

HISTORIC AND DESIGN REVIEW COMMISSION

October 21, 2015

Agenda Item No: 20

HDRC CASE NO: 2015-291
ADDRESS: 100 E CROCKETT
COMMON NAME: Crockett Street Bridge
ZONING: UZROW
CITY COUNCIL DIST.: 1
DISTRICT: Alamo Plaza Historic District
LANDMARK: Crockett Street Bridge
APPLICANT: Brian Kuehl
OWNER: City of San Antonio
TYPE OF WORK: Crockett Street Bridge Improvements
REQUEST:

The applicant is requesting a Certificate of Appropriateness for approval to rehabilitate the Crockett Street Bridge over the San Antonio River. The bridge is a lenticular pony truss that was built in 1891 and is eligible for listing in the National Register of Historic Places.

Within this rehabilitation, the applicant will:

1. Remove and replace the concrete slab and sidewalks as well as the iron stringers
2. Repair and replace structural connections
3. Clean and paint existing elements
4. Improve the existing drainage system
5. Install new approach pavement
6. Install illumination
7. Landscape under the bridge within ten feet

At this time, the applicant has not requested final approval of the previously proposed mural nor river projection.

APPLICABLE CITATIONS:

UDC Section 35-643., Alteration, Restoration and Rehabilitation

In considering an application for a certificate to alter, restore, rehabilitate, or add to a building, object, site or structure the historic and design review commission shall be guided by the following general standards of the Secretary of the Interior's Standards for Rehabilitation in addition to any specific design guidelines included in this article:

- (a) Every reasonable effort shall be made to adapt the property in a manner which requires minimal alteration of the building, structure, object, or site and its environment.
- (b) The distinguishing original qualities or character of a building, structure, object, or site and its environment, shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.
- (c) All buildings, structures, objects, and sites shall be recognized as products of their own time. Alterations that have no historical basis and which seek to create an earlier appearance shall be discouraged.
- (d) Changes which may have taken place in the course of time are evidence of the history and development of a building, structure, object, or site and its environment. These changes may have acquired significance in their own right, and this significance shall be recognized and respected.
- (e) Distinctive stylistic features or examples of skilled craftsmanship which characterize a building, structure, object, or site shall be kept where possible.
- (f) Deteriorated architectural features shall be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should reflect the material being replaced in composition, design, color, texture, and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplications of

features, substantiated by historical, physical, or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other buildings or structures.

(g) The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting, high pressure washes and other cleaning methods that will damage the historic building's materials shall not be undertaken.

(h) Every reasonable effort shall be made to protect and preserve archaeological resources affected by, or adjacent to, any project.

(i) Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historical, architectural or cultural material, and such design is compatible with the size, scale, color, material, and character of the property, neighborhood or environment.

(j) Wherever possible, new additions or alterations to buildings, structures, objects, or sites shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the building, structure, object, or site would be unimpaired.

UDC Section 35-673. Site Design Standards

(c) Topography and Drainage. The natural contours of occasional hillsides and riverbanks contribute to the distinct character of the San Antonio River and shall be considered in site designs for new development. Site plans shall minimize the need for cut and fill. It should be considered as an opportunity for positive enhancements through the creative use of terraces and retaining walls.

(1) Visual Impacts of Cut and Fill. Divide a grade change of more than ten (10) vertical feet into a series of benches and terraces. Terrace steep slopes following site contours. When creating site benches, using sloped "transitional areas" as part of the required landscaping is appropriate.

(2) Minimize the Potential for Erosion at the Riverbank. Grade slopes at a stable angle not to exceed four to one (4:1) and provide plant material that will stabilize the soil such as vigorous ground covers, vines or turf planting that are native and noninvasive species as found on the permissible plant list maintained by the parks and recreation department. Use of stabilizing materials such as geo-web or geo-grid is permitted as long as plant material is used to conceal the grid.

Use of terraced walls is permitted when there is a slope of more than four to one (4:1).

(e) Landscape Design. Lush and varied landscapes are part of the tradition of the San Antonio River. These design standards apply to landscaping within an individual site. Additional standards follow that provide more specific standards for the public pathway along the river and street edges.

(1) Provide Variety in Landscape Design. Provide variety in the landscape experience along the river by varying landscape designs between properties. No more than seventy-five (75) percent of the landscape materials, including plants, shall be the same as those on adjacent properties. (see Figure 673-4)

(2) Planting Requirements in Open Space Abutting the River. On publicly-owned land leased by the adjoining property owner, if applicable, and/or within privately owned setbacks adjacent to the river, a minimum percentage of the open space, excluding building footprint, lease space under bridges and parking requirements, are required to be planted according to Table 673-2.

A. Planting requirements in RIO-4, RIO-5, and RIO-6 should continue the restoration landscape efforts along the river banks. Planting in these RIO districts is to be less formal so as to maintain the rural setting of the river.

B. In "RIO-3," if existing conditions don't meet the standards as set out in Table 673-2, the owner or lessee will not have to remove paving to add landscaping in order to meet the standards until there is a substantial remodeling of the outdoor area. Substantial remodeling will include replacement of seventy-five (75) percent of the paving materials, or replacement of balcony and stair structures.

(f) Plant Materials. A number of soil conditions converge in the San Antonio area to create unique vegetation ecosystems. Along the route of the San Antonio River, the soil conditions vary greatly from the northern boundary near Hildebrand to the city limits near Mission San Francisco de la Espada (Mission Espada) and therefore native and indigenous plants will vary accordingly. Landscaping should reflect the unique soil characteristics of the specific site.

(1) Incorporate Existing Vegetation. Extend the use of landscape materials, including plants, shrubs and trees that are used in the public areas of the river onto adjacent private areas to form a cohesive design.

(2) Use indigenous and noninvasive species characteristic of the specific site as found on the permissible plant list maintained by the parks and recreation department or the Unified Development Code Plant List found in Appendix E.

In "RIO-3," plantings of tropical and semi-tropical plants with perennial background is permitted.

(g) Paving Materials. An important San Antonio landscape tradition is the use of decorative surfaces for paving and other landscape structures. Paving materials and patterns should be carefully chosen to preserve and enhance the pedestrian experience.

(1) Vary Walkway, Patio and Courtyard Paving to Add Visual Interest on the Riverside of Properties Abutting the River. Pervious paving is encouraged where feasible and appropriate to the site.

A. A maximum of six hundred (600) square feet is allowed for a single paving material before the paving material must be divided or separated with a paving material that is different in texture, pattern, color or material. A separation using a different material must be a minimum of twenty-four (24) inches wide, the full width of the pathway.

B. A maximum of one hundred (100) lineal feet is allowed in a walkway before the pattern must change in districts "RIO-2," "RIO-3," and "RIO-4." A maximum of five hundred twenty-eight (528) lineal feet is allowed before the pattern must change in districts "RIO-1," "RIO-5" and "RIO-6." The change of material at five hundred twenty-eight (528) lineal feet will define and delineate one-tenth-mile markers.

C. In "RIO-3," the Riverwalk pathway shall be delineated by using a separate material that is clearly distinguished from the adjacent patio paving materials. If the historic Hugman drawings indicate a sidewalk width and pattern on the site, that paving pattern and material shall be replicated.

(j) Lighting. Site lighting should be considered an integral element of the landscape design of a property. It should help define activity areas and provide interest at night. At the same time, lighting should facilitate safe and convenient circulation for pedestrians, bicyclists and motorists. Overspill of light and light pollution should be avoided.

(1) Site Lighting. Site lighting shall be shielded by permanent attachments to light fixtures so that the light sources are not visible from a public way and any offsite glare is prevented.

A. Site lighting shall include illumination of parking areas, buildings, pedestrian routes, dining areas, design features and public ways.

B. Outdoor spaces adjoining and visible from the river right-of-way shall have average ambient light levels of between one (1) and three (3) foot-candles with a minimum of 0.5-foot candles and a maximum of six (6) foot-candles at any point measured on the ground plane. Interior spaces visible from the river right-of-way on the river level and ground floor level shall use light sources with no more than the equivalent lumens of a one hundred-watt incandescent bulb. Exterior balconies, porches and canopies adjoining and visible from the river right-of-way shall use light sources with the equivalent lumens of a sixty-watt incandescent bulb with average ambient light levels no greater than the lumen output of a one hundred-watt incandescent light bulb as long as average foot candle standards are not exceeded. Accent lighting of landscape or building features including specimen plants, gates, entries, water features, art work, stairs, and ramps may exceed these standards by a multiple of 2.5. Recreational fields and activity areas that require higher light levels shall be screened from the river hike and bike pathways with a landscape buffer.

C. Exterior light fixtures that use the equivalent of more than one hundred-watt incandescent bulbs shall not emit a significant amount of the fixture's total output above a vertical cut-off angle of ninety (90) degrees. Any structural part of the fixture providing this cut-off angle must be permanently affixed.

D. Lighting spillover to the publicly owned areas of the river or across property lines shall not exceed one-half ($\frac{1}{2}$) of one (1) foot-candle measured at any point ten (10) feet beyond the property line.

(2) Provide Lighting for Pedestrian Ways That is Low Scaled for Walking. The position of a lamp in a pedestrian-way light shall not exceed fifteen (15) feet in height above the ground.

(3) Light Temperature and Color.

A. Light temperature and color shall be between 2500° K and 3500° K with a color rendition index (CRI) of eighty (80) or higher, respectively. This restriction is limited to all outdoor spaces adjoining and visible from the river right-of-way and from the interior spaces adjoining the river right-of-way on the river level and ground floor level. Levels shall be determined by product specifications.

(4) Minimize the Visual Impacts of Exterior Building Lighting.

A. All security lighting shall be shielded so that the light sources are not visible from a public way.

B. Lighting (uplighting and downlighting) that is positioned to highlight a building or outdoor artwork shall be aimed at the object to be illuminated, not pointed into the sky.

C. Fixtures shall not distract from, or obscure important architectural features of the building. Lighting fixtures shall be a subordinate feature on the building unless they are incorporated into the over-all design scheme of the building.

(5) Prohibited Lighting on the Riverside of Properties Abutting the River.

- A. Flashing lights.
- B. Rotating lights.
- C. Chaser lights.
- D. Exposed neon.
- E. Seasonal decorating lights such as festoon, string or rope lights, except between November 20 and January 10.
- F. Flood lamps.

(6) Minimize the visual impacts of lighting in parking areas in order to enhance the perception of the nighttime sky and to prevent glare onto adjacent properties. Parking lot light poles are limited to thirty (30) feet in height, shall have a 90° cutoff angle so as to not emit light above the horizontal plane.

FINDINGS:

- a. The applicant received conceptual approval at the August 5, 2015, HDRC hearing for the rehabilitation of the Crockett Street Bridge. Within this, the applicant received conceptual approval to remove and replace the concrete slab and sidewalks as well as the iron stringers; repair and replace structural connections; clean and paint existing elements, improve the existing drainage system, install new approach pavement and landscape underneath the bridge within ten feet. At that time, the applicant did not receive conceptual approval to install a mural nor project lighting onto the river.
- b. The applicant has proposed to repair the existing iron floor beams, repair the existing iron truss members, repair various abutments, bearings and vertical end posts, install new stringers, remove all rust, repaint all new iron and steel to match the existing and cast a new concrete deck and sidewalk. This is consistent with the UDC Section 35-643 as well as the Secretary of the Interior's Standards regarding alteration, restoration and rehabilitation.
- c. In addition to the structural repair requests noted in finding b and exhibit 3.1 on page 3, the applicant has proposed to install a trench drain across Crockett street approximately five feet behind the eastern abutment, mill existing asphalt pavement from Losoya to N Presa, replace curbs from the western abutment to N Presa and install 2 inches of new asphalt pavement from Losoya to N Presa. The applicant has proposed general roadway and drainage repairs that are to match the existing. Staff finds these improvements appropriate.
- d. Per the UDC Section 35-673(f) regarding plant materials, projects along the Riverwalk should incorporate existing vegetation and use indigenous and noninvasive species. The applicant has proposed to replant the existing planters beneath the bridge while preserving a row of existing vegetation. The applicant has provided information regarding plants materials consistent with the UDC.
- e. The applicant has proposed to remove the existing flood lights underneath the bridge that currently shine onto the fountains and install new lights in the fountains, replace the existing holiday lights on the bridge edges with similar lights, replace the existing lights in the top chords of trusses with similar lights and remove the existing can shaped lights under the bridge and replace them with architectural fixtures. This is consistent with the UDC.

RECOMMENDATION:

Staff recommends final approval of items #1 through #7 based on findings a through e with the following stipulations:

- i. That the applicant provide staff with information regarding the size, materials and mounting mechanisms for the proposed lighting.
- ii. That the applicant provide specific details to staff regarding installation methods to ensure any potential damage to historic fabric is avoided or mitigated.

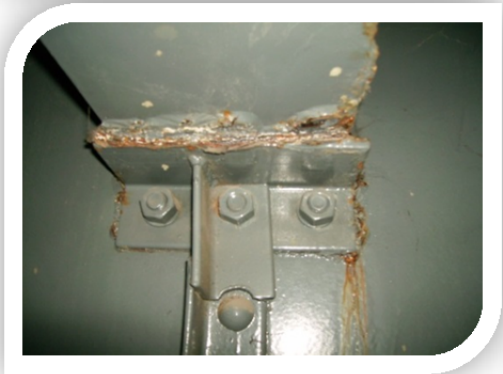
The applicant must satisfy both of these stipulations prior to the issuance of a Certificate of Appropriateness.

CASE MANAGER:

Edward Hall

CITY OF SAN ANTONIO

Crockett Street Bridge Rehabilitation Description & Exhibits for HDRC



JACOBS™

Sept.
2015

1.0 INTRODUCTION

The City of San Antonio (COSA) Transportation and Capital Improvements (TCI) has hired Jacobs Engineering Inc. to provide civil engineering design services for the rehabilitation of the existing Crockett Street Bridge located in downtown San Antonio, Texas. The design services for the rehabilitation include a Preliminary Engineering Report (PER) and the development of the detailed plans, specifications, and estimate (PS&E). The PER was completed in August 2014 and describes the deficiencies verified through visual inspection and analysis. The PS&E is schedule to be completed in November 2015 with construction beginning in 2016.

This document provides a description and exhibits of the proposed concepts to rehabilitate the bridge. The rehabilitation includes the repair or replacement of deficient structural elements, approach pavement, illumination, and landscaping under the bridge and within 10-ft of the bridge edges. The objective of the rehabilitation is to re-establish the original load carrying capacity of the bridge.

The attached Exhibits include:

- Exhibit A – Photos
- Exhibit B – Site Plan
- Exhibit C – Details
- Exhibit D – Specification of Materials
- Exhibit E – 70% Plans

2.0 DESCRIPTION

The Crockett Street Bridge is a single span; riveted wrought iron, steel, and concrete; Lenticular Pony Truss supported on abutment walls over the San Antonio River and River Walk. The bridge was constructed in 1891 and is eligible for listing in the National Register of Historic Places (NRHP). The bridge had a few minor repairs over the years with the latest rehabilitation repairs documented in “As-Built” plans dated 1986. The National Bridge Inventory (NBI) number is 15-015-0-B083-10-001.

The overall length is 86'-0" and measures 84'-0" feet center to center. The single span consists of six structural panels, each having a length of 14 feet. Each panel is made up of an estimated 8 inch concrete deck and preformed metal pan forms that are supported by ten longitudinal stringers connected to transverse floor beams. There are five transverse floor beams, which transfer loads to the trusses. The end panels are supported by the outer floor beams and the abutment walls. Also, there are lateral brace members at each panel except in panel 1. The trusses on each edge of the bridge, consists of two end posts and five interior vertical towers. The vertical towers are made up of angles, plates, and lattice. The truss has top and bottom chords and

diagonal members. The top chords consist of riveted built-up plates and angle sections; the bottom chords are flat eye bars; and the diagonal members are rods. The primary connections for the trusses occur at each end of the floor beams and at top of the vertical towers. The connections are secured by 4 inch diameter pins. See Figure 1 for Truss 2 top chords, end posts and vertical towers and Figure 2 for bottom chords, floor beams, and stringers. The bridge has a 6'-7" sidewalk on each side and a 20'-0" roadway width. The sidewalks include pedestrian rails consisting of top and bottom horizontal members connected by thin strips of steel lattice supported by vertical and diagonal bar posts connected to the truss floor beams.

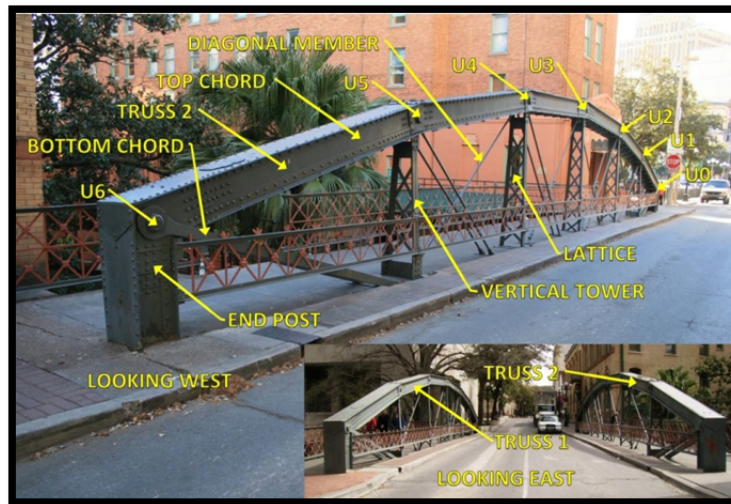


Figure 1: Truss 2 Top Chords, End Posts and Vertical Towers

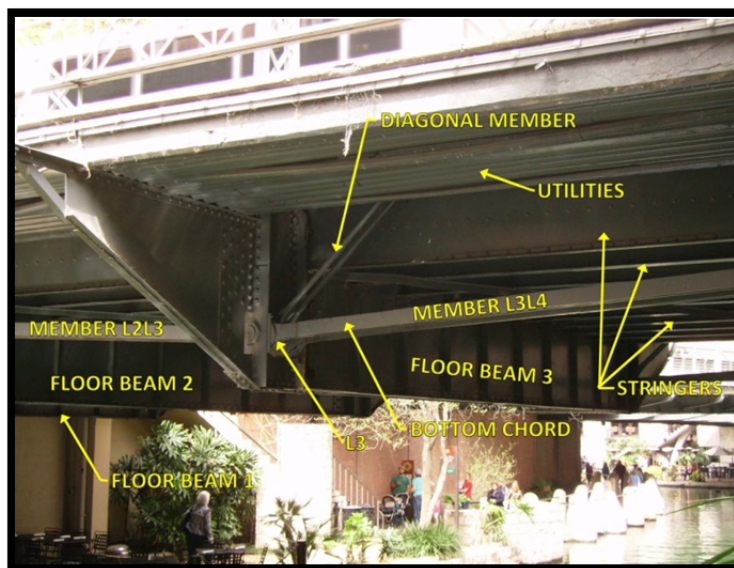


Figure 2: Truss Bottom Chords, Floor Beams and Stringers

3.0 NARRATIVE OF PROPOSED WORK

3.1 Structure

- 1) Temporarily close upper road and sidewalk surfaces.
- 2) Suspend overhead protection from truss to protect River walk.
- 3) Remove existing drain inlets, concrete slab, metal pan forms, and sidewalks.
- 4) All existing utilities on bridge remain supported by the floor beams.
- 5) Remove all existing iron stringers.
- 6) Remove existing paint, surface corrosion, and pack rust.
- 7) Repair iron floor beams.
 - a) Replace bottom angles with significant section loss.
 - b) Replace splice plates with significant section loss.
 - c) Replace stiffeners with significant section loss.
 - d) Replace cover plates connecting to vertical towers.
 - e) Repair connections between longitudinal stringers and floor beams.
- 8) Repair iron truss members
 - a) Repair damaged end post plates.
 - b) Repair/replace cracked or missing rivets.
 - c) Repair/replace cracked nuts at pins.
 - d) Repair/replace bolts at connections with severe corrosion and cracks.
 - e) Remove/clean pack rust on pins.
 - f) Prevent future spreading of crack on plate on truss one at node U1.
- 9) Assess and supplement abutments.
 - a) Expose abutment to visually assess the existing structural condition of the abutment walls.
 - b) Cast new concrete backwall at east abutment and repair cracks in backwall of west abutment to protect truss from soil and water.
- 10) Install all new steel stringers to replace the ones removed.
- 11) Place new steel pan forms to replace the ones removed.
- 12) Repair damaged pedestrian rail components and supplement lattice and horizontal members with additional members to meet current code requirements.
- 13) Primer and paint all iron and steel components to match existing colors.
- 14) Place new expansion joints at each abutment
- 15) Cast new concrete deck and sidewalks

3.2 Roadway and Drainage

- 1) Place trench drain across Crockett street approximately 5-ft behind Eastern abutment. Drain will tap into existing storm drain under bridge that outflows into existing fountain at river level.
- 2) Mill existing asphalt pavement from Losoya Street to N. Presa Street
- 3) Replace curbs from Western abutment to N. Presa Street.
- 4) Place 2" of new asphalt pavement from Losoya Street to N. Presa Street

3.3 Landscape and Illumination

- 1) Replace plants with similar plants as existing.
- 2) Remove existing flood lights under bridge that shine onto fountains.
- 3) Place new lights in fountains and landscaping under bridge.
- 4) Replace existing holiday lights on bridge edges with similar lights
- 5) Replace existing lights in top chords of trusses with similar lights
- 6) Remove existing can shaped lights under bridge and replace them with architectural fixtures.

Exhibit A – Photos



Figure 1: Northern Elevation of Crockett Bridge (Looking South)



Figure 2: Southern Elevation of Crockett Bridge (Looking North)



Figure 3: Southern Truss (Looking West toward N. Presa St.)



Figure 4: Northern Truss (Looking West toward N. Presa St.)



Figure 5: Crockett Bridge Section (Looking East toward Losoya St.)



Figure 6: Crockett Bridge at Night with Holiday Lights (Looking South-East from N. Presa St.)



Figure 7: Underside of Crockett Bridge (Looking East at East Abutment Wall)



Figure 8: Underside of Crockett Bridge (Floor Beam and Stringers with corroded connections)

Exhibit B – Site Plan

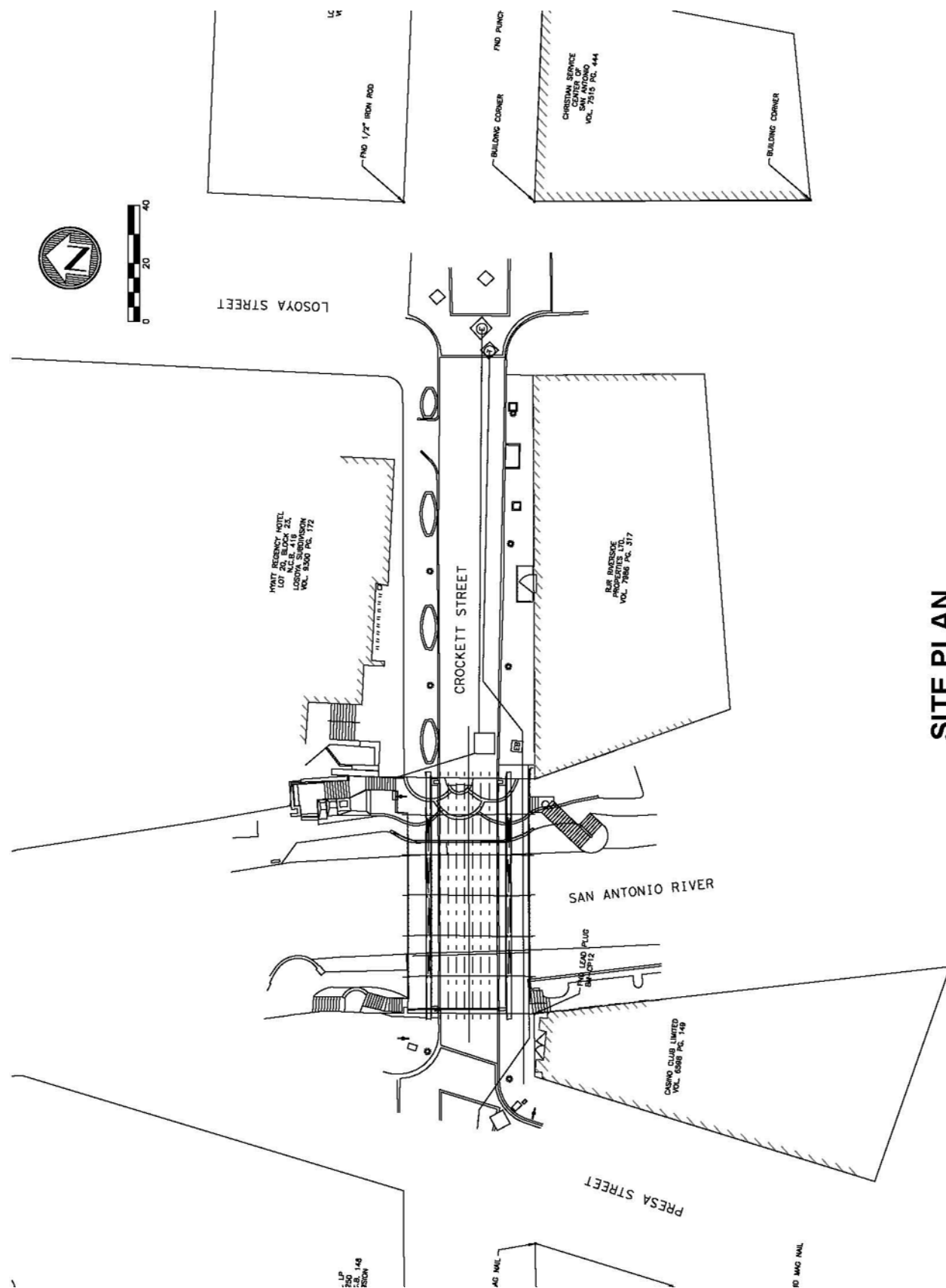
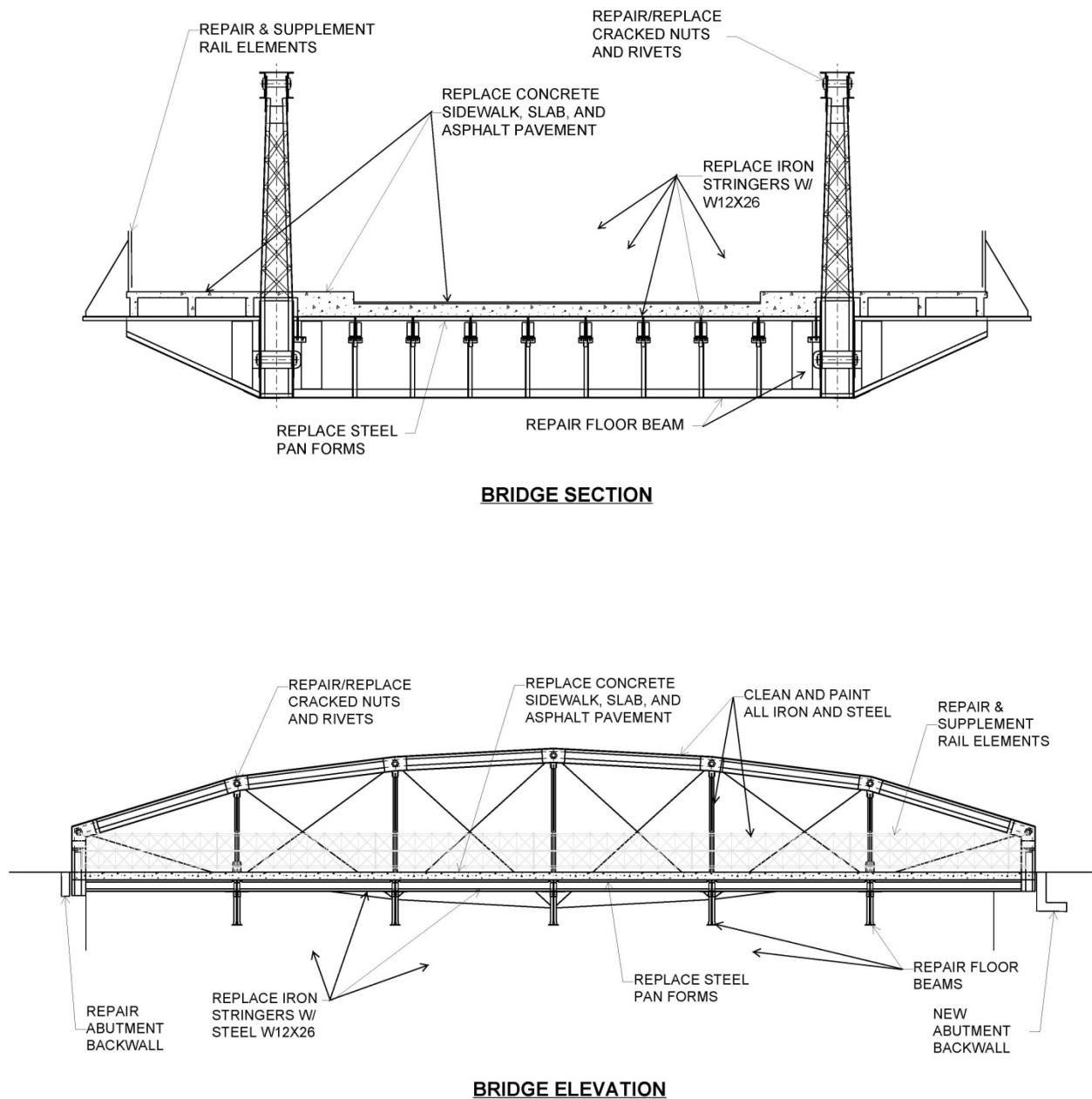
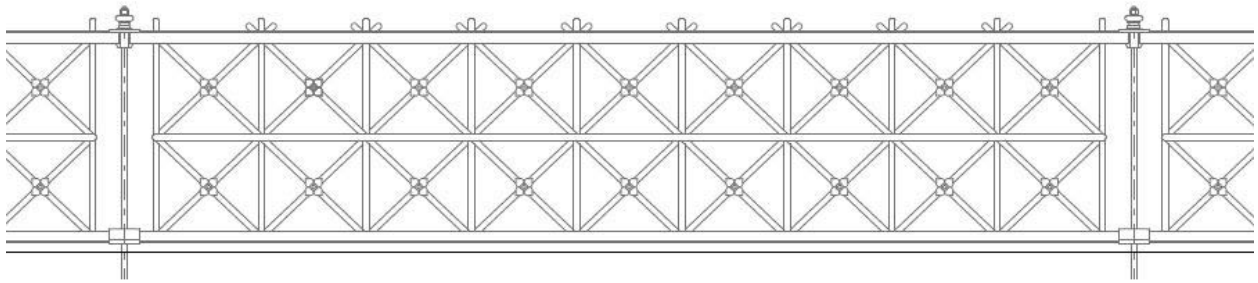


Exhibit C – Details

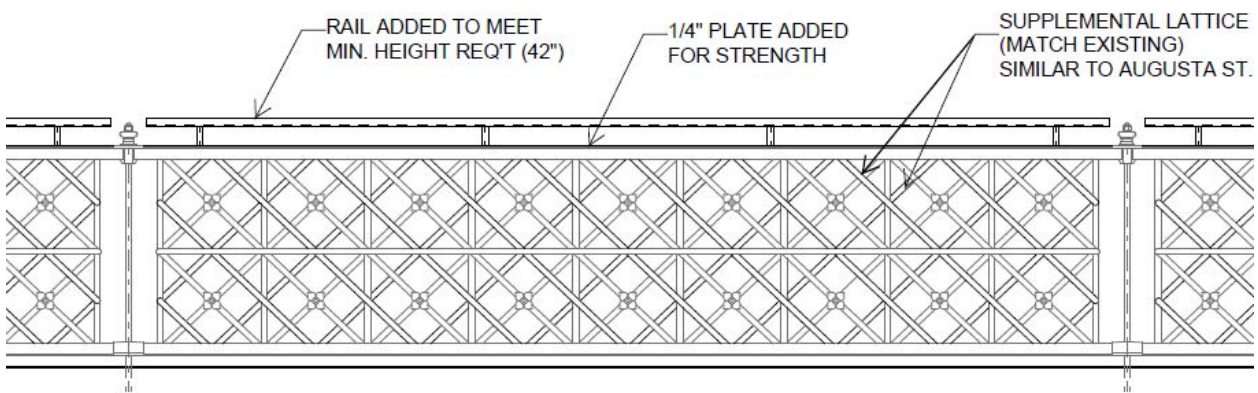
C.1 Structure



C.1 Structure, Cont'd.

