

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



SPECIFICATIONS

FOR

**2016-2017 RECONSTRUCTION
TASK ORDER CONTRACT PACKAGE 9**

**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
6/10/16

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

JUNE 2016

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Project Description

Project Duration

This task order contract shall be terminated three hundred and sixty five (365) calendar days after acceptance of 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 365 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 reconstruction to include lime treatment of existing subgrade, base installation and surface course installation, milling, concrete curbs, sidewalks, driveways, concrete retaining walls-combination type, concrete bus pads, wheel chair ramps, removing and relocating mail boxes, asphalt speed cushions, 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.

It is anticipated that some project sites may require working time restrictions. No additional compensation will be given to the contractor for reduced working times.

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

The City will pay additional mobilization accordingly for the following situations:

1. If the final project construction cost plus additional mobilization fee does not surpass \$10,000, then the total bid price for mobilization will be applied.
2. In the event where the final project construction cost plus the additional mobilization fee is greater than \$10,000, the additional mobilization fee will be adjusted so that the total project cost is \$10,000.
3. Individual Task Orders can be lumped together as one Task Order if the project sites are no more than 5 city blocks apart from each other. In the event that the sum of the construction cost for all project sites within the Task Order is less than \$10,000, then item 1 will apply to this condition.
4. For Task Order with multiple sites where one or more of the sites is more than 5 city blocks apart from each other and the sum of all the sites is less than \$10,000.
5. For emergency Task Orders where the Project Manager requires immediate mobilization (within a 24 to 48-hour period) by the contractor.

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. Steel plates shall be ½ inch in thickness unless specified otherwise by the Engineer.

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/matspecs/

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

<http://www.sanantonio.gov/purchasing/biddingcontract/opportunities.aspx>

Click on the following link "2016-2017 Reconstruction Task Order Contract Package 9"

CITY OF SAN ANTONIO

Project Name: 2016-2017 Reconstruction Task Order Contract Package 9
ID NO.: 23-01474

Date Issued: June 13, 2016
Page 1 of 1

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

020 BID FORM

Legal Name of Company (print)

I. BASE BID

Amount of Street/Roadway Construction Base Bid (Insert Amount in Words and Numbers):

Total Amount of Base Bid (City & SAWS) (Insert Amount in Words and Numbers):

_____ \$ _____

II. UNIT PRICES

Bidders shall submit unit pricing on the 025 Unit Pricing form, and it shall be attached immediately following this sheet.

Person Authorized to Sign Bid/Contract (Print)

Title of Person Signing

Address

Fax No.

City, State and Zip Code

Local Headquarters
 Local Branch Office
(Check one)

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: 2016-2017 RECONSTRUCTION TASK ORDER CONTRACT - PACKAGE 9
PROJECT NO. 23-01474

ALT. NO.	ITEM NO.	DESC. CODE	S.P. NO	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
				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.					
	103.1			REMOVE CONCRETE CURB	LF	19,600			
	103.3			REMOVE SIDEWALKS AND DRIVEWAYS	SF	49,000			
	103.4			REMOVE MISCELLANEOUS CONCRETE	SF	5,000			
	104.1			STREET EXCAVATION	CY	15,200			
	107.1			EMBANKMENT (FINAL) (ORDINARY COMPACTION) (TY B)	CY	1,250			
	108.1			LIME TREATED SUBGRADE (6-INCH COMPACTED DEPTH)	SY	37,100			
	108.2			LIME	TON	500			
	202.1			PRIME COAT	GAL	7,450			
	203.1			TACK COAT	GAL	3,500			
	205.2			HOT MIX ASPHALTIC PAVEMENT, TYPE B (6-INCH COMPACTED DEPTH)	TON	12,500			
	205.2			HOT MIX ASPHALTIC PAVEMENT, TYPE B (8-INCH COMPACTED DEPTH)	TON	3,100			
	205.4			HOT MIX ASPHALTIC PAVEMENT, TYPE D (2-INCH COMPACTED DEPTH)	TON	3,815			
	208.1			SALVAGING, HAULING, & STOCKPILING RECLAIMABLE ASPHALTIC PAVEMENT (2 INCH DEPTH)	SY	4,650			
	209.1			BUS STOP CONCRETE PAVEMENT (10" DEPTH)	SY	1,250			
	407.4			CONCRETE COLLARS	CY	50			
	413.2			FLOWABLE FILL (HIGH STRENGTH)	CY	100			
	500.1			CONCRETE CURB, GUTTER AND CONCRETE CURB AND GUTTER	LF	19,600			
	502.1			CONCRETE SIDEWALKS	SY	9,300			
	502.1A			CURB RAMPS	EA	145			
	503.1			PORTLAND CEMENT CONCRETE DRIVEWAY	SY	4,450			
	503.2			PORTLAND CEMENT CONCRETE DRIVEWAY - COMMERCIAL	SY	2,480			
	505.1			CONCRETE RIPRAP (5" THICK)	SY	475			
	506.1			CONCRETE RETAINING WALLS - COMBINATION TYPE	CY	95			
	507.1			CHAIN LINK FENCE - 4 FT HIGH	LF	250			
	507.2			CHAIN LINK FENCE - 6 FT HIGH	LF	150			
	507.4			GATES-PEDESTRIAN	EA	10			
	507.5			GATES-VEHICULAR	OPEN	10			
	508.1			RELOCATING WIRE FENCE	LF	200			
	508.2A			RELOCATING WROUGHT IRON FENCE	LF	200			
	510.1			TIMBER GUARD POSTS (< 50 UNITS)	EA	50			
	512.1A			ADJUSTING EXISTING MANHOLES (STORM SEWER)	EA	10			
	512.1B			ADJUSTING EXISTING MANHOLES (AT&T)	EA	10			
	512.3			VALVE BOX ADJUSTMENT (NON-SAWS)	EA	40			
	513.1			REMOVING AND RELOCATING MAIL BOXES	EA	175			
	513.1A			DECORATIVE MAILBOX (GIBALTAR, #PED0000B)	EA	75			

CITY OF SAN ANTONIO
025 UNIT PRICING FORM

PROJECT NAME: 2016-2017 RECONSTRUCTION TASK ORDER CONTRACT - PACKAGE 9
PROJECT NO. 23-01474

ALT. NO.	ITEM NO.	DESC. CODE	S.P. NO	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
	515.1			TOPSOIL	CY	1,500			
	516.1			BERMUDA SODDING	SY	7,250			
	516.2			ST. AUGUSTINE SODDING	SY	7,250			
	520.1			HYDROMULCHING (RESIDENTIAL OR COMMERCIAL)	SY	2,000			
	522.1			SIDEWALK PIPE RAILING	LF	250			
	523.1			ADJUSTING CHAIN LINK VEHICULAR GATE	EA	40			
	523.3			ADJUSTING CHAIN LINK PEDESTRIAN GATE	EA	20			
	523.4			ADJUSTING WROUGHT IRON VEHICULAR GATE	EA	10			
	523.5			ADJUSTING WROUGHT IRON VEHICULAR GATE (MOTORIZED)	EA	3			
	523.6			ADJUSTING WROUGHT IRON PEDESTRIAN GATE	EA	5			
	524.1			CONCRETE STEPS	CY	60			
	531.3			R1-1 STOP (30") (HIGH DENSITY)	EA	15			
	531.5			R1-4 ALL WAY PLATE (18"X6") (HIGH DENSITY)	EA	15			
	531.21			R7-1 NO PARKING ANY TIME (18"X24") (HIGH DENSITY)	EA	15			
	531.52			W13-1 ADVISORY SPEED SIGN (20 MPH)	EA	50			
	531.57			9 INCH (229MM) SIZE 1 NAME, BLOCK NUMBER (VARIES X9") (HIGH DENSITY)	EA	10			
	531.59			W17-3 SPECIAL SIGN (HUMP AHEAD SYMBOL SIGN)	EA	50			
	531.59			W17-3 SPECIAL SIGN (HUMP SYMBOL SIGN)	EA	50			
	535.1			4-INCH WIDE YELLOW LINE	LF	7,500			
	535.2			4-INCH WIDE WHITE LINE	LF	4,500			
	535.4			8-INCH WIDE WHITE LINE	LF	400			
	535.5			12-INCH WIDE WHITE LINE	LF	800			
	535.7			24-INCH WIDE WHITE LINE	LF	2,000			
	535.7B			24-INCH WIDE YELLOW LINE	LF	250			
	535.8			RIGHT WHITE ARROW	EA	15			
	535.9			LEFT WHITE ARROW	EA	15			
	535.1			COMBINATION THRU/RIGHT WHITE ARROW	EA	15			
	535.11			COMBINATION THRU/LEFT WHITE ARROW	EA	15			
	535.12			WORD "ONLY"	EA	15			
	535.13			STRAIGHT WHITE ARROW	EA	10			
	535.14			RAILROAD CROSSING SYMBOL, INCLUDING TWO R'S, CROSSBUCK AND 3 TRANSVERSE BARS	EA	8			
	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	500			
	536.2			4-INCH WIDE WHITE LINE	LF	500			
	536.4			8-INCH WIDE WHITE LINE	LF	100			
	536.5			12-INCH WIDE WHITE LINE	LF	100			

CITY OF SAN ANTONIO
025 UNIT PRICING FORM

PROJECT NAME: 2016-2017 RECONSTRUCTION TASK ORDER CONTRACT - PACKAGE 9
PROJECT NO. 23-01474

ALT. NO.	ITEM NO.	DESC. CODE	S.P. NO	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
	536.7			24-INCH WIDE WHITE LINE	LF	200			
	537.1			TRAFFIC BUTTON (TYPE W)	EA	100			
	537.2			TRAFFIC BUTTON (TYPE Y)	EA	100			
	537.6			PAVEMENT MARKER (TYPE I-C)	EA	250			
	537.8			PAVEMENT MARKER (TYPE II A-A)	EA	250			
	537.9			PAVEMENT MARKER (TYPE II C-R)	EA	250			
	540.1			ROCK FILTER DAMS (INSTALL/REMOVE) TYPE 2	LF	150			
	540.1			ROCK FILTER DAMS (SACK GABIONS) (INSTALL/REMOVE) TYPE 4	LF	150			
	540.1			CURB INLET GRAVEL FILTERS	LF	500			
	552.1			REMOVING AND RELOCATING IRRIGATION SYSTEMS	LF	3,500			
	556.1			CAST IN PLACE DETECTABLE WARNING SURFACE TILES	EA	125			
	798			ASPHALT CONCRETE SPEED HUMP, TYPE III	EA	75			
	801.2			LEVEL IIA PROTECTIVE FENCING	LF	500			
	801.3			LEVEL IIB PROTECTIVE FENCING	LF	350			
	802.1			LEVEL II PRUNING	EA	25			
	804.1			TREE INSTALLATION (3-INCH CALIPER)	EA	15			
	SUP 1			REMOVING AND RELOCATING SIGN	EA	125			
	SUP 2			ELEVATED SIDEWALK	LF	200			
	SUP 3			SIDEWALK DRAIN BOX (1/2 INCH THICK)	EA	12			
	SUP 4			REMOVAL & HAULOFF OF EXISTING ROCK/MASONRY MAILBOX	EA	75			
	SUP 5			TREE REMOVAL (8" - 36" DIAMETER)	EA	20			
	SUP 6			ADJUSTING TRAFFIC SIGNAL BOX	EA	10			
	SUP 7			TCI "AT WORK" PROJECT SIGNS	EA	16			
	SUP 8			POLICE OFFICER	HR	120			
	SUP 9			REMOVAL OF EXISTING ASPHALT SPEED HUMP	SF	500			
	SUP 10			REMOVAL OF SPEED HUMP, TYPE II MODULAR RUBBER CUSHION	EA	50			
	SUP 11			ADJUSTING METAL BEAM GUARD FENCE	LF	150			
	SUP 12			RAILROAD INSURANCE & PERMIT	LS	1			
	SUP 13			DOOR HANGERS	LS	1			
	SUP 14			PORTABLE CHANGEABLE MESSAGE SIGN (ELECTRONIC MESSAGE BOARD)	MO	24			
	SUP 15			ADDITIONAL MOBILIZATION	EA	5			
							Total CoSA Bid Amount:		

CITY OF SAN ANTONIO
025 UNIT PRICING FORM

PROJECT NAME: 2016-2017 RECONSTRUCTION TASK ORDER CONTRACT - PACKAGE 9
PROJECT NO. 23-01474

ALT. NO.	ITEM NO.	DESC. CODE	S.P. NO	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.	
	SAWS WATER BID ITEMS									
	826			SAWS VALVE BOX ADJUSTMENT	EA	50				
	826A			SAWS VALVE BOX LOCATE & ADJUSTMENT	EA	10				
	833			SAWS EXISTING METER & METER BOX RELOCATION	EA	10				
	833A			SAWS ADJUSTING EXISTING METER BOX	EA	250				
				Subtotal SAWS Water Bid Amount:						
	SAWS SANITARY SEWER BID ITEMS									
	851			SAWS ADJUSTING EXISTING MANHOLE	EA	100				
	851A			SAWS LOCATING & ADJUSTING EXISTING MANHOLE	EA	10				
	854A			SAWS ADJUSTING EXISTING SANITARY SEWER CLEANOUT	EA	25				
				Subtotal SAWS Sanitary Sewer Bid Amount:						
				Total SAWS Bid Amount:						
				Total (CoSA + SAWS) Bid Amount:						

_____ 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

2016-2017 Reconstruction Task Order Contract Package 9

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
208	- SALVAGING, HAULING AND STOCKPILING RECLAIMABLE ASPHALTIC PAVEMENT
209	- CONCRETE PAVEMENT
210	- ROLLING

- 220 - BLADING
- 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
- 413 - FLOWABLE FILL
- 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
- 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
- 826A - LOCATING AND ADJUSTING EXISTING VALVE BOXES
- 833 - EXISTING METER AND METER BOX RELOCATION
- 833A - ADJUSTING EXISTING METER BOX
- 851 - ADJUSTING EXISTING MANHOLE
- 851A - LOCATIONG & ADJUSTING EXISTING MANHOLES
- 854A - ADJUSTING EXISTING SEWER CLEANOUT

SPECIAL PROVISIONS FOR CONSTRUCTION

- 205 - HOT MIX ASPHALTIC CONCRETE PAVEMENT
- 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
- 552 - REMOVING AND RELOCATION 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 798 – SPEED HUMPS TYPE III, ASPHALT CONCRETE CUSHION

ITEM 801 – PROTECTIVE FENCING

ITEM 802 – TREE PRUNING, SOIL AMENDING, AND FERTILIZATION

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 RECONSTRUCTION PROJECTS

SPECIAL PROVISION

Item 205 Hot Mix Asphaltic Concrete Pavement

Delete:

Section 205.5 Measurement in its entirety

Section 205.6 Payment 1st 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 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

Reference Standards: City of San Antonio Standard Specifications for Construction June 2008

Add:

Section 513.4 Construction:

Decorative mailboxes shall be installed in place of rock/masonry mailboxes removed as directed by the construction drawings. Contractor to install decorative mailbox and post combination with style name Gibraltar and Model # PED0000B.

Section 513.5 Measurement:

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:

C. Decorative Mailbox. The work performed as prescribed by this item will be paid for at the contract unit price bid, per decorative mailbox, for "Decorative Mailbox" which price shall be full compensation for furnishing and placing all materials, manipulation, labor, tools, equipment and incidentals necessary to complete the work.

Section 513.7 Bid Item:

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 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

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, 2 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 2 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 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 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.

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 standard post mailbox in accordance with City Specification 513.1 – Removing and Relocating Mailboxes and City Standard “Miscellaneous Construction Standards II” dated February 2010.

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 rock/masonry mailbox 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 (8" – 36" Diameter)

SUP 5.1 DESCRIPTION: Remove trees in conflict with proposed sidewalk and curb ramps.

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.

Special Note: Contractor who performs tree removals is required to have a valid City Issued Tree Maintenance License (TML). Contact Development Services Department on how to obtain a TML. In the event contractor performs tree removal without a valid TML, contractor is subject to fines and penalties from Development Services.

SUP 5.5 MEASUREMENT: Tree removals, as prescribed above, will be measured by the unit of each tree removed greater than 8". Tree removals with diameter breast height (dbh) less than 8" will not be measured for payment. 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.

SUP 5.6 PAYMENT: The work performed as prescribed by this item will be paid for at the contract unit price bid per tree 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 with diameter breast height (dbh) less than 8" will not be paid for directly but will be considered as preparing right of way. Payment for trees with diameter breast height (dbh) greater than 36" in diameter will be negotiated with the City.

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 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: N/A.

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. 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 Signs 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.

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

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 asphalt overlay and curb ramp construction.

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

Mobilization

The City will pay mobilization accordingly for the following situations:

1. If the final project construction cost plus additional mobilization fee does not surpass \$10,000, then the total bid price for mobilization will be applied.
2. In the event where the final project construction cost plus the additional mobilization fee is greater than \$10,000, the additional mobilization fee will be adjusted so that the total project cost is \$10,000.
3. Individual Task Orders can be lumped together as one Task Order if the project sites are no more than 5 city blocks apart from each other. In the event that the sum of the construction cost for all project sites within the Task Order is less than \$10,000, then item 1 will apply to this condition.
4. For Task Order with multiple sites where one or more of the sites is more than 5 city blocks apart from each other and the sum of all the sites is less than \$10,000.
5. For emergency Task Orders where the Project Manager requires immediate mobilization (within a 24 to 48-hour period) by the contractor.

BID ITEM:

SUP 15 – Mobilization – per Each (EA)

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 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.

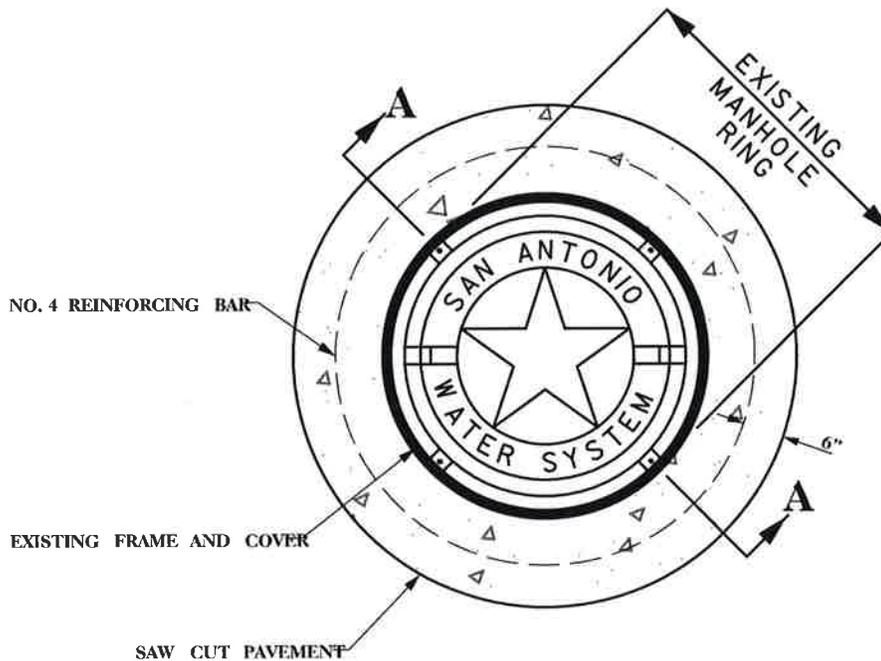
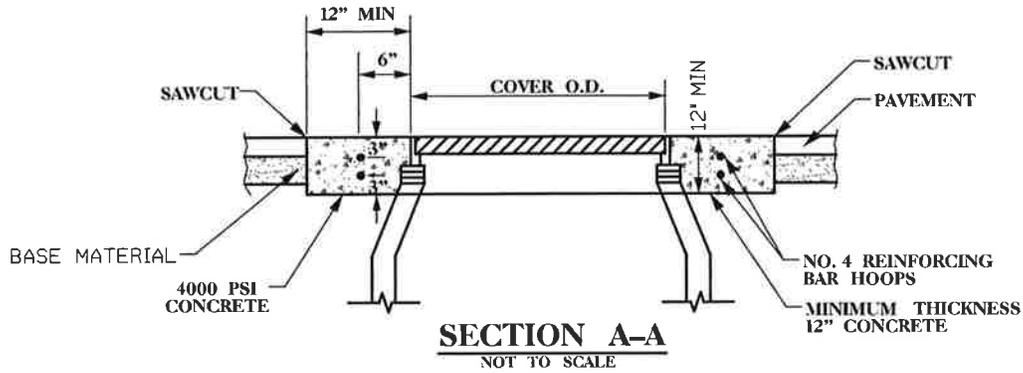
3.09 BID ITEM:

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:

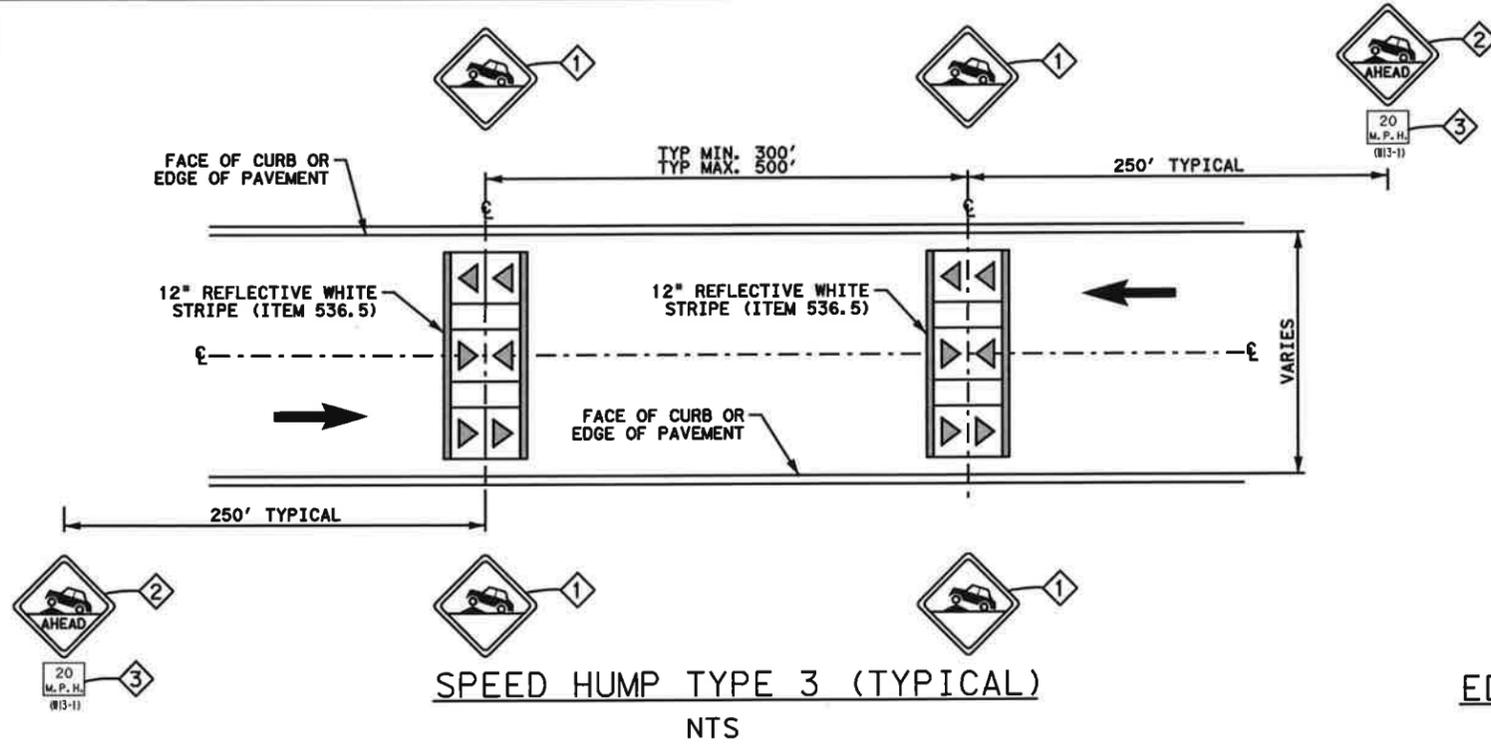
1. CONCRETE SHALL BE 4000 PSI, MIN., AND REINFORCED WITH NO. 4 BARS, AS SHOWN.
2. THE CONCRETE SHALL EXTEND TO THE EDGE OF SAWCUT PAVEMENT.
3. MANHOLE RING ENCASEMENT IS REQUIRED ON ALL NEW, EXISTING, OR ADJUSTED MANHOLES.



