETAIL SHOWN ON MISCELLANEOUS CONSTRUCTION STANDARDS 1. COSTS INCURRED BY CONTRACTOR DUE TO SAW CUTTING PAVEMENT AND ADDITIONAL CONCRETE REINFORCEMENT FOR GUTTER WILL BE AT THE CONTRACTOR'S EXPENSE.
47. FOR ALL RECONSTRUCTION PROJECTS, PRIOR TO INSTALLATION OF BASE SECTOIN, THE CITY WILL HIRE AN OUTSIDE MATERIAL TESTING COMPANY TO COMPLETE DENSITY TESTS ON BOTH TREATED AND NON-TREATED SUBGRADE TO CONFIRM COMPACTION REQUIREMENTS NOTED IN CITY'S SPECIFICATIONS ARE MET. THE CONTRACTOR MAY NOT PROCEED WITH INSTALLATION OF BASE

SECTION UNTIL AUTHORIZATION IS GIVEN BY TCI INSPECTOR. IN THE EVENT COMPACTION REQUIREMENTS ARE NOT MET FOR SUBGRADE, IT WILL BE THE CONTRACTORS RESPONSIBILITY TO RECOMPACT THE SUBGRADE THEN HIRE A MATERIAL TESTING COMPANY APPROVED BY THE CITY TO RETEST SUBGRADE DENSITY. COST INCURRED BY CONTACTOR FOR RECOMPACTION AND ADDITIONAL TESTING WILL BE AT THE CONTRACTORS EXPENSE.

**TREE PROTECTION AND PRESERVATION GENERAL NOTES**

1. NO UTILITY OR STREET EXCAVATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.
2. TREE PROTECTION FENCING SHALL BE REQUIRED AND TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION AS NOTED IN THE PLANS. DURING CONSTRUCTION ACTIVITY, AT LEAST A SIX-INCH LAYER OF COARSE MULCH SHALL BE PLACED AND MAINTAINED OVER THE ROOT PROTECTION ZONE (NO SEPARATE PAY ITEM).
3. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE INCH IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. ROOTS OR BRANCHES IN CONFLICT WITH CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. OAK WOUNDS SHALL BE PAINTED OVER WITHIN 20 MINUTES TO PREVENT OAK WILT. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY ARBORIST/INSPECTOR FOR GUIDANCE.
4. ROOTS WILL BE CLEANLY CUT WITH A ROCK SAW OR BY HAND, NOT BY AN EXCAVATOR OR OTHER ROAD CONSTRUCTION EQUIPMENT.
5. ALL CURB AND SIDEWALK WORK SHALL USE ALTERNATIVE CONSTRUCTION METHODS TO MINIMIZE EXTENSIVE ROOT DAMAGE TO TREES (REFER TO DETAILS).
6. EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH, OR WET BURLAP (NO SEPARATE PAY ITEM).
7. NO EQUIPMENT, VEHICLES OR MATERIALS SHALL OPERATE OR BE STORED WITHIN THE ROOT PROTECTION ZONE OF ANY TREE NEAR THE PROJECT. ROOT PROTECTION ZONE IS A 1 FOOT RADIUS PER INCH OF TREE'S DIAMETER. A 10-INCH DIAMETER TREE WOULD HAVE A 10 FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE. NO CLEAN-OUTS WILL BE CONSTRUCTED SO THAT THE MATERIAL SHALL BE IN OR MIGRATE TO THE ROOT PROTECTION ZONE.
8. SAPLINGS, SHRUBS OR BUSHES TO BE CLEARED FROM THE PROTECTED ROOT ZONE AREA OF A LARGE TREE SHALL BE REMOVED BY HAND AS DESIGNATED BY THE INSPECTOR.
9. NO WIRES, NAILS OR OTHER MATERIAL MAY BE ATTACHED TO PROTECTED TREES.
10. TREES, TREE LIMBS, BUSHES AND SHRUBS LOCATED IN THE CITY STREET OR ALLEY RIGHT-OF-WAY OR PERMANENT EASEMENTS WHICH INTERFERE WITH PROPOSED CONSTRUCTION ACTIVITIES SHALL BE PROPERLY PRUNED FOLLOWING THE ANSI A-300

STANDARDS FOR PRUNING. ALL TREE PRUNING SHALL BE COMPLETED BY A CITY OF SAN ANTONIO TREE MAINTENANCE LICENSED CONTRACTOR (ARTICLE 21-171, CITY CODE) ONLY AFTER APPROVAL FROM THE CAPITAL PROJECTS MANAGEMENT THROUGH THE INSPECTOR.