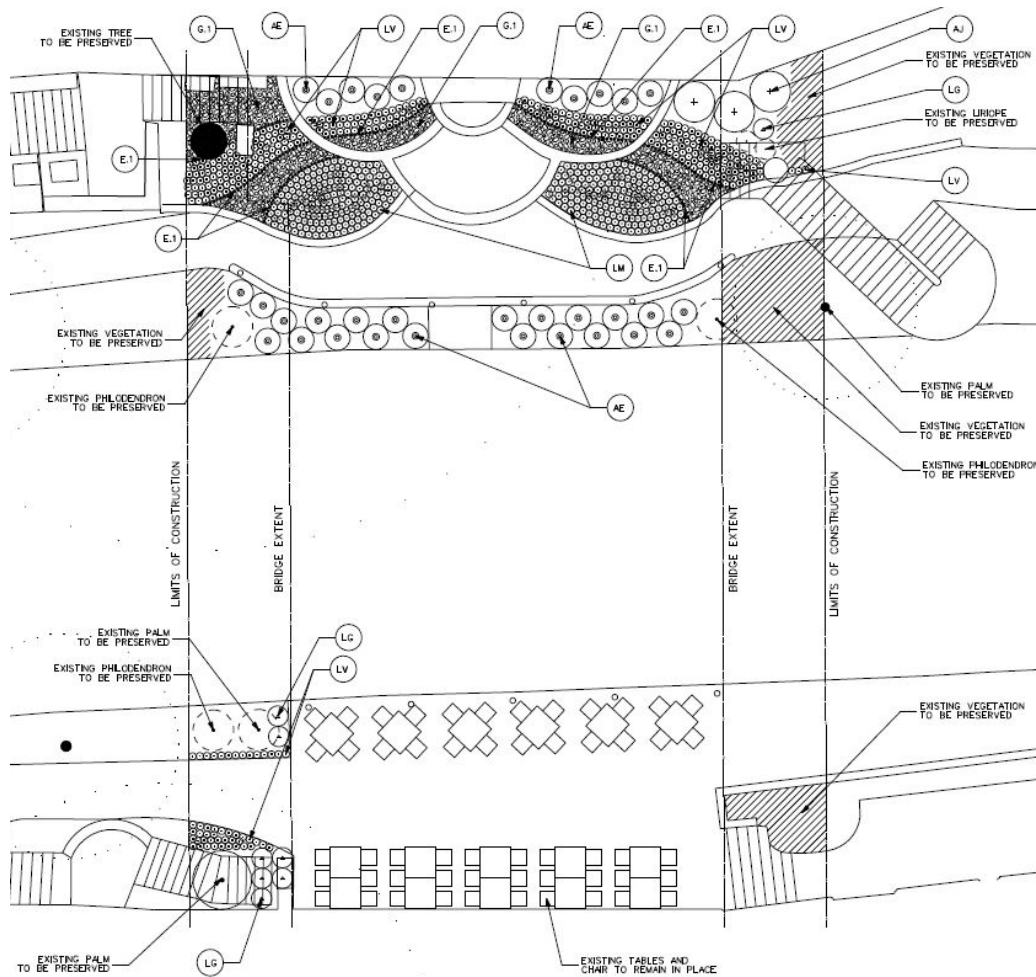


ELEVATION OF EXISTING RAIL



ELEVATION OF PROPOSED RAIL

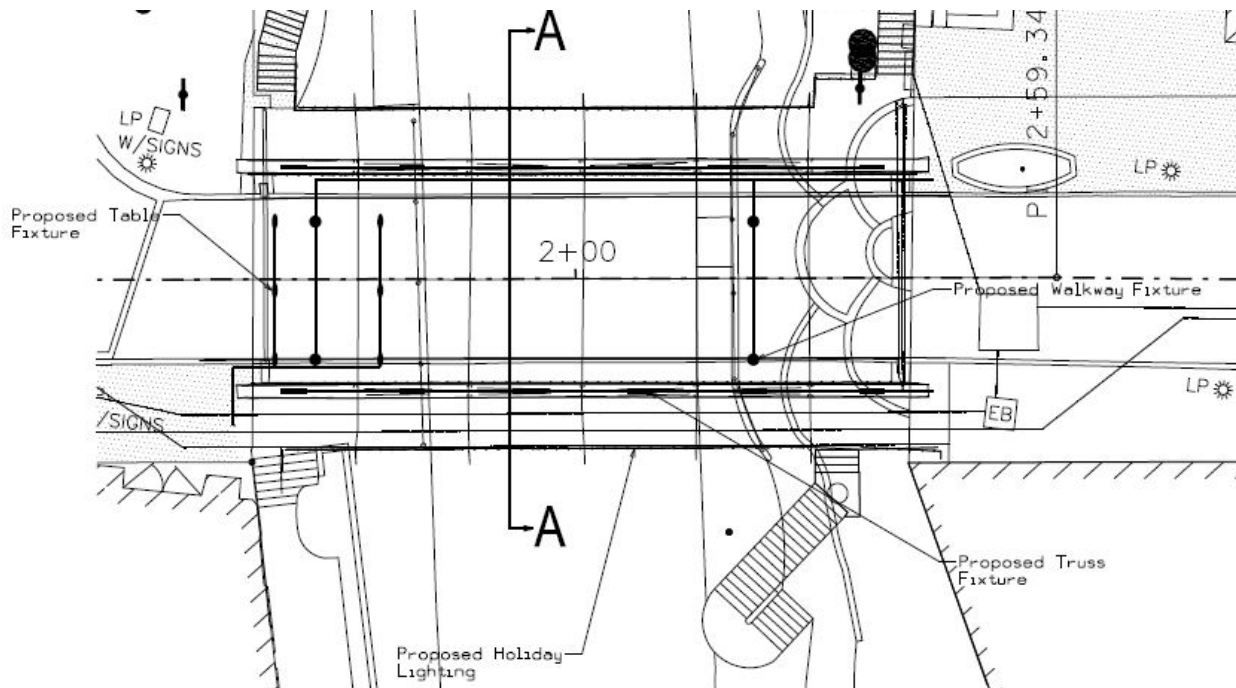
C.2 Landscape



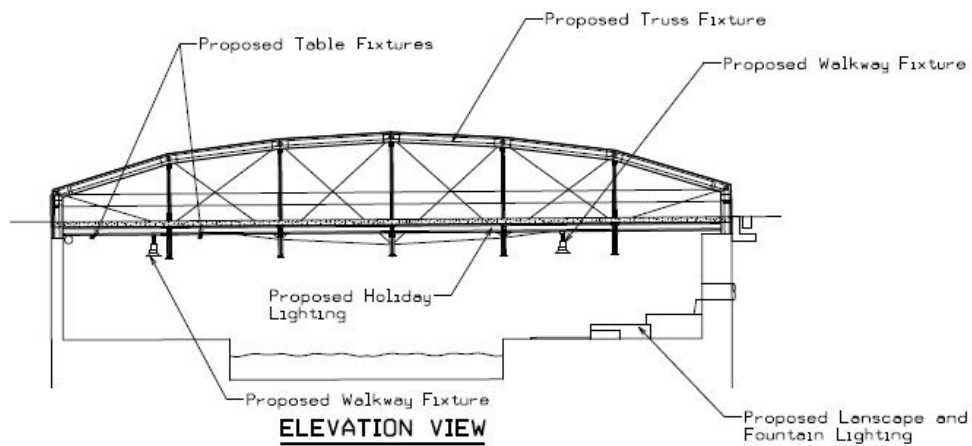
LANDSCAPE PLAN

PLANT MATERIALS SCHEDULE						
PERENNIALS						
TAG	QTY	COMMON NAME/ Scientific	SIZE	HEIGHT	SPREAD	SPACING
(AJ)	3	GOLD DUST PLANT <i>Aucuba japonica 'Variegata'</i>	5 GAL.	6-10'	5-8'	48"
(AE)	32	CAST IRON PLANT/ <i>Aspidistra elatior</i>	3 GAL.	2-3'	2-3'	24"
(LG)	8	GIANT LIRIOPE/ <i>Liriope gigantea</i>	3 GAL.	18-24"	18-24"	24"
(LM)	366	LIRIOPE/ <i>Liriope muscari</i>	4" POT	6-12"	6-12"	8"
(LV)	361	VARIEGATED LIRIOPE/ <i>Liriope muscari 'Variegata'</i>	4" POT	6-12"	6-12"	8"
HARDSCAPE						
TAG	QTY	DESCRIPTION	COLOR	FINISH	NOTES	
(E.1)	75 LF	PLANTER BED EDGE: STEEL EDGING 1/4" BY 6" AS MANUFACTURED BY COL-MET, OR APPROVED EQUAL	BROWN	STANDARD		
(G.1)	135 SF	RIVER ROCK: 2-3" MEXICAN BEACH PEBBLES FROM KELLER MATERIAL LTD., OR APPROVED EQUAL	N/A	N/A	3" DEPTH (UNLESS RESTRICTED BY EXISTING ROOTS)	

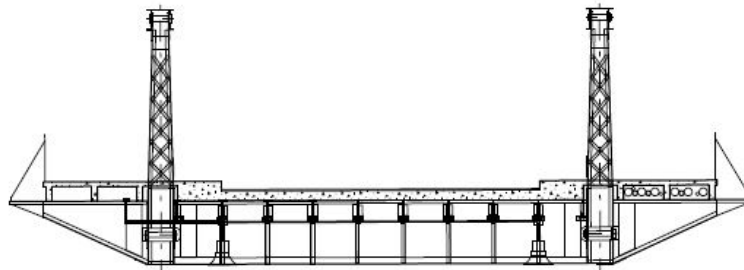
C.3 Illumination



ILLUMINATION PLAN (BRIDGE)

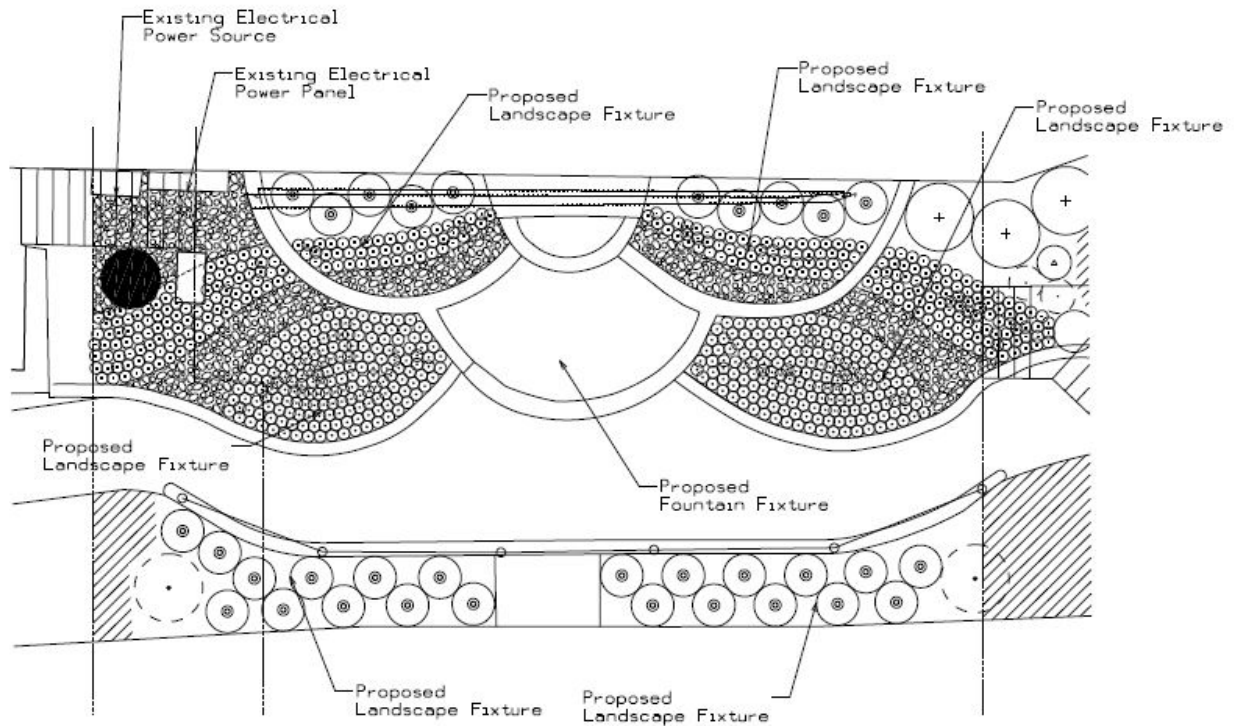


ELEVATION VIEW



SECTION A-A

C.3 Illumination, Cont'd.



ILLUMINATION PLAN (LANDSCAPE)

Exhibit D – Specification of Materials

D.1 Structure

Item	Material	Specification	Description
Slab and Sidewalk	Class S Concrete	COSA Item 300	Thickness to match existing
Abutment Walls	Class C Concrete	COSA Item 300	New walls under ground at bridge ends
Stringers	A709 Steel	COSA Item 302	Shape to be similar to existing stringers
Steel Pan Forms	A653 Steel	COSA Item 302	Decorative relief to match existing
Truss Paint	Epoxy Zinc Primer and Acrylic Latex	COSA Item 514	System II, Federal Standard Color 24272
Railing Lattice Paint	Epoxy Zinc Primer and Acrylic Latex	COSA Item 514	System II, Federal Standard Color 12300

D.2 Landscaping Plants

Common Name	Scientific Name
Gold Dust Plant	Aucuba Japonica Variegata
Cast Iron Plant	Aspidistra Elatior
Giant Liriope	Liriope Gigantea
Liriope	Liriope Muscari
Variegated Liriope	Liriope Muscari Variegata

D.3 Illumination

Item	Type	Specification	Description
Walkway Lighting	Architectural LED	Proprietary	Streetworks Classic Epic Med LED or equal
Landscape and Fountain Lighting	Landscape LED	Proprietary	eW Burst Powercore or equal
Holiday Lighting	Architectural LED	Proprietary	ColorGraze MX4 Powercore or equal

Exhibit E – 70% Plans



CITY OF SAN ANTONIO

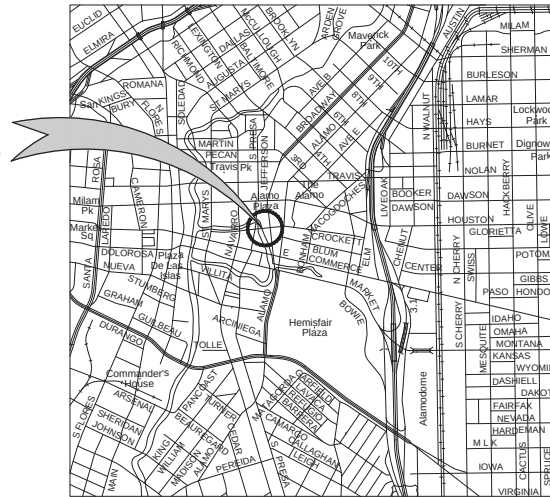
DEPARTMENT OF TRANSPORTATION & CAPITAL IMPROVEMENTS

CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE

40-00294

70% SUBMITTAL

PROJECT SITE



LOCATION MAP

NTS



CITY OF SAN ANTONIO

TRANSPORTATION & CAPITAL IMPROVEMENTS

THROUGH INNOVATION AND DEDICATION, WE BUILD AND MAINTAIN SAN ANTONIO'S INFRASTRUCTURE

JACOBS®

911 CENTRAL PARKWAY NORTH, SUITE 425

SAN ANTONIO, TEXAS 78232

PH: (210) 494-0088

FAX: (210) 494-4525

TBPE FIRM # 2966

MTR

• Engineers
• Surveyors
• Planners

Moy Tarin Ramirez Engineers, LLC

12770 CIMARRON PATH SUITE 100

SAN ANTONIO, TX 78249

PH: (210) 698-5051

FAX: (210) 698-5085

TBPE FIRM #F-5297

PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
RAYMOND TARIN JR., P.E. #87060
ON JULY 29, 2015

INDEX OF SHEETS

SHEET NO.	GENERAL
1	COVER SHEET
2	INDEX OF SHEETS
3-4	PROJECT LAYOUT
5-6	TYPICAL SECTIONS
7	GENERAL NOTES
8	ESTIMATED QUANTITIES

SHEET NO.	TRAFFIC CONTROL PLAN
9	TCP SEQUENCE OF CONSTRUCTION
10	DETOUR LAYOUT
11-14	BARRICADE AND CONSTRUCTION STANDARDS

SHEET NO.	ROADWAY PLANS
15	PLAN AND PROFILE
16-17	MISCELLANEOUS CONSTRUCTION STANDARDS
18	CROSS SECTIONS

SHEET NO.	DRAINAGE PLANS
19	DRAINAGE AREA MAP
20	DRAINAGE PLAN & PROFILE
21	TRENCH DRAIN DETAILS

SHEET NO.	BRIDGE PLANS
22	BRIDGE LAYOUT
23	REHABILITATION OVERVIEW
24	FLOOR SYSTEM DETAILS
25-	ABUTMENT DETAILS
26-	TRUSS REHABILITATION DETAILS
27-	FLOOR BEAM REHABILITATION DETAILS
28-	RAIL REPAIR DETAILS
29	ARMOR JOINT (AJ)
30	BRIDGE EXPANSION JOINT COVER PLATE (BS-EJCP)

SHEET NO.	SWPPP & ENVIRONMENTAL PLANS
31	STORM WATER POLLUTION PREVENTION PLAN NARRATIVE
32	ENVIRONMENTAL PERMITS, ISSUES, AND COMMENTS (EPIC)

SHEET NO.	LANDSCAPING PLAN
33	TREE PRESERVATION PLAN
34	LANDSCAPE PLAN
35	LANDSCAPING SCHEDULE AND PLANTING DETAILS
36	HARDSCAPE DETAILS

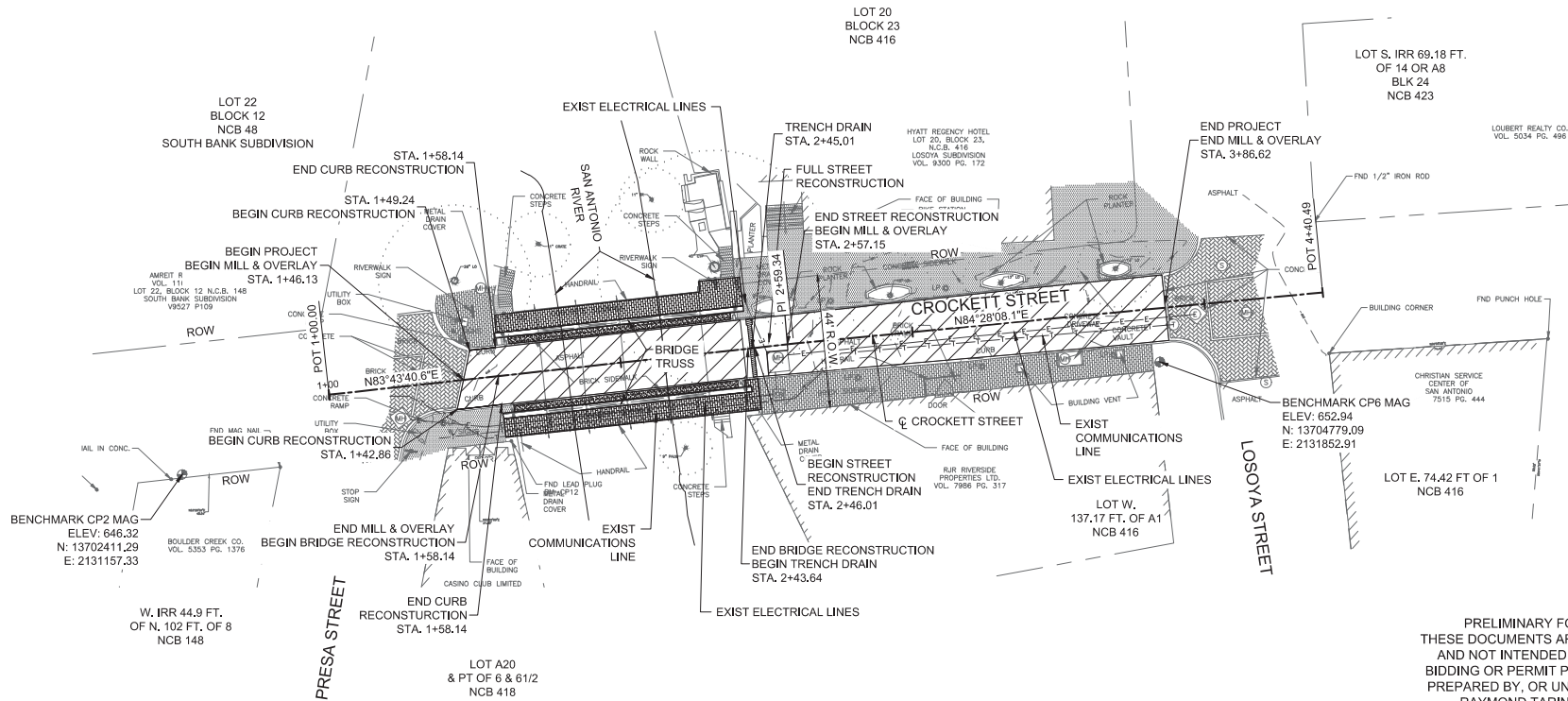
SHEET NO.	TRAFFIC ITEMS
37-39	ILLUMINATION
40	SIGNING & PAVEMENT MARKING LAYOUT
41-42	TRAFFIC ENGINEERING STANDARDS

SHEET NO.	JOINT-BID UTILITY PLANS
43-	EPS UNDERGROUND ELECTRIC RELOCATION

MTR May Tarin Ramirez Engineers, LLC	• Engineers • Surveyors • Planners	12770 CIMARRON PATH, SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM #F-5297
	JACOBS 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78786 PH: (512) 314-3100 FAX: (512) 314-3135 TBPE FIRM # 2966	
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT 2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE		
INDEX OF SHEETS		
70% SUBMITTAL	PROJECT NO.: WJXL7101	DATE: 8/4/2015
DRWN BY: LTT	DSGN BY: RLS	CHKD BY: BSK
		SHEET NO.: 2 OF 43

NOTES:

1. ALL BEARINGS AND COORDINATES SHOWN ARE BASED ON TEXAS STATE PLANE SYSTEM SOUTH CENTRAL ZONE. ALL DISTANCES ARE U.S. FEET.
2. COORDINATES AND DISTANCES ARE SURFACE.



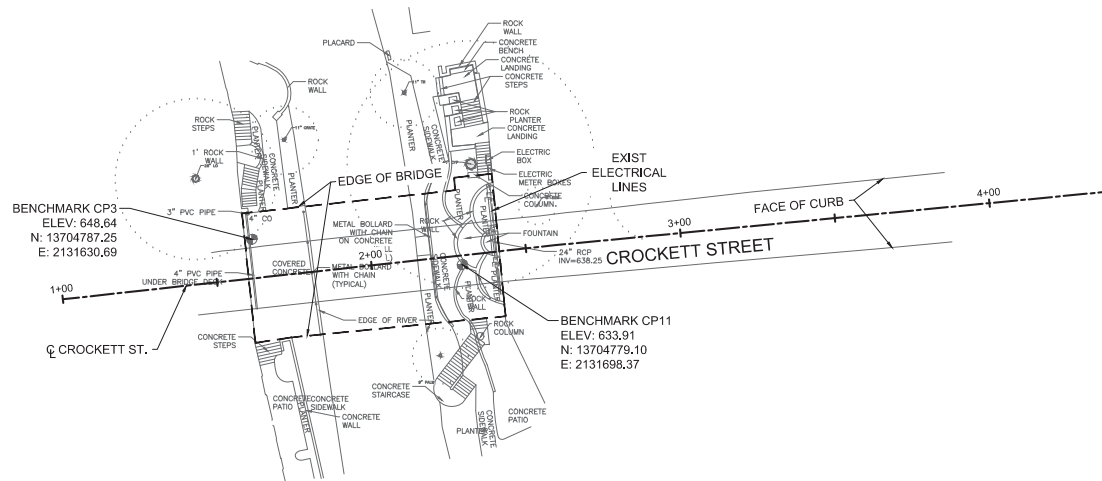
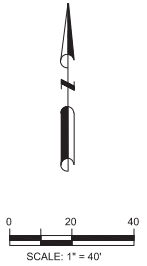
PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
RAYMOND TARIN JR., P.E. #87060
ON JULY 29, 2015

MIR May Tarin Ramirez Engineers, LLC 12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM # 2906	
JACOBS 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78706 PH: (512) 314-3100 FAX: (512) 314-3135	
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT 2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE PROJECT LAYOUT STREET VIEW	
70% SUBMITTAL	PROJECT NO.: WJXL7101
DRWN BY:	CHKD BY:
DATE: 8/04/15	SHEET NO.: 3 OF 43

CROCKETT ST. HORIZONTAL ALIGNMENT	STATION
POINT 1000 N: 13704767.94 E: 2131569.72	1+00.00
COURSE FROM 1000 TO 1001 N83°43'40.6"E	DISTANCE 159.34'
POINT 1001 N: 13704785.34 E: 21311728.09	2+59.34
COURSE FROM 1001 TO 1002 N84°28'08.1"E	DISTANCE 181.16'
POINT 1002 N: 13704802.80 E: 2131908.42	4+40.49

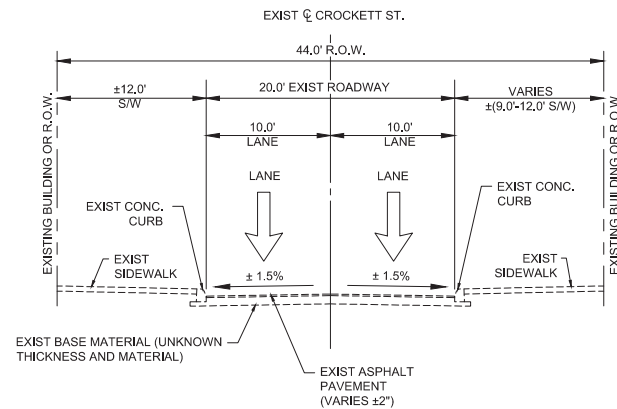
NOTES:

1. ALL BEARINGS AND COORDINATES SHOWN ARE BASED ON TEXAS STATE PLANE SYSTEM SOUTH CENTRAL ZONE. ALL DISTANCES ARE U.S. FEET.
2. COORDINATES AND DISTANCES ARE SURFACE.