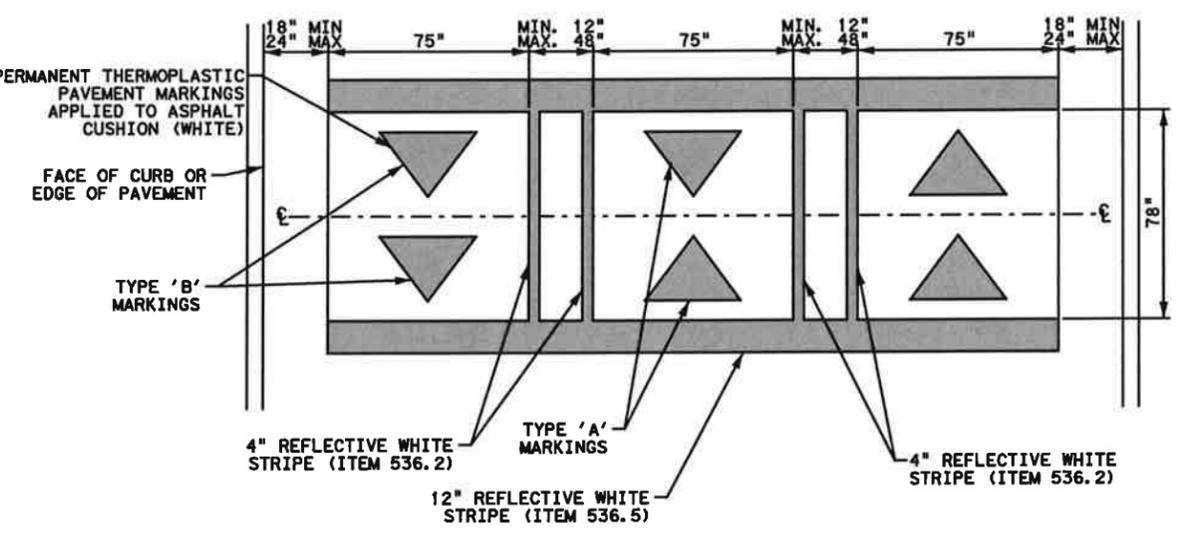
LAN Lockwood, Andrews & Newnam, Inc. <small>A LEO A. DALY COMPANY</small>	
TBPE REGISTRATION NO. F-2614	
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS	
COSA STREET MAINTENANCE CONTRACT MANHOLE ADJUSTMENTS	
MANHOLE CONCRETE ADJUSTMENT DETAIL	
% SUBMITTAL	PROJECT NO. _____
DATE: SEP 2015	
DRWN. BY: _____	DSGN. BY: _____
CHKD. BY: _____	SIT: 1 of 1

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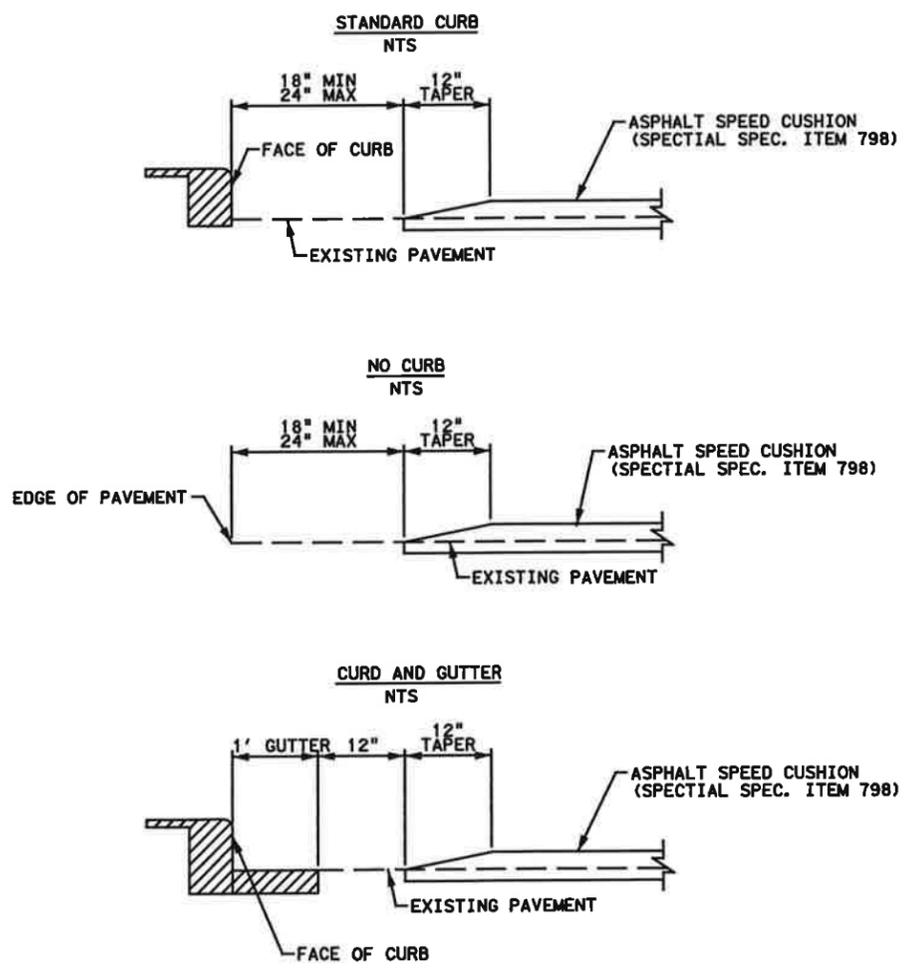
SPEED HUMP TYPE 3 (TYPICAL)
NTS



SPEED HUMP CONFIGURATION DETAIL
NTS

PAVEMENT WIDTH (FT)	NO. OF HUMPS	GAP (IN)	HUMP (IN)	GAP (IN)								
30	3	33.5	75	34	75	34	75	33.5	-	-	-	-
36	4	48	75	12	75	12	75	12	75	48	-	-
40	4	48	75	28	75	28	75	28	75	48	-	-
44	4	48	75	44	75	44	75	44	75	48	-	-

EDGE DETAIL



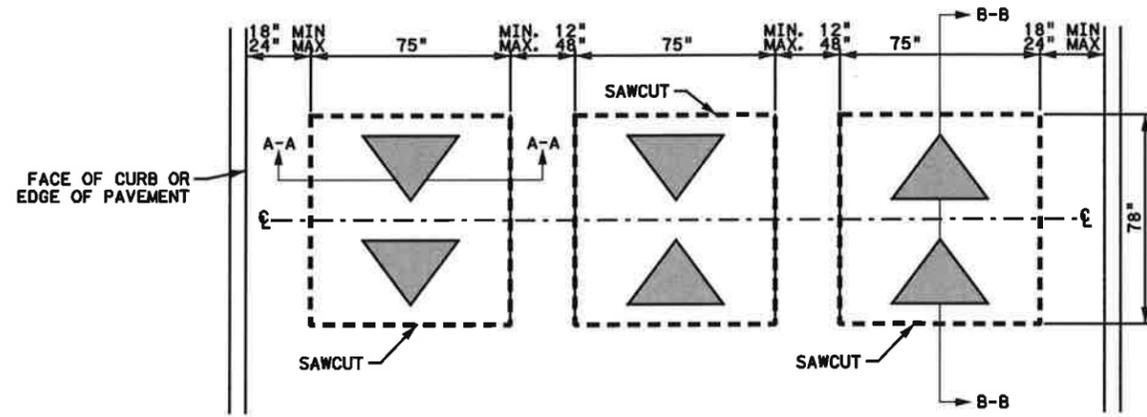
GENERAL NOTES:

1. IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE TRAFFIC ENGINEERING DIVISION AT 207-2075 TO SCHEDULE THE INSPECTION OF THE SPEED CUSHIONS.
2. CONTRACTOR SHALL CONTACT THE CONSTRUCTION COORDINATOR AT 207-2075 BEFORE ANY STREET IS TEMPORARILY CLOSED FOR CONSTRUCTION.
3. NO PART OF A SPEED CUSHION SHALL BE LOCATED IN FRONT OF A DRIVEWAY APPROACH. RATHER THEY SHOULD BE A MINIMUM OF 6 FEET FROM THE EDGE OF DRIVEWAY, WHEN PRACTICAL.
4. SPEED CUSHIONS SHOULD BE PLACED AS CLOSE AS POSSIBLE TO PROPERTY LINES INSTEAD OF MID-LOT, WHERE PRACTICAL.
5. SPEED CUSHIONS SHOULD BE INSTALLED AT A RIGHT ANGLE TO THE CENTERLINE TANGENT OF THE ROADWAY.
6. CONTRACTOR SHALL NOT OPEN SPEED CUSHION TO TRAFFIC UNTIL ALL REQUIRED WARNING SIGNS AND MARKINGS ARE COMPLETE.

- ① W17-3 - SA SPECIAL SIGN (HUMP SYMBOL SIGN)
- ② W17-3 - SA SPECIAL SIGN (HUMP AHEAD SYMBOL SIGN)
- ③ W13-1 ADVISORY SPEED SIGN (20MPH)

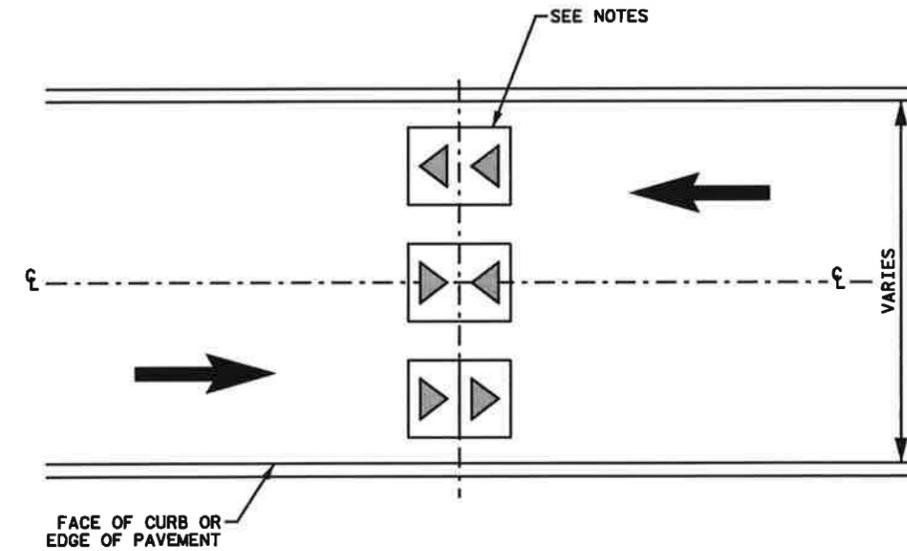
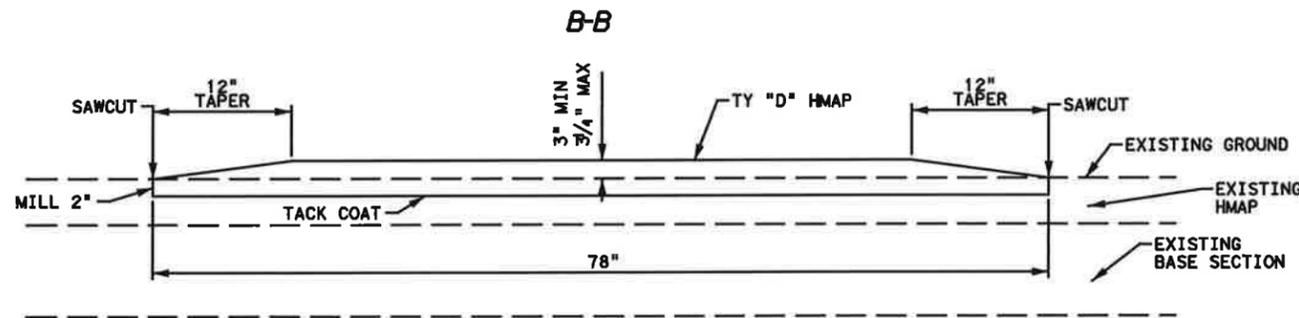
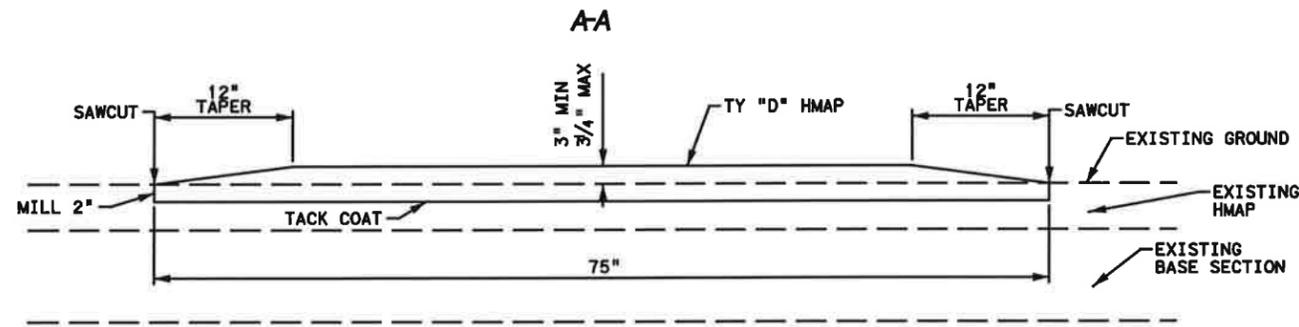
JUNE 2016

CITY OF SAN ANTONIO TRANSPORTATION AND CAPITAL IMPROVEMENTS			
ASPHALT CONCRETE SPEED CUSHION TYPE III DETAIL			
100% SUBMITTAL	PROJECT NO. 1	DATE: 6/10/16	SHEET NO. 1
DRAWN BY:	DSGN. BY:	CHKD. BY:	



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.

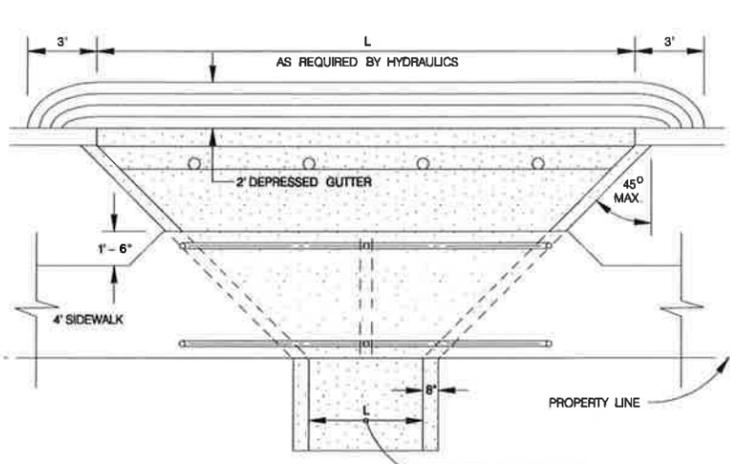


MILL AND OVERLAY LIMITS

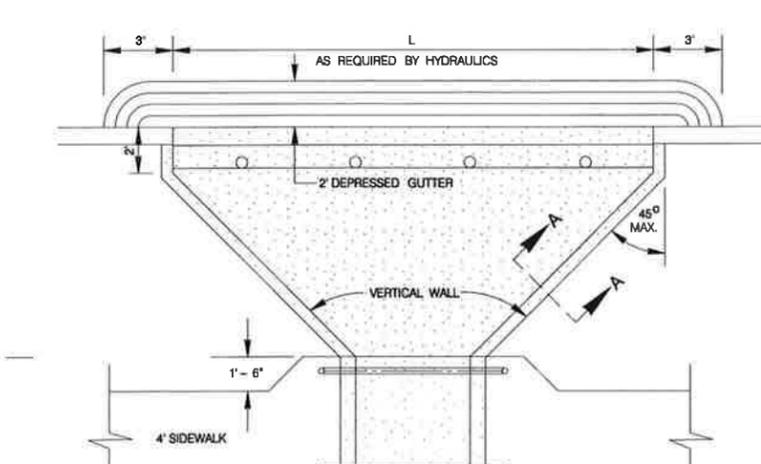
NTS

JUNE 2016

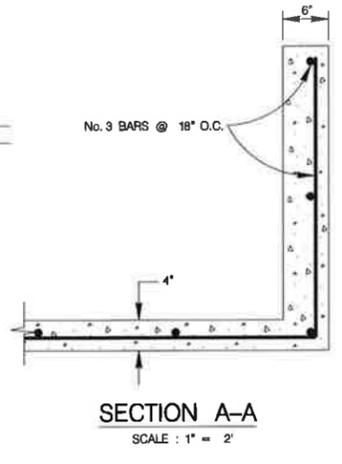
CITY OF SAN ANTONIO TRANSPORTATION AND CAPITAL IMPROVEMENTS			
ASPHALT CONCRETE SPEED CUSHION TYPE III DETAIL			
100% SUBMITTAL	PROJECT NO.:	DATE:	6/10/16
DRAWN BY:	DGN. BY:	CHKD. BY:	SHEET NO.:



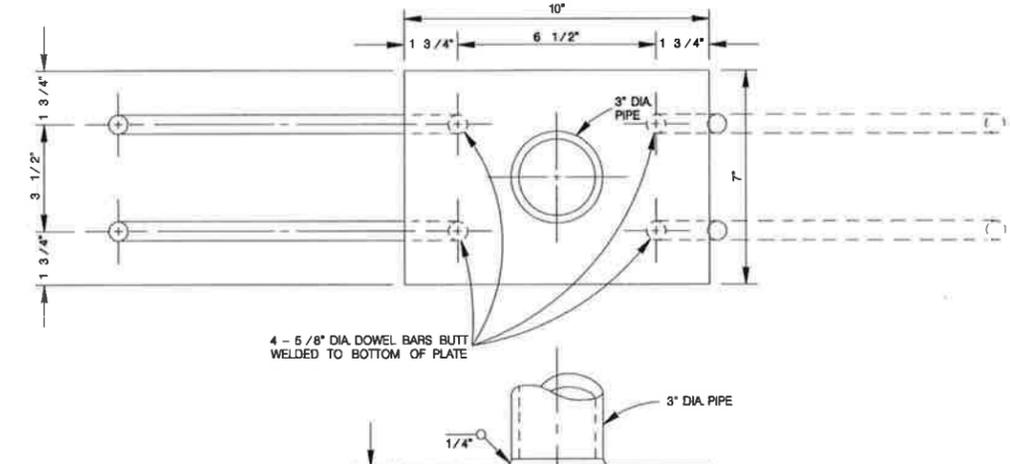
PLAN VIEW "A"
SCALE : 1" = 8'



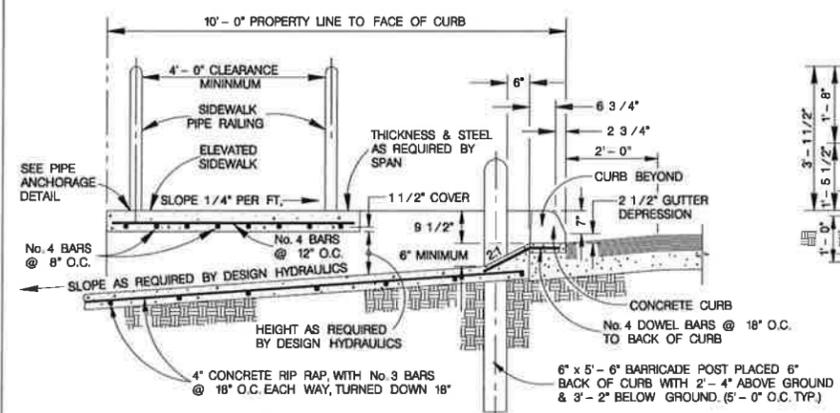
PLAN VIEW "B"
SCALE : 1" = 8'



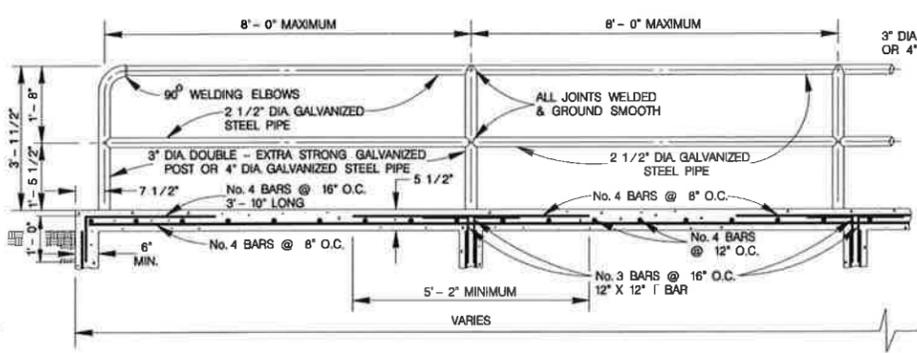
SECTION A-A
SCALE : 1" = 2'



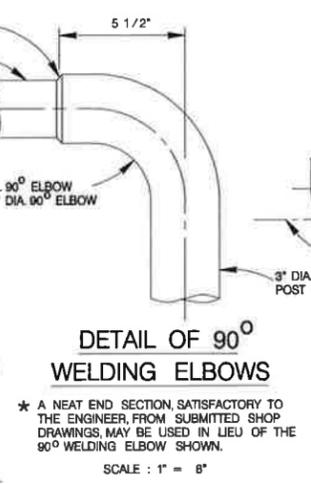
PIPE ANCHORAGE DETAILS
SCALE : 1" = 6'



**ELEVATED SIDEWALK & DROP CURB
DETAILS FOR DRAINAGE CHANNELS**
SCALE : 1" = 4'



**TYPICAL SIDEWALK BRIDGE &
SIDEWALK PIPE RAILING SECTION**
SCALE : 1" = 4'

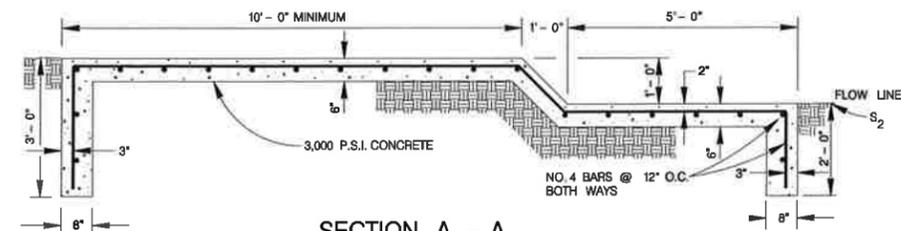


**DETAIL OF 90°
WELDING ELBOWS**
SCALE : 1" = 8'

- 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.