11. NO EXCESSIVE TREE TRIMMING WILL BE PERMITTED.
12. ALL DEBRIS GENERATED BY THE PRUNING AND TRIMMING OF TREES AND/OR BUSHES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY (NO SEPARATE PAY ITEM).
13. TREES MUST BE MAINTAINED IN GOOD HEALTH THROUGHOUT THE CONSTRUCTION PROCESS. MAINTENANCE MAY INCLUDE, BUT NOT LIMITED TO: WATERING THE ROOT PROTECTION ZONE, WASHING FOLIAGE, FERTILIZATION, PRUNING, ADDITIONAL MULCH APPLICATIONS AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT (NO SEPARATE PAY ITEM).
14. ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST (207-0278).
15. TREES WHICH ARE DAMAGED OR LOST DUE TO THE CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED TO THE CITY'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.
16. TREE PLANTING FOR MITIGATION OR ENHANCEMENT: ALL PLANTED TREES SHALL BE MAINTAINED IN A HEALTHY CONDITION AT ALL TIMES. THIS INCLUDES IRRIGATION, FERTILIZING, PRUNING AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT. TREES THAT DIE WITHIN TWELVE (12) MONTHS SHALL BE REPLACED WITH A TREE OF EQUAL SIZE AND SPECIES AT NO ADDITIONAL COST TO THE COSA. REERENCE SPECIFICATION 804 NEW TREE & SHRUB PLANTING & MAINTENANCE.
17. NO GRADE CHANGE MORE THAN 3" IS ALLOWED WITHIN THE ROOT PROTECTION ZONE.
18. THE CONTRACTOR SHALL NOTIFY RESIDENCES PRIOR TO REMOVAL OF ANY OF ANY TREE OR SHRUBBERY LOCATED IN THE CONSTRUCTION AREA. CONTRACTOR SHALL SALVAGE REMOVED SHRUB AT RESIDENT'S REQUEST AND PLACE JUST INSIDE THE RIGHT OF WAY ON THE RESIDENT'S PROPERTY. (NO SEPARATE PAY ITEM)

#### **ACCESSIBILITY REQUIREMENTS**

1. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN VEHICULAR AND PEDESTRIAN ACCESS AT ALL TIMES TO LOCAL RESIDENCES AND BUSINESSES.
2. WHEN THE WORK REQUIRES THE EXCAVATION OF THE STREET AND THE REMOVAL THE EXISTING DRIVEWAY APPROACHES AND SIDEWALKS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY ALL-WEATHER ACCESS TO THE BUSINESSES AND RESIDENCES. THE TEMPORARY DRIVEWAY APPROACHES SHALL BE CONSTRUCTED WITH MILLINGS OR ASPHALT AT NO SEPARATE COST TO THE CITY.
3. PRIOR TO INITIATING THE CONSTRUCTION OF NEW DRIVEWAY APPROACHES, THE

CONTRACTOR SHALL GIVE ADVANCE WARNING IN PERSON, OR IN WRITING AT LEAST 48 HOURS TO EACH RESIDENCE THAT WILL BE IMMEDIATELY AFFECTED, SO THAT ALTERNATE PLANS MAY BE MADE BY THE RESIDENTS.

4. FOR BUSINESSES WITH MORE THAN ONE DRIVEWAY, AT LEAST ONE DRIVEWAY SHALL REMAIN OPEN WHILE THE OTHER NEW DRIVEWAY APPROACHES ARE CONSTRUCTED. FOR BUSINESSES WITH ONLY ONE DRIVEWAY, THE NEW DRIVEWAY APPROACH SHALL BE CONSTRUCTED IN HALF WIDTHS, UNLESS A TEMPORARY ASPHALT DRIVEWAY IS FIRST INSTALLED AT NO SEPARATE COST TO THE CITY.