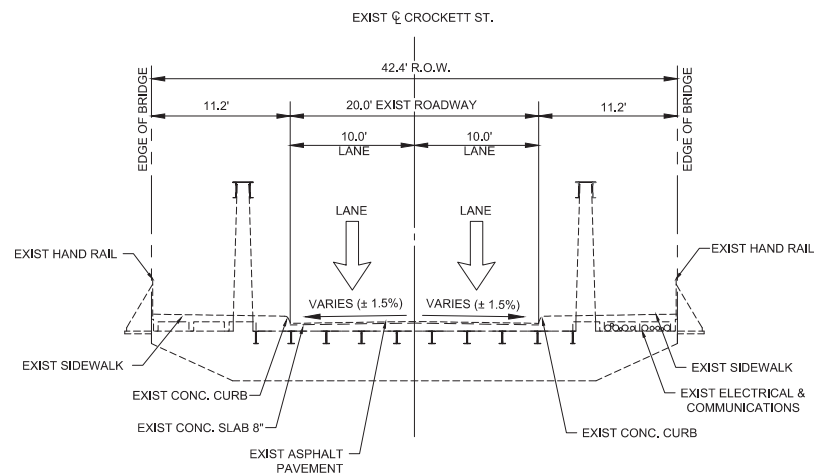


PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
RAYMOND TARIN JR., P.E. #87060
ON JULY 29, 2015

		12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM #F-5297	
May Tarin Ramirez Engineers, LLC			
2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78706 PH: (512) 314-3100 FAX: (512) 314-3135		TBPE FIRM # 2906	
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT			
2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE PROJECT LAYOUT RIVER LEVEL			
70% SUBMITTAL	PROJECT NO.: WJXL7101	DATE: 8/04/15	
DRWN BY:	DSGN BY:	CHKD BY:	SHEET NO.: 4 OF 43



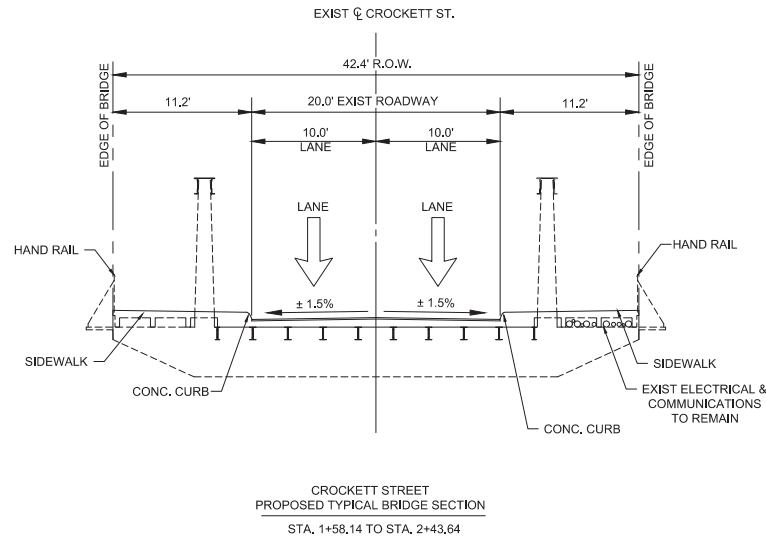
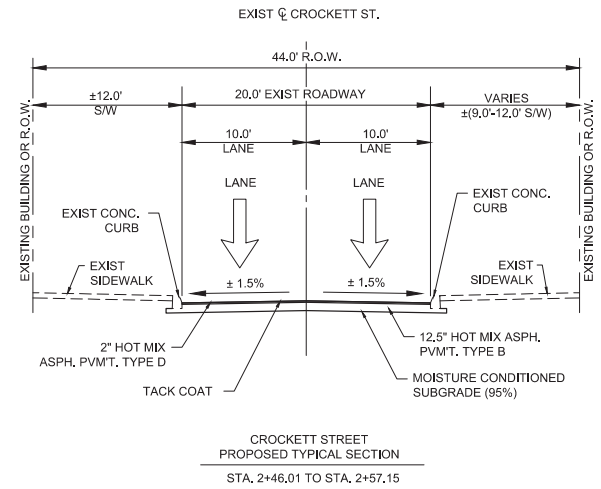
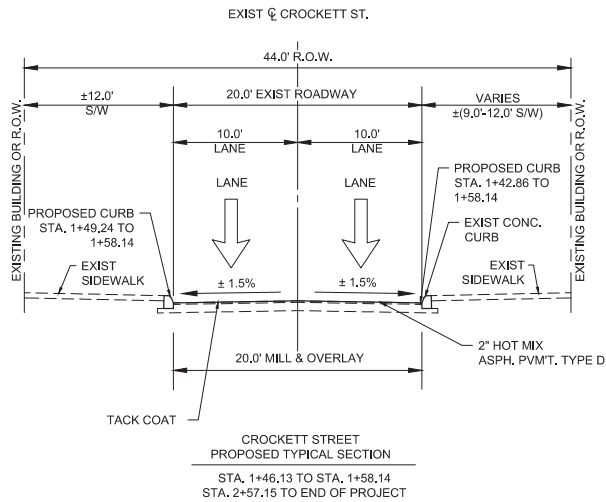
CROCKETT STREET
EXISTING TYPICAL SECTION
STA 1+46.07 TO STA 1+58.14
STA 2+43.64 TO END OF PROJECT



CROCKETT STREET
EXISTING TYPICAL BRIDGE SECTION
STA 1+58.14 TO STA 2+43.64

PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
RAYMOND TARIN JR., P.E. #87060
ON JULY 29, 2015

MIR May Tarin Ramirez Engineers, LLC 12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM # 2906	• Engineers • Surveyors • Planners
	JACOBS 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78706 PH: (512) 314-3100 FAX: (512) 314-3135 TBPE FIRM # 2906
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT 2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE	
EXISTING TYPICAL SECTIONS	
70% SUBMITTAL DRWN BY:	PROJECT NO.: WJXL7101 DSGN BY:
DATE: 8/04/15 SHEET NO.: 5 OF 43	CHKD BY:



PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
RAYMOND TARIN JR., P.E. #87060
ON JULY 29, 2015

MTR May Tarin Ramirez Engineers, LLC 12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM # 2906	• Engineers • Surveyors • Planners
	JACOBS 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78706 PH: (512) 314-3100 FAX: (512) 314-3135 TBPE FIRM # 2906
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT 2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE	
PROPOSED TYPICAL SECTIONS	
70% SUBMITTAL DRWN BY:	PROJECT NO.: WJXL7101 DSGN BY:
DATE: 8/04/15 SHEET NO.: 6 OF 43	CHKD BY:

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION JUNE 2008, OR LATEST.
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.
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 OR DRIVEWAYS. (NO SEPARATE PAY ITEM).
5. 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". THE CITY'S CONSTRUCTION INSPECTOR AND TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED.
6. IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
7. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.171 C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
8. CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO SCHEDULE FOR DENSITY TEST AS REQUIRED.
9. 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.
10. 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 207-8052
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

11. 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.
12. 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.
13. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
14. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND/OR TRACKED CONSTRUCTION MATERIALS AND/OR DEBRIS.
15. 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 207-7308 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.
16. IF SUSPECTED CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION OPERATIONS, C.O.S.A. SHALL BE NOTIFIED IMMEDIATELY WHEN CONTAMINATED SOILS AND/OR GROUNDWATER 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 C.O.S.A. 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.

17. 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.
18. 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 FLAT WORK 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.

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. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION. 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. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR FOR GUIDANCE.
4. ROOTS WILL BE 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.
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 1 FOOT OF RADIUS PER INCH OF TREE'S DIAMETER. A 10-INCH DIAMETER TREE WOULD HAVE A 10 FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. OAK WOUNDS SHALL BE PAINTED OVER WITHIN 30 MINUTES TO PREVENT OAK WILT.
8. SAPPLINGS, 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 THE 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.
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.
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.

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 OF 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 FLEXIBLE BASE OR GRAVEL MATERIAL 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, OF 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.

PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
RAYMOND TARIN JR., P.E. #87060
ON JULY 29, 2015

 Moy Tarin Ramirez Engineers, LLC		12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM #5297	
 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78706 FAX: (512) 314-3135		TBPE FIRM # 2906	
PH: (512) 314-3100			
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT			
2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE			
GENERAL NOTES			
70% SUBMITTAL	PROJECT NO.: WJXL7101	DATE: 8/04/15	
DRAWN BY:	DSGN BY:	CHKD BY:	SHEET NO.: 7 OF 43

L:\CADD\WJL7101 CROCKETT\BEG\GROCK4-BRED01.dgn

CITY OF SAN ANTONIO			ROADWAY	DRAINAGE	BRIDGE	LANDSCAPE	TRAFFIC
ITEM NO.	BID ITEM DESCRIPTION	UNIT	X	X	X	X	X
100.1	MOBILIZATION	LS	1				
100.2	INSURANCE & BOND	LS	1				
101.1	PREPARE RIGHT OF WAY	LS	1				
103.1	REMOVE CONCRETE CURB	LF	24				
203.1	TACK COAT	GAL	34				
205.4	HOT MIX ASPHALTIC PAVEMENT, TYPE D (2" COMP. DEPTH) (<5000SY)	SY	531				
208.1	SALVAGING, HAULING, AND STOCKPILING RECLAIMABLE ASPHALTIC PAVEMENT (2" DEPTH)	SY	341				
230.1	FLEXIBLE PAVEMENT STRUCTURE REPAIR (14.5" COMP. DEPTH)	SY	15				
302.1	METAL FOR STRUCTURES	LB			25,515		
307.1	CONCRETE STRUCTURE (BRIDGE DECKS)	CY			83		
307.1	CONCRETE STRUCTURE (RETAINING WALLS)	CY			6		
500.1	CONCRETE CURB	LF	24				
511.3	REPLACING WITH HOT MIX ASPHALTIC CONCRETE PAVEMENT - TYPE B (12.5" COMP. DEPTH)	SY	6				
530.1	BARRICADES, SIGNS AND TRAFFIC HANDLING	LS					1
535.2	4 INCH WIDE WHITE LINE	LF					128
535.4	8 INCH WIDE WHITE LINE	LF					110
535.7	24 INCH WIDE WHITE LINE	LF					21
535.9	LEFT WHITE ARROW	EA					2
550.1	TRENCH EXCAVATION SAFETY PROTECTION	LF		10			
618.1	CONDT (PVC) (SCH 40) (2")	LF					150
618.1	CONDT (PVC) (SCH 40) (3/4")	LF					50
618.1	CONDT (RM) (3/4")	LF					150
618.1	CONDT (RM) (1")	LF					75
618.1	CONDT (FMC) (1")	LF					150
620.1	ELEC CONDR (NO.12) BARE	LF					600
620.1	ELEC CONDR (NO.12) INSULATED	LF					1,200
628.1	ELECTRICAL SERVICES (PER INSTALLATION)	EA					1
804.1	PLANT MATERIAL (3 GAL) (SHRUB)	EA				40	
804.2	PLANT MATERIAL (5 GAL) (SHRUB)	EA				3	
804.3	PLANT MATERIAL (4" POT) (SHRUB)	EA				727	
SS 312.1	PAINT WALL MURAL	LS				1	
SS 312.2	REPAINT COLUMN	EA				1	
SS 313.1	FAUX COLUMN	EA				1	
SS 557.1	OVERHEAD PROTECTION	SF				4,133	
SS 696.1	WALKWAY FIXTURE (PENDANT MOUNT)	EA					4
SS 696.2	TABLE FIXTURE (FLUSH MOUNT)	EA					6
SS 696.3	WATER FIXTURE (FLUSH MOUNT)	EA					4
SS 696.4	TRUSS FIXTURE (FLUSH MOUNT)	EA					12
SS 696.5	HOLIDAY LIGHTING	EA					2
SS 696.6	FOUNTAIN FIXTURE	EA					1
SS 696.7	LANDSCAPE FIXTURE	EA				2	
SS 805.1	TREE PROTECTION	EA				6	
TXDOT BID ITEMS			ROADWAY	DRAINAGE	BRIDGE	LANDSCAPE	TRAFFIC
ITEM NO.	BID ITEM DESCRIPTION	UNIT	X	X	X	X	X
192 6013	MULCH	SY				91	
192 6081	PLANTING SOIL MIX (PLANTING SOIL)	CY				15	
192 XXXX	LANDSCAPE EDGE (STEEL)	LF				75	
192 XXXX	RIVER ROCK	SF				135	
429 6009	CONC STR REPAIR (STANDARD)	SF			5		
446 6002	CLEAN & PAINT EXIST STR (SYSTEM III)	LS			1		
450 2057	RAIL (EXIST RAIL MODIFICATION)	LF			311		
454 6004	ARMOR JOINT (SEALED)	LF			38		
474 6021	CAST-IN-PLACE TRENCH DRAIN	LF		20			
481 6006	PIPE (PVC) (SDR-35) (12 IN)	LF		10			
496 6013	REMOVE STR (BRIDGE SLAB)	EA			1		
496 6075	REMOVE STR (TRUSS STRINGER)	EA			60		
496 6081	REMOV STR (BRG DRAIN PIPING ASSEMBLY)	EA			1		
644 XXXX	INSTALL SM RD SN SUP&AM (HIST MKRR)	EA					1
776 6037	REPAIR (EXISTING METAL PED RAIL)	LF			311		
784 6004	REP STL BRIDGE MEMBER (TRUSS VERTICAL)	EA			4		
784 6012	REP STL BRIDGE MEMBER (TOP CHORD)	EA			1		
784 6014	REP STL BRIDGE MEMBER (SPLICE PLATE)	EA			7		
784 6022	REP STL BRIDGE MEMBER (FLOORBEAM)	EA			15		
784 6029	REP STL BRIDGE MEMBER (PIN NUT)	EA			2		
784 6038	REP STL BRIDGE MEMBER (REP RIVET/BOLT)	EA			3		
784 6049	REP STL BRIDGE MEMBER (BOT FLNG ANGLE)	EA			2		
784 XXXX	REP STL BRIDGE MEMBER (SPACER)	EA			40		

 May Tarin Ramirez Engineers, LLC	• Engineers • Surveyors • Planners	12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM # 5297
	 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78706 PH: (512) 314-3100 FAX: (512) 314-3135 TBPE FIRM # 2906	
	CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT 2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE ESTIMATED QUANTITIES	
70% SUBMITTAL DRWN BY: LTT	PROJECT NO.: WJL7101 DSGN BY: RLS	DATE: 8/4/2015 CHKD BY: BSK SHEET NO.: 8 OF 43

CROCKETT STREET SEQUENCE OF CONSTRUCTION

THE CONSTRUCTION SEQUENCE WILL CONSIST OF A FULL STREET CLOSURE OF CROCKETT STREET WITH LIMITS FROM LOSOYA STREET TO NORTH PRESA STREET IN ORDER TO PROVIDE MINOR ROAD AND DRAINAGE IMPROVEMENT, JOINT BID UTILITIES AS WELL AS REHABILITATE THE EXISITNG BRIDGE CROSSING.

TRAFFIC USING CROCKETT WILL BE DETOURED IN THE FOLLOWING MANNER:

1. TRAFFIC TRAVELING SOUTHBOUND ON LOSOYA STREET WILL BE DETOURED PAST CROCKETT STREET TO EAST COMMERCE STREET WHERE THEY WILL BE ABLE TO TURN RIGHT AND CONTINUE WESTBOUND ON EAST COMMERCE STREET UNTIL THEY REACH NORTH PRESA STREET TO TURN RIGHT. ONCE ON NORTH PRESA STREET TRAFFIC WILL TRAVEL NORTH TO THE END OF THE DETOUR AT CROCKETT STREET.
2. TRAFFIC TRAVELING WESTBOUND ON CROCKETT STREET FROM ALAMO PLAZA WILL BE DETOURED AT LOSOYA STREET TO EAST COMMERCE STREET WHERE THEY WILL TRAVEL SOUTH ON LOSOYA STREET TO EAST COMMERCE STREET WHERE THEY WILL BE ABLE TO TURN RIGHT AND CONTINUE WESTBOUND ON EAST COMMERCE STREET UNTIL THEY REACH NORTH PRESA STREET. ONCE ON NORTH PRESA STREET TRAFFIC WILL TRAVEL NORTH TO THE END OF THE DETOUR AT CROCKETT STREET.

TRAFFIC NOTES AND SPECIAL CONDITIONS:

1. BARRICADES AND WARNING SIGNS ARE TO BE PLACED AS INDICATED ON THE PLANS. THIS IS CONSIDERED THE MINIMUM REQUIRED TO PROVIDE FOR THE SAFETY OF TRAFFIC DURING CONSTRUCTION. PROVIDE AND MAINTAIN OTHER SUCH BARRICADES AND SIGNS DEEMED NECESSARY OR AS DIRECTED BY FIELD CONDITIONS, TO PROVIDE FOR THE SAFE PASSAGE OF TRAFFIC AT ALL TIMES.
2. PROVIDE ADDITIONAL SIGNS AND BARRICADES AS NECESSARY TO ADDRESS FIELD CONSTRUCTIBILITY AND VISIBILITY.
3. CONTRACTOR WILL NOTIFY THE TRAVELING PUBLIC OF THE CROCKETT STREET CLOSURE AT LEAST 2 WEEKS PRIOR TO THE CLOSURE.
4. THE CONTRACTOR WILL PROVIDE SUITABLE ACCESS/ACCOMODATIONS FOR PEDESTRIANS THROUGHOUT THE DURATION OF PROJECT.
5. PROVIDE AND MAINTAIN ACCESS TO ADJACENT PROPERTIES AT ALL TIMES.
6. REGULATE ALL CONSTRUCTION TRAFFIC TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. AT POINTS WHERE IT IS NECESSARY FOR TRUCKS TO STOP AND UNLOAD, PROVIDE WARNING SIGNS AND FLAGGERS AS NECESSARY TO ADEQUATELY PROTECT TRAVEL. IT MAY BE NECESSARY TO SET UP LANE CLOSURES TO FACILITATE CONSTRUCTION.
7. THE CONTRACTOR WILL COORDINATE WITH CoSA DOWNTOWN OPERATIONS FOR SPECIAL SIGNAGE.
8. THE CONTRACTOR WILL MAINTAIN RIVER BARGE ACCESS AT ALL TIMES DURING ALL PHASES EXCEPT DURING CRITICAL ACTIVITIES SUCH AS SLAB AND STRINGER REMOVAL AND REPLACEMENT. WHEN WORK REQUIRES SHUT DOWN OF THE RIVER, THE CONTRACTOR WILL GIVE ADVANCE WARNING IN PERSON, OR IN WRITING OF AT LEAST 96 HOURS TO RIVER BARGE OPERATORS AND CoSA DOWNTOWN OPERATIONS. THE CONTRACTOR WILL NOT CLOSE DOWN ACCESS TO RIVER BARGES OR RIVER WALK PEDESTRIAN TRAFFIC DURING FIESTA SAN ANTONIO OR ANY OTHER SPECIAL EVENT REQUIRING RIVER ACCESS.
9. PROVIDE AND MAINTAIN PEDESTRIAN ACCESS ALONG THE RIVER WALK LEVEL. ACCESS TO ALL RIVER WALK LEVEL BUSINESSES WILL BE MAINTAINED. IF WORK REQUIRES EXISTING RIVER WALK WHEELCHAIR ACCESSIBLE PATHWAY CLOSURES, THE CONTRACTOR WILL COORDINATE WITH CoSA DOWNTOWN OPERATIONS TO OBTAIN SPECIAL SIGNAGE TO ACCOMMODATE WHEELCHAIR AND PEDESTRIAN TRAFFIC. SPECIAL SIGNAGE WILL DIRECT TRAFFIC TO THE NEAREST ACCESS POINT THAT CAN ACCOMMODATE PERSONS WITH DISABILITIES. ANY TEMPORARY ADA DETOURS WILL BE APPROVED BY THE CoSA DISABILITY ACCESS OFFICE (MS. JUDY BABBITT AT 210-207-7268).
10. NIGHT TIME WORK HOURS WILL BE LIMITED TO THE HOURS OF 10:00 PM AND 6:00 AM. NIGHT TIME WORK WILL BE LIMITED TO "QUIET CONSTRUCTION".

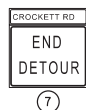
GENERAL NOTES

1. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR WILL CONTACT THE CITY OF SAN ANTONIO TRAFFIC OPERATIONS SECTION AT 207-4586 FOR A TRAFFIC SIGNAL INVENTORY, AND AT 207-3951 FOR A TRAFFIC SIGN INVENTORY. PRIOR TO COMPLETION OF THE CONTRACT AND REMOVAL OF THE BARRICADES, THE CONTRACTOR WILL AGAIN CONTACT THE TRAFFIC OPERATIONS SECTION. THE BARRICADES WILL NOT BE REMOVED UNTIL ALL APPLICABLE PERMANENT TRAFFIC SIGNS AND SIGNALS ARE IN PLACE.
2. 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 WILL 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 WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
3. 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 AND 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. THE COI AFTER BEING NOTIFIED WILL CONTACT THE TRAFFIC ENGINEERING OFFICE TO MAKE THE NECESSARY ARRANGEMENTS.
4. AS WORK PROGRESSES, LOCATION OF TEMPORARY TRAFFIC CONTROL DEVICES WILL BE ADJUSTED AND MODIFIED, AS NECESSARY BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
5. 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.
6. PERMANENT PAVEMENT MARKINGS WILL BE APPLIED PRIOR TO THE OPENING OF THE COMPLETED STREET TO TRAFFIC. PRIOR TO THE APPLICATION OF PERMANENT MARKINGS, EITHER TEMPORARY ADDITIONAL SHORT-TERM EXPENDABLE PAVEMENT MARKINGS, OR RAISED PAVEMENT MARKINGS MAY BE PROVIDED TO DELINEATE CONTINUITY UNTIL SUCH TIME AS STANDARD PAVEMENT MARKINGS CAN BE. TEMPORARY MARKINGS WILL BE PLACED AT NO DIRECT PAYMENT.
7. ALL TEMPORARY TRAFFIC CONTROL DEVICES, ETC. WILL BE PROVIDED BY THE CONTRACTOR WITHOUT DIRECT PAYMENT, UNLESS OTHERWISE NOTED OR STATED.
8. ANY DAMAGE TO PERMANENT TRAFFIC SIGNALS, THE CONTROLLER BOX, LOOPS OR CONDUITS DURING OR UPON COMPLETION OF THE PROJECT WILL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. THE DECISION TO REPAIR, AS OPPOSED TO REPLACE, THE DAMAGED EQUIPMENT WILL BE MADE BY THE CITY'S TRAFFIC ENGINEER.
9. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL STREETS OUTSIDE OF THE PROJECT LIMITS WHICH ARE DAMAGED DUE TO CONSTRUCTION ACTIVITIES. THE REPLACED SECTION MUST BE APPROVED BY THE CITY'S STREET ENGINEER. THERE WILL BE NO DIRECT PAYMENT FOR THIS WORK. THE COST IS TO BE INCLUDED IN OTHER ITEMS.
10. THE CONTRACTOR WILL PROVIDE THE CITY AN EMERGENCY TELEPHONE NUMBER FOR EVENINGS, WEEKENDS, AND HOLIDAYS BY THE FIRST WORKING DAY OF 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 HOURS OF THE INITIAL CONTACT.
11. THE CONTRACTOR WILL MAINTAIN CONTINUOUS ACCESS TO ALL INTERSECTING STREETS UNLESS OTHERWISE SHOWN ON THESE PLANS. WHEN CONTINUOUS ACCESS IS SCHEDULED TO BE BLOCKED, THE CONTRACTOR WILL CONTACT THE DISPATCHERS FOR THE FIRE DEPARTMENT AND EMS AT (210) 227-8341 AND THE POLICE DEPARTMENT AT (210) 207-2257, TO APPRISE THEM OF THE PENDING STREET CLOSURE AT LEAST FORTY- EIGHT HOURS IN ADVANCE. IF THE CLOSURE FALLS ALONG A BUS ROUTE, THE CONTRACTOR WILL ALSO CONTACT VIA AT (210) 362-5220.
12. THE CONTRACTOR WILL MAINTAIN EITHER THE EXISTING OR TEMPORARY STREET NAME SIGNS 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, AND THEN BE TURNED IN TO THE CITY INSPECTOR AT THE END OF THE PROJECT. IF TEMPORARY SIGNS ARE USED DURING CONSTRUCTION, THEY WILL BE IN ACCORDANCE WITH THE THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

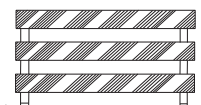
13. THE CONTRACTOR WILL PROVIDE POSITIVE DRAINAGE THROUGHOUT THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR WILL CORRECT DRAINAGE DEFICIENCIES THAT PRESENT A HAZARD TO THE TRAVELING PUBLIC OR PROPERTY.
14. PROVIDE ADDITIONAL SIGNS AND BARRICADES AS NECESSARY TO ADDRESS FIELD CONSTRUCTIBILITY & VISIBILITY.
15. REMOVE OR COVER ALL EXISTING SIGNS WHICH ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLAN.
16. ADJUST STOP SIGNS AS NEEDED ON INTERSECTING STREETS DURING THE VARIOUS CONSTRUCTION PHASES. DO NOT REMOVE ANY EXISTING STOP SIGNS UNTIL TEMPORARY SIGNS ARE IN PLACE.
17. ALL BARRICADES, SIGNS, WARNING LIGHTS, ETC. WILL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, BARRICADE STANDARD SHEETS.
18. NO EQUIPMENT WILL BE PERMITTED TO REMAIN IN A POSITION AFTER WORKING HOURS THAT WILL ENDANGER THE TRAVELING PUBLIC.

PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
JUAN CARLOS SANCHEZ, P.E. #93954
ON 7/10/15

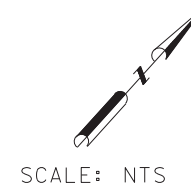
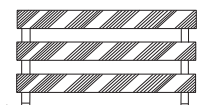
SANCHEZ-SALAZAR & ASSOCIATES 		
TBPE FIRM REGISTRATION NO. 15685		
 Moy Tarin Ramirez Engineers, LLC	• Engineers • Surveyors • Planners	12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM # 5297
 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78706 FAX: (512) 314-3135 TBPE FIRM # 2906		
PH: (512) 314-3100		
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT		
2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE		
TCP SEQUENCE OF CONSTRUCTION		
70% SUBMITTAL	PROJECT NO.: WJXL7101	DATE: 7/10/15
DRWN BY: —	DSGN BY: —	CHKD BY: — SHEET NO.: 9 OF 43



ROAD CLOSED
TO
THRU TRAFFIC



STREET
CLOSED



PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES, THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
JUAN CARLOS SANCHEZ, P.E. #93954
ON 7/10/15

SANCHEZ-SALAZAR & ASSOCIATES TBPE FIRM REGISTRATION NO. 15685		
MTR May Tarin Ramirez Engineers, LLC • Engineers • Surveyors • Planners	12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM # 2906	
JACOBS 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78706 PH: (512) 314-3100 FAX: (512) 314-3135 TBPE FIRM # 2906		
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT 2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE		
DETOUR LAYOUT		
70% SUBMITTAL	PROJECT NO.: WJXL7101	DATE: 7/10/15
DRWN BY:	DSGN BY:	CHKD BY:
SHEET NO.: 10 OF 43		

TRAFFIC NOTES

TRENCHING / EXCAVATING

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

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

REFLECTIVE SHEETING

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

MAINTENANCE

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

TRAINING

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

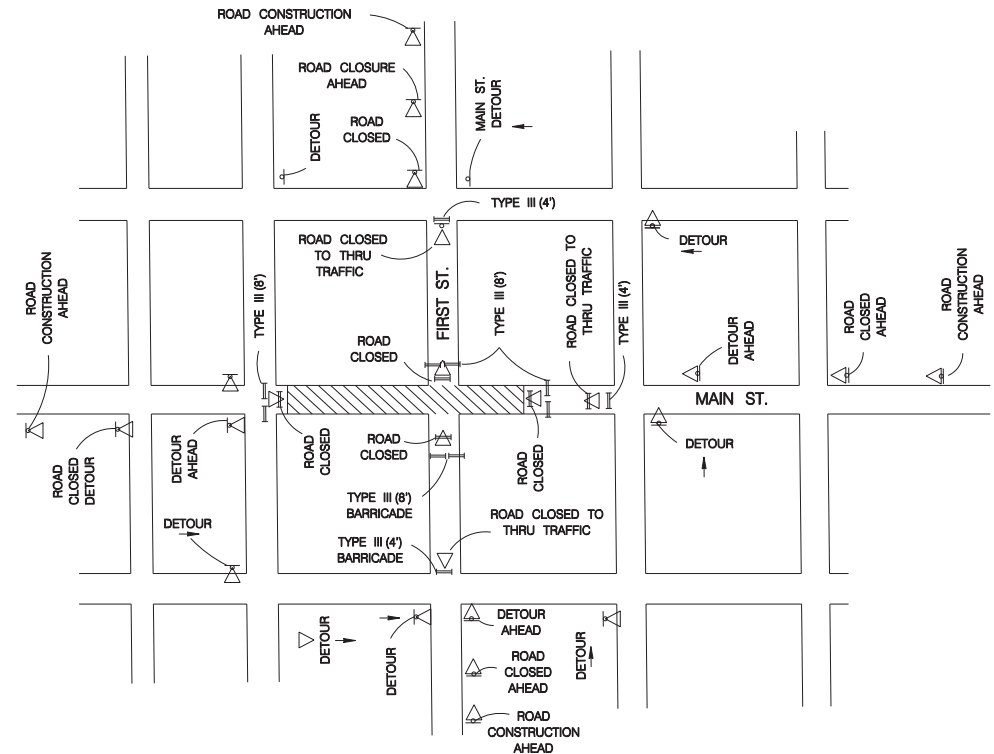
SPECIAL EVENTS BARRICADING

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

USE OF CITY R.O.W.