**ELEVATED SIDEWALK & DROP CURB
DETAILS FOR DRAINAGE CHANNELS**

SCALE : 1" = 4'

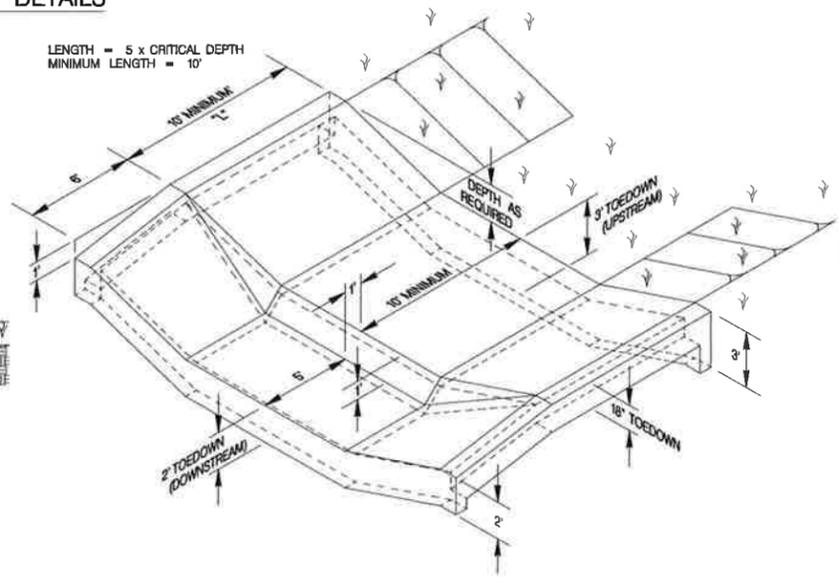


SECTION A - A
SCALE : 1" = 4'

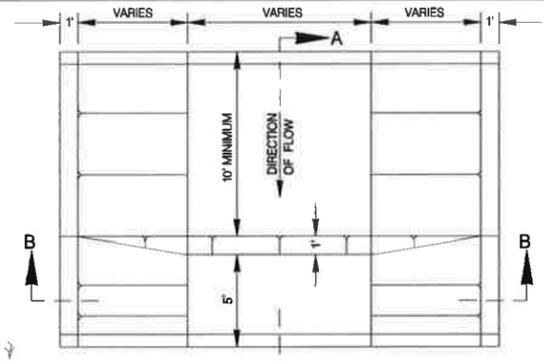
NOTE : RETARD TO BE CARRIED TO THE TOP OF DESIGN CHANNEL SECTION

RETARD DETAILS

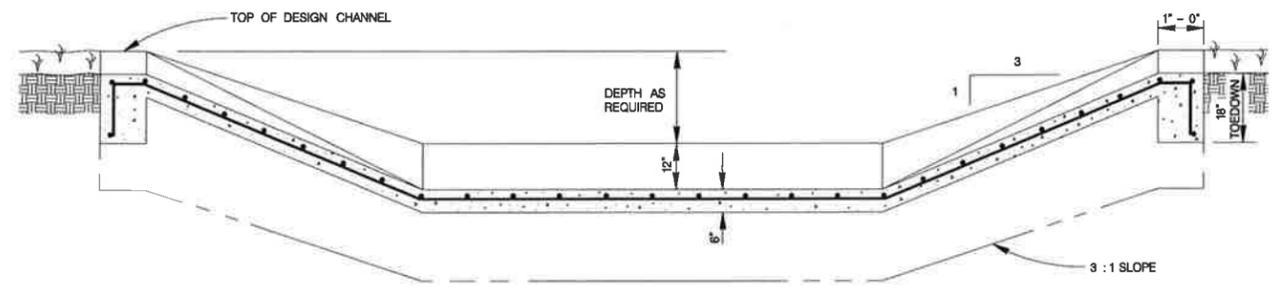
LENGTH = 5 x CRITICAL DEPTH
MINIMUM LENGTH = 10'



ISOMETRIC VIEW
SCALE : 1" = 10'



PLAN VIEW
SCALE : 1" = 10'



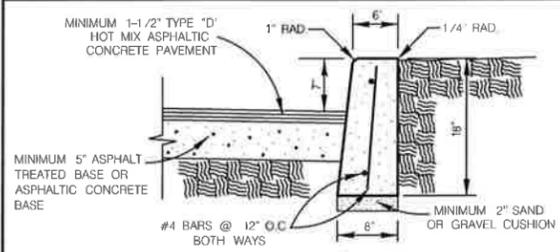
SECTION B - B
SCALE : 1" = 4'

JANUARY 2005

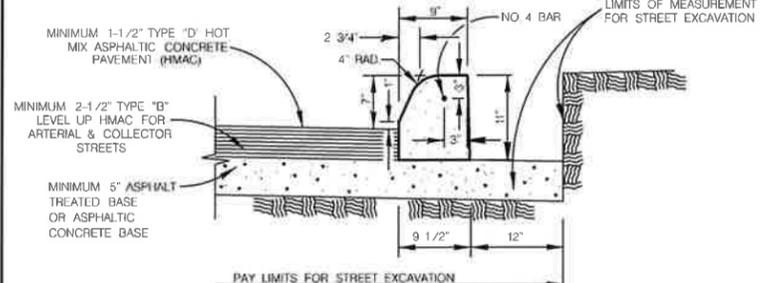
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

**ELEVATED SIDEWALK & RETARD
STANDARDS**

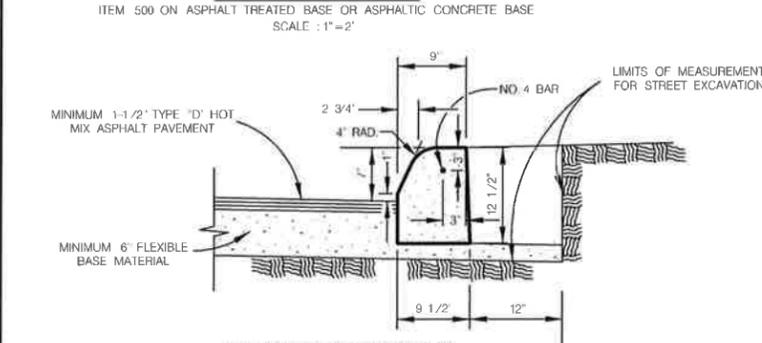
% SUBMITTAL	PROJECT NO.:	DATE:
DRWN. BY: V. VASQUEZ	DSGN. BY:	CHKD. BY:
		SHEET NO. OF



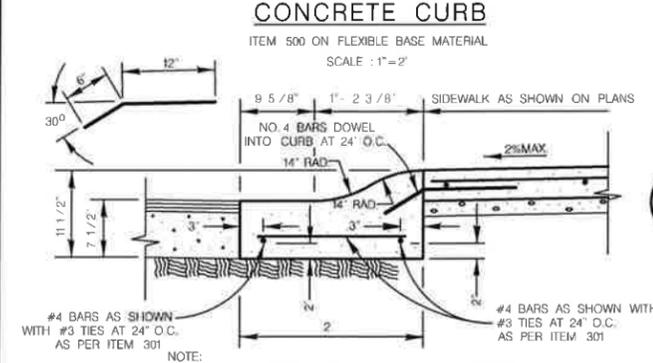
HEADER CURB
ITEM 500 ON SAND OR GRAVEL
SCALE: 1"=2"



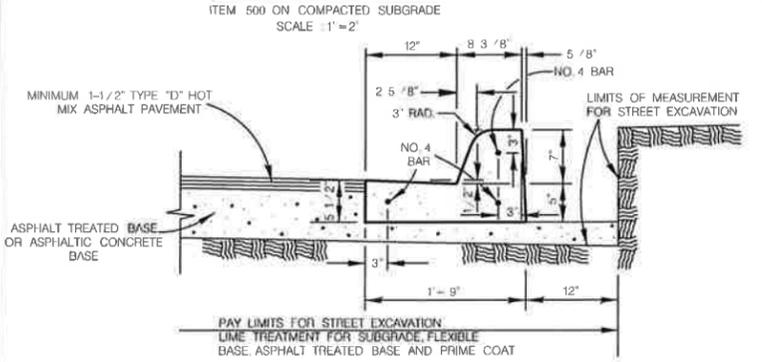
CONCRETE CURB
ITEM 500 ON ASPHALT TREATED BASE OR ASPHALTIC CONCRETE BASE
SCALE: 1"=2"



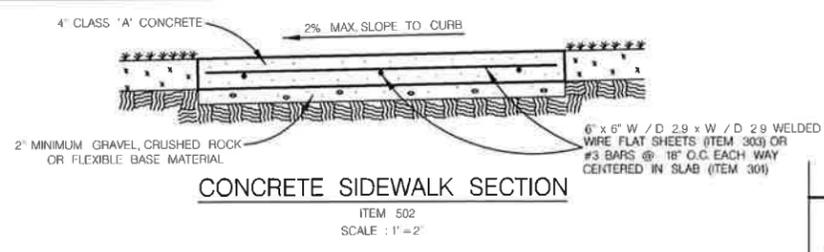
CONCRETE CURB
ITEM 500 ON FLEXIBLE BASE MATERIAL
SCALE: 1"=2"



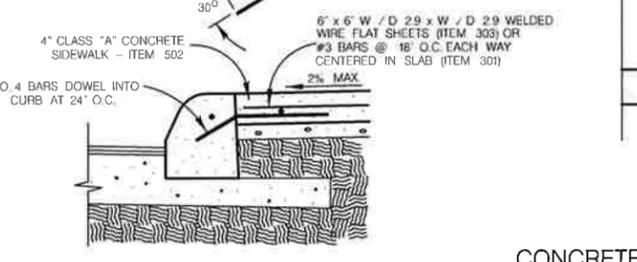
MOUNTABLE CURB
ITEM 500 ON COMPACTED SUBGRADE
SCALE: 1"=2"



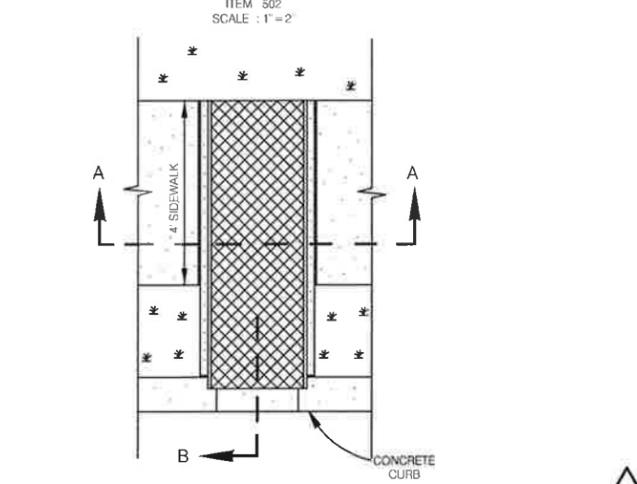
TYPICAL CURB & GUTTER DETAIL
ITEM 500 ON ASPHALT TREATED BASE OR ASPHALTIC CONCRETE BASE
SCALE: 1"=2"



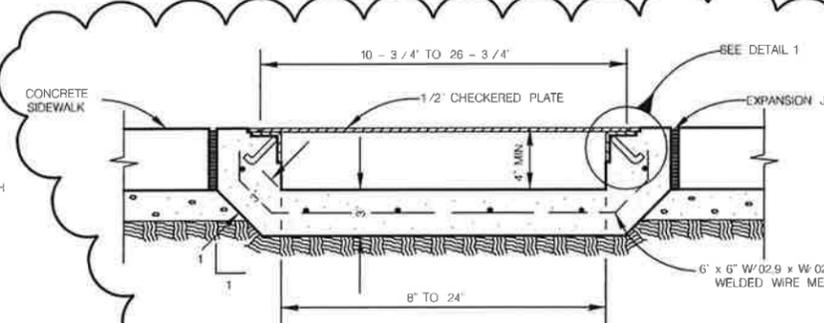
CONCRETE SIDEWALK SECTION
ITEM 502
SCALE: 1"=2"



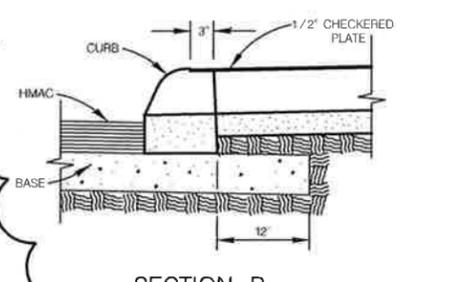
CONCRETE SIDEWALK ABUTTING CURB SECTION
ITEM 502
SCALE: 1"=2"



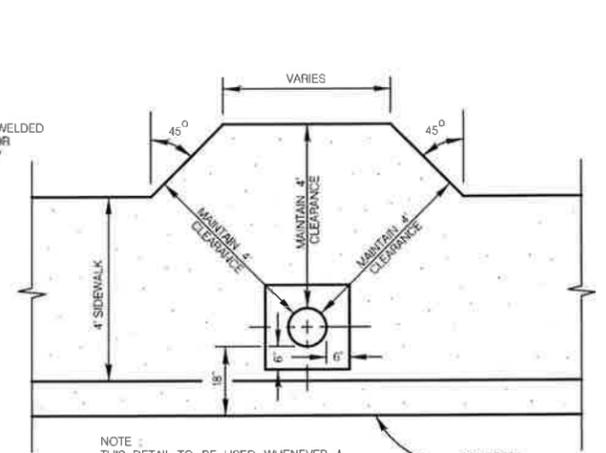
CONCRETE SIDEWALK DRAIN DETAIL
SCALE: 1"=4"



SECTION A-A
SCALE: 1"=12"

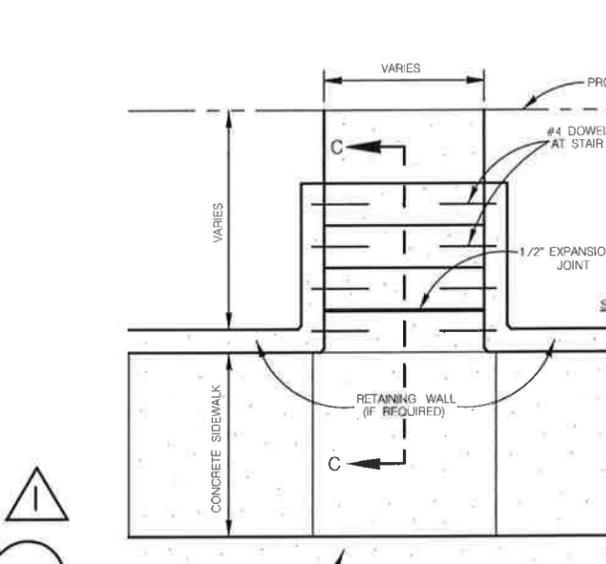


SECTION B
SCALE: 1"=2"

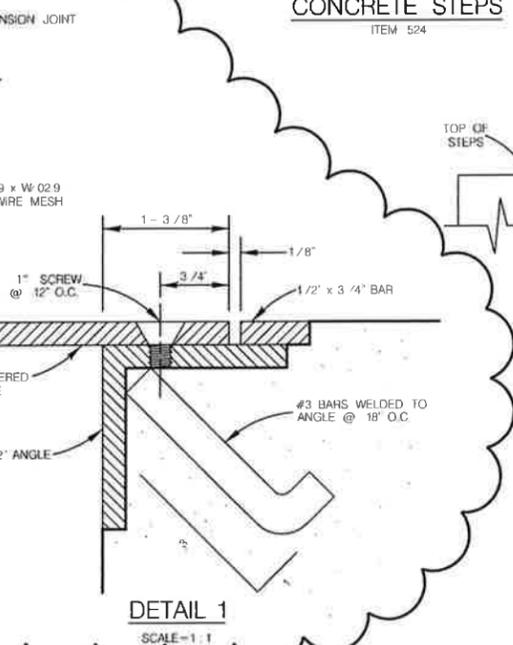


NOTE: THIS DETAIL TO BE USED WHENEVER A POWER POLE ENDOACHES ON SIDEWALK. A MINIMUM UNOBSTRUCTED CLEARANCE OF 4' IS TO BE MAINTAINED AROUND THE POLE AT THE LOCATIONS.

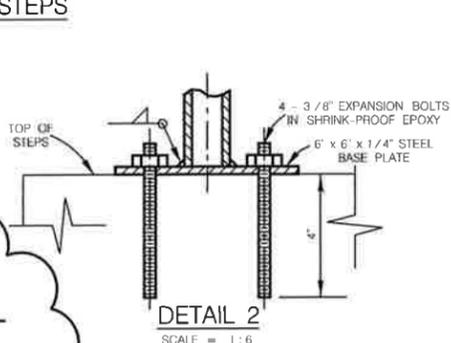
CONCRETE SIDEWALK @ UTILITY POWER POLE DETAIL
SCALE: 1"=4"



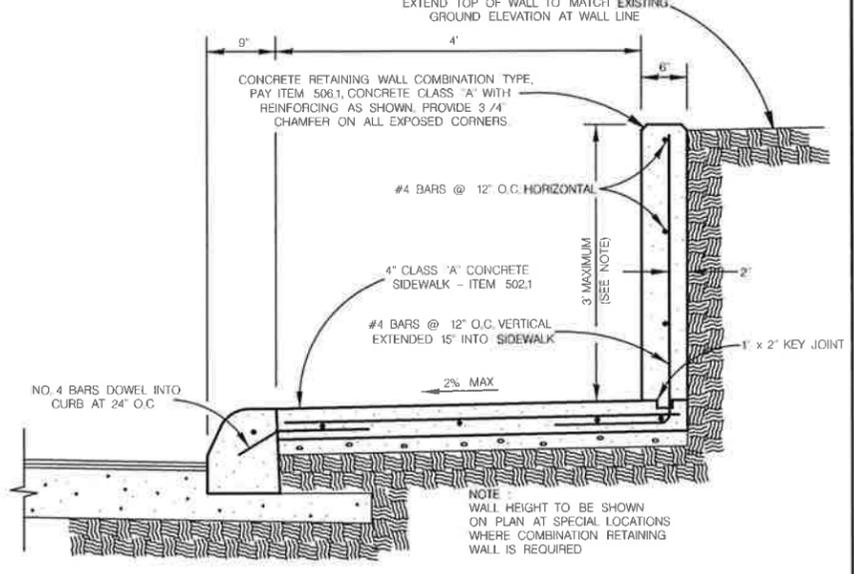
CONCRETE STEPS
ITEM 524



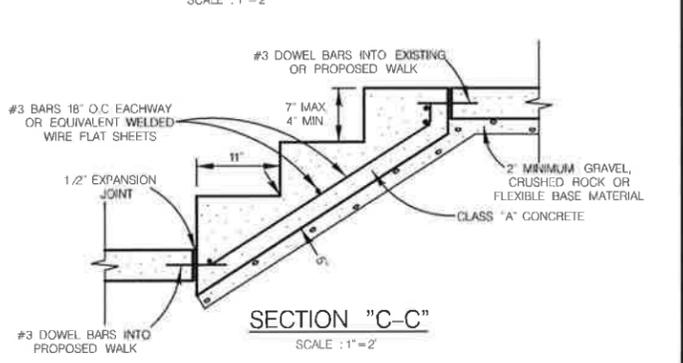
DETAIL 1
SCALE: 1"=1"



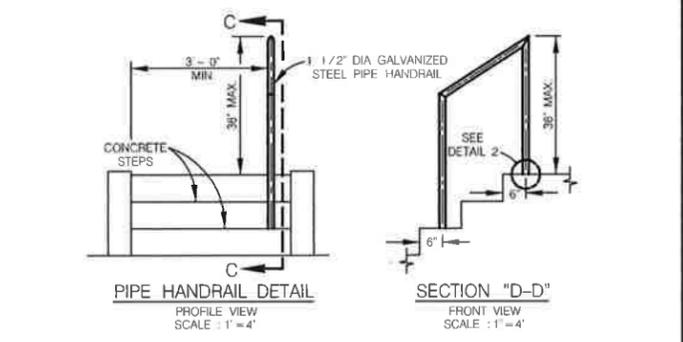
DETAIL 2
SCALE: 1"=6"



CONCRETE RETAINING WALL - COMBINATION TYPE
ITEM 506
SCALE: 1"=2"



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

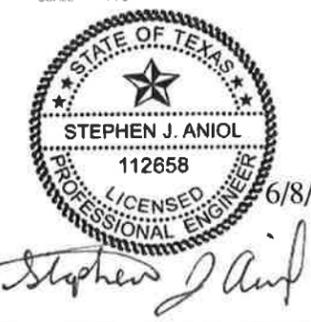


PIPE HANDRAIL DETAIL
PROFILE VIEW
SCALE: 1"=4"

SECTION "D-D"
FRONT VIEW
SCALE: 1"=4"

- 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

HANDRAIL FOR CONCRETE STEPS
ITEM 522



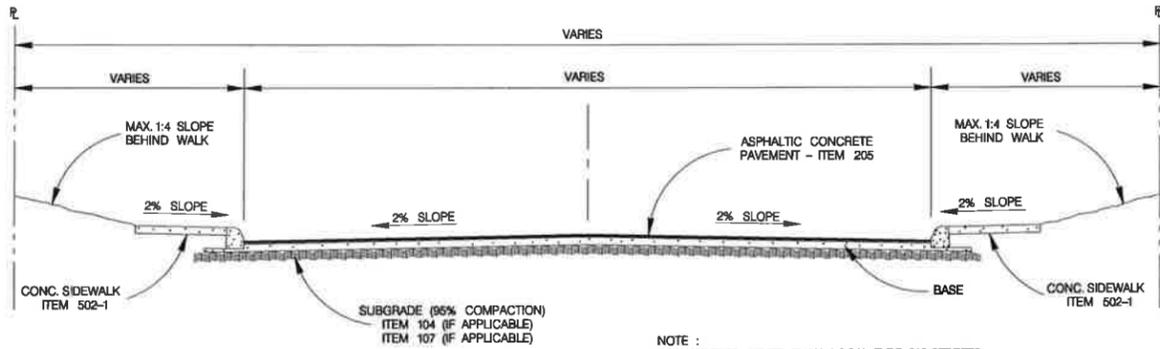
REV. NO.	DESCRIPTION	DATE
1	SIDEWALK DRAIN THICKNESS	2-18-2016

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

MISCELLANEOUS
CONSTRUCTION STANDARDS I

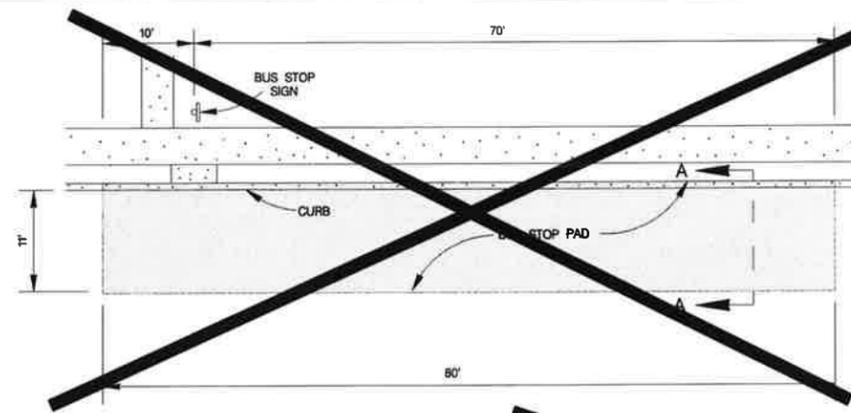
% SUB/ITAL	PROJECT NO.	DATE
DRAWN BY: V. VASQUEZ	DESIGN BY:	CHKD BY: R.S. HANSEN, P.E.