#### **TRAFFIC NOTES AND SPECIAL CONDITIONS**

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED AT THE JOB SITE IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND RELATED INDUSTRY STANDARDS AND REGULATIONS. THESE NOTES, DO NOT, OF THEMSELVES, CONSTITUTE A TRAFFIC CONTROL PLAN. IN THE EVENT THAT THESE PLANS DO NOT INCLUDE TRAFFIC CONTROL, OR THAT THE CONTRACTOR WISHES TO VARY FROM TRAFFIC CONTROL INCLUDED WITH THESE PLANS, HE SHALL SUBMIT FOR REVIEW A TRAFFIC CONTROL PLAN SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS, INCLUDING A SIGN AND BARRICADE PLAN CONFORMING TO THE REQUIREMENTS OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE CITY'S CONSTRUCTION OBSERVER/INSPECTOR (COI) AND THE TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT THE TRAFFIC CONTROL DEVICES BEING DEPLOYED. IF, IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE COI, THE TRAFFIC CONTROL DEVICES DO NOT CONFORM TO ESTABLISHED STANDARDS, ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE COI SHALL HAVE THE OPTION TO STOP CONSTRUCTION OPERATIONS AT NO EXPENSE TO THE CITY UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED BY THE CONTRACTOR. FOR THIS CONTRACT, CONTRACTOR WILL NOT RECEIVE COMPENSATION FOR TRAFFIC CONTROL PLANS AND DEVICES; COST INCURRED FOR THESE ITEMS SHALL BE INCLUDED IN VARIOUS OTHER BID ITEMS.
2. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE CITY OF SAN ANTONIO TRAFFIC OPERATIONS DEPARTMENT AT 207-7765 FOR A TRAFFIC SIGN AND TRAFFIC SIGNAL INVENTORY AND TRAFFIC LOOP LOCATES AT ALL SIGNALIZED INTERSECTIONS. PRIOR TO COMPLETION OF THE CONTRACT AND REMOVAL OF THE BARRICADES, THE CONTRACTOR SHALL AGAIN CONTACT THE TRAFFIC OPERATIONS DEPARTMENT. THE BARRICADES SHALL NOT BE REMOVED UNTIL ALL APPLICABLE PERMANENT TRAFFIC SIGNS AND SIGNALS ARE IN PLACE.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND MAINTAIN TEMPORARY STOP SIGNS AND ALL OTHER TRAFFIC CONTROL DEVICES REQUIRED TO PROTECT THE GENERAL PUBLIC. IF THE CITY OF SAN ANTONIO HAS REMOVED PERMANENT STOP SIGNS, THE CONTRACTOR SHALL REQUEST THAT THE SIGNS BE RETURNED TO THE CONSTRUCTION SITE TO BE REINSTALLED BY THE CONTRACTOR. ALL PERMANENT SIGNS OR TRAFFIC CONTROL DEVICES MISSING OR DAMAGED UPON COMPLETION OF CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