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

CLOSURE DIAGRAMS



TYPICAL INTERSECTING STREET CLOSURE
FOR TWO LANE STREETS

NOTE:
ALL SIGNS WILL BE
MOUNTED ON SIGN
SUPPORTS ONLY

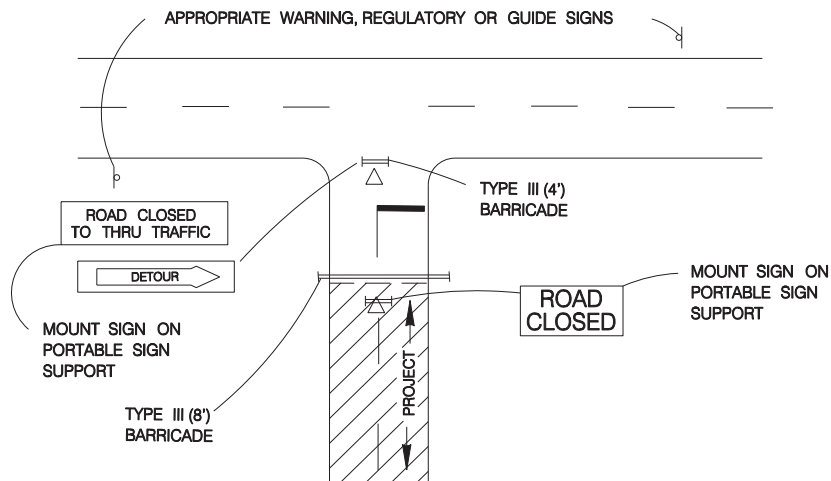
THE ORIGINAL OF THIS DRAWING WAS SIGNED AND
SEALED BY JOHN D. FRIEBELE, #48394 ON 06-20-06
AND IS ON FILE WITH THE TRAFFIC ENGINEERING
DIVISION OF THE PUBLIC WORKS DEPARTMENT, CITY
OF SAN ANTONIO.

JUNE 2005

CITY OF SAN ANTONIO
DEPARTMENT OF PUBLIC WORKS

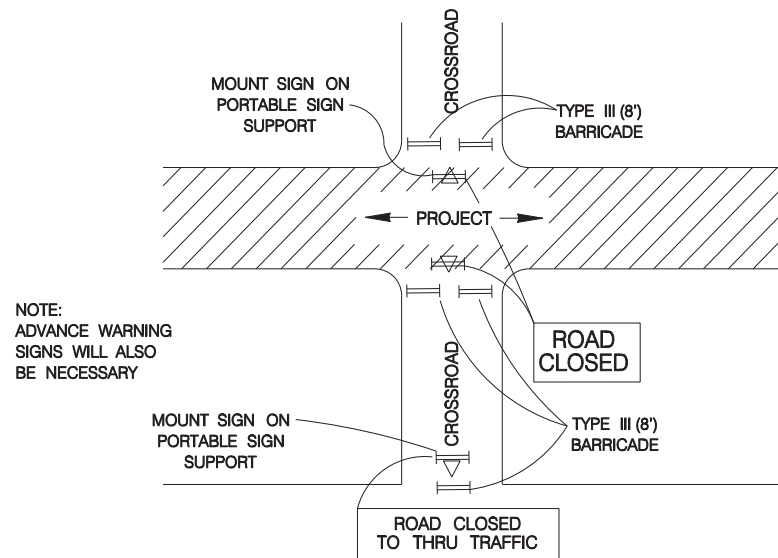
TRAFFIC STANDARDS
BARRICADE AND CONSTRUCTION
STANDARDS
SHEET 1 OF 4

20 % SUBMITTAL PROJECT NO.: 10047101 DATE: 2014
DRWN BY: A.F.G. DSGN BY: ENM. CHKD BY: J.D.F./ENM. SHEET NO.: 11 OF 43

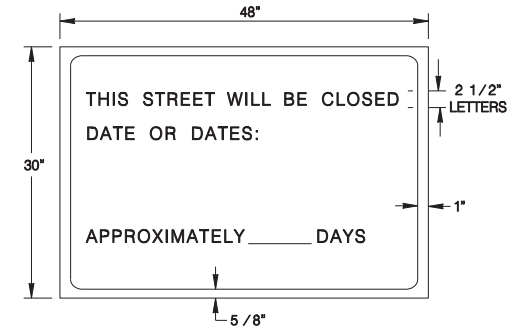


PROJECT LIMITS FOR CLOSED ROADWAY

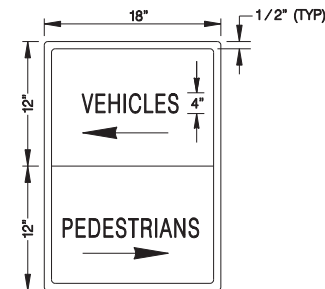
BARRICADES SHALL BE ERECTED COMPLETELY ACROSS ROADWAY. CHANNELIZING DEVICES MAY BE DRUMS, VERTICAL PANELS OR CONES AS SPECIFIED IN THE PLANS



CROSS STREET SIGNING AND BARRICADING TOTALLY CLOSED

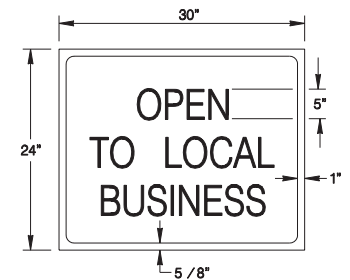


LETTERS- BLACK
BORDER- BLACK
BACKGROUND- ORANGE



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

DIRECTION OF ARROWS
ARE REVERSIBLE

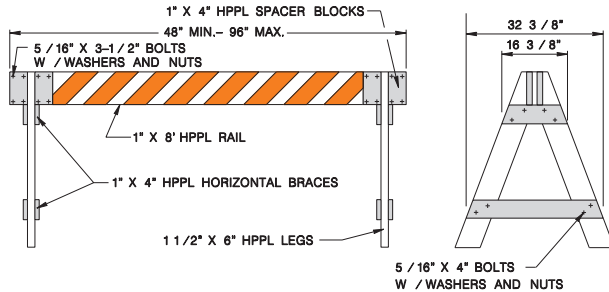


LETTERS- WHITE
BORDER- WHITE
BACKGROUND- BLUE REFLECTIVE

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY JOHN D. FRIEBELE #46394 ON 08-20-05 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			
75	% SUBMITTAL	PROJECT NO. 1	DATE: 2005
DRAWN BY: A.F.G.	DSGN BY: ENM.	CHKD BY: J.D.F./ENM.	SHEET NO.: 12 OF 43

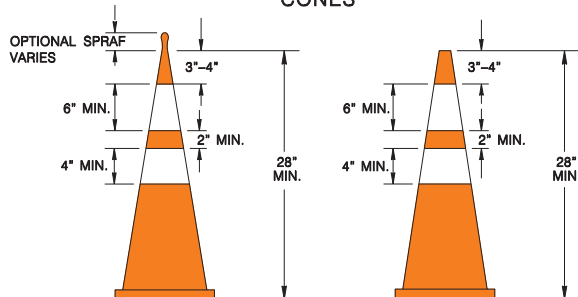
TYPE I BARRICADE



- Only the following Type I barricade shall be used in the City of San Antonio Right-Of-Way:
 - 1" x 8" plastic rail with 2" x 6" wooden legs.
 - 1" x 8" wooden rail with plastic legs.
 - 1" x 8" wooden rail with 2" x 6" wood legs.
 - No screws allowed for assembly of A-legs or rail.
 - Warning lights will be used as directed by the Traffic Engineer.
 - All Type I (4') barricades will be a minimum of 36" high and 60" wide. (For Construction Use Only)
 - All Type I (8') barricades with wooden legs shall be 2" X 6" wood only.
 - All Type I (4') barricades with wooden legs shall be 1" X 8" wood only.
- 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.
- Warning lights shall not be mounted on Type I barricades.

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

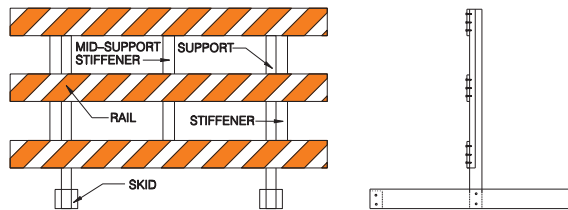
CONES



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

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

Type III BARRICADE



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

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

TEMPORARY MARKINGS

- 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.)
- 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-tabbing 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.)

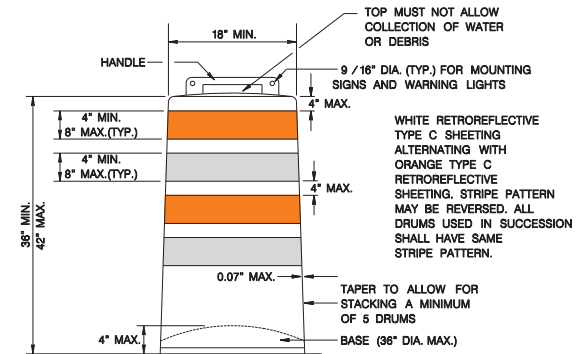
(See TxDOT BC-03 Sheets for specific construction information.)

TEMPORARY CONCRETE BARRIER

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

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

PLASTIC DRUMS



- 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).
- 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.
- 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.
- Each drum must have a 40 lb. rubber or plastic snap on.
- No signs larger than 18" X 24" will be allowed to be mounted on plastic drums.
- No warning lights will be allowed to be mounted on plastic barrels.
- 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

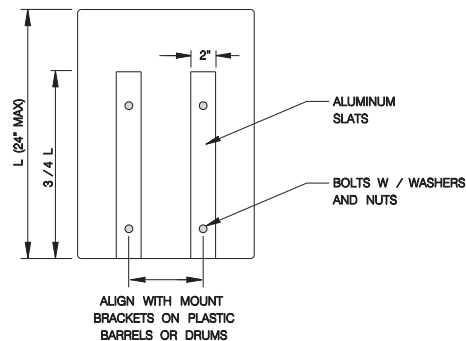
TRAFFIC STANDARDS
BARRICADE AND CONSTRUCTION
STANDARDS
SHEET 3 OF 4

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY JOHN D. FRIEBELE, #48334 ON 08-20-05 AND IS ON FILE WITH THE TRAFFIC ENGINEERING DIVISION OF THE PUBLIC WORKS DEPARTMENT, CITY OF SAN ANTONIO.

75 % SUBMITTAL PROJECT NO. 10001700 DATE: 2014
DRWN. BY: A.F.G. DSGN. BY: E.N.M. CHKD. BY: J.D.F./E.N.M. SHEET NO.: 13 OF 43

SIGNS

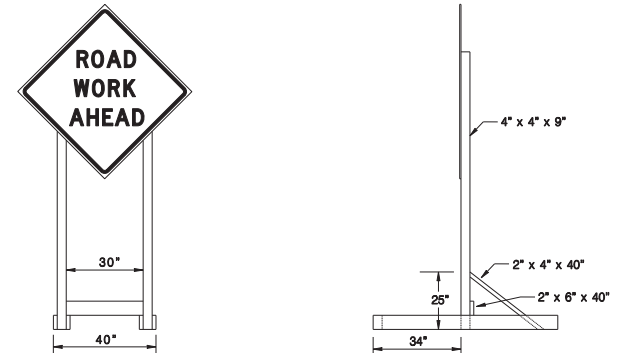
- 1.) A maximum of two signs can be mounted on any one Long / Intermediate Term Stationary Portable Sign Support.
- 2.) 48" X 48" signs shall be mounted separately on the Long / Intermediate Term Stationary Portable Sign Support.
- 3.) For Short Term Stationary Portable Sign Support the distance from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

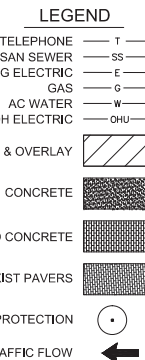
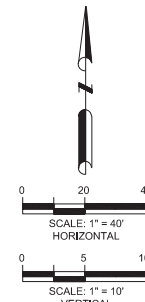
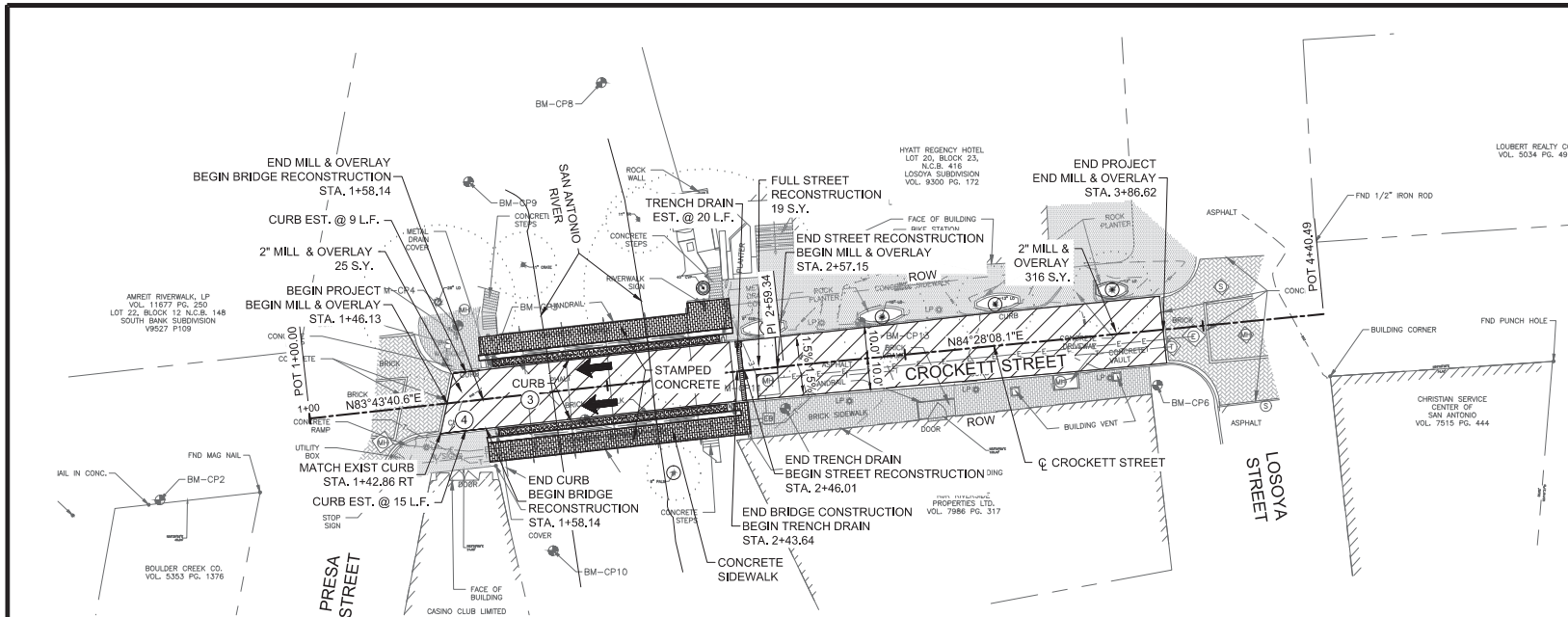


- 1.) 48" X48" signs must be mounted independently.
- 2.) A maximum of two signs can be mounted on any one long term / intermediate sign support.
- 3.) Sand bag all sign supports.
- 4.) Distance from the bottom of the sign to the existing ground shall be 7'.
- 5.) Distance from the header barricade rail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

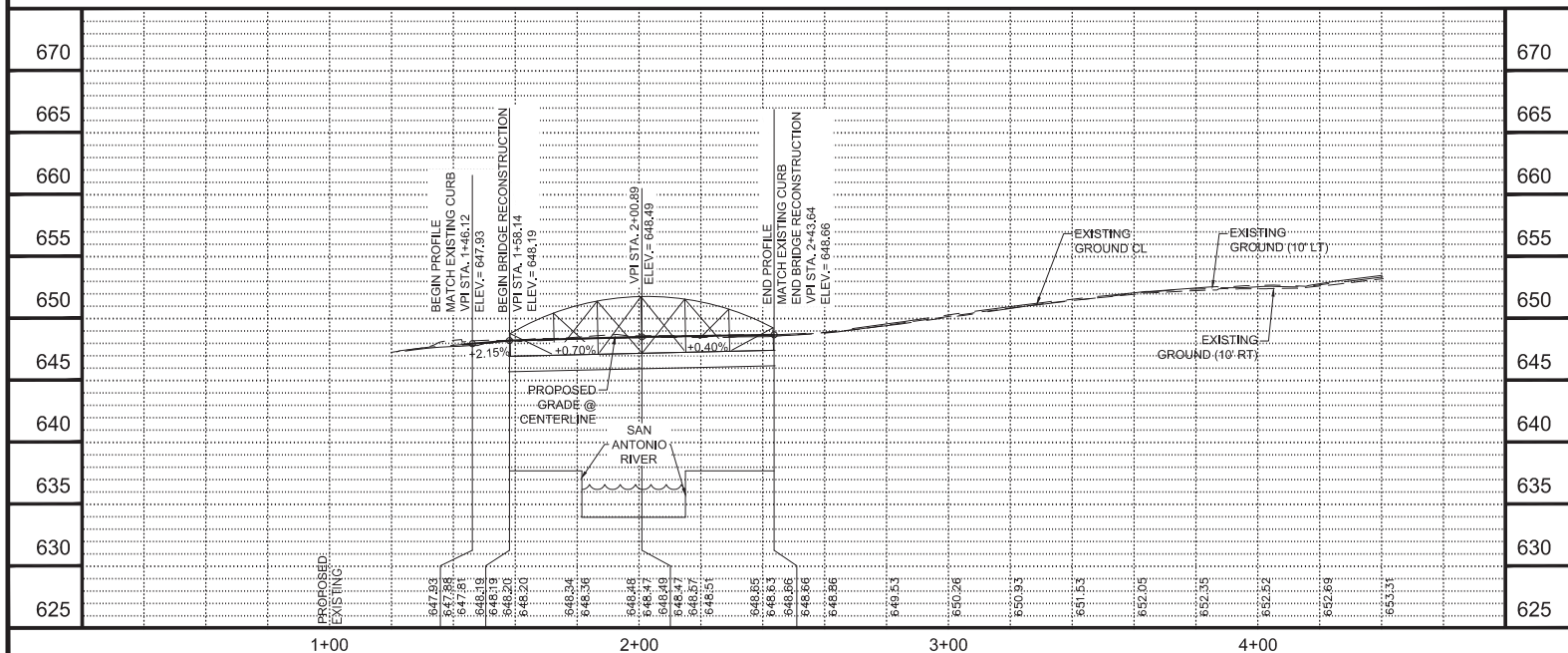
(See TxDOT BC-03 Sheets for specific construction information)

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY JOHN D. FRIEBELE, #48394 ON 05-20-05 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 4 OF 4			
75 % SUBMITTAL	PROJECT NO.: WBS17381	DATE: 2014	
DRAWN BY: A.E.G.	DESIGN BY: E.N.M.	CHECKED BY: J.D.F./E.N.M.	SHEET NO.: 14 OF 43

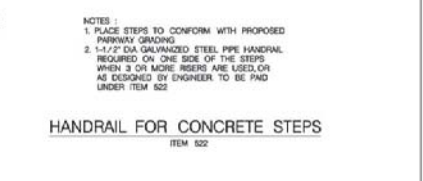
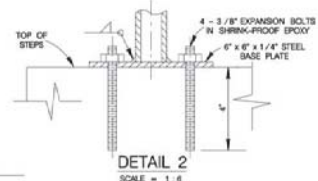
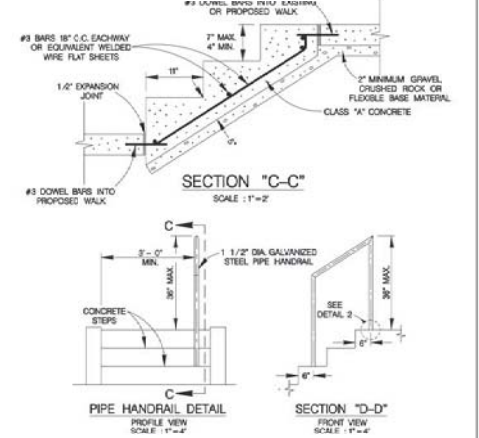
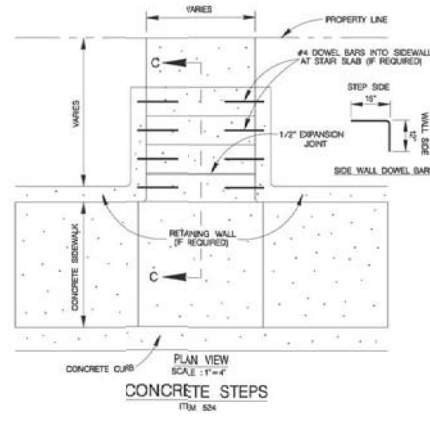
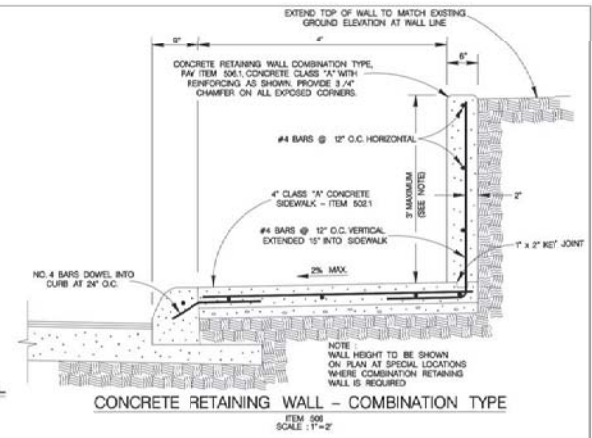
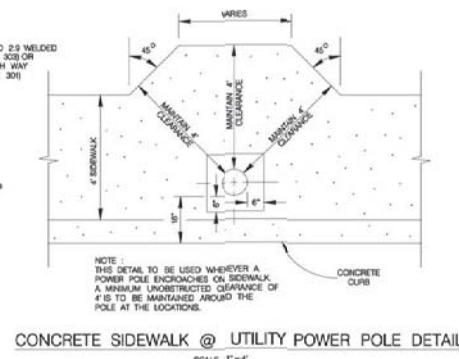
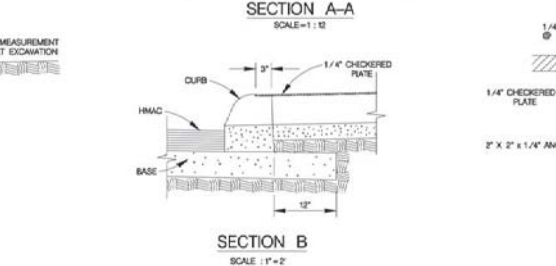
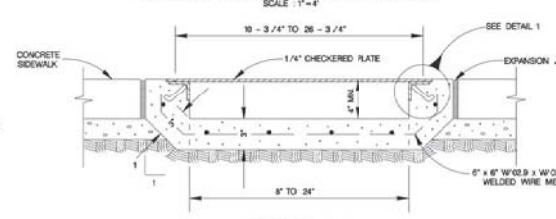
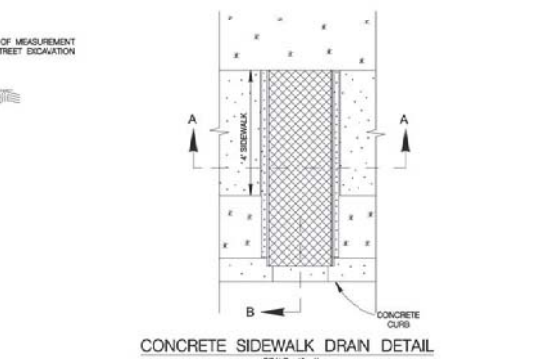
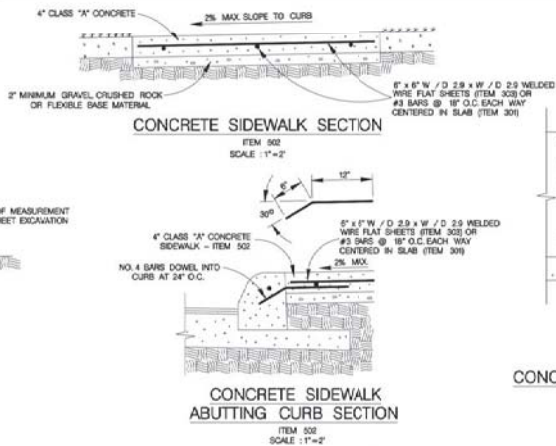
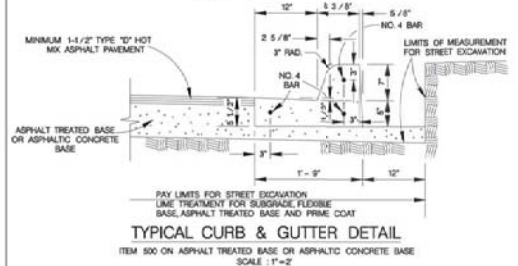
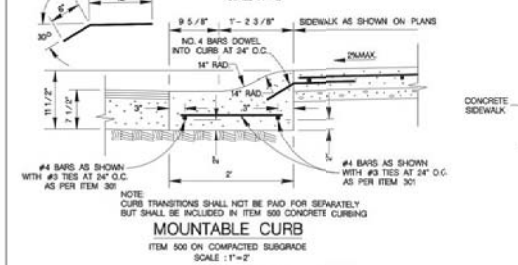
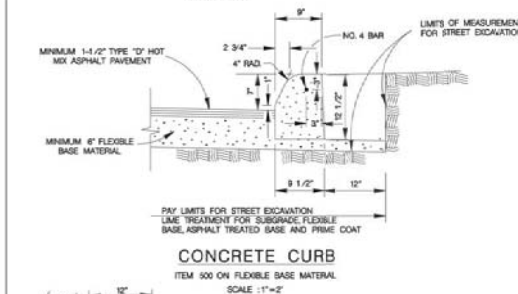
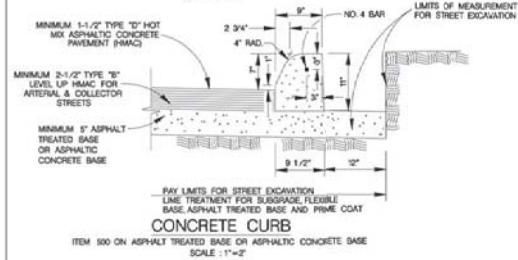
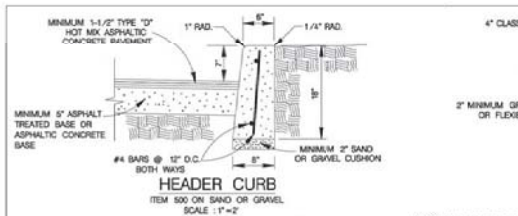


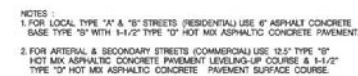
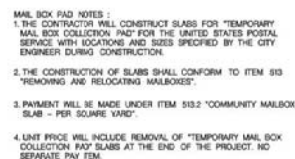
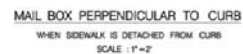
- GENERAL NOTES:**
- ALL DIMENSIONS ARE TO LIP OF GUTTER UNLESS OTHERWISE NOTED.
 - LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICE LATERALS ARE APPROXIMATE. THE CONTRACTOR WILL FIELD VERIFY THE EXACT LOCATIONS.
 - REFERENCE BRIDGE SHEETS FOR MORE INFORMATION.
 - MATCH TOP OF CURB AND GUTTER ELEVATIONS TO EXIST ADJOINING ELEVATIONS.
- PRELIMINARY FOR REVIEW ONLY
 THESE DOCUMENTS ARE FOR DESIGN REVIEW AND NOT INTENDED FOR CONSTRUCTION BIDDING OR PERMIT PURPOSES. THEY WERE PREPARED BY, OR UNDER SUPERVISION OF: RAYMOND TARIN JR., P.E. #87060
 ON JULY 29, 2015



MTR May Tarin Ramirez Engineers, LLC 12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM # 5297	
JACOBS 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78786 FAX: (512) 314-3135 TBPE FIRM # 2066	
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT 2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE	
PLAN & PROFILE	
70% SUBMITTAL DRAWN BY:	PROJECT NO.: WJXL7101 DSGN BY:
DATE: 8/04/15 SHEET NO. 15 OF 43	CHKD BY:

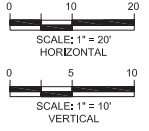
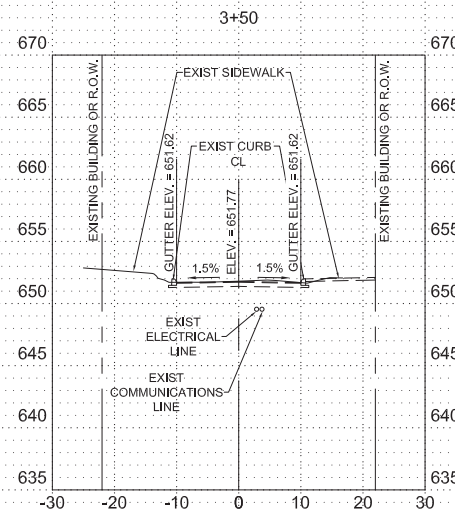
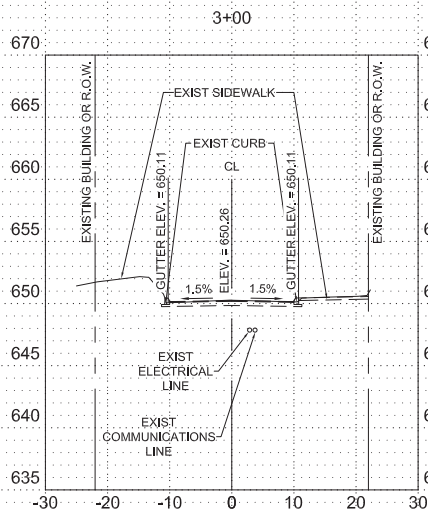
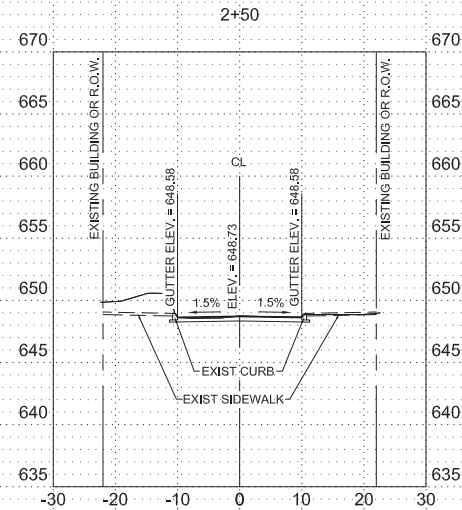
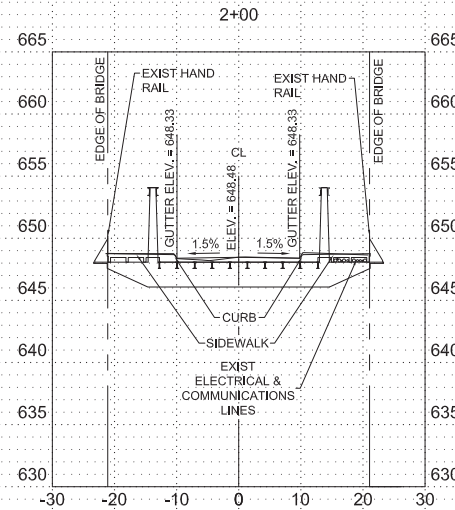
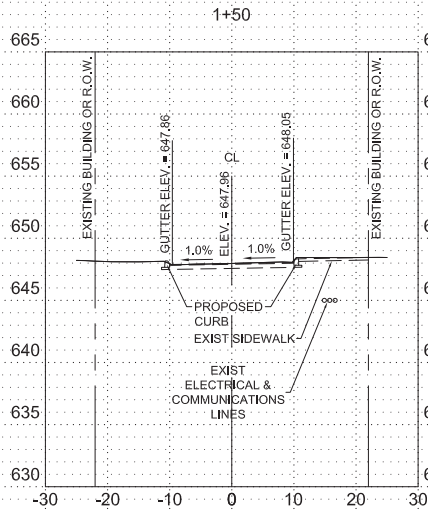
DRAWING4.DWG





FEBRUARY 2010
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

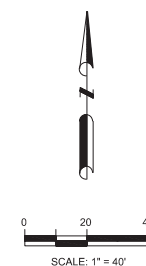
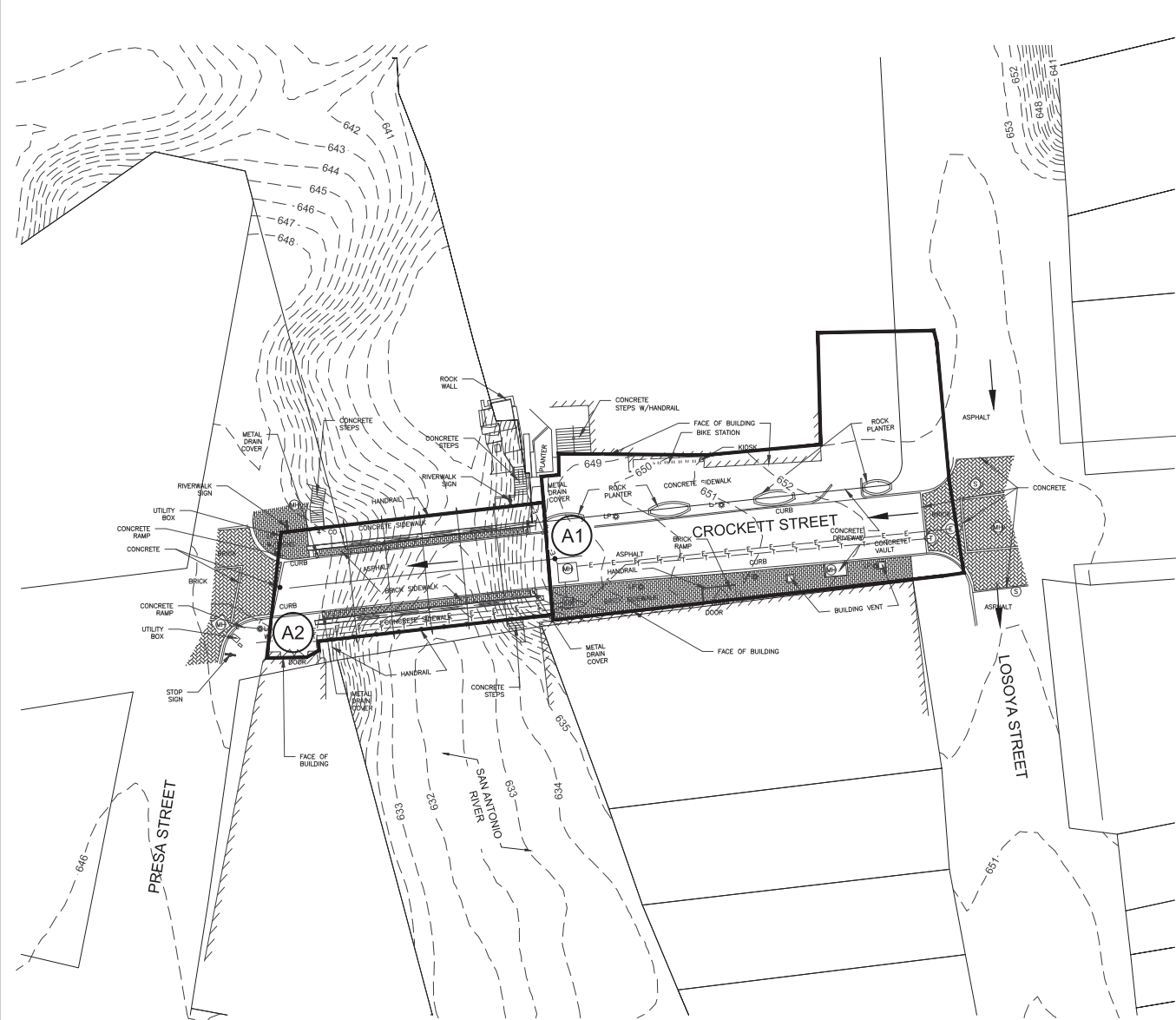
MISCELLANEOUS CONSTRUCTION STANDARDS II



GENERAL NOTES:
 1. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS IMMEDIATELY. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.

PRELIMINARY FOR REVIEW ONLY
 THESE DOCUMENTS ARE FOR DESIGN REVIEW AND NOT INTENDED FOR CONSTRUCTION BIDDING OR PERMIT PURPOSES. THEY WERE PREPARED BY, OR UNDER SUPERVISION OF:
 RAYMOND TARIN JR., P.E. #87060
 ON JULY 29, 2015

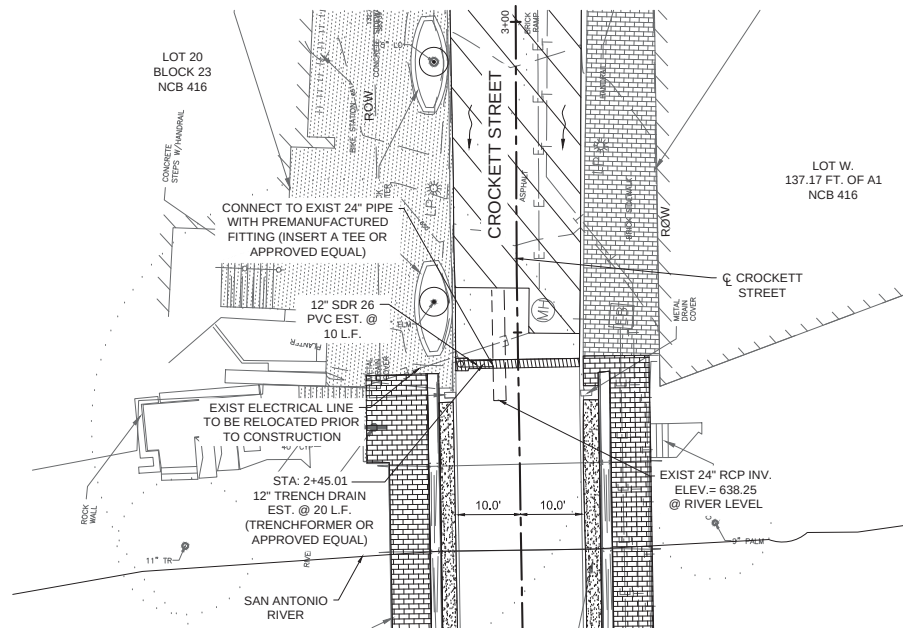
 May Tarin Ramirez Engineers, LLC 12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM # 5297		12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM # 2966
JACOBS 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78706 PH: (512) 314-3100 FAX: (512) 314-3135		
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT 2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE CROSS SECTIONS STA. 1+50 - STA. 4+00		
70% SUBMITTAL	PROJECT NO.: WJXL7101	DATE: 8/04/15
DRAWN BY:	DSGN BY:	CHKD BY:
		SHEET NO.: 18 OF 43



Drainage Area ID	Area (ac.)	Runoff Coefficient 'C'	Tc Total Time of Conc. (min.)	I5 (in/hr)	I25 (in/hr)	I100 (in/hr)	Q5 (cfs)	Q25 (cfs)	Q100 (cfs)
A1	0.23	0.95	5.55	8.58	11.33	13.96	1.87	2.48	3.05
A2	0.1	0.95	6.08	7.80	10.28	12.83	0.74	0.98	1.22

PRELIMINARY FOR REVIEW ONLY
 THESE DOCUMENTS ARE FOR DESIGN REVIEW
 AND NOT INTENDED FOR CONSTRUCTION
 BIDDING OR PERMIT PURPOSES, THEY WERE
 PREPARED BY, OR UNDER SUPERVISION OF:
 RAYMOND TARIN JR., P.E. #87060
 ON JULY 29, 2015

MIR Engineers Surveyors Planners Moy Tarin Ramirez Engineers, LLC		12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM # 5297	
JACOBS 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78786 FAX: (512) 314-3135		TBPE FIRM # 2066	
PH: (512) 314-3100			
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT			
2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE			
DRAINAGE AREA MAP			
70% SUBMITTAL	PROJECT NO.: WJXL7101	DATE: 8/04/15	
DRAWN BY:	DSGN BY:	CHKD BY:	SHEET NO.: 19 OF 43



0 10 20
SCALE: 1" = 20'
HORIZONTAL

0 5 10
SCALE: 1" = 10'
VERTICAL

LEGEND

TELEPHONE	— T —
SAN SEWER	— SS —
UG ELECTRIC	— E —
GAS	— G —
AC WATER	— W —
OH ELECTRIC	— OHU —
2" MILL & OVERLAY	
CONCRETE	
STAMPED CONCRETE	
EXIST PAVERS	
TREE PROTECTION	

GENERAL NOTES:

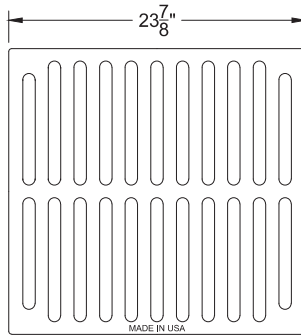
1. ALL DIMENSIONS ARE TO LIP OF GUTTER UNLESS OTHERWISE NOTED.
2. LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICE LATERALS ARE APPROXIMATE. THE CONTRACTOR WILL FIELD VERIFY THE EXACT LOCATIONS.
3. REFERENCE BRIDGE SHEETS FOR MORE INFORMATION.

PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
RAYMOND TARIN JR., P.E. #87060
ON JULY 29, 2015

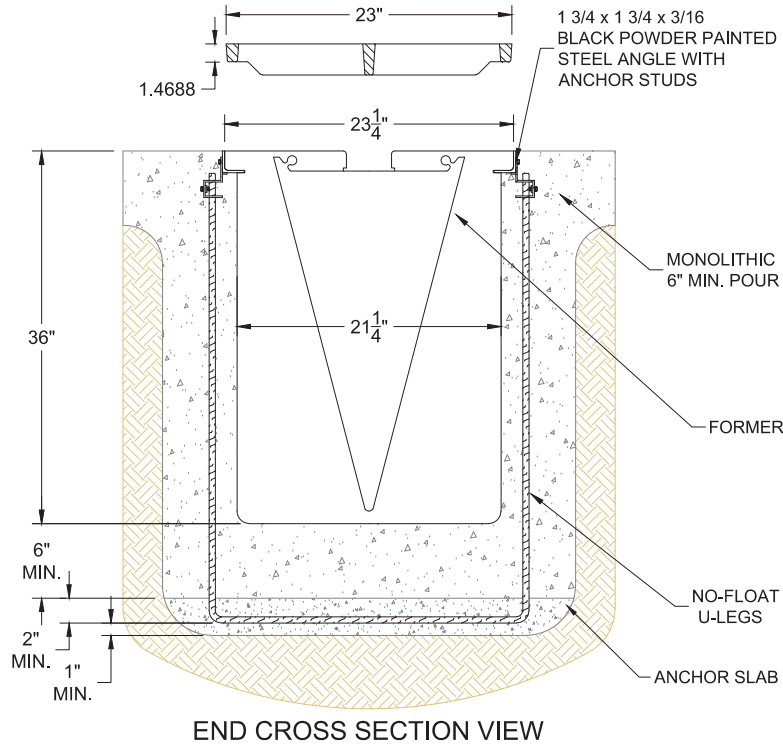
 Moy Tarin Ramirez Engineers, LLC 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78786 PH: (512) 314-3100 FAX: (512) 314-3105	12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM # 5297
	 JACOBS 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78786 PH: (512) 314-3100 FAX: (512) 314-3105 TBPE FIRM # 2066

CITY OF SAN ANTONIO
TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT
2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE
DRAINAGE PLAN & PROFILE

70% SUBMITTAL	PROJECT NO.: WJXL7101	DATE: 8/04/15
DRAWN BY:	DSGN BY:	CHKD BY:
		SHEET NO.: 20 OF 43



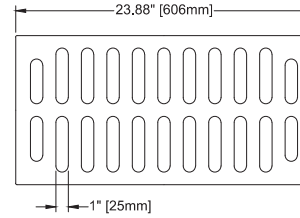
PLAN VIEW
#1604 C.I. GRATE



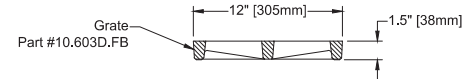
END CROSS SECTION VIEW

1
CATCH BASIN WITH GRATE INLET DETAIL

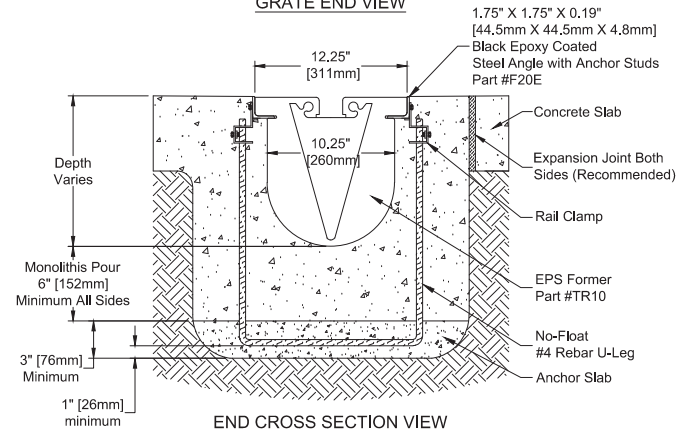
SCALE: NONE



GRATE TOP VIEW
(ROTATED 90°)



GRATE END VIEW



END CROSS SECTION VIEW

2
SCALE: NONE

TRENCH DRAIN DETAIL

PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
RAYMOND TARIN JR., P.E. #87060
ON JULY 29, 2015

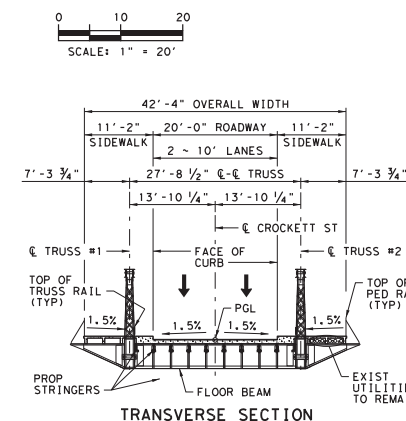
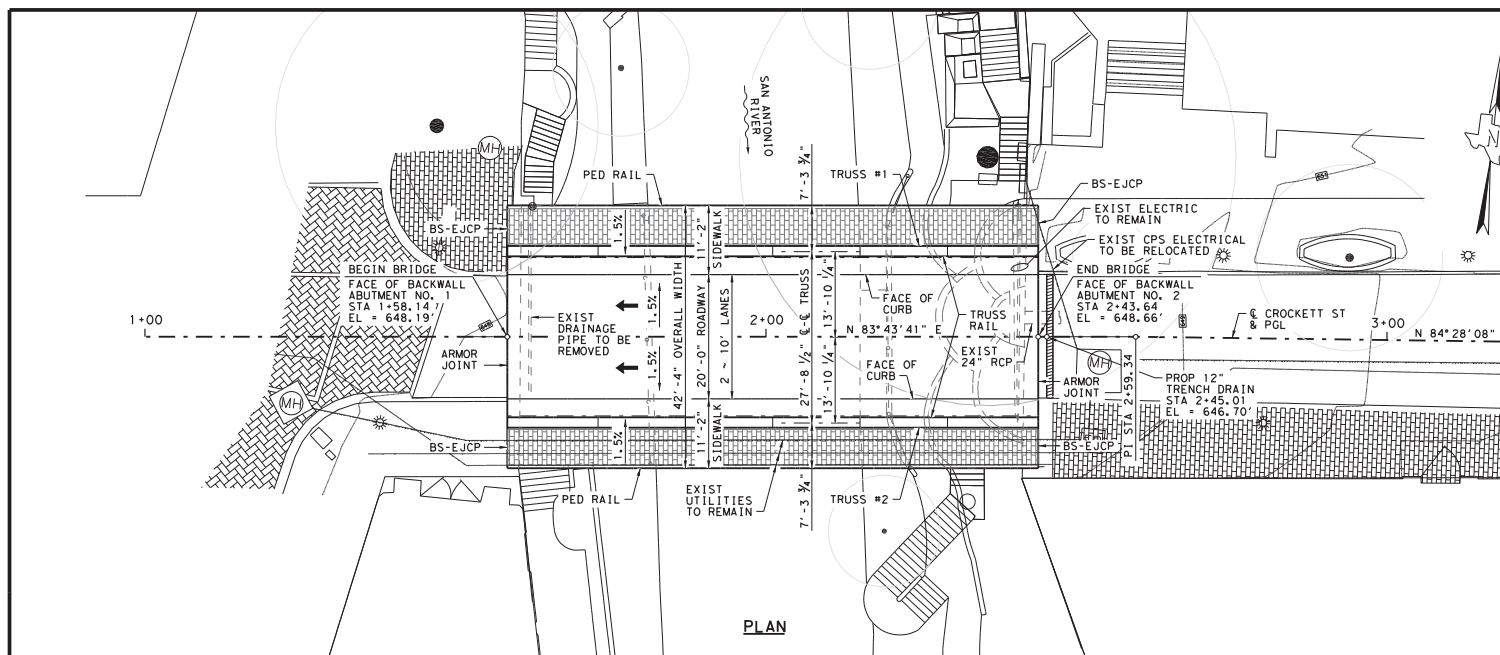
MIR • Engineers
• Surveyors
• Planners
Moy Tarin Ramirez Engineers, LLC
12770 CIMARRON PATH SUITE 100
SAN ANTONIO, TX 78249
PH: (210) 698-5051
FAX: (210) 698-5085
TBPE FIRM # 5297

JACOBS
2705 BEE CAVE ROAD, SUITE 300
AUSTIN, TEXAS 78786
PH: (512) 314-3100
FAX: (512) 314-3135
TBPE FIRM # 2066

CITY OF SAN ANTONIO
TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT
2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE

TRENCH DRAIN DETAILS

70% SUBMITTAL PROJECT NO.: WJXL7101 DATE: 8/04/15
DSGN BY: CHKD BY: SHEET NO.: 21 OF 43



GENERAL NOTES:

DESIGN IN ACCORDANCE WITH AASHTO STANDARD
SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH
EDITION FOR HS14 LOADING AT THE OPERATIONAL
LEVEL.

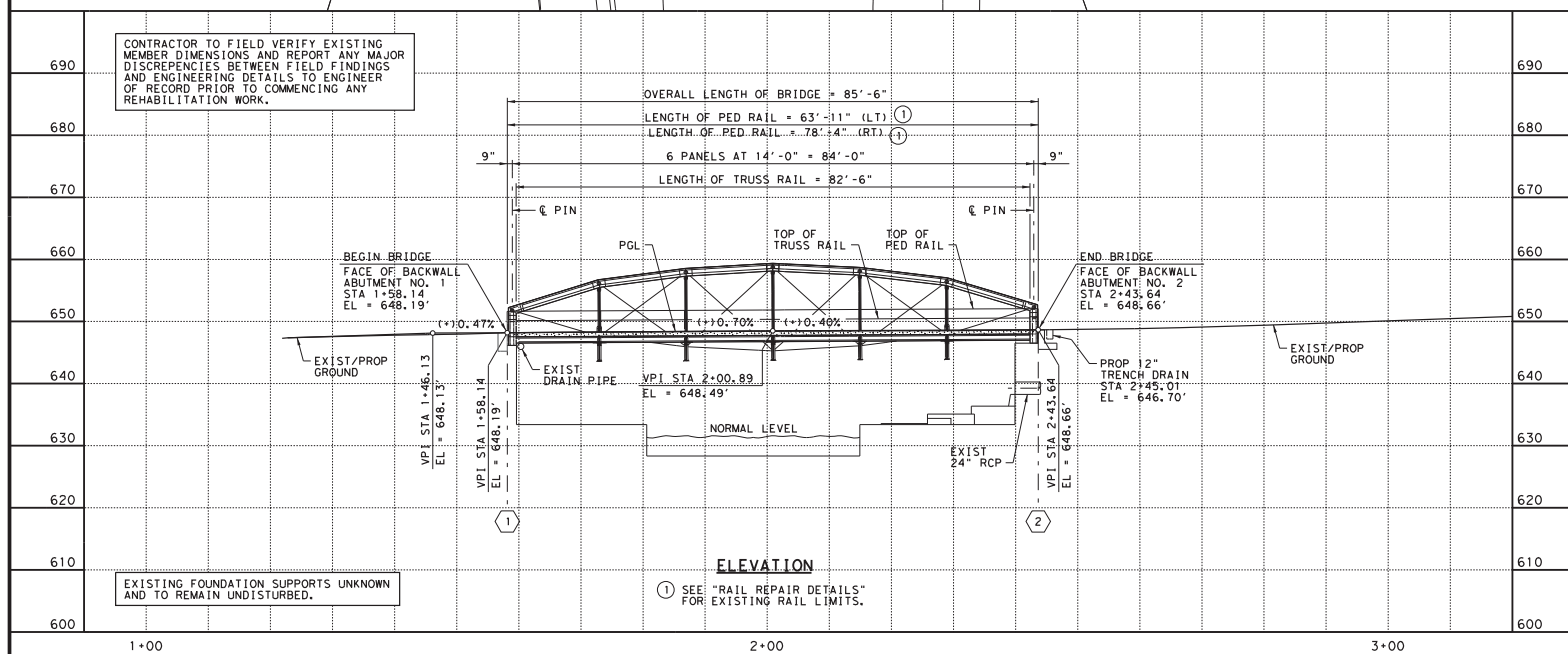
AFTER REHABILITATION PER THESE PLANS, THE STRUCTURE WILL ACHIEVE A MINIMUM OPERATING LOAD CAPACITY OF HS13 WHEN RATED BY THE LOAD FACTOR METHOD PER 2008 AASHTO MANUAL FOR BRIDGE EVALUATION, AND USING STANDARD TXDOT RATING PROCEDURES.

BRIDGE DESIGNED FOR 2" OVERLAY.

BRIDGE REQUIRES LOAD POSTING AFTER
REHABILITATION:
SINGLE AXLE = XX,XXX LBS
TANDEM AXLE = XX,XXX LBS

NBI: 15-015-B083-10-001
ADT: 1,760 VPD (2011)
RDWY FUNCT CLASS: URBAN LOCAL
DESIGN SPEED: MEETS OR IMPROVES EXISTING
EXISTING UTILITIES TO REMAIN UNDISTURBED.