TYPICAL STREET SECTION

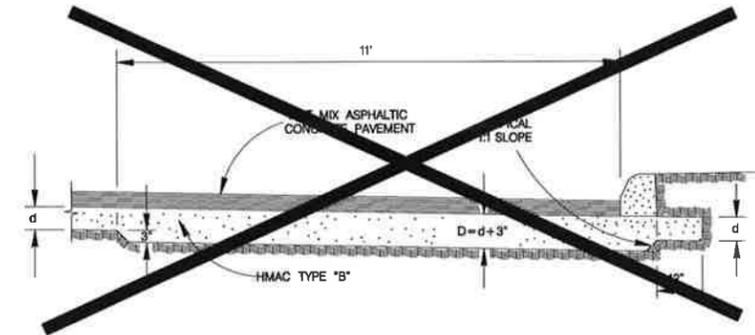
SCALE : 1"=8'

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'



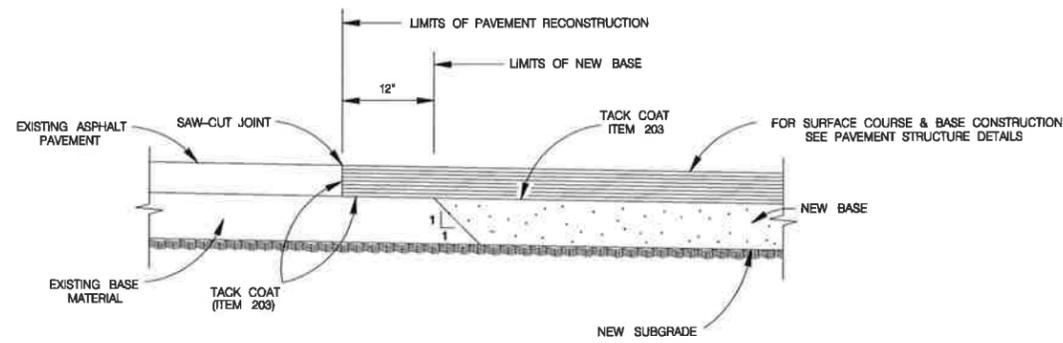
SECTION "A-A"

SCALE : 1"=4'

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

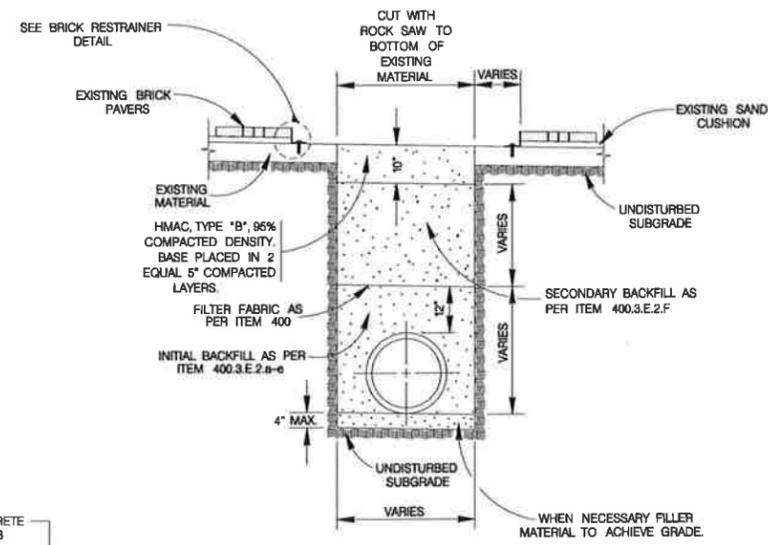
HMAC BUS STOP PAD

NEED CITY ENGINEER'S APPROVAL
TO USE HMAC BUS PAD



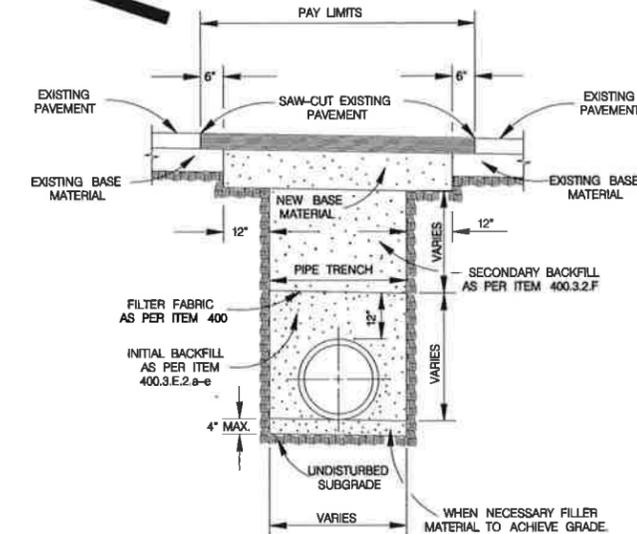
PAVEMENT JUNCTION DETAILS

SCALE : 1"=2'



TYPICAL BASE REPLACEMENT FOR BRICK SURFACED STREET SECTION

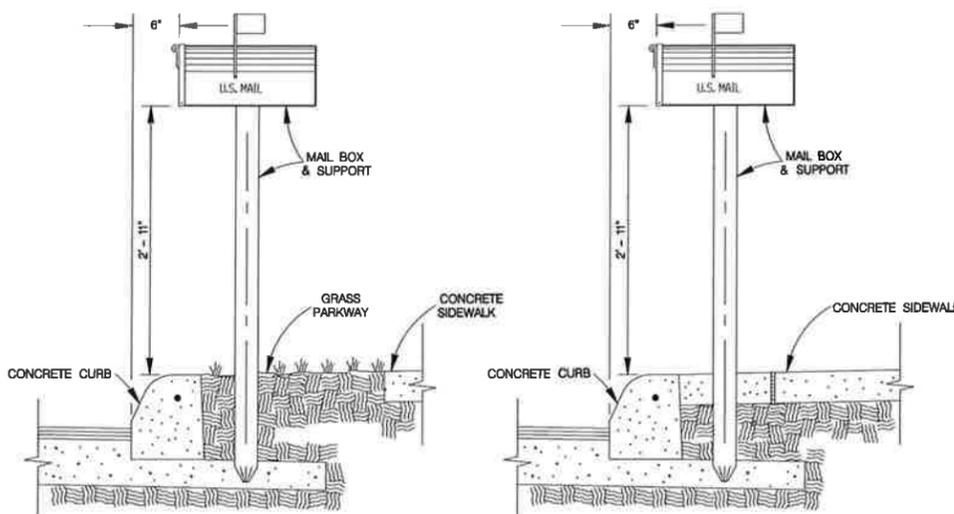
ITEM 511.3
SCALE : 1"=4'



TYPICAL PAVEMENT REPLACEMENT

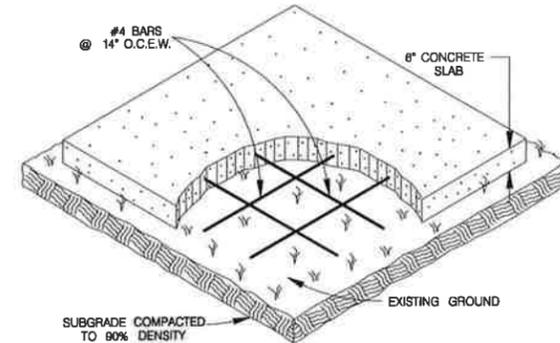
ITEM 511
SCALE : 1"=4'

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 LEVELING-UP COURSE & 1-1/2" TYPE "D" HOT MIX ASPHALTIC CONCRETE PAVEMENT SURFACE COURSE.



MAIL BOX LOCATION

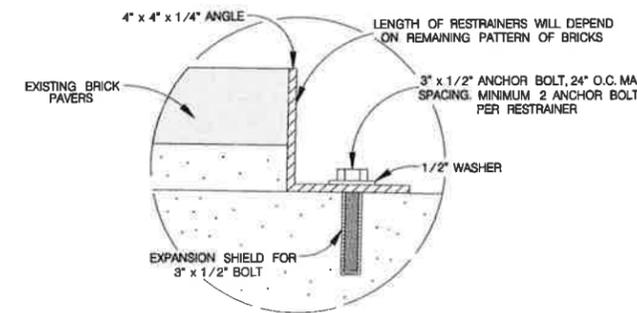
ITEM 513.1



COMMUNITY MAIL BOX SLAB

ITEM 513.2
SCALE : 1"=4'

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.



BRICK RESTRAINER DETAIL

SCALE = 1:6

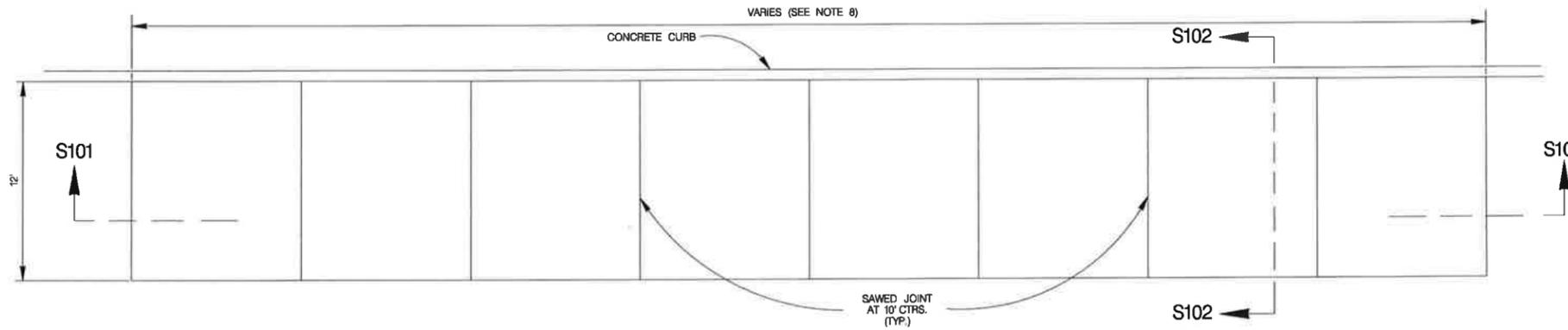
FEBRUARY 2010
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

**MISCELLANEOUS
CONSTRUCTION STANDARDS II**

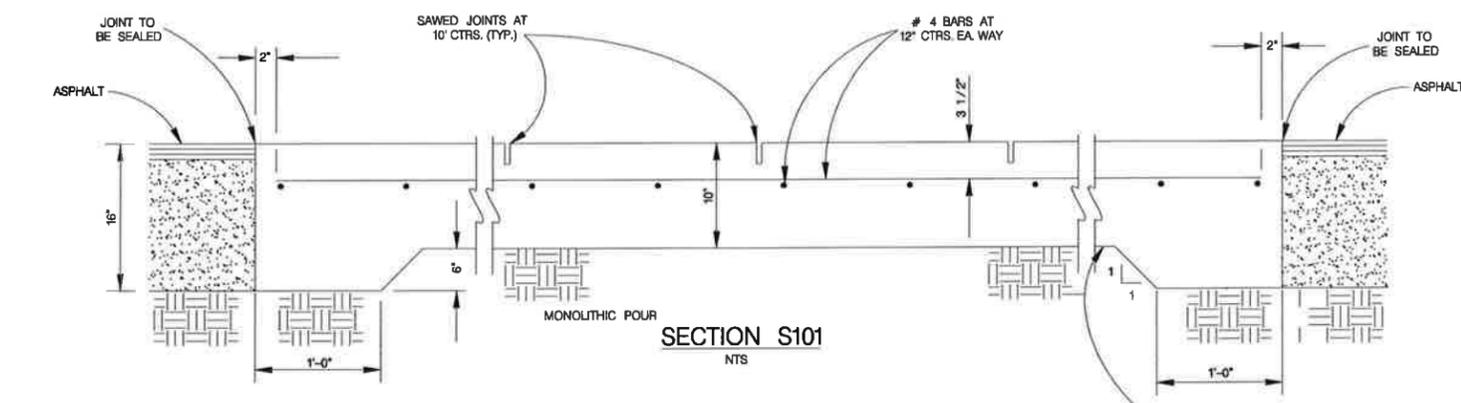
% SUBMITTAL	PROJECT NO. _____	DATE: _____
DRWN BY: V. VASQUEZ	DSGN BY: _____	CHKD BY: R.S. HOSSEINI, P.E.
		SHEET NO.: _____ OF _____

GENERAL NOTES

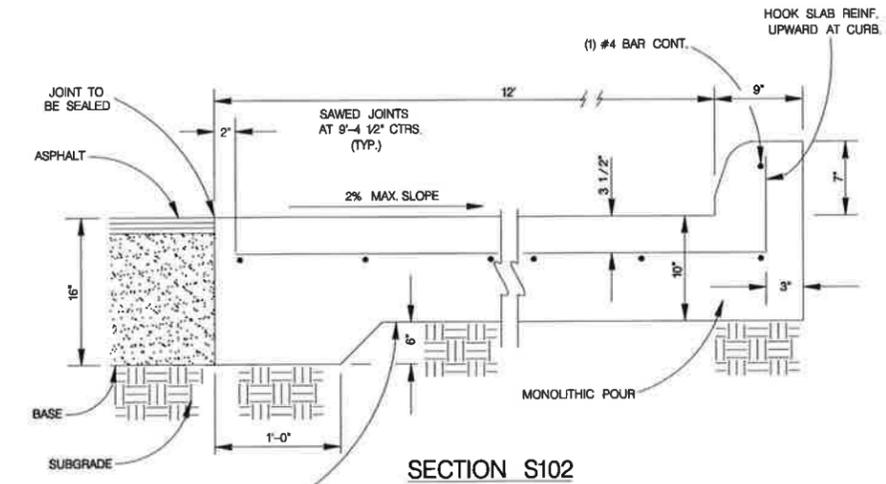
1. ALL CONCRETE SHALL TEST 4,000 P.S.I. AT 28 DAYS.
2. BUS STOP CONCRETE PAD CONSTRUCTION SHALL BE PAID UNDER ITEM 209 AT THE UNIT PRICE BID, WHICH PRICE SHALL BE FULL COMPENSATION FOR ALL DEMOLITION, REMOVAL OF EXISTING CURB, EXCAVATION, HAULING, CRUSHED LIMESTONE, REINFORCING STEEL, CONCRETE, CONCRETE 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'



PLAN VIEW
NTS



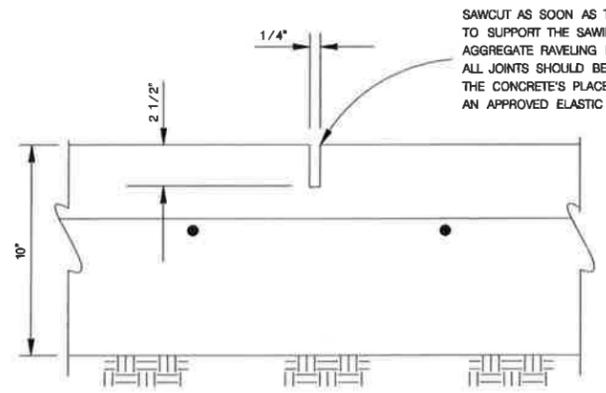
SECTION S101
NTS



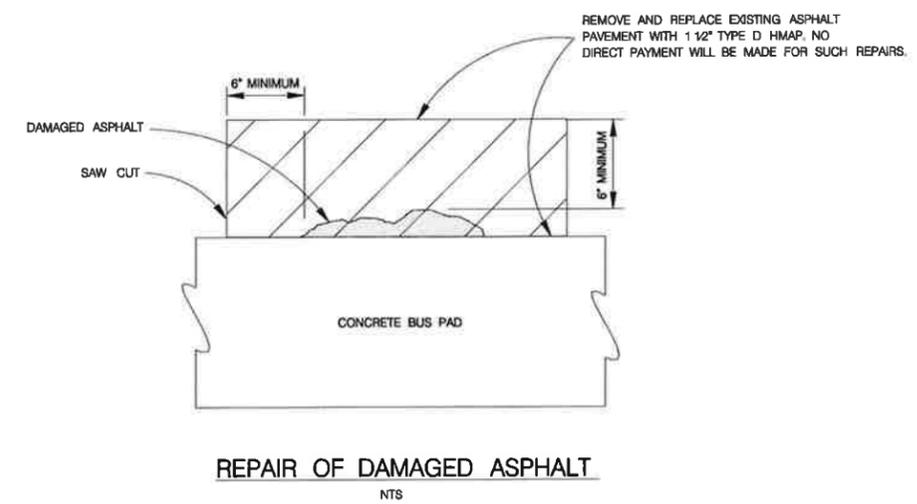
SECTION S102
NTS

SAWCUT 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.

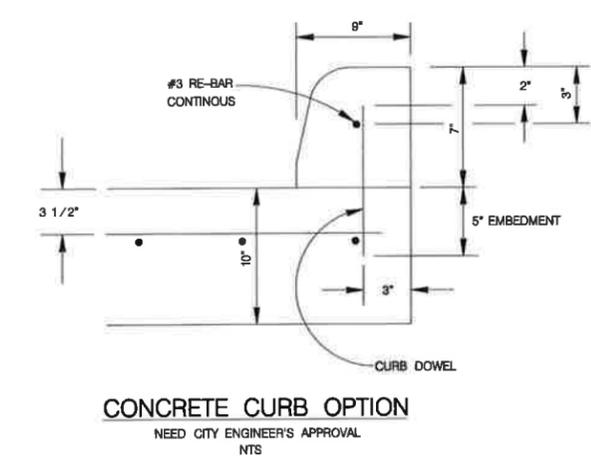
PROOFROLL EXISTING SUBGRADE WITH BACKHOE OR SIMILAR EQUIPMENT TO LOCATE POTENTIAL SOFT REGIONS OF SUBGRADE. REPLACE SOFT AREAS WITH 12" OF SUITABLE MATERIAL.



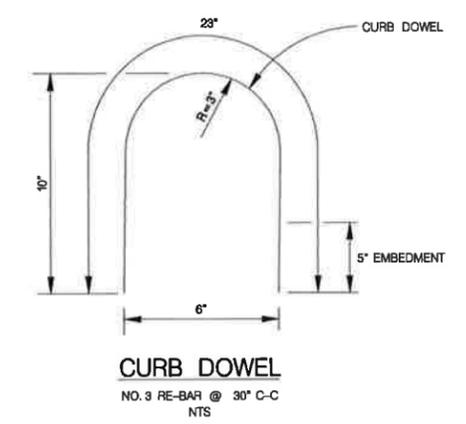
SAWCED JOINT DETAIL
NTS



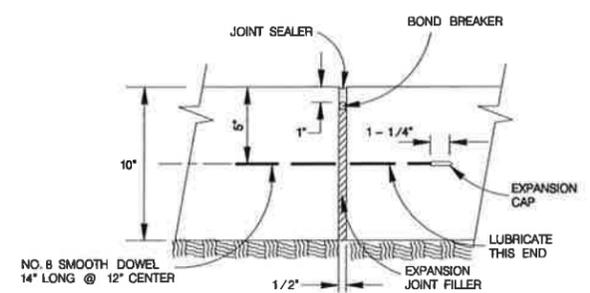
REPAIR OF DAMAGED ASPHALT
NTS



CONCRETE CURB OPTION
NEED CITY ENGINEER'S APPROVAL
NTS



CURB DOWEL
NO. 3 RE-BAR @ 30° C-C
NTS



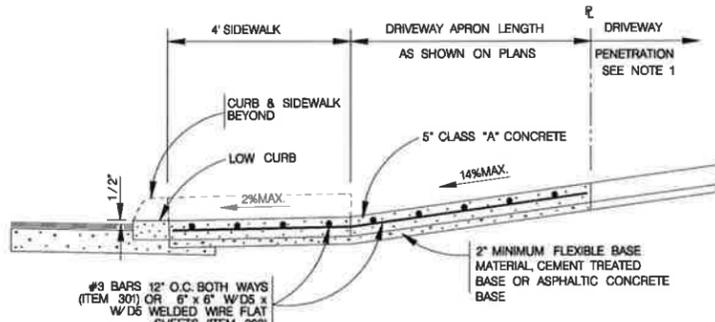
EXPANSION JOINT DETAIL
SCALE : 1" = 1'

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.