4. THE CONTRACTOR MUST CONTACT THE CITY'S COI 48 HOURS IN ADVANCE (NOT INCLUDING WEEKENDS) OF ANY MINOR STREET CLOSURE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO ADVISE THE COI 10 DAYS IN ADVANCE OF AN ARTERIAL TOTAL STREET CLOSURE. THIS MUCH TIME IS NECESSARY TO INSTALL ADVISORY SIGNS AND GIVE THE MOTORISTS A MINIMUM OF 7 DAYS NOTICE OF THE STREET CLOSURE. AFTER BEING NOTIFIED, THE COI WILL CONTACT THE TRAFFIC ENGINEERING OFFICE TO MAKE THE NECESSARY ARRANGEMENTS.
5. WORK AROUND SCHOOLS SHALL BE SCHEDULED TO ELIMINATE IMPACTS TO THE SCHOOL. LANES SHALL NOT BE CLOSED DURING THE TIME STUDENTS ARE BEING DROPPED OFF AND PICKED UP FROM SCHOOL. WORK WITHIN A SCHOOL ZONE CAN ONLY OCCUR BETWEEN THE HOURS OF 9 AM AND 2 PM. THERE WILL BE NO SEPARATE PAYMENT FOR REDUCED WORKING TIMES.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
  - MULTILANE USE TXDOT TOP'S
  - LOCAL STREET CLOSURES USE CITY STANDARDS
  - UNIQUE SITUATIONS USE TMUTCD, NEED PRIOR APPROVAL
7. FOR STREETS LISTED ON THE CITY OF SAN ANTONIO'S MAJOR THOROUGHFARE PLAN, THE CONTRACTOR SHALL SUBMIT AN ENGINEERED TRAFFIC CONTROL PLAN TO THE CITY OF SAN ANTONIO TWO WEEKS PRIOR TO COMMENCING WORK. (NO SEPARATE PAY ITEM)
8. THE CONTRACTOR SHALL MAINTAIN TRAFFIC ON THE PROJECT STREETS THROUGHOUT CONSTRUCTION. IN THE EVENT THE CONTRACTOR MUST CLOSE A STREET TO TRAFFIC, HE SHALL OBTAIN PERMISSION FROM THE TRAFFIC ENGINEERING DEPARTMENT AND SHALL PROVIDE A MINIMUM FORTY EIGHT (48) HOURS NOTICE TO THE FIRE DEPARTMENT AND POLICE DEPARTMENT.
9. AS WORK PROGRESSES, LOCATIONS OF TEMPORARY TRAFFIC CONTROL DEVICES WILL BE ADJUSTED AND MODIFIED, AS NECESSARY, BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE TO PROVIDE CONTINUOUS TRAFFIC FLOW. THE CONTRACTOR SHALL SUPPLY TWO WORKING PORTABLE CHANGEABLE MESSAGE SIGNS FOR USE THROUGHOUT THE CONTRACT.
10. IF THE NEED ARISES, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES, SPECIAL DIRECTIONAL DEVICES, AND/OR BUSINESS NAME SIGNS MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
11. THE CONTRACTOR MUST MAINTAIN ALL STREETS WITHIN PROJECT LIMITS OPEN TO THROUGH TRAFFIC BY REPAIRING TRENCHES, POTHOLES, LEVELING UP WITH ASPHALT, ETC. AT NO DIRECT PAYMENT, WITH THE COST TO BE INCLUDED IN OTHER ITEMS.
12. WHEN CONSTRUCTION WORK NECESSITATES THE UTILIZATION OF VEHICLE PATHS OTHER THAN THE LANES NORMALLY USED, TRAFFIC CONTROL MARKINGS NO LONGER APPLICABLE SHALL BE REMOVED AND APPROVED TEMPORARY PAVEMENT MARKINGS AND SIGNS INSTALLED IN ACCORDANCE WITH PART VI-D OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. (NO SEPARATE PAY ITEM)

13. PERMANENT PAVEMENT MARKINGS SHALL BE APPLIED PRIOR TO THE OPENING OF THE COMPLETED STREET TO TRAFFIC IF APPLICABLE. TEMPORARY ADDITIONAL SHORT-TERM EXPENDABLE PAVEMENT MARKINGS MAY BE PROVIDED PRIOR TO THE APPLICATION OF PERMANENT MARKINGS, OR RAISED PAVEMENT MARKINGS TO DELINEATE CONTINUITY UNTIL SUCH TIME AS STANDARD PAVEMENT MARKINGS IN NORMAL LENGTHS CAN BE PLACED AT NO DIRECT PAYMENT.
14. ALL TEMPORARY TRAFFIC CONTROL DEVICES, ECT. SHALL BE PROVIDED BY THE CONTRACTOR WITHOUT DIRECT PAYMENT, UNLESS OTHERWISE NOTED OR STATED. TEMPORARY TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CITY'S "TYPICAL SIGN AND BARRICADE STANDARDS" SHEETS AND TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
15. THE COI WILL MONITOR THE CONTRACTOR'S TRAFFIC CONTROL DEVICES AND WILL BE RESPONSIBLE TO FURNISH ALL RESIDENTS AND BUSINESSES WITH AN INFORMATION FLYER ON ALL JOBS DURING CONSTRUCTION.
16. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, ANY DAMAGE TO PERMANENT TRAFFIC SIGNALS, THE CONTROLLER BOX, LOOPS OR CONDUITS DURING OR UPON COMPLETION OF THE PROJECT SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. THE DECISION TO REPAIR, AS OPPOSED TO REPLACE, THE DAMAGED EQUIPMENT SHALL BE MADE BY THE CITY'S TRAFFIC ENGINEER.
17. CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OPEN TO TRAFFIC AT ALL TIMES. UNIFORMED OFF-DUTY POLICE OFFICER SHALL BE ON SITE IF ONE LANE CANNOT REMAIN OPEN.
18. OFF-DUTY POLICE OFFICERS WILL BE REQUIRED AS DIRECTED BY THE TRAFFIC ENGINEER. THIS WILL BE A REQUIREMENT WHERE TWO-WAY TRAFFIC IS TO BE MAINTAINED. ALL OFF DUTY OFFICERS AND CONTRACTOR CREWS HANDLING TRAFFIC MUST BE LISTED AS CERTIFIED OR QUALIFIED FLAGGERS BY CONTRACTOR. THERE WILL BE NO DIRECT PAYMENT FOR CERTIFICATIONS.
19. CONTRACTOR SHALL SCHEDULE HIS WORK SUCH THAT EACH STREET WILL BE SUBSTANTIALLY COMPLETE PRIOR TO MOVING HIS CONSTRUCTION OPERATION TO ANOTHER STREET. MORE THAN ONE STREET CAN BE UNDER CONSTRUCTION IF PRIOR APPROVAL IS OBTAINED FROM THE CITY AND EACH STREET HAS CONTINUOUS, ACTIVE AND UNINTERRUPTED CONSTRUCTION OPERATION ON THAT STREET.
20. ALL EXISTING PAVEMENT MARKERS SHALL BE REMOVED BY THE CONTRACTOR ONLY AS THE WORK PROGRESSES AND AS APPROVED BY THE CITY INSPECTOR. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS. MATERIALS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
21. THE CONTRACTOR SHALL NOT COMMENCE WORK ON A STREET PRIOR TO 8 A.M. WHEN APPROVED BY COSA TRAFFIC OPERATIONS DEPARTMENT. THE PLACEMENT AND MOVEMENT OF SIGNS AND BARRICADES CONSTITUTES WORK AND SHALL NOT BE STARTED UNTIL AFTER THE 8 A.M. TIME FRAME.