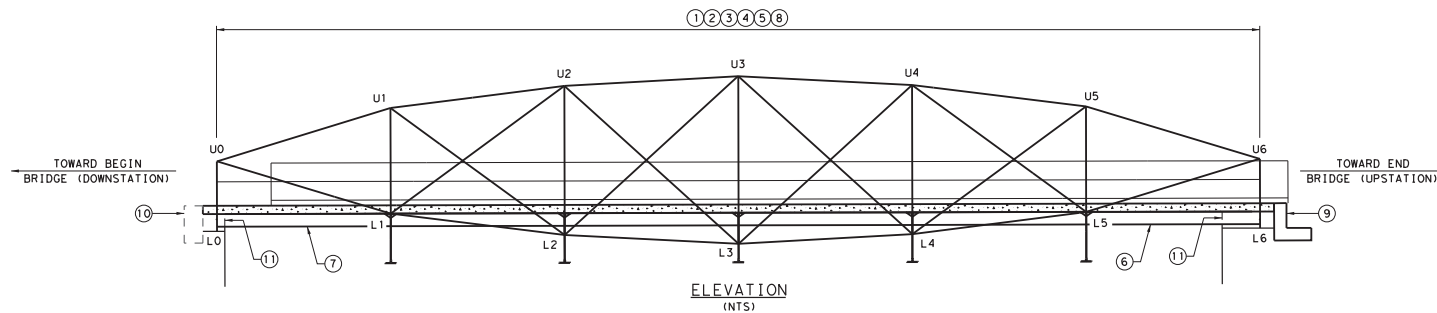
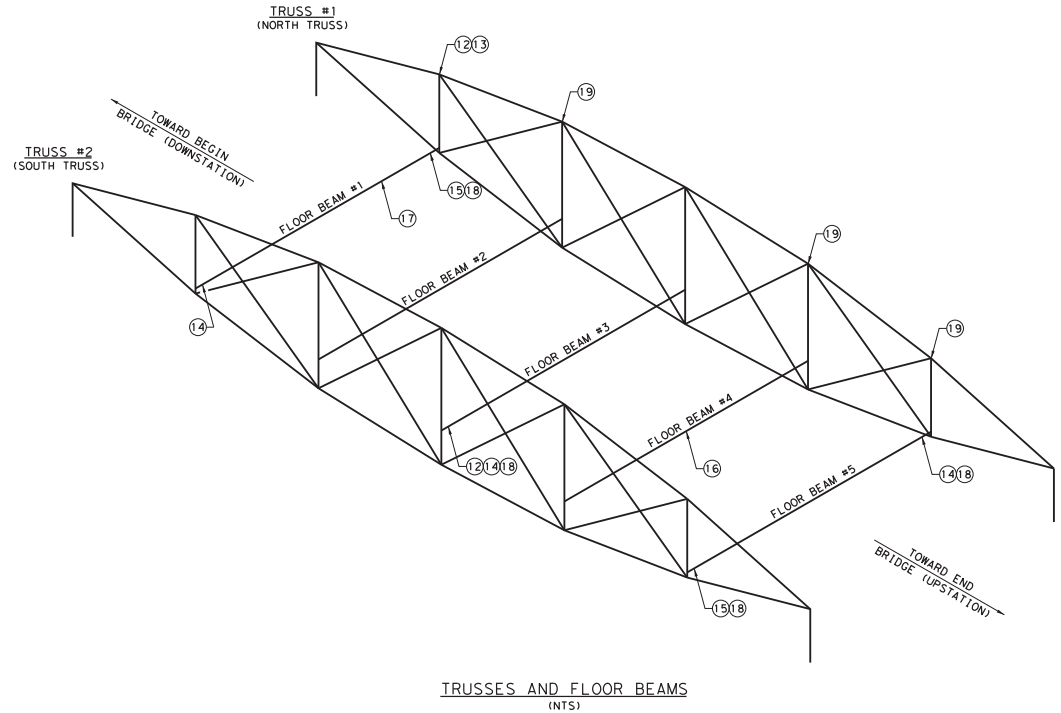
PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
BRIAN S. KUEHL, P.E. #97313
ON 8/4/2015



 MTR May Tamir Ramirez Engineers, LLC	• Engineers • Surveyors • Planners	12770 CHARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM #F-5297
	 JACOBS 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78786 FAX: (512) 314-3135	
PH: (512) 314-3100	CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT 2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE BRIDGE LAYOUT	
70% SUBMITTAL	PROJECT NO.: WJXL7101	DATE: 8/4/2015
DRWN BY: LTT	DSGN BY: RLS	CHECKED BY: BSK
		SHEET NO.: 22 OF 43

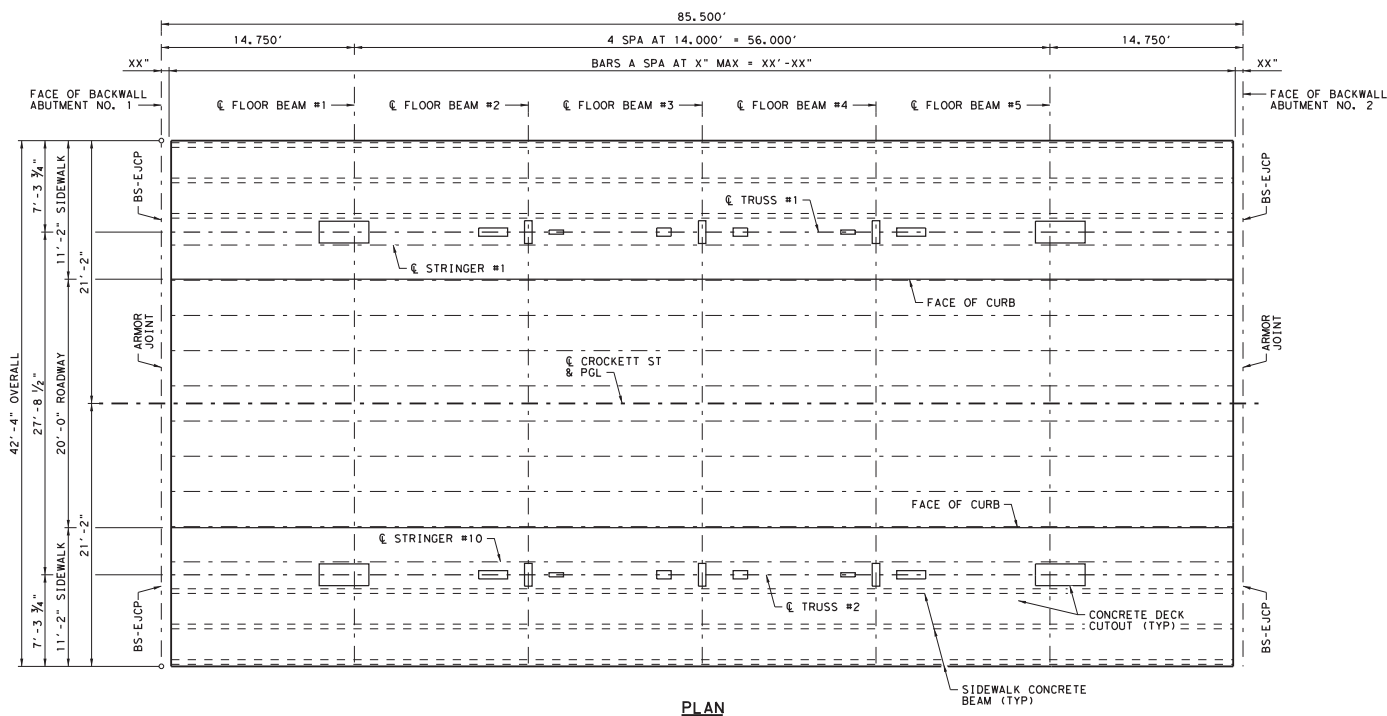
SCOPE OF REHABILITATION:

- ① REMOVE EXISTING SLAB, SIDEWALK, AND STAY IN PLACE FORMS AND REPLACE WITH NEW CONCRETE SLAB, SIDEWALK, AND STAY IN PLACE FORMS, SEE "FLOOR SYSTEM DETAILS" SHEET.
- ② REMOVE EXISTING WROUGHT IRON BUILT-UP STRINGERS AND REPLACE WITH NEW STEEL W12X26 STRINGERS, SEE "FLOOR SYSTEM DETAILS" SHEET.
- ③ RESTORE AND RETROFIT EXISTING SIDEWALK AND TRUSS RAILS, SEE "RAIL REPAIR DETAILS" SHEET.
- ④ CLEAN, REMOVE RUST, STRAIGHTEN BENT PLATES AND LATICE, AND PAINT ALL BRIDGE MEMBERS AND RAILS.
- ⑤ EXISTING UTILITIES UNDER THE SOUTH SIDEWALK TO REMAIN UNDISTURBED DURING CONSTRUCTION.
- ⑥ EXISTING ELECTRICAL CONDUIT TO BE TEMPORARILY SUPPORTED DURING CONSTRUCTION AND REATTACHED AFTER CONSTRUCTION BY CPS ONLY.
- ⑦ EXISTING CONDUIT AND LIGHTING ON PANEL #1 TO BE REMOVED AND REPLACED, SEE "ILLUMINATION DETAILS" SHEETS.
- ⑧ EXISTING BRIDGE LIGHTING TO BE REPLACED, SEE "ILLUMINATION DETAILS" SHEETS.
- ⑨ REMOVE AND REPLACE BACKWALL AT ABUTMENT NO. 2, SEE "ABUTMENT DETAILS" SHEETS.
- ⑩ REPAIR EXISTING BACKWALL AT ABUTMENT NO. 1, SEE "ABUTMENT DETAILS" SHEETS.
- ⑪ REMOVE AND REPLACE CONCRETE END DIAPHRAGM FOR SPECIFIED LIMITS, SEE "FLOOR SYSTEM DETAILS" SHEET.
- ⑫ REPLACE SPECIFIED NUT AT NODE, SEE "TRUSS REHABILITATION DETAILS" (SHEET X OF X).
- ⑬ REPAIR CRACK IN TOP CHORD WEB AT NODE U1, SEE "TRUSS REHABILITATION DETAILS" (SHEET X OF X).
- ⑭ REPLACE FLOOR BEAM PLATE AND BOLTS ON WEST SIDE OF WEB, SEE "FLOOR BEAM REHABILITATION DETAILS" (SHEET X OF X).
- ⑮ REPLACE FLOOR BEAM PLATES AND BOLTS ON BOTH SIDES OF WEB, SEE "FLOOR BEAM REHABILITATION DETAILS" (SHEET X OF X).
- ⑯ REPAIR BOTTOM FLANGE OF FLOOR BEAM #4, SEE "FLOOR BEAM REHABILITATION DETAILS" (SHEET X OF X).
- ⑰ REPAIR HOLE ON WEB OF FLOOR BEAM #1, SEE "FLOOR BEAM REHABILITATION DETAILS" (SHEET X OF X).
- ⑱ REPLACE EXISTING CONNECTION PLATES AND BOLTS SPECIFIED BETWEEN FLOOR BEAM AND TRUSS, SEE "TRUSS REHABILITATION DETAILS" (SHEET X OF X).
- ⑲ REPLACE MISSING RIVET WITH BOLT ON TOP PLATE OF TOP CHORD, SEE "TRUSS REHABILITATION DETAILS" (SHEET X OF X).

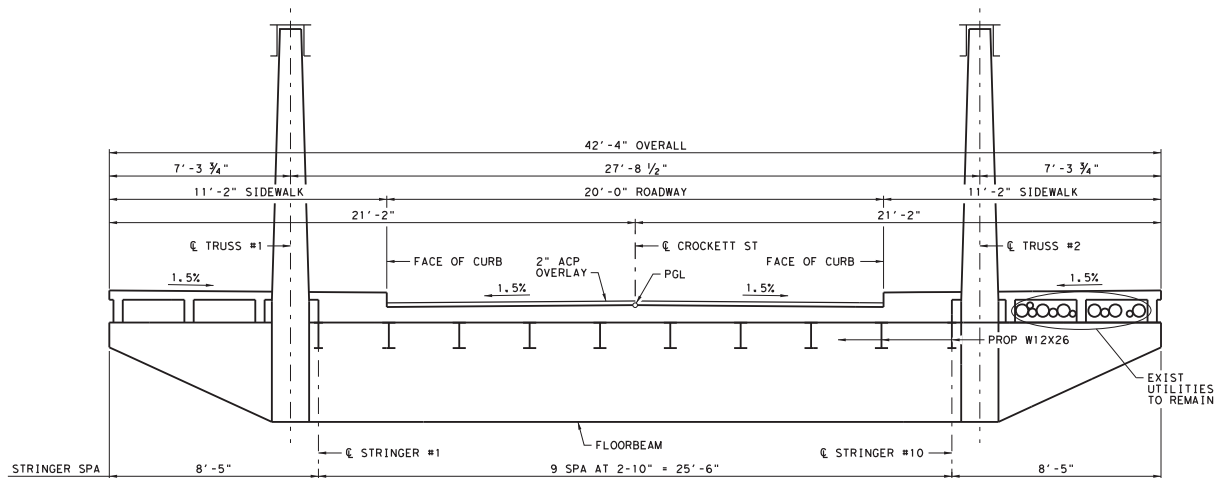


PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
BRIAN S. KUEHL, P.E. #97313
ON 8/4/2015

MTR May Tarin Ramirez Engineers, LLC 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78706 PH: (512) 314-3100 FAX: (512) 314-3135	12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM # 2966
	JACOBS 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78706 PH: (512) 314-3100 FAX: (512) 314-3135
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT 2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE	
REHABILITATION OVERVIEW	
70% SUBMITTAL DRWN BY: LTT	PROJECT NO.: WJXL7101 DSGN BY: RLS CHKD BY: BSK
DATE: 8/4/2015 SHEET NO.: 23 OF 43	



PLAN



TYPICAL TRANSVERSE SECTION

GENERAL NOTES:

DESIGN IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION FOR HS14 LOADING AT THE OPERATIONAL LEVEL.

CONTRACTOR TO FIELD VERIFY EXISTING MEMBER DIMENSIONS AND REPORT ANY MAJOR DISCREPANCIES BETWEEN FIELD FINDINGS AND ENGINEERING DETAILS TO ENGINEER OF RECORD PRIOR TO COMMENCING ANY REHABILITATION WORK.

PROVIDE CLASS "S" CONCRETE ($f'c = 4,000$ psi).

PROVIDE GRADE 60 REINFORCING STEEL.

PROVIDE BAR LAPS, WHERE REQUIRED, AS FOLLOWS:
UNCOATED - #4 = 1'-5"
#5 = 1'-9"

COVER DIMENSIONS ARE CLEAR DIMENSIONS, UNLESS NOTED OTHERWISE.

SEE "STRINGER TO FLOORBEAM ATTACHMENT" ON SHEET X OF X.

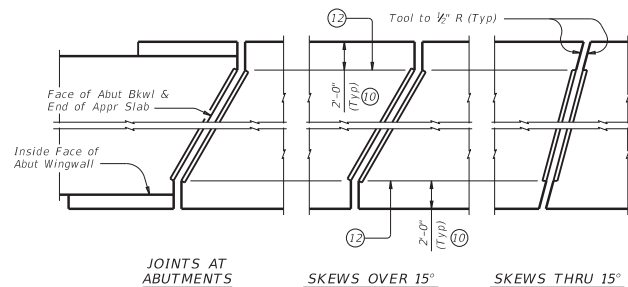
SEE "STRINGER BEARINGS AT ABUTMENTS" ON SHEET X OF X.

PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
BRIAN S. KUEHL, P.E. #97313
ON 8/4/2015

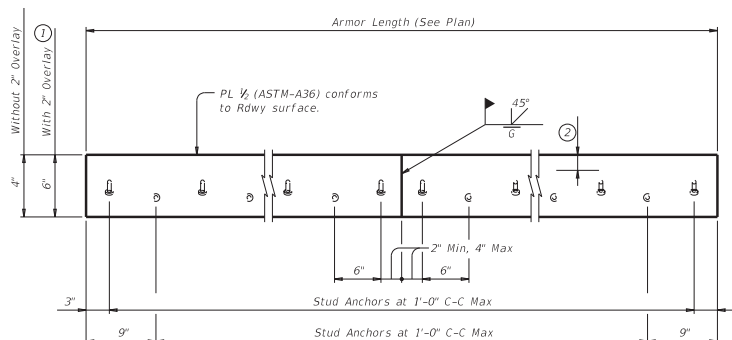
		12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5055 TBPE FIRM # 2966	
May Tarin Ramirez Engineers, LLC			
2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78706 PH: (512) 314-3100 FAX: (512) 314-3135		TBPE FIRM # 2966	
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT 2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE			
FLOOR SYSTEM DETAILS			
70% SUBMITTAL	PROJECT NO.: WJXL7101	DATE: 8/4/2015	
DRWN BY: LTT	DSGN BY: RLS	CHKD BY: BSK	SHEET NO.: 24 OF 43

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

DATE:
FILE:

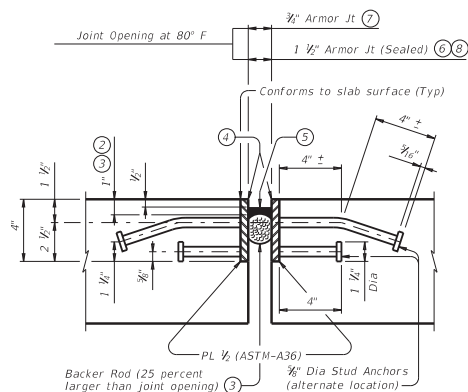


PLANS OF ARMOR PLATES



ELEVATION OF BASIC ARMOR PLATE

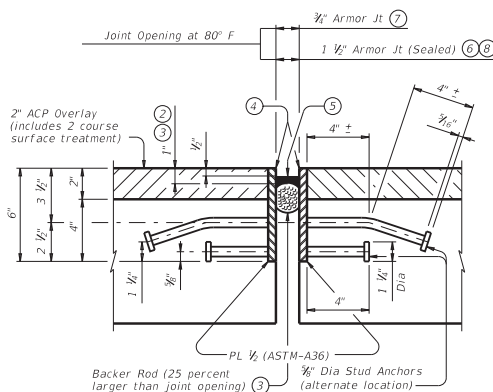
- ① Adjust 6" plate height for overlay thicknesses other than the 2" shown. Adjust values by 1.70 Lbs for each 1/2" variation in thickness.
- ② Do not paint top 1 1/2" of plate if using sealed armor joint.
- ③ Set top of backer rod 1" below top of armor plate. Backer rod must be compatible with joint sealant. Use of multiple pieces to create a backer rod cross section is not permitted. Top of backer rod must be convex as shown.
- ④ Blast clean entire contact area between sealant and plate (SSPC-SP10) before installing sealant. Light brush blast and thoroughly clean all dust and debris from concrete surfaces in contact with joint sealant before application of silicone seal.
- ⑤ Use Class 7 joint sealant that conforms to DMS-6310.
- ⑥ Place sealant while ambient temperature is between 55°F and 80°F and is rising.
- ⑦ Armor Joint does not include joint sealant or backer rod.
- ⑧ Armor Joint (Sealed) includes Class 7 joint sealant and backer rod.
- ⑨ Form vertical leg of seal as per the Manufacturer's recommendations. Use Class 4 joint sealant if Class 7 cannot be installed correctly. Install according to Manufacturer's recommendations.
- ⑩ Unless shown otherwise, terminate armor plate at slab break point if break is more than 2'-0" from slab edge.
- ⑪ See "Plans of Armor Plates".
- ⑫ At Fabricator's option, armor plate may extend up to 6" beyond this point for skews through 15°.
- ⑬ Align shipping angle perpendicular to joint.



SHOWN WITHOUT 2" OVERLAY AT JOINT LOCATION

ARMOR JOINT SECTIONS

Showing Armor Joint (Sealed)



SHOWN WITH 2" OVERLAY AT JOINT LOCATION ①

FABRICATION NOTES:

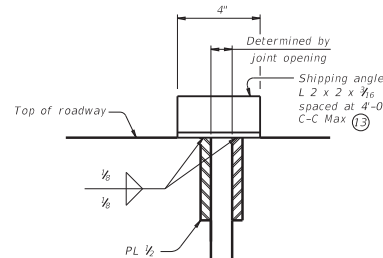
Match mark corresponding plate sections and secure together for shipment with shipping angle. Do not use erection bolts. Ship armor joints in convenient lengths of 10'-0" Min and 24'-0" Max unless necessary for stage construction or widenings. One shop splice is permitted in each shipping length provided no piece is less than 2'-0" long and sufficient studs are added to limit the stud to shop splice distance to 2' Min and 4' Max. Weld studs in accordance with AWS D1.1. Use groove welds for all shop and field butt splices. Grind smooth areas in contact with seal. Make all necessary field splice joint preparations in the shop. Paint portions of plate not in contact with concrete with the primer specified for System II paint. Shop drawings for the fabrication of armor joints will not require the Engineer's approval if fabrication is in accordance with the details shown on this standard.

CONSTRUCTION NOTES:

Secure armor joints in position and place to proper grade and alignment by welding braces to adjacent reinforcing steel, to prestressed beam stirrups, or to anchors cast in concrete diaphragms. Include cost of temporary bracing in the price bid for Armor Joint. Remove shipping angle immediately after each joint half is secured in place. Grind smooth, and touch up with organic zinc-rich paint.

GENERAL NOTES:

Provide armor joints at locations shown on the plans. Provide the seal when "Armor Joint (Sealed)" is noted on the plans. These joint details accommodate a joint movement range of 1 1/8" (1/4" opening movement and 3/8" closure movement). Payment for armor joint, with or without seal, is based on length of armor plate.



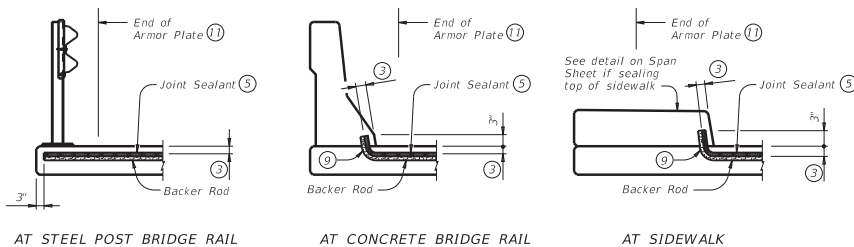
SHOWN WITHOUT 2" OVERLAY AT JOINT LOCATION

With overlay similar

SHIPPING ANGLE

An alternate method of securing joint sections may be used if approved by the Bridge Division. Erection bolts are not allowed.

WEIGHTS P.L.F. FOR ONE ARMOR JOINT (2 PLATES)	
WITHOUT OVERLAY	16.10 Lb
WITH 2" OVERLAY ①	22.90 Lb



JOINT SEALANT TERMINATION DETAILS

Armor Joint (Sealed) only. Armor Plate is not shown for clarity.

Texas Department of Transportation

Bridge
Division
Standard

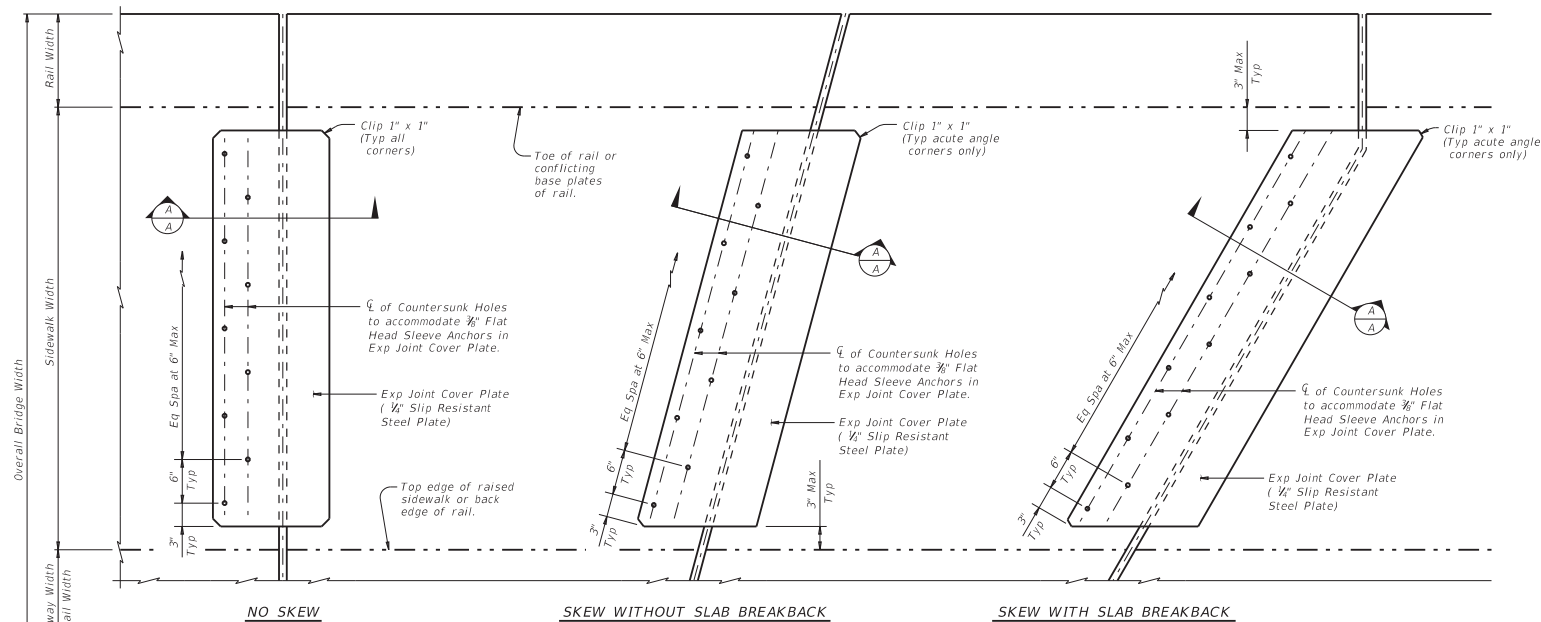
ARMOR JOINT DETAILS

AJ

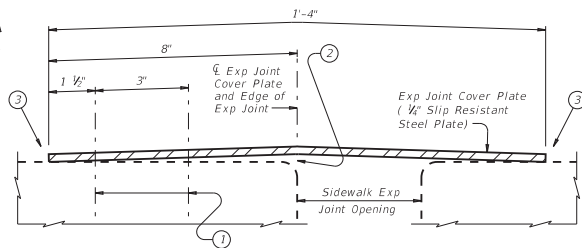
FILE:	ajstd01.dgn	ON:	TxDOT	CK:	TxDOT	ON:	TxDOT	CK:	TxDOT
 TxDOT	JANUARY 2015	CONT:	SECT	JOB:		HIGHWAY:			
REVISIONS		DATE	COUNTY		SHEET NO.		28 OF 43		

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

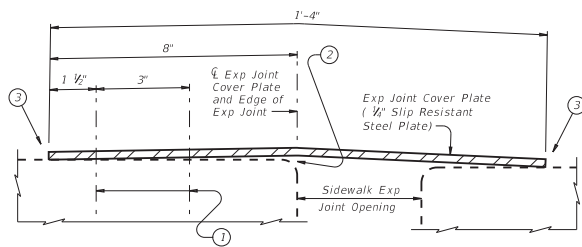
DATE:
FILE:



PLAN

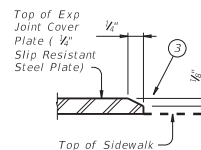


SHOWING LEVEL EXP JOINT



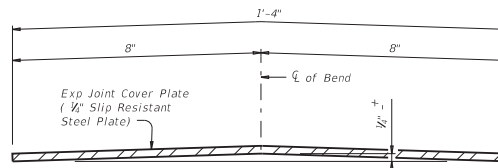
SHOWING UNLEVEL EXP JOINT (Install Sleeve Anchors on high side of Exp Joint)

SECTION A-A



EXP JOINT COVER PLATE BEVEL DETAIL

Bevel all plate edges as shown.



BENDING DIAGRAM OF EXP JOINT COVER PLATE

1. $\frac{1}{4}$ " $\frac{3}{8}$ " x 2 $\frac{1}{2}$ " Min, Flat Head Sleeve Anchors, Stainless Steel, Countersink Flat Head Sleeve Anchors in $\frac{1}{4}$ " Slip Resistant Steel Plate.
2. It is not necessary to remove plate crown provided the plate is firmly secured to the sidewalk.
3. Transverse edges must be in contact with sidewalk surface after installation.

APPROVED SLIP RESISTANT PLATE	
Product	Manufacturer Website
Mebac® #3, Steel	www.harscoikp.com
Algrip™, Steel	www.algrip.com
SlipNOT® Grade 2, Steel	www.slipnot.com

FABRICATION NOTES:

Shop drawings for the fabrication of Sidewalk Expansion Joint Cover Plate will not require the Engineer's approval if fabrication is in accordance with the details shown on this standard.

A Bridge Sidewalk Expansion Joint Cover Plate Layout which identifies location side of sleeve anchors and orientation of all cover plate sections must be developed by the fabricator. Mark each steel section in accordance with the Bridge Sidewalk Expansion Joint Cover Plate Layout. A copy of the Bridge Sidewalk Expansion Joint Cover Plate Layout is to be provided to the Engineer.

Sidewalk expansion joint cover plates must be hot-dipped galvanized $\frac{1}{4}$ " slip resistant steel plate. Checker plate or diamond plate is not allowed nor are slip resistant tapes, films and non-metallic coatings.

Minimum required yield strength of steel plate is 36 ksi.
Hot-dip galvanize slip resistant steel plate after fabrication in accordance with Item 445, "Galvanizing".

Provide stainless steel flat head sleeve anchors meeting the requirements of ASTM F 593, Group 1, Alloy 304, Countersink holes in slip-resistant plate for sleeve anchors. Drill holes in sidewalk as per sleeve anchor manufacturer's recommendations. Install sleeve anchors flush with, or slightly recessed below, top surface of sidewalk expansion joint cover plate.

GENERAL NOTES:

Sidewalk expansion joint cover plates can only accommodate up to a 7" maximum expansion joint. Details provided are applicable to concrete walkway surfaces only.

Payment for sidewalk expansion joint cover plates must be by the pound of "Structural Steel (Misc Non-Bridge)" as per Item 442, "Metal for Structures".

Estimated weight of one sidewalk expansion joint cover plate is 14 plf.



BRIDGE SIDEWALK EXPANSION JOINT COVER PLATE (ALL SKEWS)

BS-EJCP

FILE: bsejsteel.dgn	ON: TxDOT	CK: TxDOT	ON: TxDOT	CK: TxDOT
OT: TxDOT	January 2015	CONT	SECT	JOB
REVISIONS				
DATE	COUNTY			SHEET NO.
				30 OF 43

EPA & TCEQ Construction General Permit - Checklist of Record Keeping Responsibilities
City of San Antonio (COSA) - January-2015

ENGINEER

Pre Construction

- Design of structural controls
- Development of SWP3
- Development of SWP3 site diagram(s) including grading plans/contours anticipated at initial, interim and final grade
- Development of project phasing schedule
- Water Pollution Abatement Plan (WPAP) (Edwards Aquifer)
- AST Plan (Edwards Aquifer)
- Environmental Preconstruction Meeting

During Construction

- Evaluation of BMP effectiveness
- Review of SWP3 Modifications

Post Construction

- Close Out Inspection
 - o Ensure removal of temporary BMPs,
 - o Verify correct installation of permanent BMPs,
 - o Assess final stabilization achieved to allow Notice of Termination

COSA CONSTRUCTION PROJECT MANAGER

Pre Construction

- Review SWP3 Plans
- Environmental Preconstruction Meeting
- Conduct SWP3 Training (EPA only)

Construction

- Ensure inspection are performed and document every 7 days
- Ensure maintenance of up to date copies of SWP3 and associated records
 - o Corrective Action Documentation- within 7 days of time of discovery (EPA)
 - o Maintenance- document if unable to fix/install item within 7 days, (EPA)
- Ensure records of rainfall events are being maintained
 - o Rainfall during normal business hours that measures 0.25 inches or greater (EPA)
 - o Rainfall- record of total rainfall measured and the approximate beginning and ending dates of winter or drought conditions resulting in monthly frequency of inspections (TCEQ)
- Follow Up on incidents and spill reports to ensure proper corrective actions
 - o Construction Manager would be responsible for notifying COSA Environmental of a Reportable Quantity Release (e.g., sheen on water, 25 gallons of "oil" to land, etc.)
 - o Provide a description of spills and incidents & information obtained regarding quality and quantity of stormwater discharges to COSA Environmental,
- Ensure completion of the Grading Log (dates when activities start and end) and Construction Activities Log (daily)
 - o Ensure Construction Activities Log includes dates when construction activities temporarily or permanently cease on site (TCEQ) and dates when stabilization measures are initiated
- Ensure upkeep of the on-site Material Inventory
- Coordinate between Contractor, COSA, and Engineer when the SWP3 requires modification and/or when BMPs are not effective, are missing, or need maintenance/repair
- Ensure contractor is noting SWP3 accordingly (Dates of installment of BMPs, removal of BMPs, maintenance of BMPs, concrete washout pits date of install and removal, etc.)