MAY 2009
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

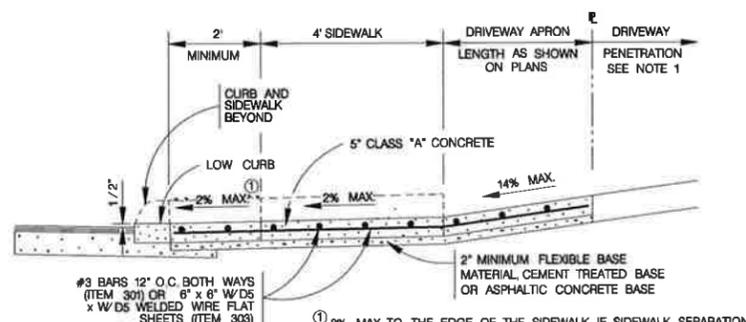
**CONCRETE
BUS STOP PAD**

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



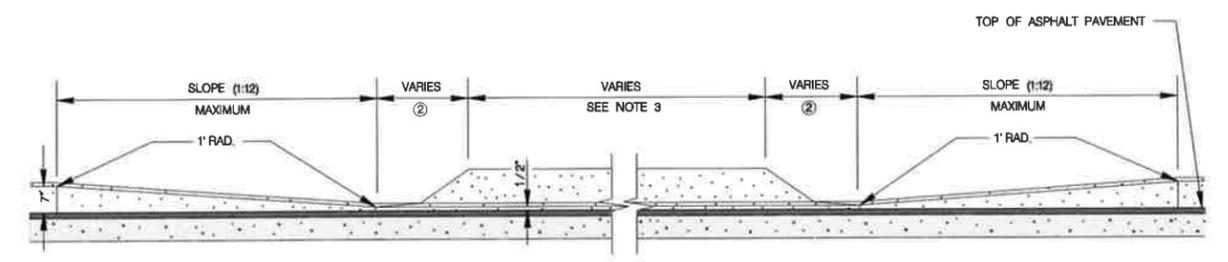
TYPICAL RESIDENTIAL DRIVEWAY SECTION

WITH SIDEWALK ABUTTING CURB
ITEM 503.1



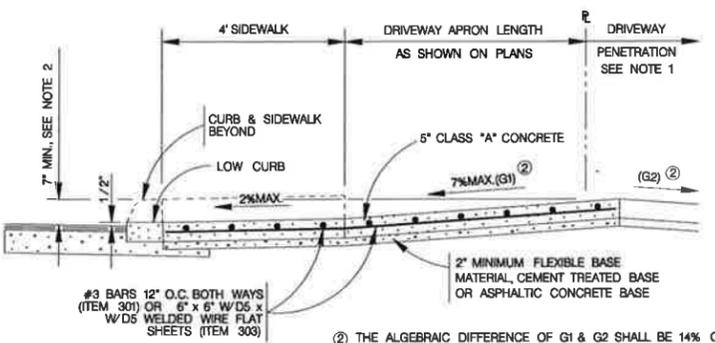
TYPICAL RESIDENTIAL DRIVEWAY SECTION

WITH SIDEWALK SEPARATED FROM CURB
ITEM 503.1



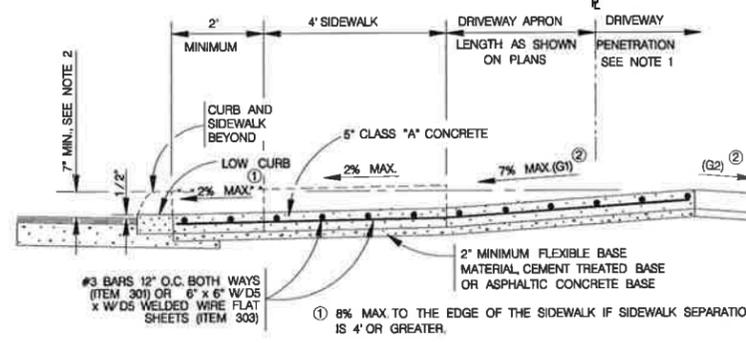
CURB PROFILE AT DRIVEWAY

WITH SIDEWALK ABUTTING CURB



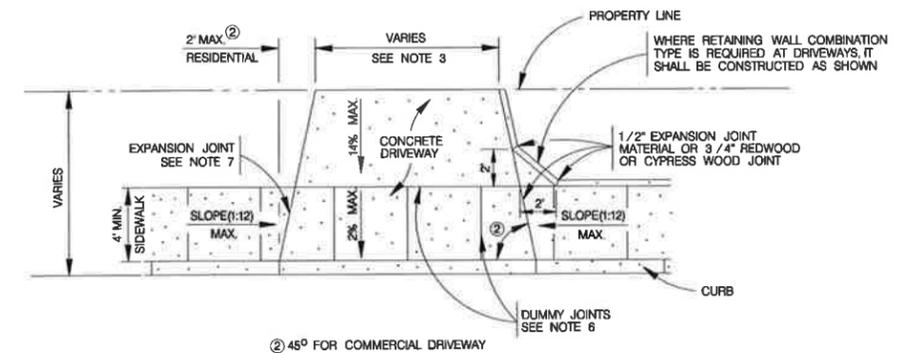
TYPICAL RESIDENTIAL DRIVEWAY SECTION

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



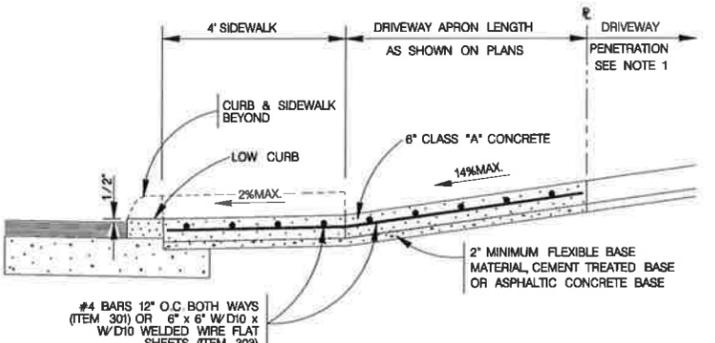
TYPICAL RESIDENTIAL DRIVEWAY SECTION

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



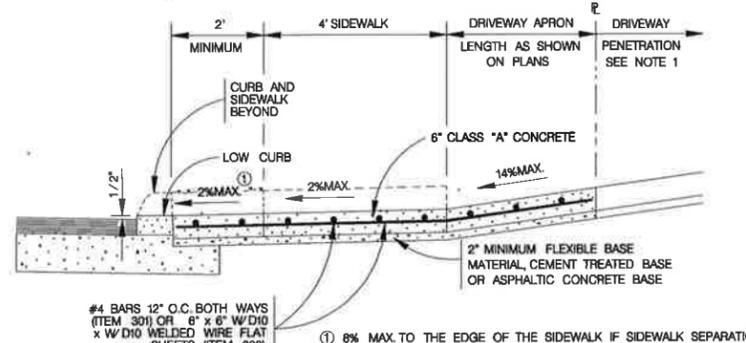
TYPICAL DRIVEWAY PLAN VIEW

WITH SIDEWALK ABUTTING CURB



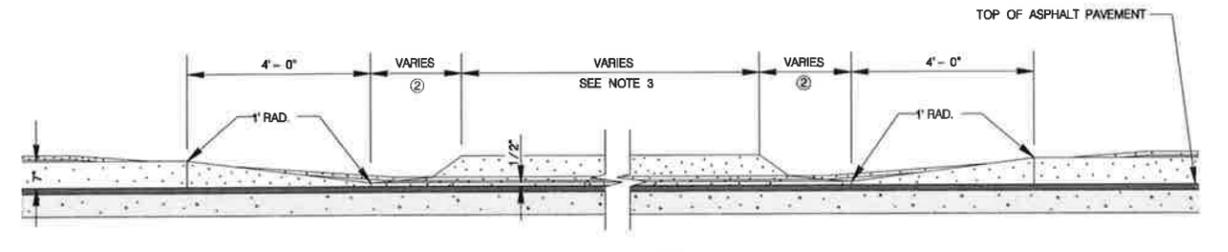
TYPICAL COMMERCIAL DRIVEWAY SECTION

WITH SIDEWALK ABUTTING CURB
ITEM 503.2



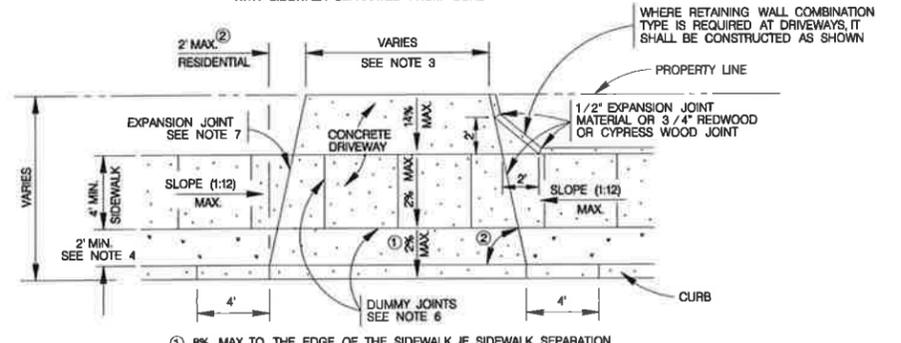
TYPICAL COMMERCIAL DRIVEWAY SECTION

WITH SIDEWALK SEPARATED FROM CURB
ITEM 503.2



CURB PROFILE AT DRIVEWAY

WITH SIDEWALK SEPARATED FROM CURB

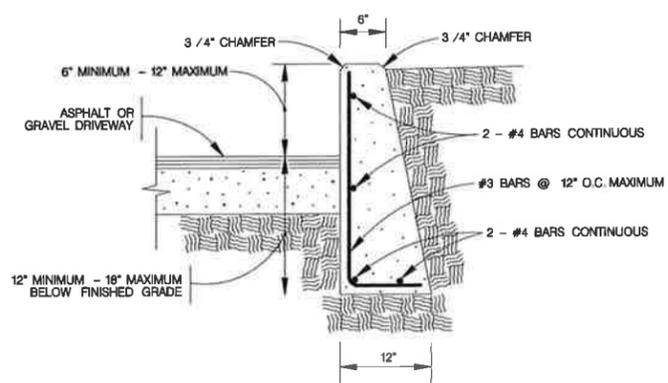


TYPICAL DRIVEWAY PLAN VIEW

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

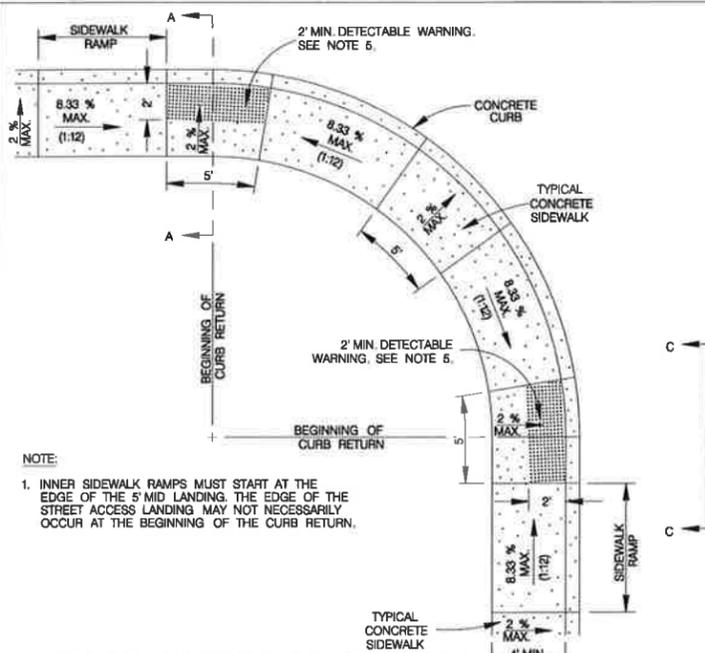
ON COMPACTED SUBGRADE
ITEM 307.1

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

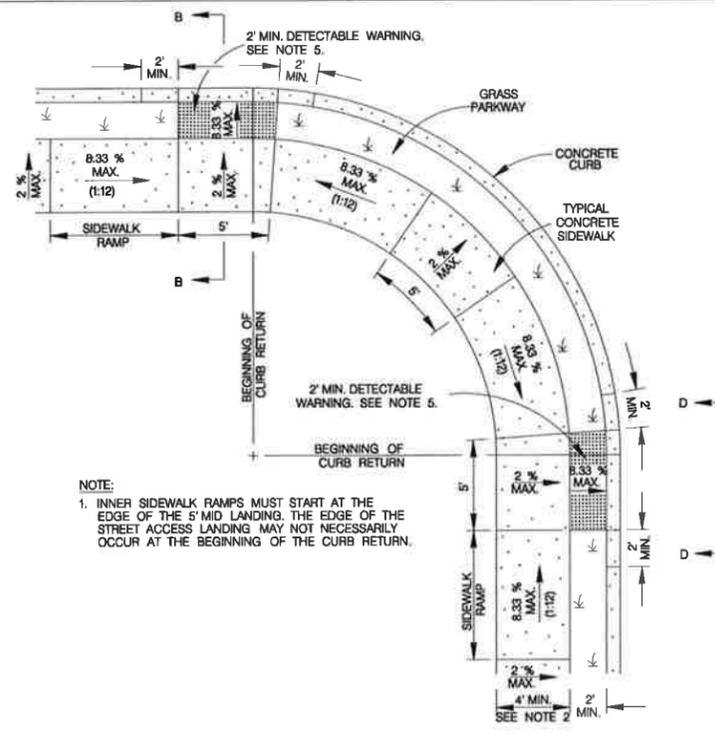
CONCRETE DRIVEWAY STANDARDS

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



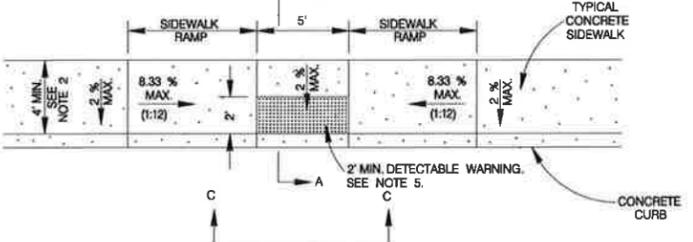
TYPICAL SIDEWALK RAMP - TYPE I

SIDEWALK ABUTS THE CURB
SCALE: 1"=10'



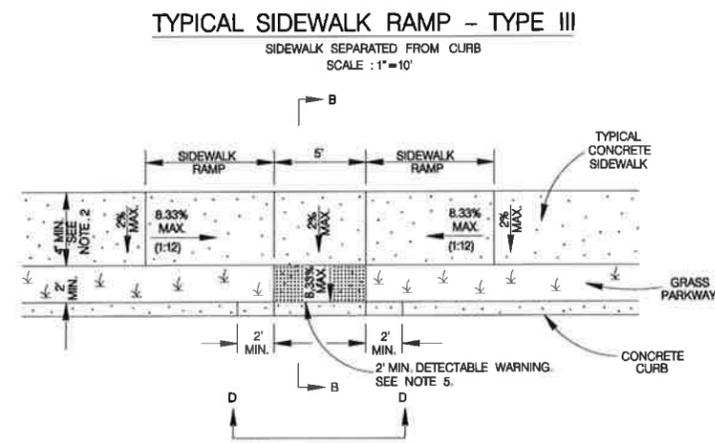
TYPICAL SIDEWALK RAMP - TYPE V

SIDEWALK ABUTS CURB
SCALE: 1"=10'



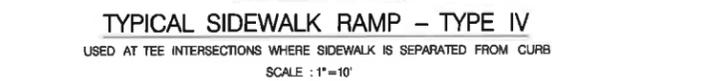
TYPICAL SIDEWALK RAMP - TYPE II

USED AT TEE INTERSECTIONS WHERE SIDEWALK ABUTS CURB
SCALE: 1"=10'



TYPICAL SIDEWALK RAMP - TYPE III

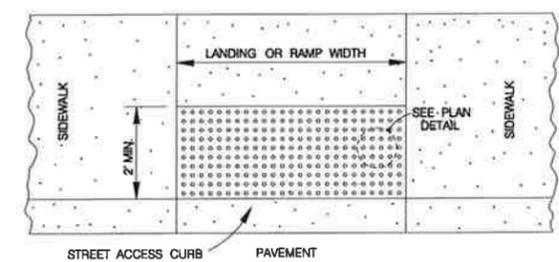
SIDEWALK SEPARATED FROM CURB
SCALE: 1"=10'



TYPICAL SIDEWALK RAMP - TYPE IV

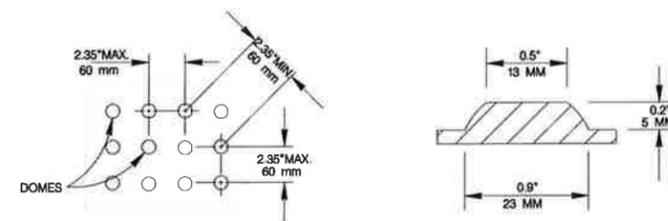
USED AT TEE INTERSECTIONS WHERE SIDEWALK IS SEPARATED FROM CURB
SCALE: 1"=10'

- GENERAL NOTES**
- WHEN POSSIBLE SIDEWALKS SHOULD BE PLACED NEXT TO THE PROPERTY LINE, ALLOWING A MINIMUM OF 1 FOOT BUFFER. DEVIATION OF THE PATHWAY FROM A STRAIGHT LINE IS ENCOURAGED TO AVOID TREES OR OTHER OBSTRUCTIONS.
 - FOR LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED 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, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED 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.
 - SIDEWALK RAMP LENGTHS PRESENTED IN TABLE 1 ARE GUIDELINES ONLY. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE.
 - ALL CURB-RAMPS OR LANDINGS ABUTTING THE CROSSWALK SHALL HAVE A DETECTABLE WARNING 24 INCHES DEEP (IN THE DIRECTION OF PEDESTRIAN TRAVEL) AND EXTENDING THE FULL WIDTH OF THE CURB RAMP OR LANDING. THE DETECTABLE WARNING SHALL CONSIST OF RAISED TRUNCATED DOMES, ALIGNED IN A GRID PATTERN WITH A DIAMETER OF A NOMINAL 0.9 INCHES (23 MM), A HEIGHT OF NOMINAL 0.2 INCHES (5 MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES (60 MM). THE DETECTABLE WARNING SURFACE SHALL BE A CAST-IN-PLACE TILE CONFORMING TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS OR PAVERS CONFORMING TO TXDOT STANDARD PED-05, PEDESTRIAN FACILITIES.
 - DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
 - SIDEWALK RAMP TYPE V SHALL BE USED ONLY WHERE THERE IS SIGNIFICANT RESTRICTION WITHIN THE PARKWAY TO CONSTRUCT TYPE I OR TYPE III RAMPS.
 - CONSTRUCTION OF ALL WHEELCHAIR RAMPS TO BE INCLUDED UNDER ITEMS "500 - CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER" AND "502 - CONCRETE SIDEWALKS". RAMP SURFACE SHALL BE BRUSH FINISHED.
 - THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF WHEELCHAIR RAMPS TO BE SHOWN ON CONSTRUCTION PLANS. CITY CONSTRUCTION INSPECTOR CAN ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
 - SIDEWALKS LESS THAN 5 FEET IN WIDTH SHALL BE PROVIDED WITH A PASSING SPACE AT A MAXIMUM SPACING OF 200 FEET.
 - WHEELCHAIR RAMP SHALL BE CONSTRUCTED WITH 4" CLASS "A" CONCRETE AND 2" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL.
 - REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6" x 6" - W2.9 x W2.9 WIRE MESH.
 - SIDEWALK GRADES SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY, ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN THE EXISTING ROADWAY WILL REQUIRE RAMPS, HANDRAILS AND RESTING PLATFORMS TO BE CONSTRUCTED IN ACCORDANCE WITH ADA AND TAS STANDARDS.
 - SIDEWALK CROSS GRADE SHALL HAVE A MAXIMUM SLOPE OF 2%. LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
 - THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 11%. THE CHANGE OF GRADE SHALL BE DEFINED AS THE ALGEBRAIC DIFFERENCE OF THE ADJACENT SURFACE SLOPES. IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 8.33% MAXIMUM SLOPE, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN 2.67% (I.E. 8.33-(2.67)=11). IN ADDITION, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 5%.
 - IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 11%, A LEVELING STRIP, 2 FEET IN LENGTH, SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
 - ADA COMPLIANCE IN ALTERATIONS INCLUDE ONLY THAT WORK WITHIN THE LIMITS, BOUNDARIES OR SCOPE OF A PLANNED PROJECT.