22. THE CONTRACTOR SHALL MAINTAIN CONTINUOUS ACCESS TO ALL INTERSECTING STREETS UNLESS OTHERWISE SHOWN ON THESE PLANS. WHEN CONTINUOUS ACCESS IS SCHEDULED TO BE BLOCKED, THE CONTRACTOR SHALL CONTACT THE DISPATCHERS FOR THE FIRE DEPARTMENT AND EMS AT 227-8341 AND THE POLICE DEPARTMENT AT 207-2257, TO APPRISE THEM OF THE PENDING STREET CLOSURE AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE. IF THE CLOSURE FALLS ALONG A BUS ROUTE, THE CONTRACTOR SHALL ALSO CONTACT VIA AT 362-5220. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SUITABLE ACCESS ACCOMMODATIONS FOR SCHOOL CHILDREN AND PEDESTRIANS.
23. THE CONTRACTOR SHALL MAINTAIN EITHER THE EXISTING OR TEMPORARY STREET NAME SIGN AT EACH INTERSECTION ONSITE THROUGHOUT CONSTRUCTION. IF THE EXISTING STREET NAME SIGNS ARE USED, THEY MUST BE MAINTAINED IN THE CONDITION ENCOUNTERED PRIOR TO THE BEGINNING OF CONSTRUCTION. IF TEMPORARY SIGNS ARE USED DURING CONSTRUCTION, THEY SHALL HAVE A MINIMUM OF 4-INCH LETTERS, AND MAY BE FABRICATED WITH CONSTRUCTION ZONE MATERIAL (BLACK LEGEND ON ORANGE BACKGROUND, USING PLYWOOD SUBSTRATE, ETC.) (NO SEPARATE ITEM).
24. AFTER MANHOLE AND VALVE BOX ADJUSTMENTS ARE COMPLETED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY BARRICADE AND MAINTAIN THE BARRICADES TO ENSURE THAT THE PUBLIC IS SAFEGUARDED WHILE TRAVELING WITHIN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEER FOR A REVIEW OF THE ADEQUACY OF THE BARRICADES. THERE WILL BE NO SEPARATE PAYMENT FOR THIS ITEM.
25. ALL TRAFFIC CONTROL DEVICES, PLACEMENT AND ACTIVITIES SHALL BE AS PER THE LATEST EDITION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD). IF THERE IS ANY CONFLICT BETWEEN THE TMUTCD AND TRAFFIC CONTROL REQUIREMENTS WITH THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE CITY TRAFFIC ENGINEER IMMEDIATELY.
26. FOR STREETS, WHICH ACCOMMODATE FOUR (4) OR MORE TRAFFIC LANES, THE FOLLOWING RESTRICTIONS WILL APPLY:
- TWO-WAY TRAFFIC SHALL BE MAINTAINED.
  - A MINIMUM OF TWO LANES SHALL REMAIN OPEN FOR TRAFFIC.
  - NO MORE THAN 1,000 LINEAR FEET OF A ROADWAY LANE MAY BE CLOSED DURING CONSTRUCTION OPERATION, UNLESS PERMITTED BY THE CITY OF SAN ANTONIO.
  - A MINIMUM OF ONE (1) OFF-DUTY POLICE OFFICER MAY BE REQUIRED ON-SITE DURING BASE REPLACEMENT, MILLING, AND HMAC OVERLAY OPERATIONS.
27. FLASHING WARNING LIGHTS AND/OR FLAGS SHALL BE USED TO CALL ATTENTION TO ALL ADVANCE WARNING SIGNS.
28. SIGNS WHICH READ "FRESH OIL" SHALL BE PLACED AT EACH END OF WORK AREA AND ALL TURNOUTS ADJACENT TO WORK AREAS WHERE ASPHALT WORK IS BEING PERFORMED UNTIL SUCH TIME THAT THE CITY INSPECTOR GIVES PERMISSION FOR THEIR REMOVAL. (NO SEPARATE PAY ITEM)
29. ALL TRAFFIC MARKINGS SHALL BE PLACED IN ACCORDANCE WITH THE CITY TRAFFIC ENGINEER. HE SHALL BE GIVEN A MINIMUM OF SEVENTY-TWO (72) HOURS NOTICE PRIOR TO THE APPLICATION OF ANY MARKINGS.