Post Construction

- Close Out Inspection
 - o Ensure removal of temporary BMPs,
 - o Verify correct installation of permanent BMPs,
 - o Assess final stabilization achieved to allow Notice of Termination

COSA ENVIRONMENTAL GROUP

Pre Construction

- Review SWP3 Plans
- File Notice of Intent
- Environmental Preconstruction Meeting
- Conduct SWP3 Training (EPA only)
- Post Construction Site Notice

Construction

- Ensure inspection are performed and document every 7 days
- Ensure maintenance of up to date copies of SWP3 and associated records
 - o Corrective Action Documentation- within 7 days of time of discovery (EPA)
 - o Maintenance- document if unable to fix/install item within 7 days, (EPA)
- Ensure records of rainfall events are being maintained
 - o Rainfall during normal business hours that measures 0.25 inches or greater (EPA)
 - o Rainfall- record of total rainfall measured and the approximate beginning and ending dates of winter or drought conditions resulting in monthly frequency of inspections (TCEQ)
- Follow Up on incidents and spill reports to ensure proper corrective actions
 - o Conduct TCEQ notification as required for spills above a reportable quantity (e.g., sheen on water, 25 gallons of "oil" to land, etc.)
- Ensure completion of the Grading Log (dates when activities start and end) and Construction Activities Log (daily)
 - o Ensure Construction Activities Log includes dates when construction activities temporarily or permanently cease on site (TCEQ) and dates when stabilization measures are initiated
- Ensure upkeep of the on-site Material Inventory
- Coordinate between Construction Project Manager, Contractor, and Engineer when the SWP3 requires modification and/or when BMPs are not effective, are missing, or need maintenance/repair
- Ensure contractor is noting SWP3 accordingly (Dates of installment of BMPs, removal of BMPs, maintenance of BMPs, concrete washout pits date of install and removal, etc.)

Post Construction

- Close Out Inspection
 - o Ensure removal of temporary BMPs,
 - o Verify correct installation of permanent BMPs,
 - o Assess final stabilization achieved to allow Notice of Termination
- Obtain and file all records associated with the TPDES/NPDES Permit activities at the project for 3 years
- File Notice of Termination, when appropriate

CONTRACTOR

Pre Construction

- Review SWP3 Plans
- File Notice of Intent
- Environmental Preconstruction Meeting
- Conduct SWP3 Training (EPA only)
- Post Construction Site Notice

Construction

- Conduct inspections every 7 days and maintain records of inspections and corrective actions
- Maintain up to date copies of SWP3 and associated records
 - o Corrective Action Documentation- within 7 days of time of discovery (EPA)
 - o Maintenance- document if unable to fix/install item within 7 days, (EPA)
- Record rainfall events and maintain documentation with the SWP3
 - o Rainfall during normal business hours that measures 0.25 inches or greater (EPA)
 - o Rainfall- record of total rainfall measured and the approximate beginning and ending dates of winter or drought conditions resulting in monthly frequency of inspections (TCEQ)
- Conduct and record environmental monitoring-
 - o Retain all related records including: TSS (Once per week), Turbidity (Twice per day upstream and downstream) (EPA)
 - o Sampling-(on-site batch plant) document if sampling is not completed within the first 30 minutes of discharge (TCEQ).
- Follow Up on incidents and spill reports to ensure proper corrective actions
 - o Notify Construction Site Project Manager immediately of spills above a reportable quantity (e.g., sheen on water, 25 gallons of "oil" to land, etc.)
 - o Provide a description of spills and incidents & information obtained regarding quality and quantity of stormwater discharges to the Project Manager, as necessary.
- Complete the Grading Log (dates when activities start and end) and Construction Activities Log (daily)
 - o Ensure Construction Activities Log includes dates when construction activities temporarily or permanently cease on site (TCEQ) and dates when stabilization measures are initiated
- Maintain an on-site Material Inventory
- Update SWP3 to depict actual locations and types of BMPs, potential pollutant sources, etc., as the project proceeds.
- Coordinate between Construction Project Manager, COSA Environmental, and Engineer when the SWP3 requires modification and/or when BMPs are not effective, are missing, or need maintenance/repair
- Ensure SWP3 is being noted accordingly (Dates of installment of BMPs, removal of BMPs, maintenance of BMPs, concrete washout pits date of install and removal, etc.)

CONTRACTOR (Cont'd)

Post Construction

- Close Out Inspection
 - o Ensure removal of temporary BMPs,
 - o Verify correct installation of permanent BMPs,
 - o Assess final stabilization achieved to allow Notice of Termination
- Provide COSA Environmental with copies of all records associated with the TPDES/NPDES Permit
- Maintain a copy of these records for Contractor Permit compliance for 3 years following submittal of the Notice of Termination
- File Notice of Termination, when appropriate

Close Out Inspection

- Ensure removal of temporary BMPs,
- Verify correct installation of permanent BMPs,
- Assess final stabilization achieved to allow Notice of Termination
- Obtain and file all records associated with the TPDES/NPDES Permit activities at the project for 3 years
- File Notice of Termination, when appropriate

JANUARY 2015

CITY OF SAN ANTONIO
TRANSPORTATION AND CAPITOL IMPROVEMENTS

STORM WATER POLLUTION
GENERAL NOTES

% SUBMITTAL PROJECT NO.: DATE:
DRWN. BY: DSGN. BY: CHKD. BY: SHEET NO.: 23 OF

SITE DESCRIPTION

1. PROJECT NAME AND LOCATION: CITY OF SAN ANTONIO

(SEE LOCATION MAP, SHEET C1.D) 2012 CITYWIDE BRIDGE PROGRAM-CROCKETT BRIDGE

2. CONTACT AND PHONE NO.:

RICHARD GROCHOWSKI (210) 207-7640

3. PROJECT DESCRIPTION:

REHABILITATION OF EXISTING STEEL TRUSS BRIDGE, INSTALLATION OF DRAINAGE IMPROVEMENTS, AND MILL AND OVERLAY OF STREET.

4. ☒ LINEAR ROW OR ☐ NON LINEAR ROW

5. POTENTIAL POLLUTANT SOURCES AT THE CONSTRUCTION PROJECT MAY INCLUDE (CHECK ALL THAT APPLY):

☒ DUST ☒ LITTER/TRASH ☐ CONTAMINATED SOILS
☒ VEHICLE FLUIDS ☒ AGGREGATE, BASE, SAND, ☐ FERTILIZERS/HERBICIDES
☒ OIL AND GREASE ☐ SAND SPOILS (DESCRIBE) ☐ CONCRETE WASHOUT ☐ VEHICLE WASH WATER
☐ OTHER CHEMICALS (DESCRIBE)

6. MAJOR SOIL DISTURBING ACTIVITIES:

DEMOLITION OF EXISTING ROADWAYS,

TOTAL PROJECT AREA (ACRES): 0.25 ACRES MATERIAL STORAGE AREAS (ACRES): SUPPORTING ASPHALT PLANT:
TOTAL AREA TO BE DISTURBED: 0.25 ACRES SUPPORTING CONCRETE BATCH PLANT: SUPPORTING BARROW PIT:
LAYDOWN YARDS: OTHER:

7. WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION):

0.95

8. EXISTING CONDITION OF SOIL, VEGETATIVE COVER AND % OF VEGETATIVE COVER:

SITE CONSISTS OF PAVED STREETS AND SIDEWALKS.

9. DESCRIPTION OF WATER DISCHARGED NOT ASSOCIATED WITH CONSTRUCTION:

NONE

10. NAMES AND SEGMENT NUMBERS OF RECEIVING WATERS THAT WILL RECEIVE DISCHARGES FROM DISTURBED AREAS OF THE PROJECT:

UPPER SAN ANTONIO RIVER, SEGMENT 1911

11. IDENTIFY STORMWATER DISCHARGE POINTS:

STORM WATER WILL DISCHARGE TO THE SAN ANTONIO RIVER.

12. DESCRIPTION AND TIME FRAME FOR INSTALLATION OF STABILIZATION PRACTICES IN CONJUNCTION WITH CONSTRUCTION:

SOIL STABILIZATION WILL OCCUR PRIOR TO DEMOLITION.

EROSION AND SEDIMENTATION CONTROLS

1. SOIL STABILIZATION PRACTICES:

HYDROMULCHING PRESERVATION OF NATURAL RESOURCES
 TEMPORARY SEEDING FLEXIBLE CHANNEL LINER
 PERMANENT PLANTING, SODDING OR SEEDING RIGID CHANNEL LINER
 MULCHING COMPOST MANUFACTURED TOPSOIL
 SOIL RETENTION BLANKET OTHER (BIO LOGS)
 BUFFER ZONES

OTHER:

DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITY HAS CEASED TEMPORARILY OR PERMANENTLY, SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITIES ARE SCHEDULED TO RESUME AND DONE WITHIN 21 DAYS.

2. STRUCTURAL PRACTICES:

SILT FENCES
 HAY BALES
 GRAVEL FILTRATION BAGS
 ROCK BERMS
 DIVERSION, INTERCEPTOR OR PERIMETER DIKES
 DIVERSION, INTERCEPTOR OR PERIMETER SWALES
 DIVERSION, DIKE AND SWALE COMBINATIONS
 PAVED FLUMES
 ROCK BEDDING AT CONSTRUCTION EXIT (STABILIZED ENTRANCE)
 TIMBER MATTING AT CONSTRUCTION EXIT (STABILIZED ENTRANCE)
 CHANNEL LINERS
 SEDIMENT TRAPS
 SEDIMENT BASINS
 STORM INLET SEDIMENT TRAP
 STONE OUTLET SEDIMENT STRUCTURES
☒ CURBS AND GUTTERS
☒ STORM SEWERS
 VELOCITY CONTROL STRUCTURES
 GEOTEXTILES

OTHER:

3. NARRATIVE - SEQUENCE OF CONSTRUCTION (STORMWATER MANAGEMENT) ACTIVITIES:

1) INSTALLATION OF EROSION AND SEDIMENTATION CONTROLS, 2) DEMOLITION, 3) PERMANENT EROSION CONTROL CONSTRUCTION, 4) REMOVAL OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS,
5) SITE CLEAN UP

4. A DESCRIPTION OF MAINTENANCE PROCEDURES FOR CONTROL MEASURES USED:

CONTROLS SHALL BE MAINTAINED TO PERFORM THE FUNCTION AS INTENDED. WHEN A CONTROL DETERIORATES TO A CONDITION WHERE ITS PERFORMANCE IS COMPROMISED, THE CONTROL SHALL BE REPAIRED/REPLACED TO FULL FUNCTION PRIOR TO THE NEXT STORM EVENT, OR AS NECESSARY. SEDIMENTATION, DEBRIS, AND TRASH WILL BE REMOVED AND STRUCTURES RESTORED TO ORIGINAL DIMENSIONS WHEN ACCUMULATED TO 8" OR MORE.

5. STORMWATER MANAGEMENT:

EXISTING STORM WATER PATTERNS WILL BE MAINTAINED WITH DISCHARGE CONTINUING TO SHEET FLOW FROM THE SITE TO THE SAN ANTONIO RIVER.

6. A DESCRIPTION OF PERMANENT STORM WATER MANAGEMENT CONTROLS:

PERMANENT CONTROLS INCLUDE SOILS STABILIZATION ASPHALT/CONCRETE PAVEMENT.

7. THE FOLLOWING ITEMS SHOULD BE UPDATED AS NECESSARY AND BE INCLUDED AS PART OF THE WEEKLY INSPECTION REPORTS

SCHEDULE OF CONSTRUCTION ACTIVITIES IS MAINTAINED BY AND CAN BE ACCESSED BY CONTACTING (NAME) AT (PHONE)

INSTALLATION OF STORMWATER CONTROL MEASURES (INSTALL DATE, OPERATIONAL DATE, DEVIATION FROM MANUFACTURE SPEC):

COMMENCEMENT AND DURATION OF EARTH WORK, FINAL GRADING, CREATION OF SOIL AND VEGETATION STOCKPILES REQUIRING STABILIZATION:

CESSATION OF CONSTRUCTION ACTIVITIES WITHIN A PORTION OF THE SITE (TEMPORARY AND PERMANENT):

FINAL AND TEMPORARY STABILIZATION AREAS OF EXPOSED SOILS:

REMOVAL OF TEMPORARY STORMWATER CHANNELS, CONTROL MEASURES, CONSTRUCTION EQUIPMENT AND VEHICLES, AND CESSATION OF ANY POLLUTANT-GENERATING ACTIVITIES:

NOTE:

SWP3 NARRATIVE TO ACCOMPANY SITE MAP AND PROJECT DESIGN SHEETS THAT INCLUDE IDENTIFYING EARTH DISTURBING ACTIVITIES, EXISTING AND PROPOSED SLOPES OF GRADING ACTIVITIES, CONSTRUCTION AND SOIL STOCKPILE LOCATIONS, SURFACE WATER CROSSINGS, DESIGNATED EXIST POINTS, STRUCTURES AND IMPERVIOUS SURFACES TO BE CONSTRUCTED, CONSTRUCTION SUPPORT ACTIVITY AREAS, LOCATION OF ALL SURFACE WATERS IN VICINITY, BOUNDARIES OF NATURAL BUFFERS, AREAS OF FEDERALLY LISTED CRITICAL HABITAT, TOPOGRAPHY, VEGETATIVE COVER AND DRAINAGE PATTERNS OF FLOWS ONTO, OVER AND FROM THE PROJECT SITE, STORMWATER AND ALLOWABLE NON STORMWATER DISCHARGE LOCATIONS, ALL STORM INLETS ON AND IN VICINITY OF THE SITE, LOCATION OF ALL POTENTIAL POLLUTANT GENERATING ACTIVITIES, LOCATION OF STORMWATER CONTROL MEASURES, AND LOCATIONS WHERE POLYMERS, FLOCCULANTS, AND OTHER CHEMICALS WILL BE USED AND STORED.

OCTOBER 2014

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

STORM WATER POLLUTION
PREVENTION PLAN (SWP3) NARRATIVE
SHEET 1 OF 2

100% SUBMITTAL	PROJECT NO.:	DATE: 08/04/15
DRAWN BY:	DESIGN BY:	CHECK BY:
		SHEET NO.: 21 OF

BEST MANAGEMENT PRACTICES

1. NATURAL BUFFER SECTION:

- _____ 50-FOOT (OR MORE) BUFFER ZONE
- _____ LESS THAN 50-FOOT BUFFER ZONE
- ☒ _____ LINEAR CONSTRUCTION PROJECT; DOES NOT REQUIRE 50-FOOT BUFFER ZONE

2. GENERAL REQUIREMENTS:

- 1. INSTALL PERIMETER CONTROLS TO RETAIN SEDIMENT ON-SITE TO THE EXTENT PRACTICABLE WITH CONSIDERATION FOR LOCAL TOPOGRAPHY, SOIL TYPE, AND RAINFALL.
- 2. MINIMIZE SEDIMENT TRACK OUT ONTO OFF-SITE STREETS, OR OTHER PAVED AREAS AND SIDEWALKS, RESTRICT VEHICLE USE TO PROPERTY THROUGH DESIGNATED ACCESS POINTS, USE APPROPRIATE STABILIZATION MEASURES, REMOVE SEDIMENT FROM TIRES, WHEN PRACTICABLE.
- 3. CONTROL DISCHARGES FROM STOCKPILED SEDIMENT BY:
 - 1) LOCATING PILES OUTSIDE OF NATURAL BUFFERS AND PHYSICALLY SEPARATING PILES FROM OTHER STORMWATER CONTROLS
 - 2) USE A TEMPORARY PERIMETER SEDIMENT BARRIER
 - 3) PROVIDE COVER OR TEMPORARY STABILIZATION, WHERE PRACTICABLE
 - 4) USE DRY CLEAN UP METHODS TO REMOVE ACCUMULATED SEDIMENT FROM PAVED AREAS
 - 5) PROTECT FROM WIND WHERE FEASIBLE
 - 4. MINIMIZE DUST THROUGH THE APPROPRIATE APPLICATION OF WATER.
 - 5. MINIMIZE SLOPE STEEPNESS OF EXPOSED SOILS THROUGH PHASED DISTURBANCE AND IMPLEMENTATION OF BMPs.
 - 6. MINIMIZE SOIL COMPACTION IN AREAS WHERE RE-VEGETATION IS PLANNED BY RESTRICTING VEHICLE USE AND CONDITION SOIL PRIOR TO RE-VEGETATION.
 - 7. PROTECT STORM DRAIN INLETS PRIOR TO LAND DISTURBANCE.

3. SEDIMENTATION BASINS:

SEDIMENTATION BASINS (CHECK ALL THAT APPLY)

- _____ DRAINAGE AREA > 10 ACRES (SEDIMENTATION BASIN DESIGN ON SHEET _____)
- _____ DRAINAGE AREA > 10 ACRES (SEDIMENTATION BASIN INFEASIBLE-ALTERNATE EQUIVALENT CONTROL DESIGN ON SHEET _____)
- _____ DRAINAGE AREA < 10 ACRES (SEDIMENT TRAPS AND BASINS)
- ☒ _____ DRAINAGE AREA < 10 ACRES (PERIMETER CONTROLS)

4. DEWATERING PRACTICES:

- 1. DO NOT DISCHARGE VISIBLE FLOATING SOLIDS OR FOAM; USE AN OIL-WATER SEPARATOR OR SUITABLE FILTRATION DEVICE THAT IS DESIGNED TO REMOVE OIL, GREASE, OR OTHER PRODUCTS IF DEWATERING WATER IS FOUND TO CONTAIN THESE MATERIALS.
- 2. UTILIZE VEGETATED UPLAND AREAS OF THE SITE TO INFILTRATE DEWATERING WATER BEFORE DISCHARGE, WHERE FEASIBLE.
- 3. DISCHARGE DEWATERING WATER ONTO A VELOCITY DISSIPATION DEVICE.
- 4. MANAGE BLACKWASH WATER AS A WASTE OR RETURN IT TO THE BEGINNING OF THE TREATMENT PROCESS.
- 5. REPLACE AND CLEAN FILTER MEDIA USED IN DEWATERING DEVICE ACCORDING TO MANUFACTURE'S SPECIFICATIONS.
- 6. DO NOT USE TREATMENT CHEMICALS WITHOUT PRIOR WRITTEN CONSENT FROM COSA, A WRITTEN MANAGEMENT PLAN IS REQUIRED FOR USE OF TREATMENT CHEMICALS.

5. NON STORM WATER DISCHARGES:

THE FOLLOWING NON-STORMWATER DISCHARGES ARE AUTHORIZED FOR DISCHARGE BY THE GENERAL PERMIT. PROJECT SITE MAPS MUST REFLECT THE LOCATIONS OF ANY NON-STORMWATER DISCHARGES. NON-STORMWATER DISCHARGES MUST BE MANAGED BY STORMWATER BMPs TO PROTECT RECEIVING WATER QUALITY.

- 1. DISCHARGES FROM FIRE FIGHTING ACTIVITIES AND/OR FIRE HYDRANT FLOODING.
- 2. VEHICLE, EXTERNAL BUILDING, AND PAVEMENT WASH WATER WHERE DETERGENTS AND SOAPS ARE NOT USED AND WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED (UNLESS ALL SPILLED MATERIAL HAS BEEN REMOVED).
- 3. PLAIN WATER USED TO CONTROL DUST.
- 4. PLAIN WATER ORIGINATING FROM POTABLE WATER SOURCES.
- 5. UNCONTAMINATED GROUNDWATER, SPRING WATER, OR ACCUMULATED STORMWATER.
- 6. FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS SUCH AS SOLVENTS.
- 7. UNCONTAMINATED AIR CONDITIONING CONDENSATE.
- 8. LAWN WATERING AND SIMILAR DRAINAGE.
- 9. OTHER _____

6. PROHIBITED STORM WATER DISCHARGES:

- 1. WASTEWATER FROM WASH OUT OF CONCRETE TRUCKS.
- 2. WASTEWATER FROM WASH OUT AND CLEAN OUT OF STUCCO, PAINT, FORM RELEASE OILS, CUTTING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS.
- 3. FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATIONS AND MAINTENANCE.
- 4. SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.
- NOTE - DO NOT USE TREATMENT CHEMICALS WITHOUT PRIOR WRITTEN CONSENT FROM COSA, A WRITTEN MANAGEMENT PLAN IS REQUIRED FOR USE OF TREATMENT CHEMICALS.
- 7. CONCRETE TRUCK WASH WATER DISCHARGES ON THE SITE SHOULD BE PROHIBITED OR MINIMIZED, IF ALLOWED BY THE ENGINEER, THEY MUST BE MANAGED IN A MANNER SO AS NOT TO CONTAMINATE SURFACE WATER, THEY MUST NOT BE LOCATED IN AREAS OF CONCENTRATED FLOW. CONCRETE TRUCK WASH-OUT LOCATIONS MUST BE SHOWN ON THE SW3P LAYOUT AND INCLUDED IN THE INSPECTIONS. HAZARDOUS MATERIAL SPILL/LEAK SHALL BE PREVENTED OR MINIMIZED. AT A MINIMUM, THIS INCLUDES ASPHALT PRODUCTS, FUELS, OILS, LUBRICANTS, SOLVENTS, PAINTS, ACIDS, CONCRETE CURING COMPOUNDS, AND CHEMICAL ADDITIVES FOR SOIL STABILIZATION. BMPs SHALL BE IMPLEMENTED TO THE STORAGE OF THESE PRODUCTS. ALL SPILLS MUST BE CLEANED AND DISPOSED PROPERLY AND REPORTED TO THE ENGINEER. REPORT ANY RELEASE AT OR ABOVE THE REPORTABLE QUANTITY DURING A 24 HOUR PERIOD TO THE NATIONAL RESPONSE CENTER AT 1-800-424-8802.

8. MATERIAL MANAGEMENT PRACTICES:

CONTRACTOR MUST MAINTAIN AN INVENTORY OF CONSTRUCTION AND WASTE MATERIALS EXPECTED TO BE STORED ON-SITE AND A DESCRIPTION OF CONTROLS IMPLEMENTED TO MINIMIZE POLLUTANTS FROM THESE SOURCES.

9. COMPLIANCE WITH APPROVED STATE AND LOCAL PLANS:

THIS SW3P SHALL CONFORM TO APPLICABLE LOCAL RULES AND REGULATIONS FOR WATER QUALITY, INCLUDING BUT NOT LIMITED TO THOSE ESTABLISHED BY COSA, SAWS, BEXAR COUNTY, EAA, OR OTHERS, AS APPLICABLE.

OTHER REQUIREMENTS AND PRACTICES

OTHER REQUIREMENTS AND PRACTICES

1. MAINTENANCE:

ALL EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED IN GOOD WORKING ORDER, IF A REPAIR IS NECESSARY, IT SHALL BE PERFORMED BY CLOSE OF THE NEXT DAY FOLLOWING DISCOVERY. RECOMMENDATIONS FOR NEW BMPs OR SIGNIFICANT REPAIRS TO EXISTING BMPs MADE BY INSPECTORS OF THIS SWPPP OR BY THE EPA WILL BE INSTALLED WITHIN SEVEN (7) CALENDAR DAYS FROM THE DATE OF INSPECTION OR PRIOR TO THE NEXT RAIN EVENT, WHICHEVER IS SOONER. CORRECTIVE ACTIONS, SUCH AS TEMPORARY BMPs, SHALL BE IMMEDIATELY TAKEN IN THE EVENT THAT A DISCHARGE OF POLLUTANTS IS DISCOVERED TO MINIMIZE OR PREVENT FURTHER DISCHARGE UNTIL A PERMANENT SOLUTION IS INSTALLED. WHEN CORRECTIVE ACTIONS RESULT IN CHANGES TO STORMWATER CONTROLS OR PROCEDURES, AMEND THE SWPPP WITHIN SEVEN (7) CALENDAR DAYS OF COMPLETING THE CORRECTIVE ACTION WORK. EACH CORRECTIVE ACTION REPORT MUST BE SIGNED AND CERTIFIED BY THE AUTHORIZED SIGNATORY AUTHORITY. KEEP A CURRENT COPY OF ALL CORRECTIVE ACTION REPORTS AT THE SITE OR AT AN EASILY ACCESSIBLE LOCATION. MAINTAIN ALL CORRECTIVE ACTION REPORTS FOR AT LEAST THREE (3) YEARS FROM THE DATE THAT YOUR PERMIT COVERAGE EXPIRES OR IS TERMINATED. DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED, TEMPORARILY OR PERMANENTLY, SHALL BE STABILIZED WITHIN 14 CALENDAR DAYS UNLESS THEY ARE SCHEDULED TO AND DO RESUME WITHIN 21 CALENDAR DAYS. THE AREAS ADJACENT TO CREEKS AND DRAINAGE WAYS SHALL HAVE PRIORITY FOLLOWED BY PROTECTING STORM WATER INLETS.

2. INSPECTIONS:

FOR AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED, AREAS USED FOR STORAGE OF MATERIALS, STRUCTURAL CONTROL MEASURES, AND LOCATION WHERE VEHICLES ENTER OR EXIT THE SITE, PERSONNEL PROVIDED BY THE PERMITTEE AND FAMILIAR WITH THE SW3P MUST INSPECT DISTURBED AREAS AT LEAST ONCE EVERY 14 CALENDAR DAY AND WITHIN 24 HOURS OF A STORM OF 0.5 INCHES OR GREATER, THE SW3P MAY BE DEVELOPED TO REQUIRE THAT THESE INSPECTIONS WILL OCCUR AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS. IF THIS ALTERNATIVE SCHEDULE IS DEVELOPED, THE INSPECTION MUST OCCUR ON A SPECIALLY DEFINED DAY, REGARDLESS OF WHETHER OR NOT THERE HAS BEEN RAINFALL SINCE THE PREVIOUS INSPECTION. AN INSPECTION AND MAINTENANCE REPORT SHALL BE PREPARED FOR EACH INSPECTION AND THE CONTROLS SHALL BE REVISED ON THE SW3P WITHIN SEVEN (7) CALENDAR DAYS FOLLOWING THE INSPECTION. IF DISCHARGES OCCUR TO SEDIMENT OR NUTRIENT-IMPAIRED WATERS, OR TO OTHER SITES WITH IMPAIRMENT STATUS, INSPECTIONS MUST TAKE PLACE ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT OF 0.25 INCHES OR GREATER. INSPECTION REPORTS MUST BE COMPLETED WITHIN 24 HOURS OF COMPLETING ANY SITE INSPECTION, EACH INSPECTION MUST BE SIGNED BY AUTHORIZED SIGNATORY AUTHORITY.

3. WASTE MATERIALS:

ALL NON-HAZARDOUS MUNICIPAL WASTE MATERIALS SUCH AS LITTER, RUBBISH, AND GARBAGE LOCATED ON OR ORIGINATING FROM THE PROJECT SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER PROVIDED BY THE CONTRACTOR. THE DUMPSTER SHALL BE EMPTIED AS NECESSARY OR AS REQUIRED BY LOCAL REGULATION AND THE TRASH SHALL BE HAULED TO A PERMITTED DISPOSAL FACILITY. THE BURYING OF NON-HAZARDOUS MUNICIPAL WASTE ON THE PROJECT SHALL NOT BE PERMITTED. CONSTRUCTION MATERIAL WASTE SITES, STOCKPILES, AND HAUL ROADS SHALL BE CONSTRUCTED TO MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT MAY ENTER RECEIVING WATERS. CONSTRUCTION MATERIALS WASTE SITES SHALL NOT BE LOCATED IN ANY WETLAND, WATER BODY, OR STREAM BED. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS.

4. OFFSITE VEHICLE TRACKING:

OFFSITE VEHICLE TRACKING OF SEDIMENT AND THE GENERATION OF DUST MUST BE MINIMIZED. EXCESS SEDIMENTS ON ROAD SHALL BE REMOVED ON A REGULAR BASIS AS DIRECTED/APPROVED BY THE ENGINEER.

5. STAFF TRAINING REQUIREMENTS:

OPERATOR STAFF MUST RECEIVE TRAINING PRIOR TO COMMENCEMENT OF EARTH DISTURBING OR POLLUTANT GENERATING ACTIVITIES, WHICHEVER COMES FIRST, OPERATORS ARE NOT REQUIRED TO PROVIDE OR DOCUMENT FORMAL TRAINING FOR SUBCONTRACTORS OR OTHER OUTSIDE SERVICE PROVIDERS, BUT THEY MUST ENSURE THAT SUCH PERSONNEL UNDERSTAND THE PERMIT REQUIREMENTS THAT MAY BE AFFECTED BY THEIR WORK.

6. SUPPORTING CONCRETE BATCH PLANTS:

THE CONTRACTOR SHOULD DEVELOP A SEPARATE SW3P FOR OPERATIONS ASSOCIATED WITH A SUPPORTING CONCRETE BATCH PLANT IN CONFORMANCE WITH THE TCEQ TPDES CONSTRUCTION GENERAL PERMIT, PART IV RELATING TO STORM WATER RUNOFF FROM CONCRETE BATCH PLANTS. THIS SW3P DOES NOT PROVIDE ADEQUATE CONTROLS FOR THIS ACTIVITY.