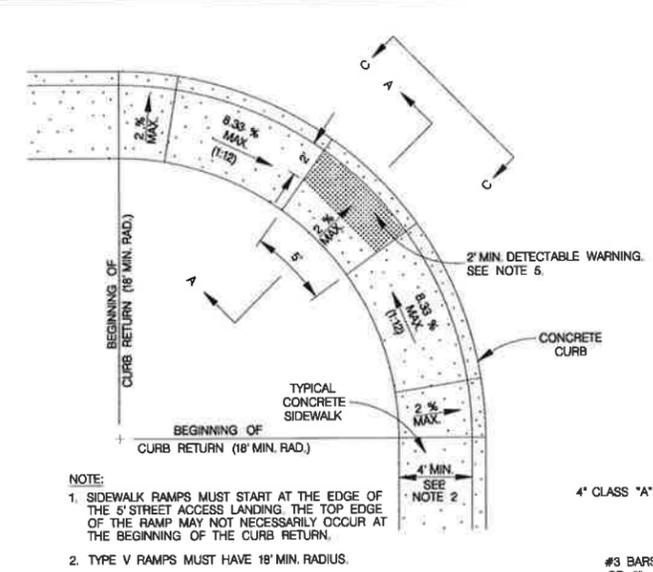
DETECTABLE WARNING SURFACE

SCALE: 1"=4'



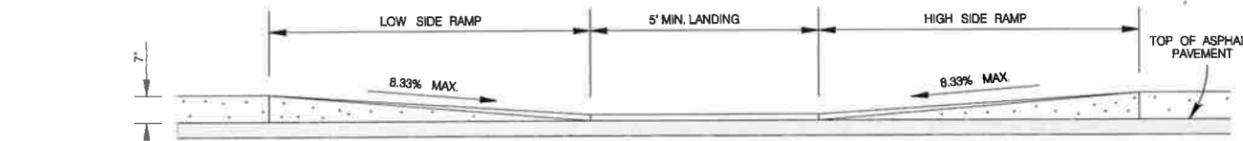
DOMES

NO SCALE



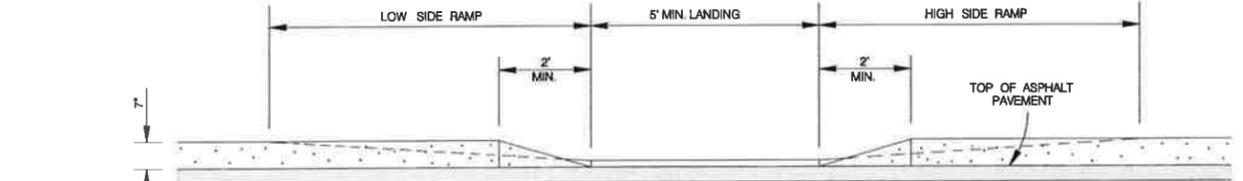
TYPICAL SIDEWALK RAMP - TYPE V

SIDEWALK ABUTS CURB
SCALE: 1"=10'



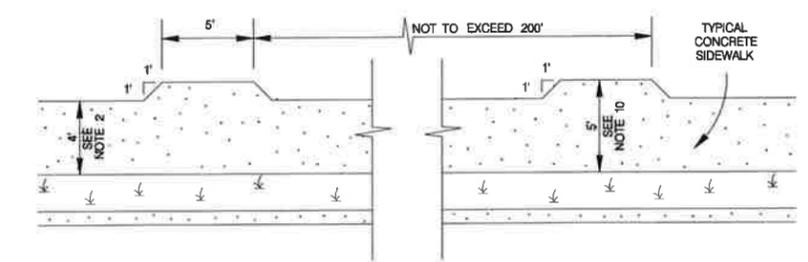
SECTION C-C

CURB PROFILE WHERE SIDEWALK ABUTS CURB
SCALE: 1"=4'



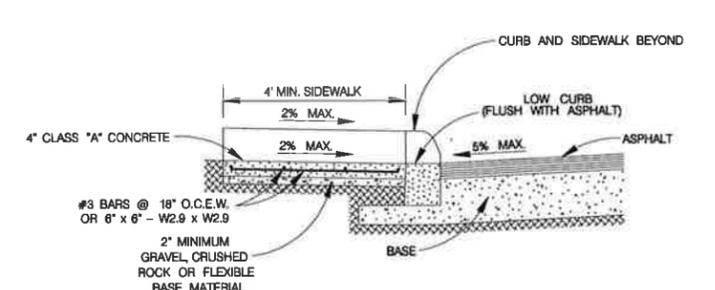
SECTION D-D

CURB PROFILE WHERE SIDEWALK IS SEPARATED FROM CURB
SCALE: 1"=4'



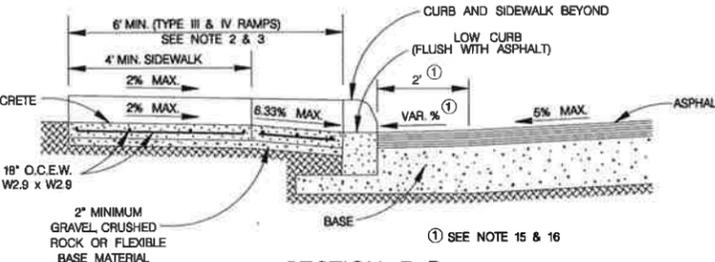
SIDEWALK PASSING SPACE

SCALE: 1"=10'



SECTION A-A

SCALE: 1"=4'



SECTION B-B

SCALE: 1"=4'

GUTTER SLOPE	SIDEWALK RAMP LENGTH (1:12)	
	LOW SIDE	HIGH SIDE
1%	5'-6"	7'-2"
2%	5'-0"	6'-4"
3%	4'-6"	10'-0"
4%	4'-2"	12'-6"
5%	3'-10"	16'-8"

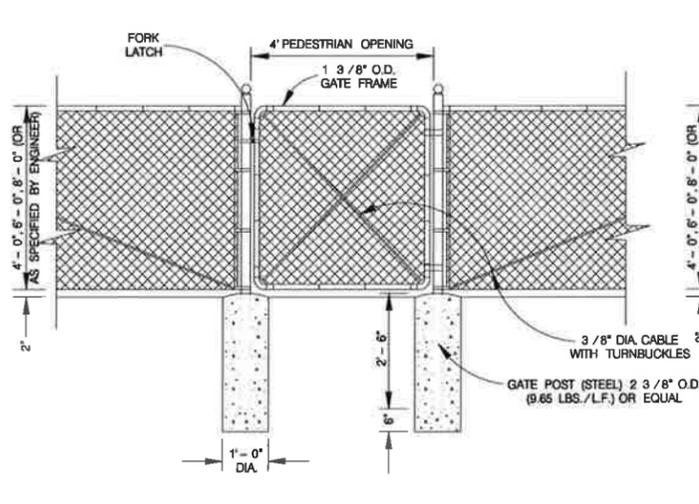
MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

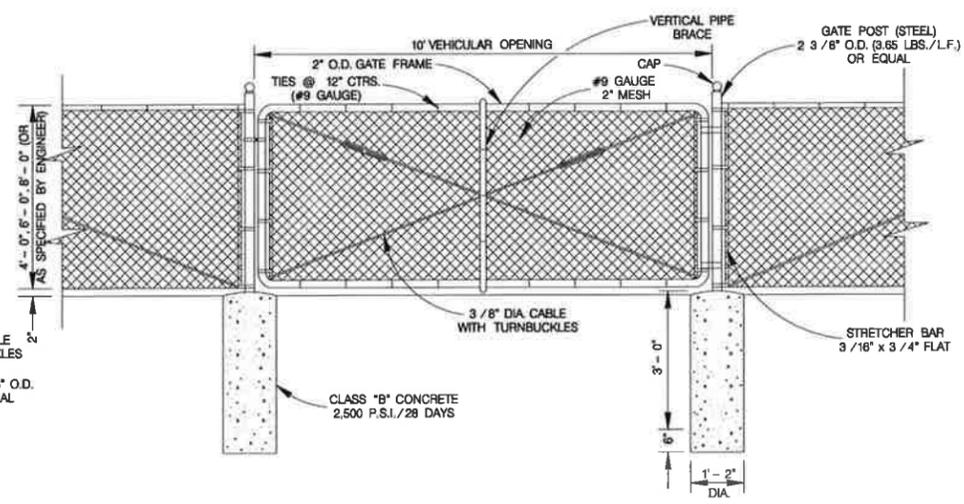
WHEELCHAIR RAMP STANDARDS

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

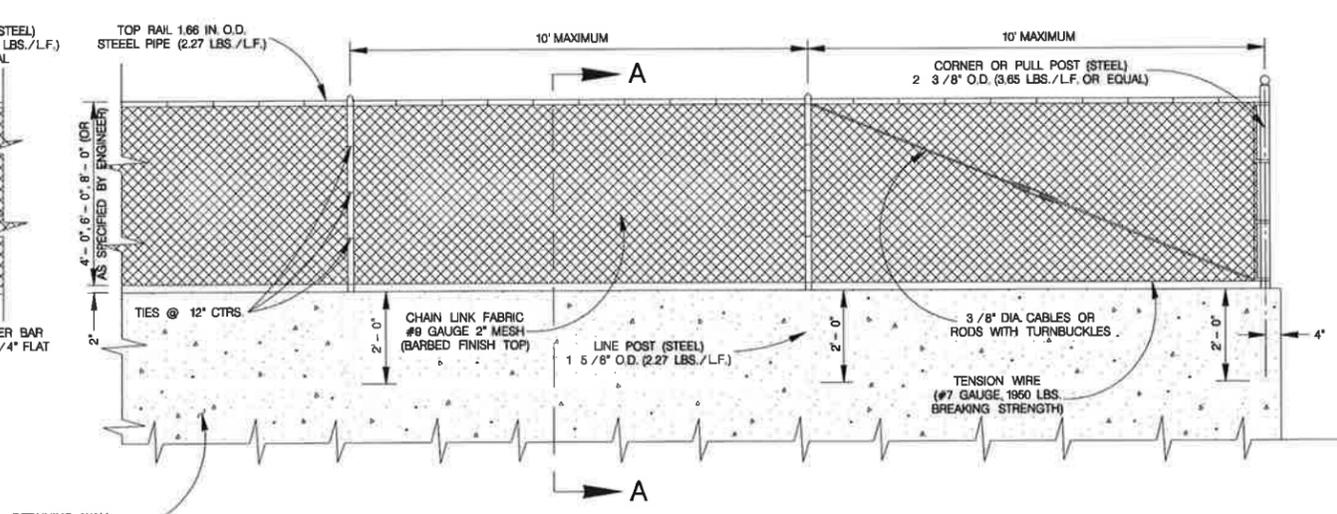
NOTE:
STAMPED CONCRETE TRUNCATED DOMES WILL NOT BE ALLOWED TO BE USED FOR DETECTABLE WARNING ON WHEELCHAIR RAMPS. CONTRACTOR MUST SUBMIT TRUNCATED DOME INFORMATION THAT IS TO BE USED ON WHEELCHAIR RAMPS TO THE PROJECT MANAGER FOR APPROVAL AT LEAST 30 DAYS PRIOR TO INSTALLATION.



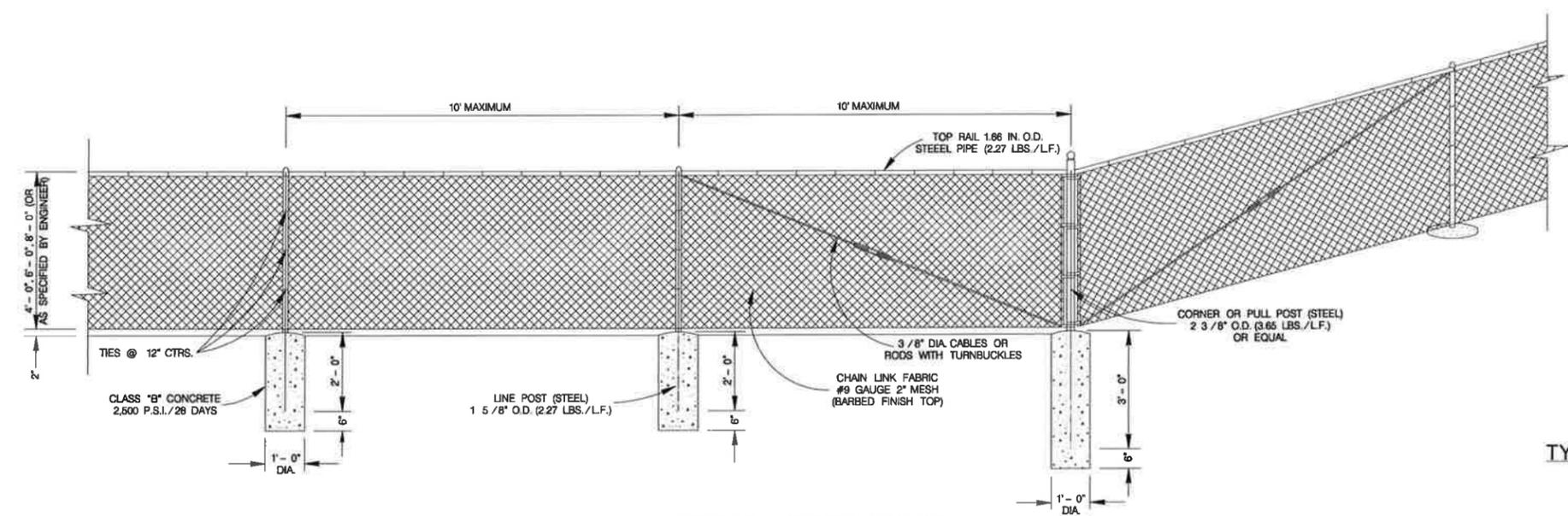
PEDESTRIAN GATE
ITEM 507.4
SCALE: 1" = 4'



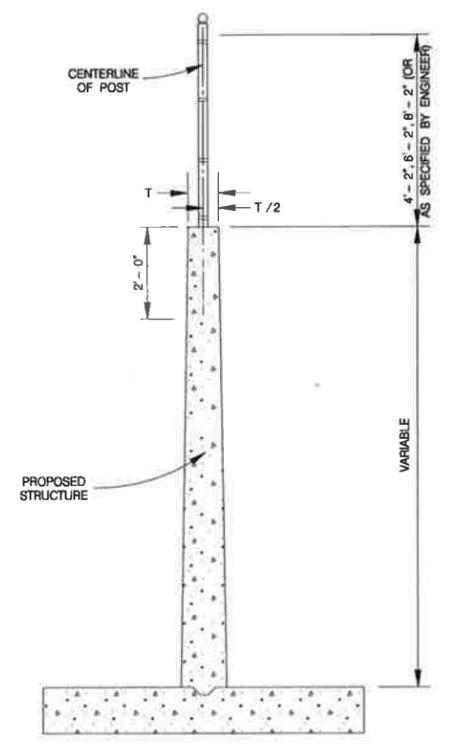
VEHICULAR GATE
ITEM 507.5
SCALE: 1" = 4'



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

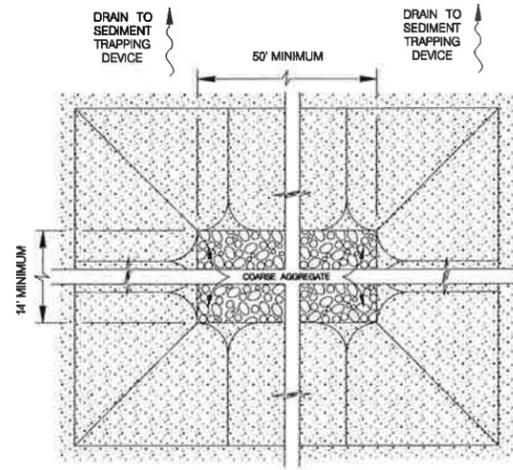
1. ALL CONCRETE FOOTINGS SHALL BE CROWNED A MINIMUM OF 1" ABOVE THE EXISTING GROUND, WHERE FOOTINGS ARE REQUIRED ONLY.
2. FENCING SHALL BE LOCATED IN RETAINING WALLS, HEADWALLS & WINGWALLS AT LOCATIONS SHOWN ON THE PLANS.
3. CORNER OR PULL POSTS WILL BE REQUIRED AT ALL END POINTS AND ANGLE POINTS.
4. 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. 607 *CHAIN LINK WIRE FENCE OF CITY OF SAN ANTONIO* STANDARD SPECIFICATIONS FOR CONSTRUCTION.

MAY 2009

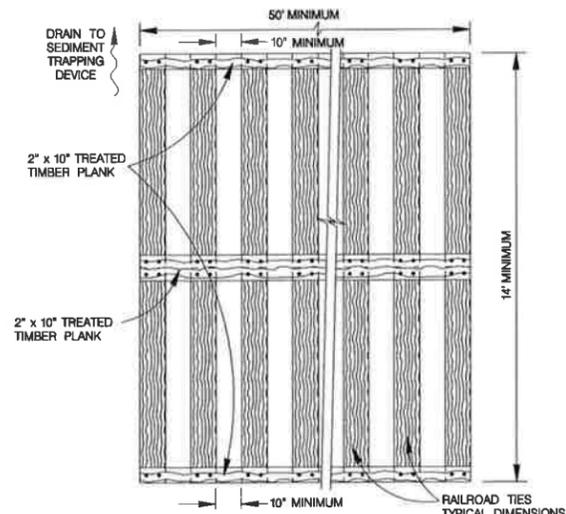
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

CHAIN LINK WIRE FENCE STANDARDS

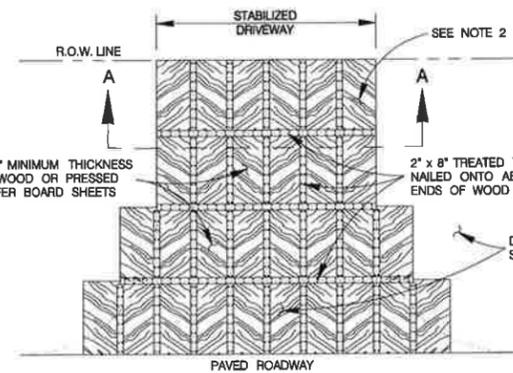
% SUBMITTAL PROJECT NO.:	DATE:
DRWN. BY: V. VASQUEZ DSGN. BY:	CHKD. BY: R.S. HOSSEINI, P.E. SHEET NO.: OF



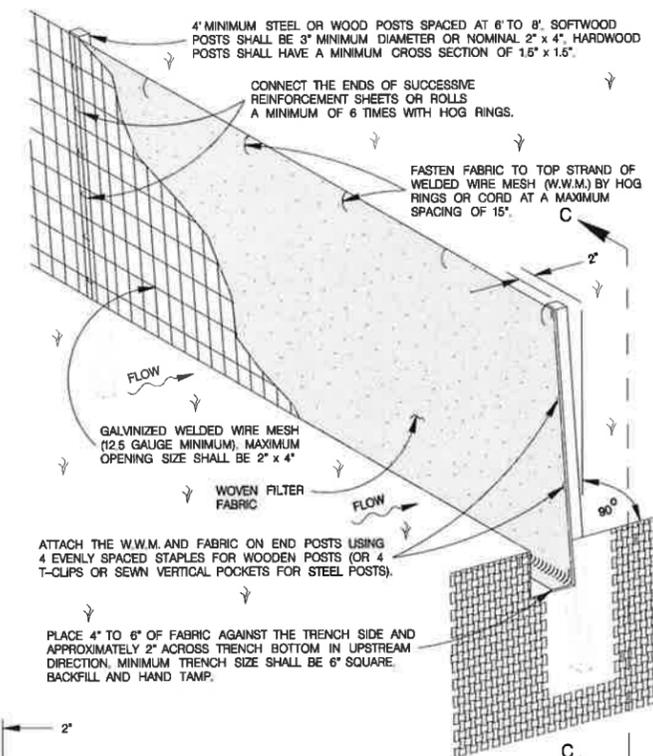
PLAN
SCALE: 1" = 6'



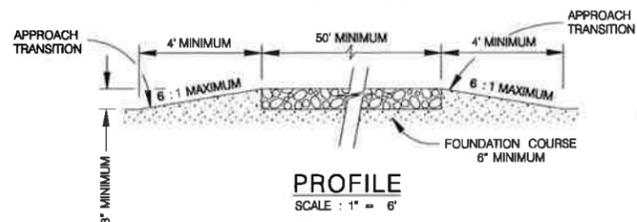
PLAN
SCALE: 1" = 6'



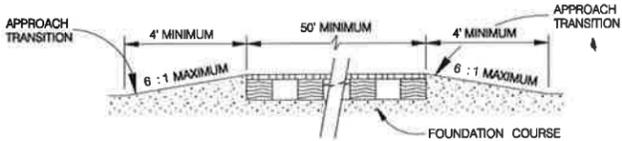
PLAN
SCALE: 1" = 20'



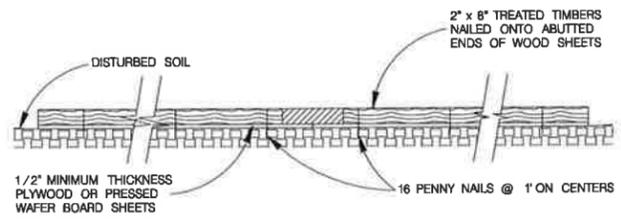
ISOMETRIC VIEW
SCALE: 1" = 2'



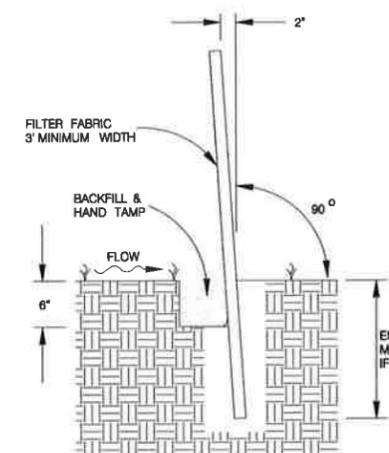
PROFILE
SCALE: 1" = 6'



PROFILE
SCALE: 1" = 6'



SECTION A-A
SCALE: 1" = 2'



SECTION C-C
SCALE: 1" = 2'

- 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.

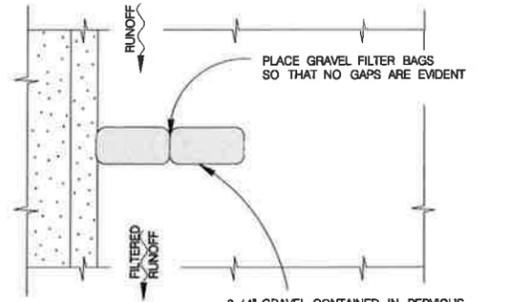
- GENERAL NOTES**
1. THE LENGTH OF THE TYPE 2 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
 2. THE TREATED TIMBER PLANKS SHALL BE ATTACHED TO THE RAILROAD TIES WITH 1/2" x 6" MIN. LAG BOLTS. OTHER FASTENERS MAY BE USED AS APPROVED BY THE ENGINEER.
 3. THE TREATED TIMBER 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.

- 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.

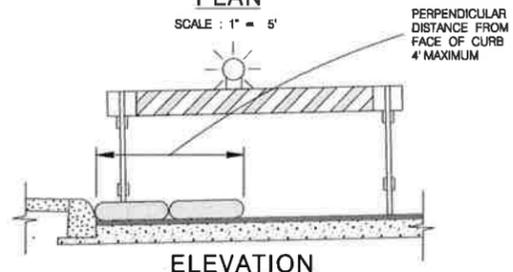
CONSTRUCTION EXIT - TYPE 1

CONSTRUCTION EXIT - TYPE 2

CONSTRUCTION EXIT - TYPE 3



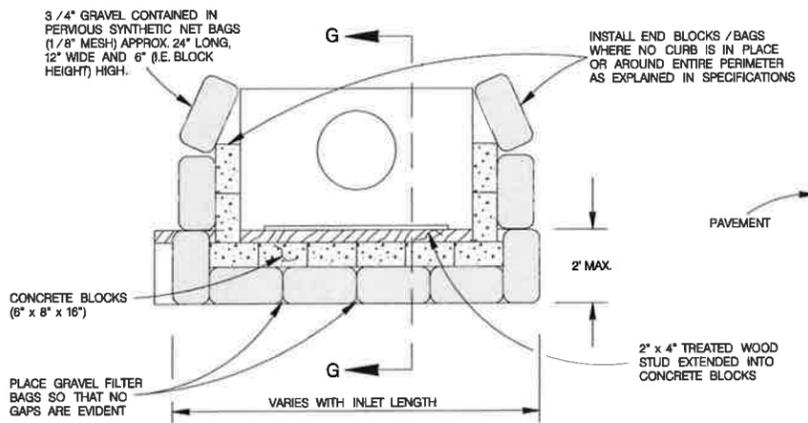
PLAN
SCALE: 1" = 5'



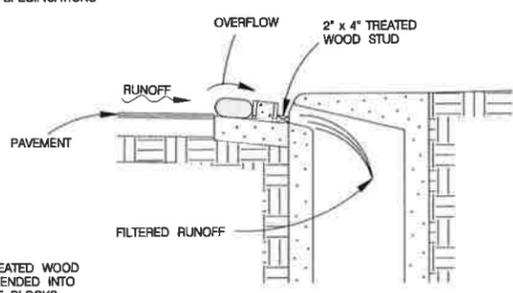
ELEVATION
SCALE: 1" = 5'

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" = 5'



SECTION G-G
SCALE: 1" = 5'

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

CURB INLET GRAVEL FILTER

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.