30. THE CITY OF SAN ANTONIO PROJECT MANAGER AND CONTRACTOR SHALL NOTIFY TXDOT PRIOR TO WORKING AT THE INTERSECTION OF ANY STATE OWNED OR MAINTAINED ROADWAY.
31. ALL STREETS, FOR THEIR FULL WIDTH, SHALL BE OPENED TO TRAFFIC AT THE END OF THE WORK PERIOD.
32. AT NO DIRECT PAYMENT, APPROVED TEMPORARY SHORT-TERM EXPENDABLE PAVEMENT MARKINGS, VERTICAL PANELS OR REFLECTIVE ROAD MARKER TABS SHALL BE PROVIDED TO DELINEATE LANE CONTINUITY PRIOR TO THE APPLICATION OF STANDARD MARKINGS. ONCE THE EXISTING STANDARD PAVEMENT MARKINGS HAVE BEEN OBLITERATED, SUCH DEVICES SHALL REMAIN IN PLACE FOR A MAXIMUM OF FOURTEEN (14) DAYS AFTER WHICH TIME STANDARD THERMOPLASTIC MARKINGS MUST BE APPLIED.
33. CONTRACTOR TO CONTACT THE CITY TRAFFIC ENGINEER OFFICE AT 207-7758 FORTY-EIGHT (48) HOURS PRIOR TO SIDEWALK AND CURB CONSTRUCTION WHERE CITY OWNED TRAFFIC FACILITIES EXIST. CONTRACTOR SHALL SECURE APPROVAL FROM THE CITY TRAFFIC ENGINEER PRIOR TO SUCH CONSTRUCTION.
34. LOCATION AND LAYOUTS OF DETECTOR LOOP REPLACEMENTS SHALL BE VERIFIED BY THE CITY ENGINEER PRIOR TO THEIR REMOVAL AND INSTALLATION.
35. CONTRACTOR TO CONTACT CITY TRAFFIC ENGINEERING SEVEN (7) DAYS PRIOR TO COMMENCING WORK ON STREETS WITH BIKE LANE MARKING. LAYOUT SHALL BE PROVIDED TO THE CONTRACTOR BY THE CITY TRAFFIC ENGINEER.
36. DURING STREET RECLAMATION, THE CONTRACTOR SHALL ALLOW RESIDENTS TRAFFIC ACCESS TO THE STREET WITH PROPER GUIDANCE, DIRECTION, FLAGMEN AND TRAFFIC CONTROL AND ONLY AT SUCH TIME THAT DAMAGE WILL NOT OCCUR TO THE NEW ASPHALT OR TO THE VEHICLES. THIS INCLUDES BUT IS NOT LIMITED TO DAMAGE RESULTING FROM TACK COAT OR EMULSION ON THE VEHICLES PAINTED SURFACES.
37. IF POSSIBLE, THE CONTRACTOR SHALL SCHEDULE AND CONDUCT STREET OPERATIONS IN THE INTERSECTIONS AS RAPIDLY AS POSSIBLE TO MINIMIZE THE LENGTH OF TIME THE INTERSECTIONS WILL BE CLOSED TO TRAFFIC.
38. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL STREETS OUTSIDE OF THE PROJECT LIMITS, WHICH ARE DAMAGED DUE TO CONSTRUCTION ACTIVITIES; THE CITY'S STREET ENGINEER MUST APPROVE THE REPLACED SECTION. THERE WILL BE NO DIRECT PAYMENT FOR THIS WORK; THE COST IS TO BE INCLUDED IN OTHER ITEMS.
39. IF REQUIRED, THE BARRICADE COMPANY SHALL SUPPLY THE CONTRACTOR WITH A SUFFICIENT NUMBER OF QUALITY STANDARD BARRICADES AND OTHER TRAFFIC CONTROL DEVICES BY M. U. T. C. D. STANDARDS AS NEEDED. THE BARRICADE COMPANY SHALL ALSO MAKE AVAILABLE TO THE CONTRACTOR WITH TWO (2) FULL TIME QUALIFIED PERSONNEL WHOSE SOLE RESPONSIBILITIES PERTAINING TO THIS PROJECT ARE TO ESTABLISH AND MAINTAIN PROPER CONSTRUCTION WORK ZONE TRAFFIC CONTROL AND RELATED DEVICES. THESE PERSONS SHALL PROVIDE DOCUMENTED EVIDENCE THEY HAVE RECEIVED SPECIALIZED TRAINING IN CONSTRUCTION WORK ZONE TRAFFIC CONTROL WITHIN TWO YEARS ON THE