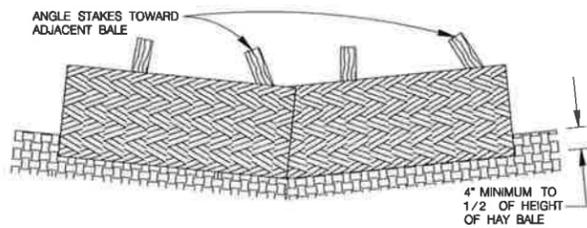
TEMPORARY SEDIMENT CONTROL FENCE

JANUARY 2005

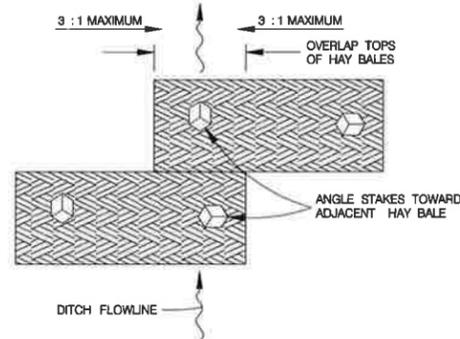
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 1

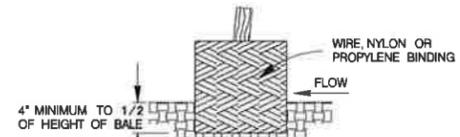
DATE:	
DRWN. BY: V. VASQUEZ	CHKD. BY:
DSGN. BY:	SHEET NO. OF



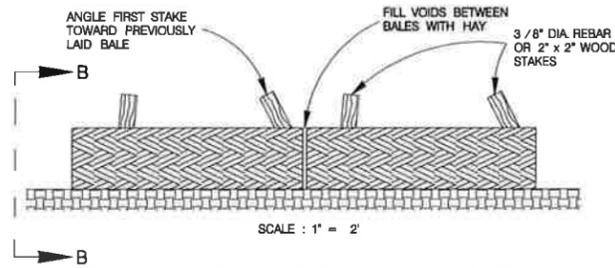
PROFILE VIEW
SCALE: 1" = 2'



PLAN VIEW
SCALE: 1" = 2'



SECTION B-B
SCALE: 1" = 2'



BALED HAY USAGE GUIDELINES

A BAILED 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. BAILED HAY MAY BE USED AT THE FOLLOWING LOCATIONS:

1. WHERE THE RUNOFF APPROACHING THE BAILED 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 BAILED 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 BAILED HAY INSTALLATIONS IN SMALL DITCHES, THE FOLLOWING ADDITIONAL CONSIDERATIONS APPLY:

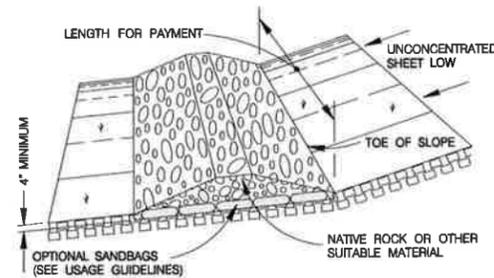
1. THE DITCH SIDESLOPES SHOULD BE GRADED AS FLAT AS POSSIBLE TO MAXIMIZE THE DRAINAGE FLOW RATE THRU THE HAY.
2. THE DITCH SHOULD BE GRADED LARGE ENOUGH TO CONTAIN THE OVERLAPPING DRAINAGE WHEN SEDIMENT HAS FILLED TO THE TOP OF THE BAILED HAY.

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

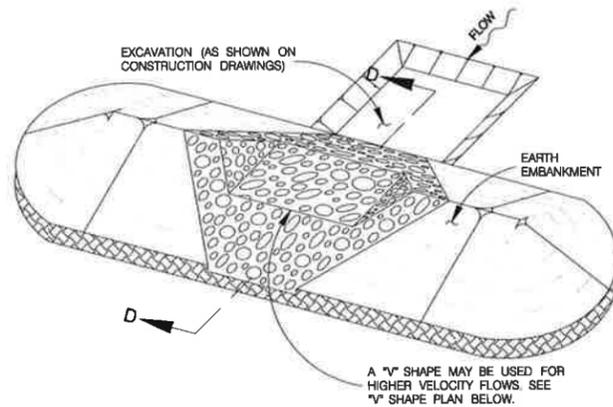
GENERAL NOTES

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 BALE.
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 BALE TO FORCE THE BALES TOGETHER.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

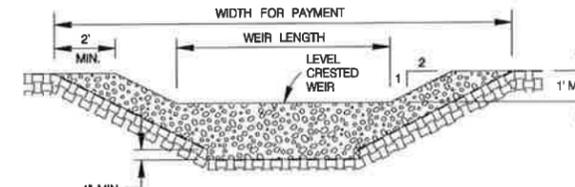
BALED HAY FOR EROSION CONTROL



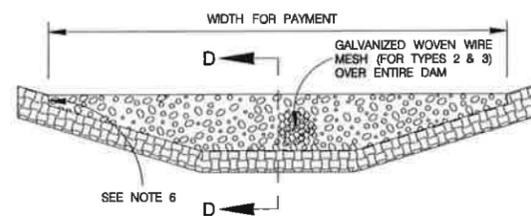
TYPE 1 FILTER DAM AT TOE OF SLOPE
SCALE: 1" = 10'



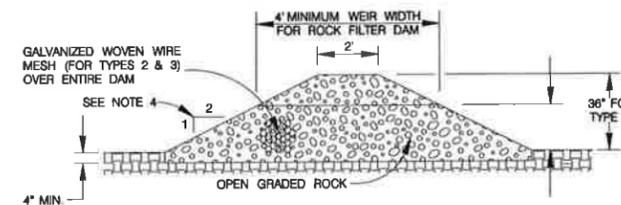
TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP
SCALE: 1" = 10'



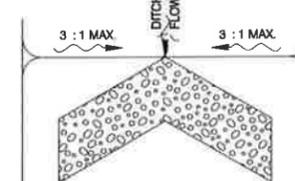
PROFILE OF TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP
SCALE: 1" = 6'



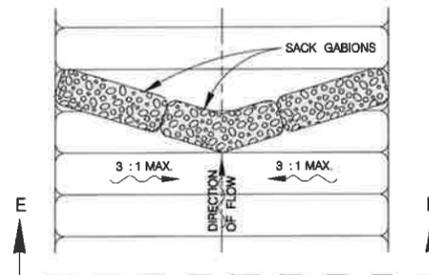
TYPE 1, 2 & 3 FILTER DAM AT CHANNEL SECTIONS
SCALE: 1" = 6'



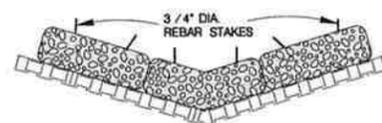
SECTION D-D
SCALE: 1" = 6'



"V" SHAPE PLAN VIEW
NOT TO SCALE

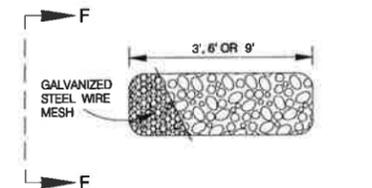


PLAN VIEW
SCALE: 1" = 10'



SECTION E-E
SCALE: 1" = 10'

TYPE 4 FILTER DAM AT DITCHES & SMALLER CHANNELS PLAN VIEW



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



SECTION F-F
SCALE: 1" = 6'

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

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

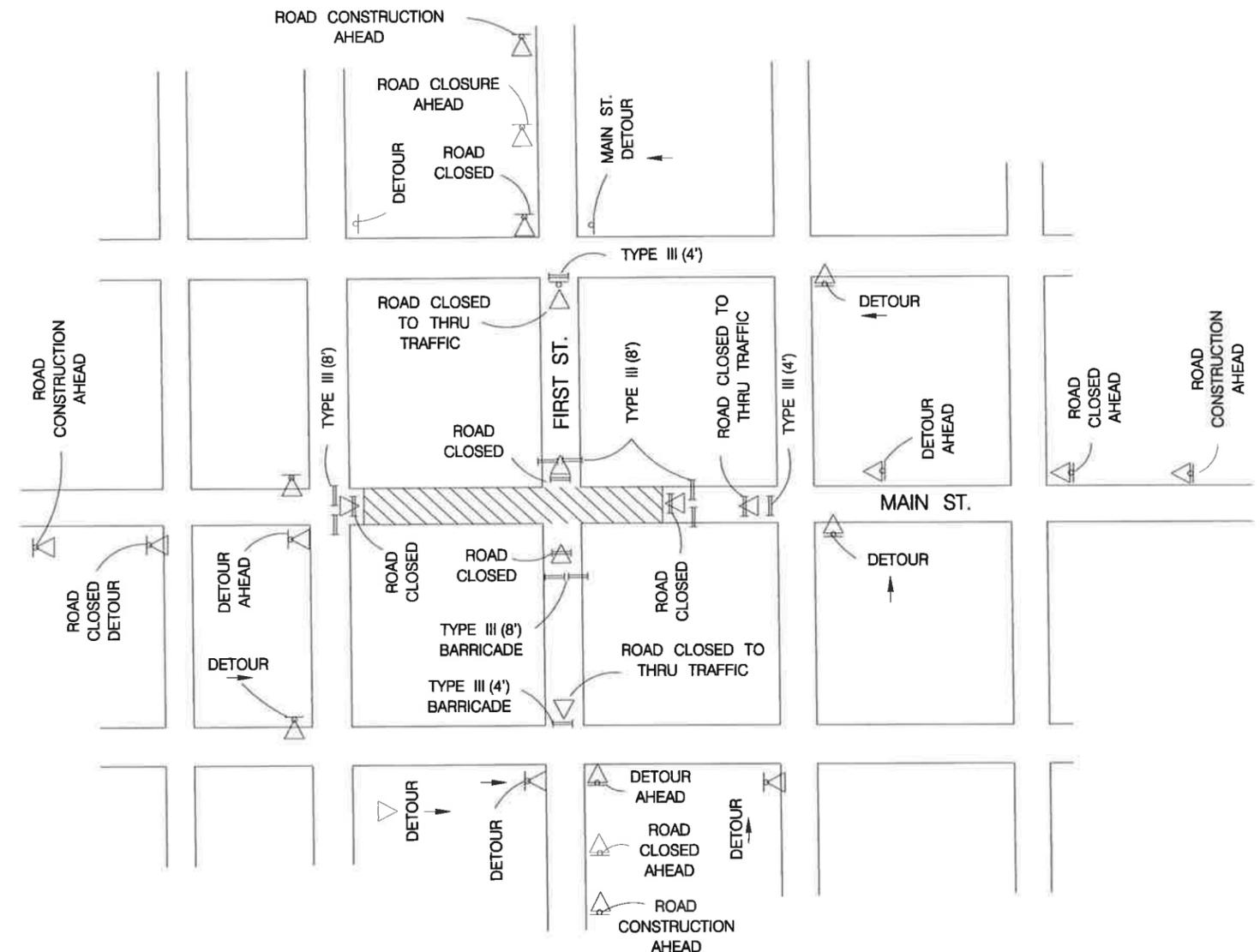
SPECIAL EVENTS BARRICADING

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

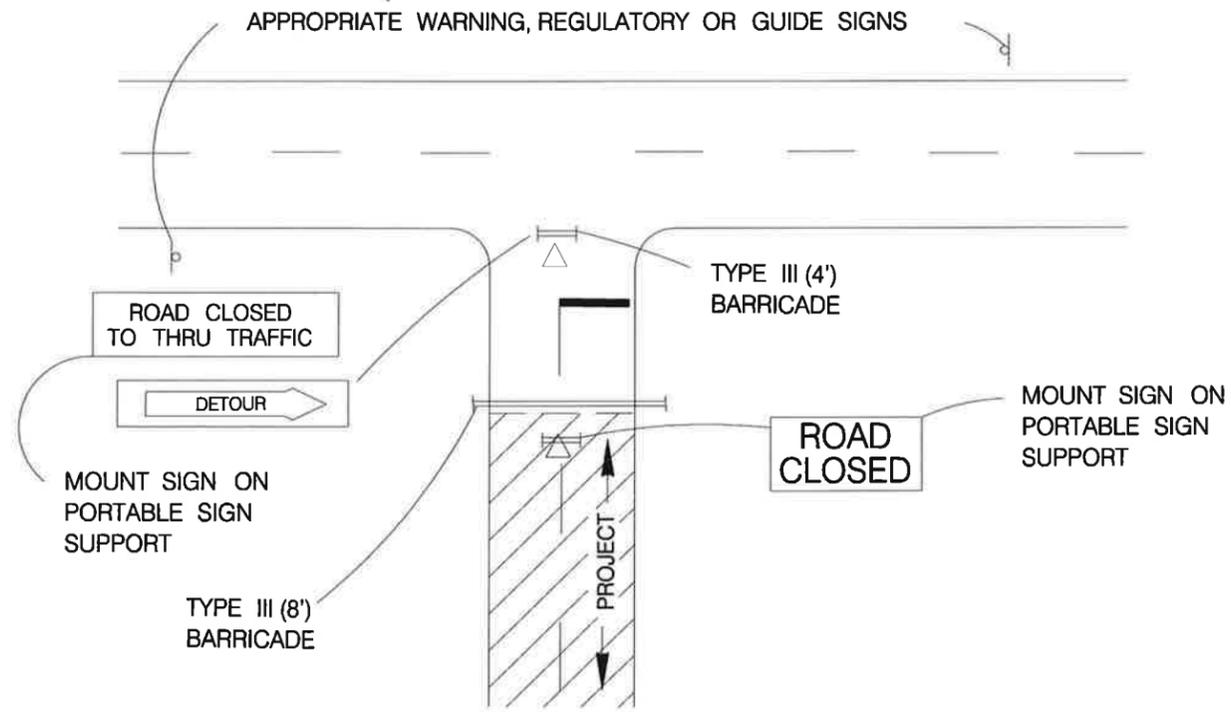
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JUNE 2005

CITY OF SAN ANTONIO
DEPARTMENT OF PUBLIC WORKS

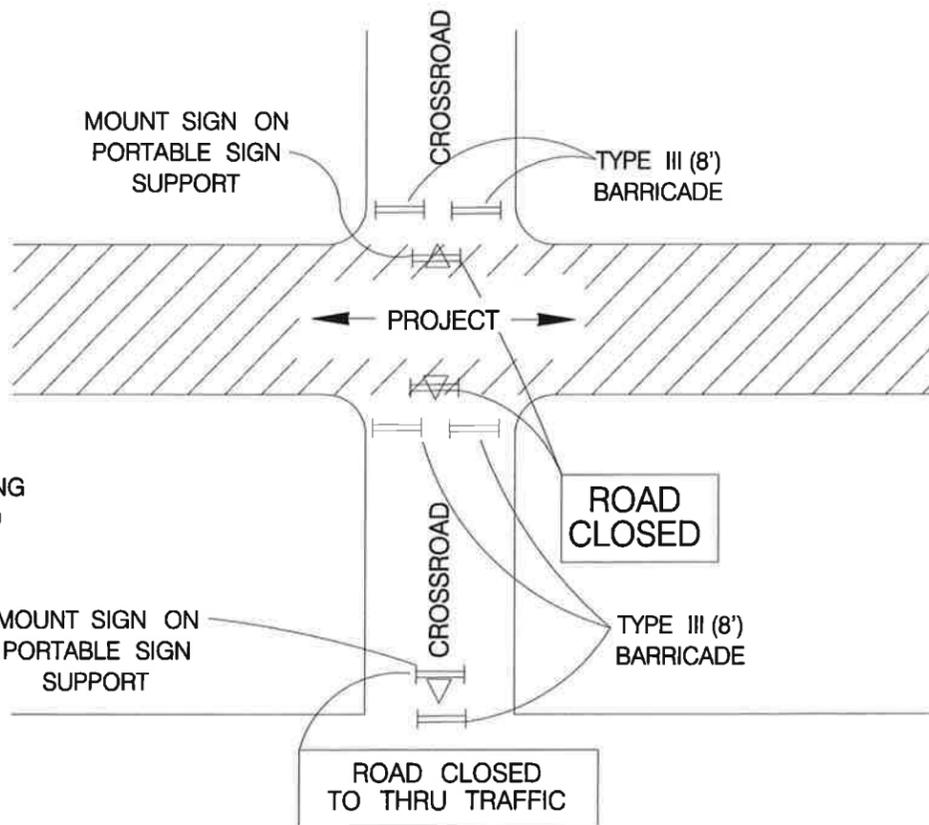
TRAFFIC STANDARDS
**BARRICADE AND CONSTRUCTION
STANDARDS**
SHEET 1 OF 4

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



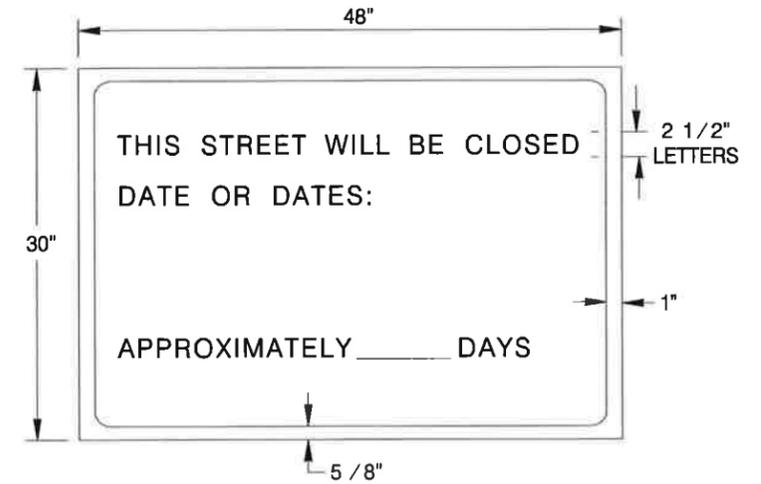
PROJECT LIMITS FOR CLOSED ROADWAY

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

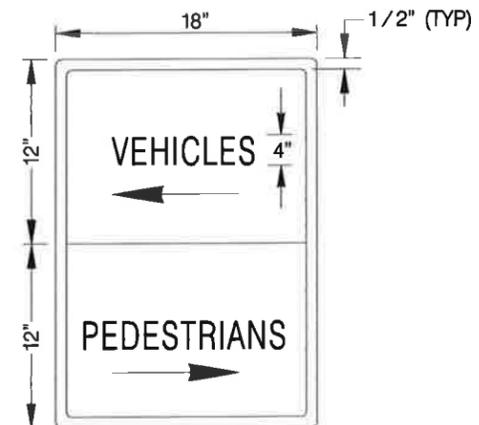


NOTE:
ADVANCE WARNING SIGNS WILL ALSO BE NECESSARY

CROSS STREET SIGNING AND BARRICADING TOTALLY CLOSED

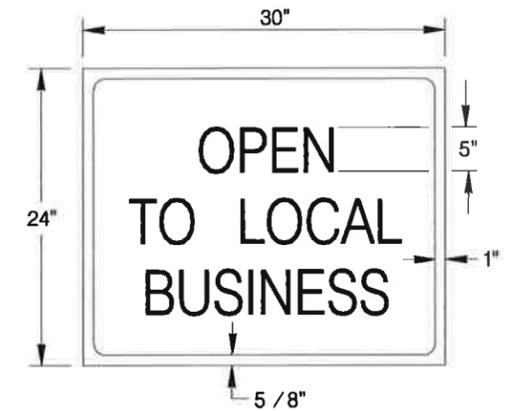


LETTERS- BLACK
BORDER- BLACK
BACKGROUND- ORANGE



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

DIRECTION OF ARROWS ARE REVERSIBLE

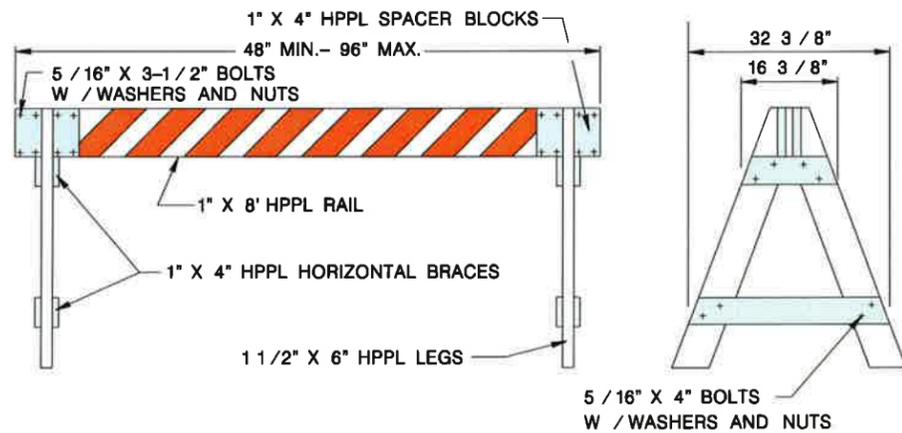


LETTERS- WHITE
BORDER- WHITE
BACKGROUND- BLUE REFLECTIVE

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY JOHN D. FRIEBLE, #48384 ON 09-20-05 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 2 OF 4			
% SUBMITTAL	PROJECT NO.:	DATE:	
DRWN. BY: A.F.G.	DSGN. BY: E.N.M.	CHKD. BY: J.D.F./E.N.M.	SHEET NO.: OF

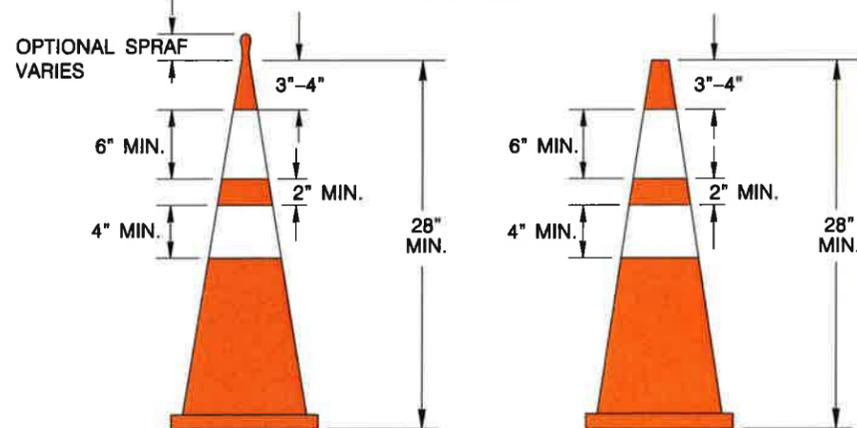
TYPE I BARRICADE



- 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)

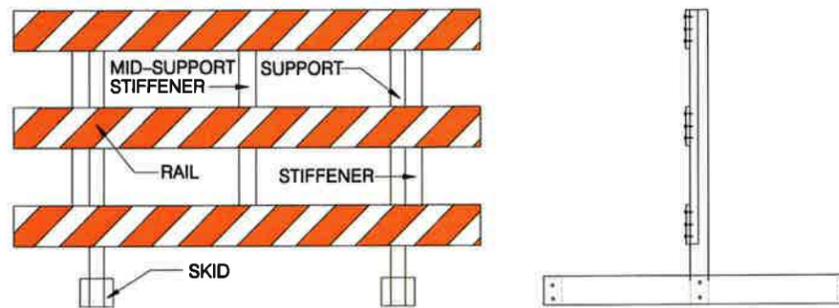
CONES



- 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.)