CONTRACT DATE. ANY AND ALL TRAFFIC CONTROL DEVICES NEEDED AND NECESSARY PERSONNEL WILL BE AT THE CONTRACTOR'S EXPENSE.

40. ALL NEWLY CONSTRUCTED CURBS SHALL BE FREE OF TACK COAT AND CLEANED PRIOR TO PROJECT COMPLETION.

#### **UTILITY GENERAL NOTES**

1. CALL THE TEXAS STATE WIDE ONE CALL LOCATOR NUMBER 1-800-344-8377, FORTY-EIGHT (48) HOURS BEFORE BEGINNING EXCAVATION.
2. CALL CPS ENERGY LOCATOR AT 978-3500, FORTY-EIGHT (48) HOURS BEFORE BEGINNING ANY EXCAVATION.
3. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING CPS ENERGY OVERHEAD AND UNDER GROUND ELECTRIC FACILITIES IF ADJACENT TO WORK AREA.
4. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, C. P. S. ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS LINES AND VALVES THAT ARE IN THE PROJECT AREA. CONTRACTOR IS NOT PERMITTED TO ADJUST CPS GAS VALVES AND MUST CONTACT CPS FOR FINAL VALVE BOX ADJUSTMENT.
5. THE CONTRACTOR SHALL PROTECT TELEPHONE COMPANY EQUIPMENT AND OPERATIONS DURING CONSTRUCTION.
6. ALL MANHOLES AND OTHER UTILITY STRUCTURES IN THE CONSTRUCTION AREA SHALL BE ADJUSTED TO THE FINISHED GRADE. THIS ADJUSTMENT SHALL BE COMPLETED WITHIN ONE (1) WEEK AFTER PLACEMENT OF FINAL ASPHALT INCLUDING CONCRETE COLLAR AROUND THE MANHOLE. ALL PAY ITEMS INCLUDED IN BID PROPOSAL SHALL BE ADJUSTED WITHIN SEVEN (7) DAYS.
7. BUILDING PAPER SHALL BE PLACED OVER ALL MANHOLES, VALVE BOXES, GRATES, ETC., SO AS TO PROTECT THE SURFACES FROM ASPHALTIC MATERIALS DURING APPLICATION OF SEAL COAT OR TACK COAT. ASPHALT MATERIALS SHALL NOT BE PLACED, LAPPED, OR SPLASHED ONTO ADJACENT STRUCTURES OR SURFACES.
8. ALL MANHOLES AND VALVE BOXES SHALL BE ADJUSTED SO THAT THE RING AND COVER ARE WITHIN 6-INCH MAXIMUM OF THE FINISHED GRADE OF THE NEW PAVEMENT. A SINGLE PAYMENT AT THE CONTRACTOR'S UNIT BID PRICE SHALL BE MADE FOR EACH MANHOLE AND VALVE BOX ADJUSTED TO THE FINISHED GRADE OF THE NEW PAVEMENT. ALL UTILITY ADJUSTMENTS SHALL BE PERFORMED WITHIN 24 HOURS OF PAVING. ALL ADJUSTMENTS SHALL CONFORM TO THE "MANHOLE CONCRETE ENCASEMENT DETAIL" INCLUDED IN THE SPECIFICATION BOOKLET. DETAIL IS SHOWN TO INSTALL A CIRCULAR CONCRETE COLLAR AROUND THE MANHOLE. CIRCULAR CONCRETE COLLAR TO BE 12-INCHES THICK CENTERED ON MANHOLE WITH FOUR RADIAL ½-INCH SCORE MARKS. COLLAR DIAMETER TO BE O. D. OF RING PLUS 12 INCHES. VALVE BOXES ARE NOT REQUIRED TO HAVE CONCRETE COLLARS AFTER FINAL ADJUSTMENT. CONCRETE COLLARS FOR MANHOLES ARE INCLUSIVE IN MANHOLE ADJUSTMENT AND WILL RECEIVE NO DIRECT PAYMENT.