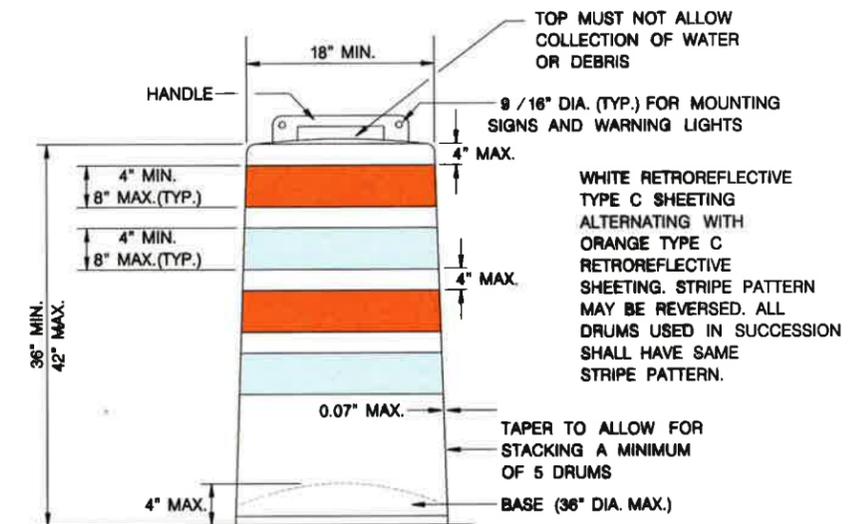
(See TxDOT BC-03 Sheets for specific construction information.)

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

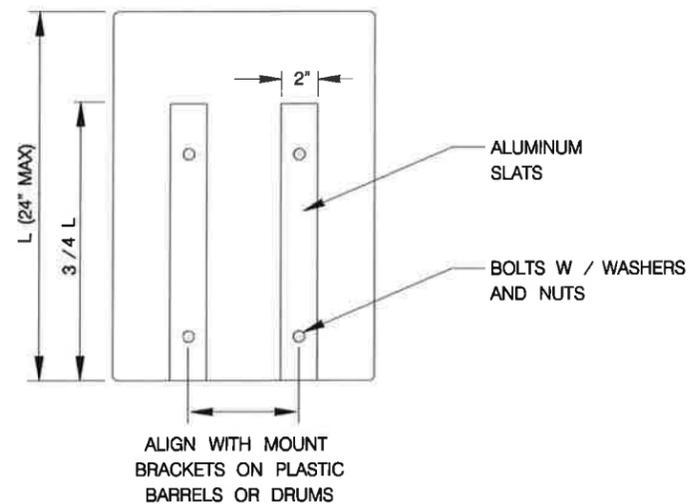
TRAFFIC STANDARDS
BARRICADE AND CONSTRUCTION STANDARDS
SHEET 3 OF 4

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY JOHN D. FRIEBELE #46394 ON 08-20-06 AND IS ON FILE WITH THE TRAFFIC ENGINEERING DIVISION OF THE PUBLIC WORKS DEPARTMENT, CITY OF SAN ANTONIO.

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OF	OF	A.F.G.
DATE:	CHKD. BY: J.D.F./E.N.M.	DSGN BY: E.N.M.
OF		

SIGNS

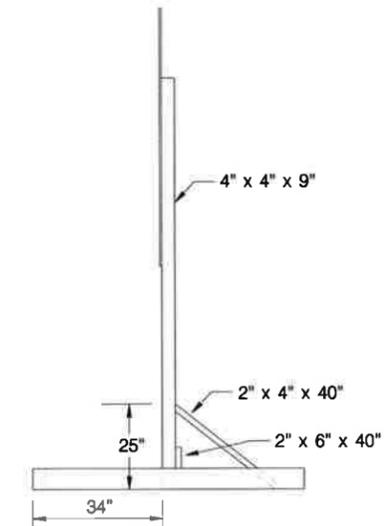
- 1.) A maximum of two signs can be mounted on any one Long / Intermediate Term Stationary Portable Sign Support.
- 2.) 48" X 48" signs shall be mounted separately on the Long / Intermediate Term Stationary Portable Sign Support.
- 3.) For Short Term Stationary Portable Sign Support the distance from 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

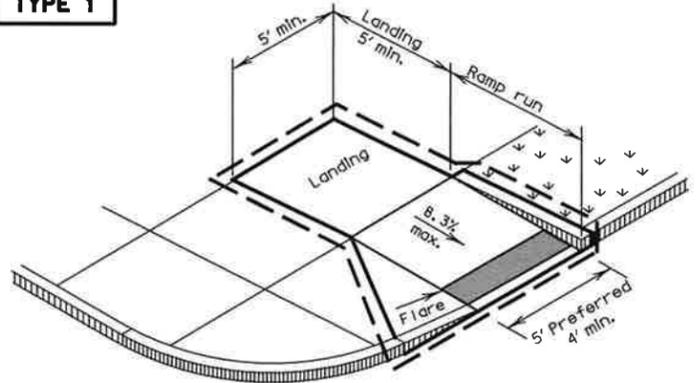
TRAFFIC STANDARDS
BARRICADE AND CONSTRUCTION STANDARDS
SHEET 4 OF 4

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PROJECT NO.:		SHEET NO. OF	

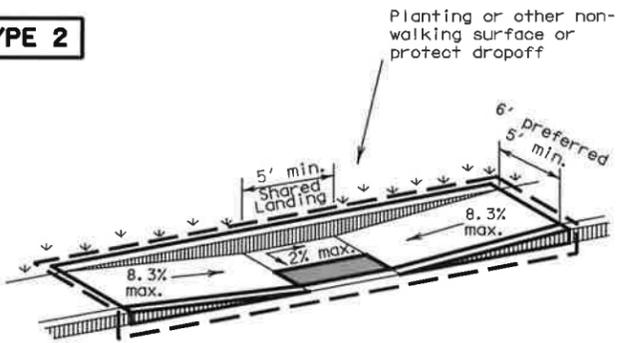
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TYPE 1



PERPENDICULAR CURB RAMP

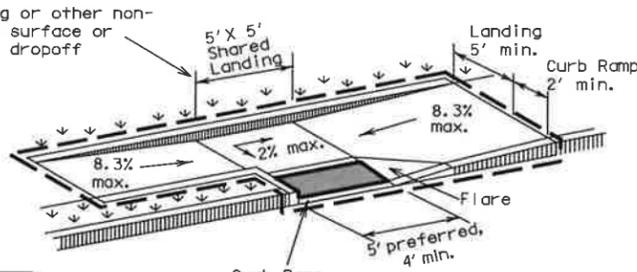
TYPE 2



PARALLEL CURB RAMP

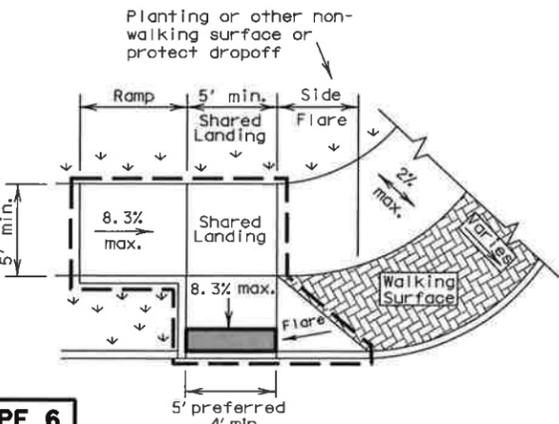
(Use only where water will not pond in the landing.)

TYPE 3



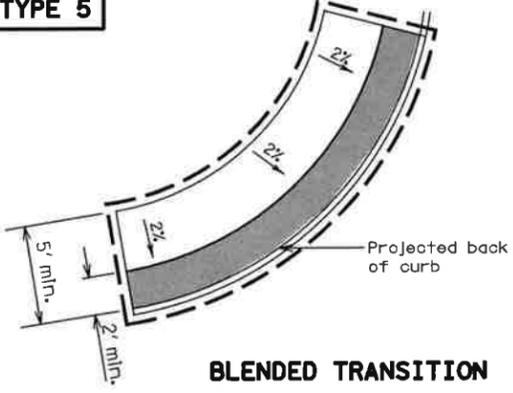
COMBINATION CURB RAMPS

TYPE 6



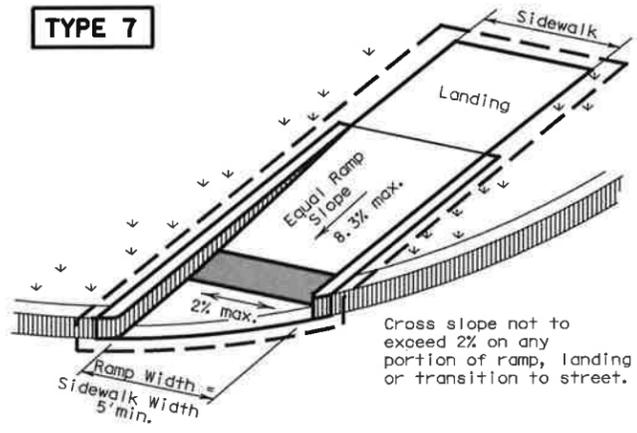
COMBINATION CURB RAMPS

TYPE 5



BLENDED TRANSITION

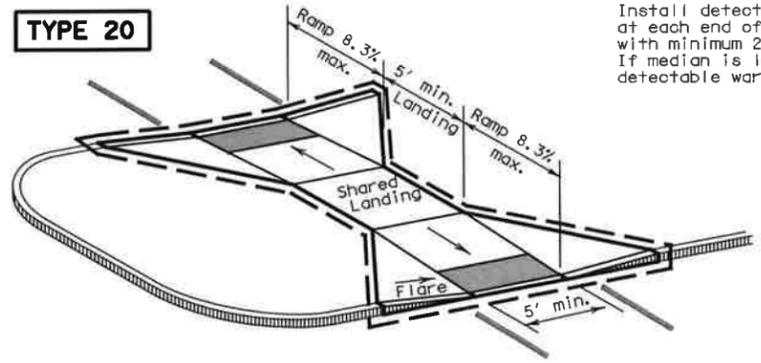
TYPE 7



(Sidewalk set back from curb)

DIRECTIONAL RAMPS WITHIN RADIUS

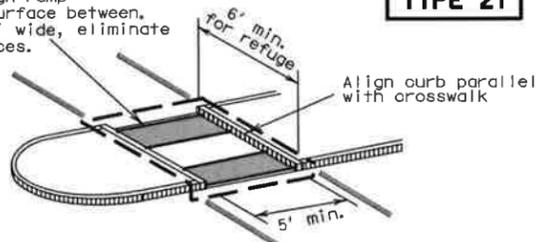
TYPE 20



CURB RAMPS AT MEDIAN ISLANDS

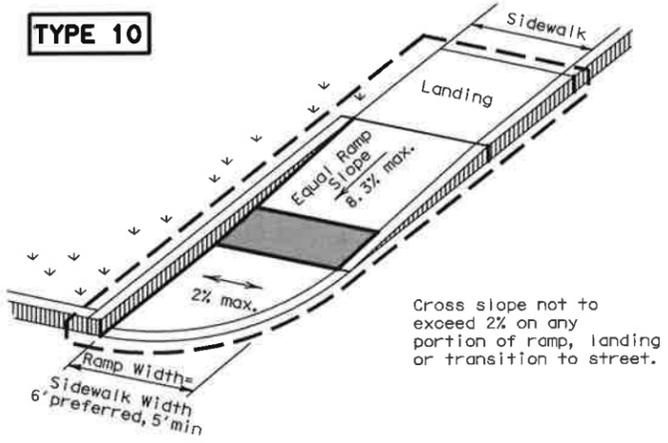
Install detectable warning surface at each end of cut-through ramp with minimum 2' smooth surface between. If median is less than 6' wide, eliminate detectable warning surfaces.

TYPE 21



Align curb parallel with crosswalk
Curb details are shown elsewhere in the plans.

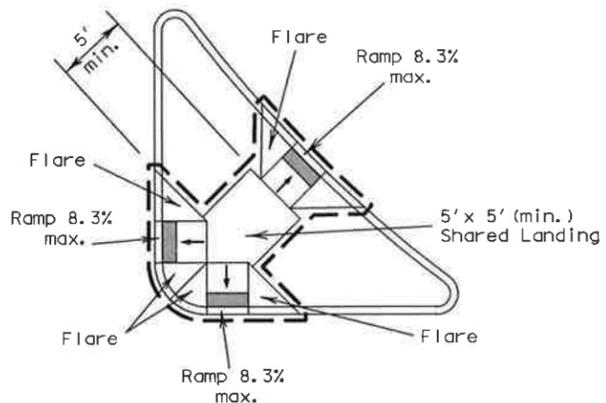
TYPE 10



(Sidewalk adjacent to curb)

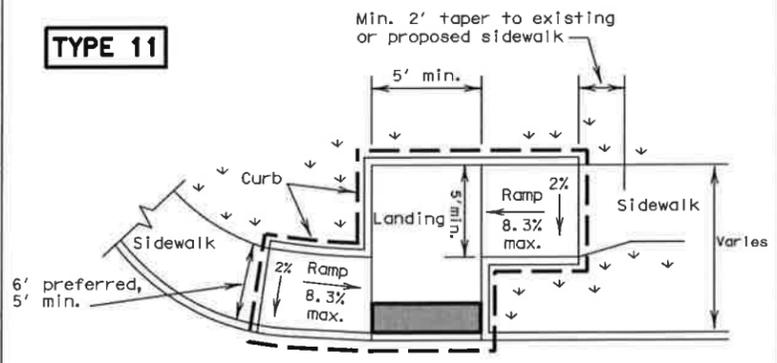
Cross slope not to exceed 2% on any portion of ramp, landing or transition to street.

TYPE 22



COMBINATION ISLAND RAMPS

TYPE 11



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

SHEET 1 OF 2



PEDESTRIAN FACILITIES CURB RAMPS

PED-12A

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

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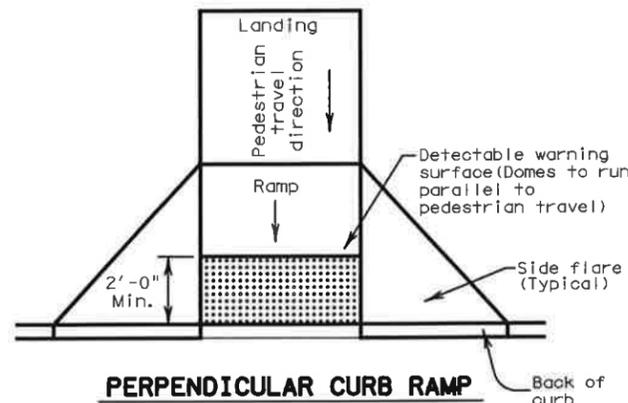
General Notes

Curb Ramps

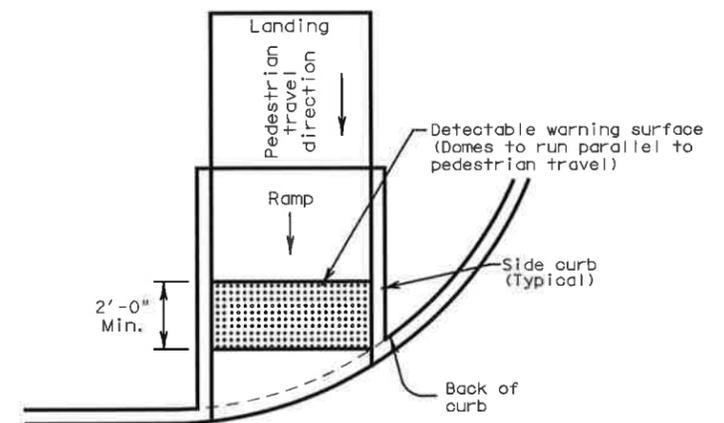
1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Lesser slopes that will still drain properly should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. The minimum sidewalk width is 5'. Where the sidewalk 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 cut 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

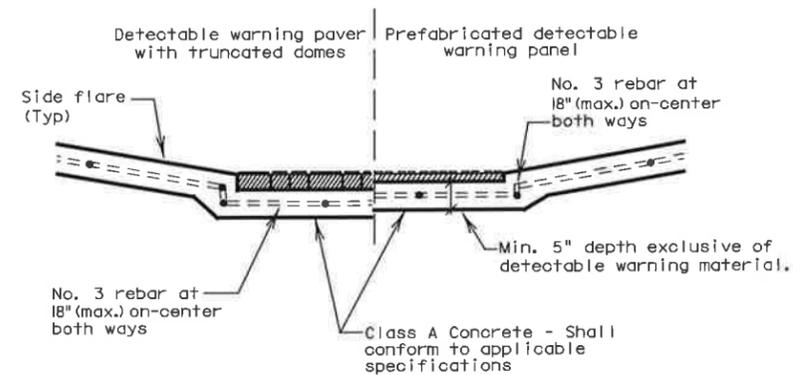
18. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with Section 705 of the TAS. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning 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.

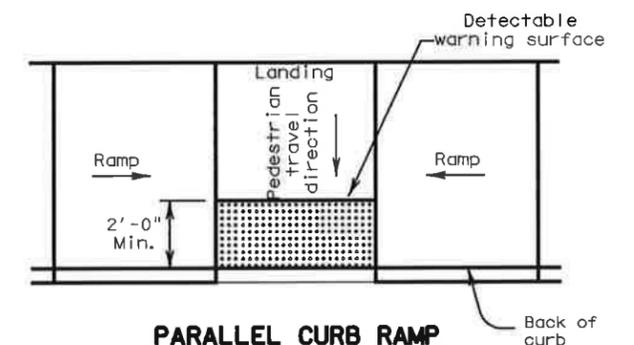


Typical placement of detectable warning surface on sloping ramp run.



SECTION: CURB RAMP AT DETECTABLE WARNING

DETECTABLE WARNINGS



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

Texas Department of Transportation		Design Division Standard		
<h1 style="margin: 0;">PEDESTRIAN FACILITIES</h1> <h2 style="margin: 0;">CURB RAMPS</h2> <h3 style="margin: 0;">PED-12A</h3>				
FILE: ped12a.dgn	DN: TxDOT	CK: RM	DW: TxDOT	CK: VP
© TxDOT March 2002	CONT	SECT	JOB	HIGHWAY
VP June 13, 2012	REVISIONS	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 T MUTCD.
- 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.

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
XXXXXXXX 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

FORM X LINES RIGHT
USE XXXXX RD EXIT
USE EXIT I-XX NORTH
USE I-XX E TO I-XX N
WATCH FOR TRUCKS
EXPECT DELAYS
PREPARE TO STOP
END SHOULDER USE
WATCH FOR WORKERS

Warning List

AT FM XXXX
BEFORE RAILROAD CROSSING
NEXT X MILES
PAST US XXX EXIT
XXXXXXXXX TO XXXXXXXX
US XXX TO FM XXXX
USE CAUTION
DRIVE SAFELY
DRIVE WITH CARE

** Advance Notice 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.

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DATE: FILE:

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
Cannot	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 DWTN
Hazardous Driving	HAZ DRIVING	Traffic	TRAF
Hazardous Material	HAZMAT	Travelers	TRVLRS
High-Occupancy	HOV	Tuesday	TUES
Vehicle Highway	Hwy	Time Minutes	TIME MIN
Hour(s)	HR, HRS	Upper Level	UPR LEVEL
Information	INFO	Vehicles (s)	VEH, VEHS
It Is	ITS	Warning	WARN
Junction	JCT	Wednesday	WED
Left	LFT	Weight Limit	WT LIMIT
Left Lane	LFT LN	West	W
Lane Closed	LN CLOSED	Westbound	(route) W
Lower Level	LWR LEVEL	Wet Pavement	WET PVMT
Maintenance	MAINT	Will Not	WONT

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

SHEET 6 OF 12



BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

BC(6)-13

FILE: bc-13.dgn	DN: TxDOT	CR: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	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 HERE 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 RESPONSIBILITY 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).
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 THE CITY STAFF WITHIN TWO (2) HOURS OF THE INITIAL CONTACT.

18. IF THE CONTRACTOR WISHES TO WORK WEEKENDS, HE SHALL SUBMIT A REQUEST TO THE ENGINEER AND CITY INSPECTOR FOR APPROVAL SEVENTY TWO (72) HOURS PRIOR TO WORKING THE WEEKEND THEY WISH TO WORK.

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"

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 FOR THE CONTRACTOR TO EDIT PER SPECIFIC PROJECT. 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. MATERIAL SUBMITTALS SHALL BE PROVIDED TO THE CITY OF SAN ANTONIO PROJECT MANAGER AND QUALITY ASSURANCE MANAGER PRIOR TO STARTING CONSTRUCTION.
40. ALL COSTS FOR REMOVING THE EXISTING SURFACE AND BASE SECTIONS FOR 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.
41. FOR RECONSTRUCTION PROJECTS, THE CONTRACTOR SHALL PROVIDE DRIVEWAY RAMPS USING TYPE B HMAP FOR EACH DRIVEWAY UNTIL FINAL BASE AND SURFACE COURSE IS INSTALLED. ALL COSTS ASSOCIATED WITH THESE DRIVEWAY RAMPS SHALL BE SUBSIDIARY TO STREET EXCAVATION.
42. 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.
43. 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. 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.
37. 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.
38. 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.

39. 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 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 ENCASMENT 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.
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.