**EROSION CONTROL AND SEDIMENTATION/STORM WATER POLLUTION PREVENTION PLAN**  
**GENERAL NOTES**

1. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING, IMPLEMENTING AND MAINTAINING A STORM WATER POLLUTION PREVENTION PLAN (SW3P) FOR THE DURATION OF THE CONSTRUCTION AS DESCRIBED IN ITEM NO. 540. ALL COSTS FOR FURNISHING, IMPLEMENTING AND MAINTAINING ANY ON SITE POLLUTION CONTROL MEASURES REQUIRED BY THE SW3P (EG. SILT FENCING, CONSTRUCTION EXITS, GRAVEL FILTER BAGS, ETC.) SHALL BE PAID FOR IN THE APPROPRIATE BID ITEMS ALLOTTED IN THIS CONTRACT. REFERENCE SPECIAL PROVISION TO ITEM 540.
2. CONTRACTOR WILL BE RESPONSIBLE FOR COMPLIANCE WITH TCEQ'S TPDES PROGRAM FOR CONTROL OF SILT AND EROSION.
3. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES. THE EROSION CONTROL MEASURES SHALL REMAIN IN PLACE AND FUNCTIONAL UNTIL AFTER THE PROPOSED IMPROVEMENTS ARE IN PLACE.
4. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS AND SIDEWALKS ADJACENT TO THE PROJECT FREE OF MUD AND DEBRIS FROM CONSTRUCTION AT ALL TIMES.
5. SEDIMENT CONTROL DEVICES SHALL BE INSTALLED PRIOR TO ANY EMBANKMENT OR EXCAVATION WORK BEING DONE. WHEN THE PROJECT IS COMPLETE AND THE ENTIRE SITE IS COMPLETELY STABILIZED, THE SEDIMENT CONTROL DEVICES AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER. THE CONTRACTOR HAS THE ULTIMATE RESPONSIBILITY FOR THE EFFECTIVE CONTROL OF EROSION AND SEDIMENTATION.
6. THE CONTRACTOR SHALL SEED OR SOD A COMPLETED EMBANKMENT AS SOON AS PRACTICAL, BUT NO LATER THAN 14 DAYS AFTER AN EMBANKMENT IS COMPLETE. ALL SODDING SHALL BE PAID FOR UNDER ITEM NO. 516. "SODDING" AT THE SINGLE UNIT PRICE AS BID PER THE CONTRACT.
7. THE SITE SHALL BE REVIEWED WEEKLY AND AFTER ANY MAJOR STORM EVENTS; ADJUSTMENTS AND REPAIRS TO THE EROSION CONTROL DEVICES SHALL BE MADE AS NEEDED AT THE CONTRACTORS EXPENSE.



**Note: Addenda Acknowledgement Form for Addendum 1 is attached herein. This form must be signed and submitted with the bid package.**

RECEIPT OF ADDENDUM NUMBER(S) **1** IS HEREBY ACKNOWLEDGED FOR PLANS AND SPECIFICATIONS FOR CONSTRUCTION OF THE **2017-2018 RECONSTRUCTION-RECLAMATION TASK ORDER CONTRACT PACKAGE 6 – 23-01474-6**

FOR WHICH BIDS WILL BE OPENED ON **TUESDAY, NOVEMBER 1, 2016 AT 2:00 P.M.**

THIS ACKNOWLEDGEMENT MUST BE SIGNED AND RETURNED WITH THE BID PACKAGE.

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip Code: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name/Title