7. SANITARY WASTE:

PORT-A-POT (PLACED OUTSIDE OF FLOODPLAIN)

8. OFFSITE EXCAVATION SOURCE LOCATION:

CONTRACTOR TO REMOVE AND PLACE SPOILS DAILY.

9. OFFSITE FILL SOURCE LOCATION:

CONTRACTOR TO REMOVE AND PLACE SPOILS DAILY.

10. OTHER:

CERTIFICATION THAT SITE DISTURBANCE AND/OR DISCHARGES WILL NOT EFFECT LISTED ENDANGERED SPECIES AND THEIR HABITAT. WHAT METHOD IS USED TO SATISFY THE ENDANGERED SPECIES REQUIREMENTS? SEE THE EPIC SHEET FOR ADDITIONAL INFORMATION.

SPILL PREVENTION AND RESPONSE PROCEDURES (CONTRACTOR TO COMPLETE)

- 1. IDENTIFY PROCEDURES FOR STOPPING, CONTAINING, AND CLEANING UP SPILLS, LEAKS AND OTHER RELEASE, _____

- 2. IDENTIFY THE NAME OR POSITION OF THE PERSON RESPONSIBLE FOR DETECTION AND RESPONSE OF SPILLS AND LEAKS, _____

- 3. IDENTIFY PROCEDURES FOR NOTIFICATION OF APPROPRIATE FACILITY PERSONNEL, REGULATORY AGENCIES, ETC., _____

REMARKS:

DISPOSAL AREAS, STOCKPILES AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT ENTERS RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, BODY OF WATER, STREAMBED, OR FLOODPLAIN. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS. ALL WATERWAYS SHALL BE CLEARED AS SOON AS POSSIBLE OF TEMPORARY EMBANKMENT, TEMPORARY BRIDGES, MATING, FALSEWORK, PILING DEBRIS, OR OTHER OBSTRUCTION PLACED DURING CONSTRUCTION OPERATIONS THAT ARE NOT PART OF THE FINISHED WORK.

OCTOBER 2014

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

STORM WATER POLLUTION
PREVENTION PLAN (SWP3) NARRATIVE
SHEET 2 OF 2

100% SUBMITTAL	PROJECT NO.:	DATE:
DRAWN BY:	DSGN BY:	CHKD BY:
		SHEET NO.: 22 OF

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

DATE:
PAGE:

DRAWING.DWG

I. STORMWATER POLLUTION PREVENTION--CLEAN WATER ACT SECTION 402

TPDES TXR 150000: Stormwater Discharge Permit or Construction General Permit required for projects with 1 or more acres disturbed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 1122.
List MSA Operator(s) that may receive discharges from this project. They may need to be notified prior to construction activities.

1. City of San Antonio

2.

☐ No Action Required ☒ Required Action

Action No.

1. Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000
2. Comply with the SW3P and revise when necessary to control pollution or required by the Engineer.
3. Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and TCEQ, EPA or other inspectors.
4. When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, submit NOI to TCEQ and the Engineer.
5. NOI required: ☐ Yes ☒ No

II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

USACE Permit required for filling, dredging, excavating or other work in any water bodies, rivers, creeks, streams, wetlands or wet areas.

The Contractor must adhere to all of the terms and conditions associated with the following permit(s):

- ☒ No Permit Required
☐ Nationwide Permit 14 -- PCN not Required (less than 1/10th acre waters or wetlands affected)
☐ Nationwide Permit 14 -- PCN Required (1/10 to <1/2 acre, 1/3 in tidal waters)
☐ Individual 404 Permit Required
☐ Other Nationwide Permit Required: NWP# _____

Required Actions: List waters of the US permit applies to, location in project and check Best Management Practices planned to control erosion, sedimentation and post-project TSS.

- 1.
- 2.
- 3.
- 4.

The elevation of the ordinary high water marks of any areas requiring work to be performed in the waters of the US requiring the use of a nationwide permit can be found on the Bridge Layouts.

Best Management Practices:

Erosion

- ☐ Temporary Vegetation
☐ Blankets/Matting
☐ Mulch
☐ Sodding
☐ Interceptor Swale
☐ Diversion Dike
☐ Erosion Control Compost
☐ Mulch Filter Berm and Socks
☐ Compost Filter Berm and Socks

Sedimentation

- ☐ Silt Fence
☐ Rock Berm
☐ Triangular Filter Dike
☐ Sand Bag Berm
☐ Straw Bale Dike
☐ Brush Berms
☐ Erosion Control Compost
☐ Mulch Filter Berm and Socks
☐ Compost Filter Berm and Socks
☐ Stone Outlet Sediment Traps
☐ Sediment Basins

Post--Construction TSS

- ☐ Vegetative Filter Strips
☐ Retention/Irrigation Systems
☐ Extended Detention Basin
☐ Constructed Wetlands
☐ Wet Basin
☐ Erosion Control Compost
☐ Mulch Filter Berm and Socks
☐ Compost Filter Berm and Socks
☐ Vegetation Lined Ditches
☐ Sand Filter Systems

III. CULTURAL RESOURCES

Cultural resources fall under the Antiquities Code of Texas and/or the National Historic Preservation Act, as amended in 1966. If a previously unidentified archeological site is encountered during construction work, activities should be immediately stopped in the vicinity and the City Archeologist (210--207--7306) notified and/or the SHPO.

☒ No Action Required ☐ Required Action

Action No.

- 1.
- 2.
- 3.
- 4.

IV. VEGETATION RESOURCES

Preserve native vegetation to the extent practical.

☒ No Action Required ☐ Required Action

Action No.

1. Ensure that a tree permit is in place for this project, if required.
2. Follow the tree preservation/mitigation plan provided in the design plan set. If there are any questions or concerns, please contact the City Arborist at 207--0278, before any work begins.

V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS.

☒ No Action Required ☐ Required Action

Action No.

1. MIGRATORY BIRD NESTS: Schedule construction activities as needed to meet the following requirements:
A. Do not remove or destroy any active migratory bird nests (nests containing eggs and/or flightless birds) of any time of year. If there are any active nests, they shall not be removed until the nests become inactive.
B. On/in structures, if there are any active nests, they shall not be removed until all nests become inactive. After inactive nests are removed and/or before nest activity begins, deterrent materials may be applied to the structures to prevent future nest building.
2. See Item 5 in General Notes.
- 3.
- 4.

If any of the listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately. The work may not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If coves or sinkholes are discovered, cease work in the immediate area, and contact the Engineer immediately.

LIST OF ABBREVIATIONS

BMP: Best Management Practice	SPCC: Spill Prevention Control and Countermeasure
CSP: Construction General Permit	SW3P: Storm Water Pollution Prevention Plan
DSHS: Texas Department of State Health Services	PON: Pre-Construction Notification
FHWA: Federal Highway Administration	PSL: Project Specific Location
MOA: Memorandum of Agreement	TCEQ: Texas Commission on Environmental Quality
MLU: Memorandum of Understanding	TPDES: Texas Pollutant Discharge Elimination System
MS4: Municipal Separate Stormwater Sewer System	TPWD: Texas Parks and Wildlife Department
MSPA: Migratory Bird Treaty Act	TxDOT: Texas Department of Transportation
NOI: Notice of Termination	TSE: Threatened and Endangered Species
NWP: Nationwide Permit	USACE: U.S. Army Corps of Engineers
NO: Notice of Intent	USFWS: U.S. Fish and Wildlife Service

VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

General (applies to all projects):

Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used.

Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bore ground and covered, for products which may be hazardous. Maintain product labeling as required by the Act.

Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the COSA Inspector immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the inspector if any of the following are detected:

- Dead or distressed vegetation (not identified as normal)
- Trash piles, drums, containers, barrels, etc.
- Undesirable smells or odors
- Evidence of leaching or seepage of substances

Does the project involve any bridge class structure rehabilitation or replacements (bridge class structures not including box culverts)?

☒ Yes ☐ No

If "No", then no further action is required.

If "Yes", then TxDOT is responsible for completing asbestos assessment/inspection.

Are the results of the asbestos inspection positive (is asbestos present)?

☐ Yes ☐ No

If "Yes", then TxDOT must retain a DSHS licensed asbestos consultant to assist with the notification, develop abatement/mitigation procedures, and perform management activities as necessary. The notification form to DSHS must be postmarked at least 15 working days prior to scheduled demolition.

If "No", then TxDOT is still required to notify DSHS 15 working days prior to any scheduled demolition.

In either case, the Contractor is responsible for providing the date(s) for abatement activities and/or demolition with careful coordination between the Engineer and asbestos consultant in order to minimize construction delays and subsequent claims.

Any other evidence indicating possible hazardous materials or contamination discovered on site. Hazardous Materials or Contamination Issues Specific to this Project:

☒ No Action Required ☐ Required Action

Action No.

- 1.
- 2.
- 3.

Does the project involve the demolition of a span bridge?

☐ Yes ☒ No (No further action required)

If "Yes", a pre-demolition notification must be submitted to the Texas department of State Health Services, 20 Calendar days prior to the demolition of the bridge(s) on the project. Contact TxDOT's hazardous material Coordinator at 210--615--6486 for assistance with the notification.

VII. OTHER ENVIRONMENTAL ISSUES

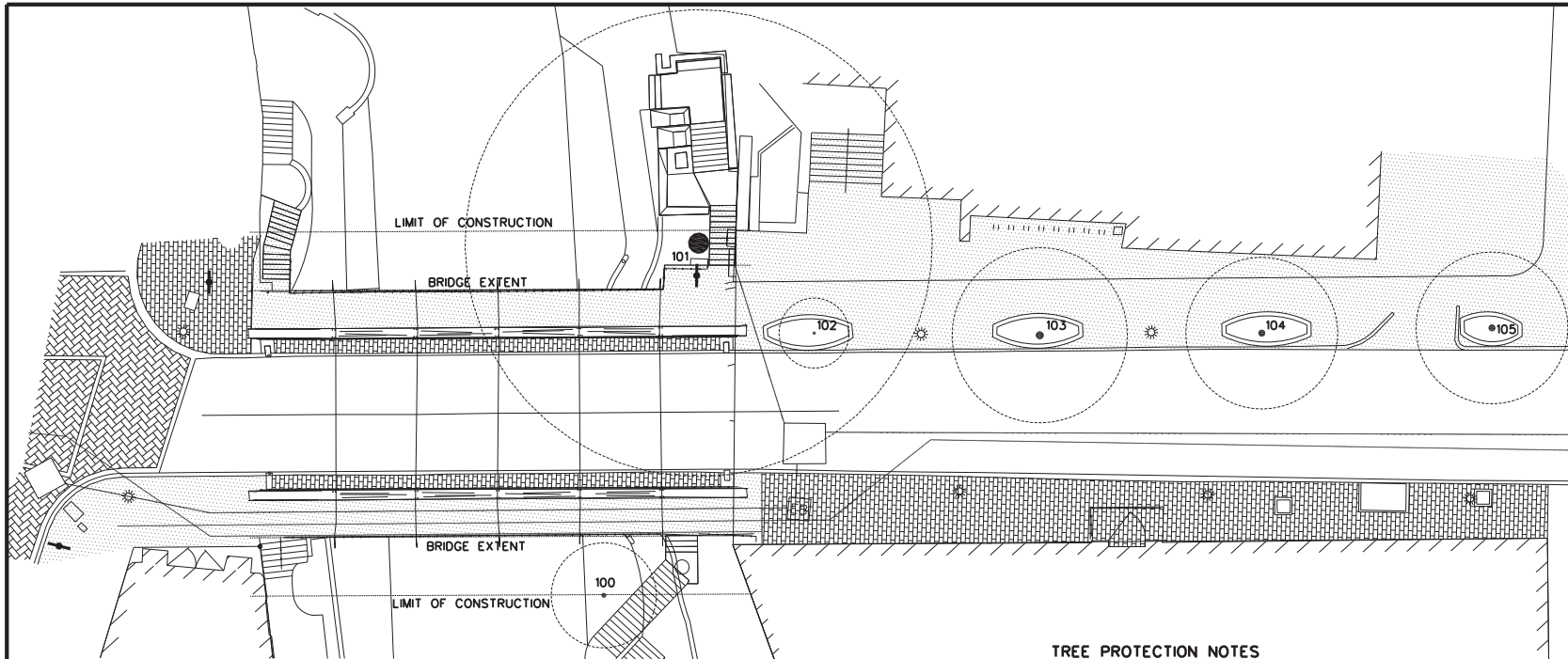
(Includes regional issues such as Edwards Aquifer District, etc.)

☐ No Action Required ☐ Required Action

Action No.

- 1.
- 2.
- 3.

MTR Moy Tarin Ramirez Engineers, LLC	Engineers Surveyors Planners	12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM #F-5297
JACOBS 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78786 FAX: (512) 314-3135		TBPE FIRM # 2066
PH: (512) 314-3100		
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT		
2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE		
ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS (EPIC)		
70% SUBMITTAL	PROJECT NO.: WJXL7101	DATE: 8/04/15
DRAWN BY:	DSGN BY:	CHKD BY:
		SHEET NO.: 32 OF 43



0 10 20
SCALE: 1" = 20'



TREE INVENTORY TABLE

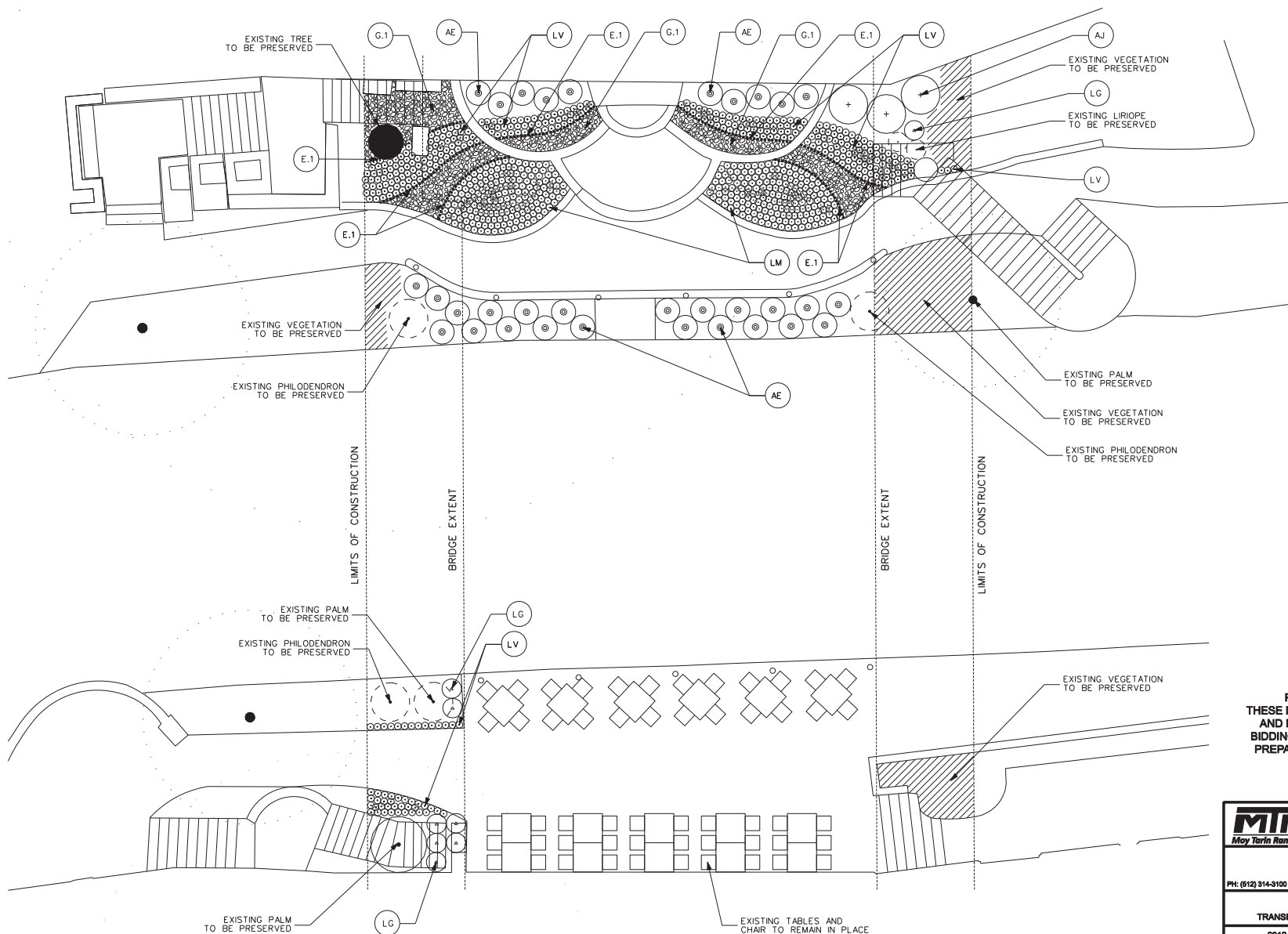
Tag #	Species	Understory Species* 5.0" - 11.5"		Significant Tree 6" - 23.5"		Significant Tree** 10.0" - 23.5"		Heritage 3:1		Heritage 1:1		Additional Inches Preserved for Mitigation ***
		Removed	Preserved	Removed	Preserved	Removed	Preserved	Removed	Preserved	Removed	Preserved	
100	Palm											
101	Bald Cypress								40			
102	Elm				6							
103	Live Oak				15							
104	Live Oak				13							
105	Live Oak				13							
Sub. Tot. Inches=		0	0	0	47	0	0	0	40	0	0	
			0		47		0		40		0	
Total inches by category=		N/A		Significant Preservation		100%		Heritage Preservation		100%		
Preservation percentage=		N/A		Commercial (inches)		0		Heritage Preservation		100%		
Mitigation required (Commercial) =		0		Commercial (inches)		0		Heritage Mitigation (inches)		0		
Mitigation required (Residential) =		0		Residential (inches)		0		Heritage Mitigation (inches)		0		
No category to fall below 10% preservation.												
Preserved- Tree to remain that meets root protection zone requirements described in section 35-523 of the UDC.												
Mitigation 1:1 for significant trees below minimum preservation requirements; 3:1 for heritage trees below 100% preservation												
* Small species: Condalia, Redbud, Tx. Mountain Laurel, Tx. Persimmon, Hawthorn, Possumhaw- these are mitigated at 1:1 for Heritage Trees												
** Ashe Juniper, Huisache, Mesquite, Arizona Ash, Hackberry protected at 10" dbh and mitigated at 1:1 for heritage trees												
*** Mitigation Trees: Unprotected-sized trees to be used for mitigation calculations; subtract inches from mitigation owed												

TREE PROTECTION NOTES

1. A ROOT PROTECTION ZONE WILL BE ESTABLISHED AROUND EACH TREE OR ANY VEGETATION TO BE PRESERVED TO MEET THE LANDSCAPE OR TREE PRESERVATION ORDINANCES. THE ROOT PROTECTION ZONE SHALL BE AN AREA DEFINED BY THE RADIUS EXTENDING OUTWARD FROM THE TRUNK OF THE TREE A DISTANCE OF ONE (1) LINEAR FOOT FOR EACH INCH DIAMETER INCH AT BREAST HEIGHT (4.5) OF THE TREE. A 10-INCH DIAMETER TREE WILL HAVE A 10 FOOT RADIUS ROOT PROTECTION ZONE.
2. TREE PROTECTION SHALL COMPLY WITH THE CITY OF SAN ANTONIO "LEVEL II B FENCE PROTECTION" DETAIL 1.1.4, USING 2x4" WOOD STUDS AROUND TRUNK OF TREE.
3. CONTRACTOR TO AVOID EXISTING TREE ROOTS WHEN POSSIBLE DURING PLANTING.
4. CONTRACTOR SHALL AVOID BORING OR TRENCHING FOR PROPOSED UTILITIES THROUGH PROTECTED ROOT ZONES WHEN POSSIBLE AND COMPLY WITH THE CITY OF SAN ANTONIO "BORING THROUGH TREE ROOT ZONE".
5. EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE WORK DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WET BURLAP.
6. NO EQUIPMENT, VEHICLES OR MATERIALS SHALL BE OPERATED OR STORED WITHIN THE ROOT PROTECTION ZONE. NO CLEAN-OUT AREAS WILL BE CONSTRUCTED SO THAT THE MATERIAL WILL BE IN OR MIGRATE TO THE ROOT PROTECTION ZONE.
7. NO GRADE CHANGE MORE THAN 3-INCHES IS ALLOWED WITHIN THE ROOT PROTECTION ZONE.
8. ROOTS OR BRANCHES IN CONFLICT WITH CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO THE CITY OF SAN ANTONIO PRUNING METHODS.
9. ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST.
10. TREES WHICH ARE DAMAGED OR LOST DUE TO THE CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED.
11. TREES MUST BE MAINTAINED IN GOOD HEALTH THROUGHOUT THE CONSTRUCTION PROCESS. MAINTENANCE MAY INCLUDE WATERING THE ROOT PROTECTION ZONE AND OR WASHING FOLIAGE.
12. NO WIRES, NAILS OR OTHER MATERIALS MAY BE ATTACHED TO PROTECTED TREES.

PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
LISA M WHITE, RLA #2522
ON 4 AUG 2015

MTR May Tarin Ramirez Engineers, LLC		12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 698-5051 FAX: (210) 698-5085 TBPE FIRM # 2906			
JACOBS 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78786 PH: (512) 314-3100 FAX: (512) 314-3135		TBPE FIRM # 2906			
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT 2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE					
TREE PRESERVATION PLAN					
70% SUBMITTAL	PROJECT NO.: WJXL7101	DATE: SDATES			
DRWN BY: CM	DSGN BY: LW	CHKD BY: LW			
		SHEET NO.: 33 OF 43			



GENERAL NOTES

1. CONTRACTOR TO ENSURE THAT ALL EXISTING STRUCTURES TO REMAIN ARE PROTECTED DURING CONSTRUCTION.

PRELIMINARY FOR REVIEW ONLY
 THESE DOCUMENTS ARE FOR DESIGN REVIEW
 AND NOT INTENDED FOR CONSTRUCTION
 BIDDING OR PERMIT PURPOSES. THEY WERE
 PREPARED BY, OR UNDER SUPERVISION OF:
 LISA M WHITE, RLA #2522
 ON 16 SEP 2015

MTR May Tarin Ramirez Engineers, LLC 12770 CIMARRON PATH SUITE 100 SAN ANTONIO, TX 78249 PH: (210) 555-5051 FAX: (210) 555-5055 TBPE FIRM #5257	
JACOBS 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78705 PH: (512) 314-3130 TBPE FIRM # 2005	
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT 2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE	
LANDSCAPE PLAN	
70% SUBMITTAL	PROJECT NO.: WJDL7101
DATE: 5/24/15	DATE: 5/24/15
DRWN BY: CM	DSGN BY: LW
CHKD BY: LW	SHEET NO.: 1 OF 2

PLANT MATERIALS SCHEDULE

PERENNIALS

TAG	QTY	COMMON NAME/ Scientific	SIZE	HEIGHT	SPREAD	SPACING	NOTES
AJ	3	GOLD DUST PLANT <i>Aucuba japonica 'Variegata'</i>	5 GAL.	6-10'	5-8'	48"	FULL PLANT, CONTAINER GROWN
AE	32	CAST IRON PLANT/ <i>Aspidistra elatior</i>	3 GAL.	2-3'	2-3'	24"	FULL PLANT, CONTAINER GROWN
LG	8	GIANT LIRIOPE/ <i>Liriope gigantea</i>	3 GAL.	18-24"	18-24"	24"	FULL PLANT, CONTAINER GROWN
LM	366	LIRIOPE/ <i>Liriope muscari</i>	4' POT	6-12"	6-12"	8"	FULL PLANT, CONTAINER GROWN
LV	361	VARIEGATED LIRIOPE/ <i>Liriope muscari 'Variegata'</i>	4" POT	6-12"	6-12"	8"	FULL PLANT, CONTAINER GROWN

HARDSCAPE

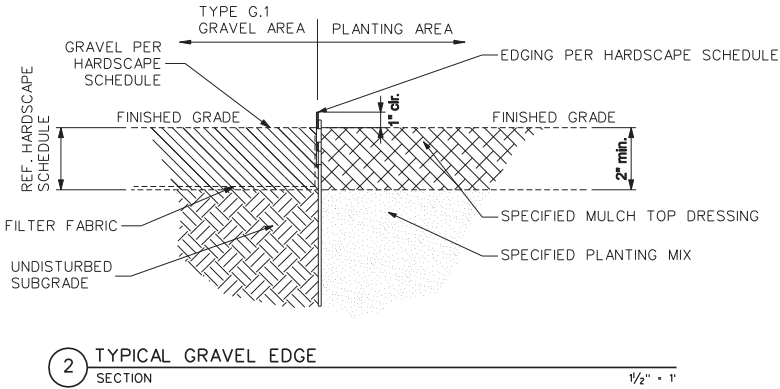
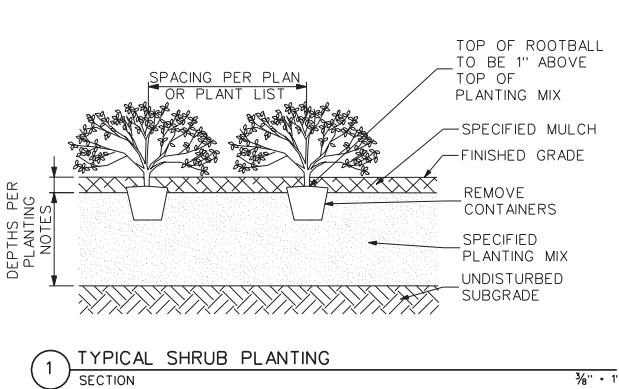
TAG	QTY	DESCRIPTION	COLOR	FINISH	NOTES
E.1	75 LF	PLANTER BED EDGE: STEEL EDGING 1/4" BY 6" AS MANUFACTURED BY COL-MET, OR APPROVED EQUAL	BROWN	STANDARD	
G.1	135 SF	RIVER ROCK: 2-3" MEXICAN BEACH PEBBLES FROM KELLER MATERIAL LTD., OR APPROVED EQUAL	N/A	N/A	3" DEPTH (UNLESS RESTRICTED BY EXISTING ROOTS)

GENERAL NOTES

- CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND MARKING OF ALL UNDERGROUND OR ABOVE GROUND UTILITIES WITHIN THE PROJECT.
- PROPOSED LANDSCAPING IS TO BE INSTALLED AS PER LOCAL CITY ORDINANCES AND CODES.
- LANDSCAPE AREAS SHALL BE KEPT FREE OF TRASH, LITTER, WEEDS AND OTHER MATERIALS OF PLANTS NOT A PART OF THE ORIGINAL LANDSCAPING.
- FINAL LOCATION OF PLANT MATERIAL MAY VARY DUE TO ACTUAL FIELD CONDITIONS AND PROPOSED GRADES. GENERAL INTENT SHALL BE MET.
- EXISTING TREES TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION BY METHODS REQUIRED BY THE CITY.
- NO PERMANENT IRRIGATION SYSTEM SHALL BE INSTALLED. CONTRACTOR TO COORDINATE WITH OWNER'S REPRESENTATIVE REGARDING TEMPORARY IRRIGATION IN ORDER TO ESTABLISH VEGETATION.
- ALL PLANTING MATERIAL TO BE APPROVED PRIOR TO PLANTING

PLANTING NOTES

- ALL PLANT MATERIAL SHALL CONFORM TO THE SIZES GIVEN IN THE PLANT LIST AND SHALL BE NURSERY GROWN IN ACCORDANCE WITH THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION, PUBLISHED BY AMERICAN ASSOCIATION OF NURSERYMEN, (AAN).
- IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE PLAN AND QUANTITIES SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN SHALL APPLY.
- OBTAIN APPROVAL FROM LANDSCAPE ARCHITECT'S OR OWNER'S REPRESENTATIVE BEFORE MAKING ANY SUBSTITUTIONS OR CHANGES.
- WHERE POSSIBLE, CONTRACTOR SHALL REMOVE EXISTING SOIL TO A DEPTH OF 8-INCHES IN ORDER TO BRING IN 6-INCHES OF PLANTING MIX AND 2-INCHES OF MULCH. ALONG RIVER AND WHERE EXISTING ROOTS ARE SHALLOW, CONTRACTOR TO PROPOSE ALTERNATE METHOD FOR PREPARING PLANTING MIX PER SITE CONDITIONS FOR APPROVAL OF OWNER'S REPRESENTATIVE.
- PLANTING MIX TO SHALL BE FROM OFF-SITE AND SHALL BE "SANDY LOAM" AS DETERMINED BY THE MECHANICAL ANALYSIS (ASTM D422) AND BASED ON THE USDA CLASSIFICATION SYSTEM. IT SHALL BE OF UNIFORM COMPOSITION WITHOUT THE ADMIXTURE OF SUBSOIL AND BE NATURAL, FRIABLE, FERTILE, WITH A PH RANGE OF 6.0-6.5, AND FREE OF TRASH, DEBRIS, STONES, WEEDS, AND TWIGS OR BRANCHES. 100% SHALL PASS THROUGH A 1-INCH SCREEN AND BE COMPRISED OF 40-50% SAND, 30-40% SILT, AND 10-20% CLAY. THE SOIL SHALL BE MIXED WITH ORGANIC MATTER AT A ONE TO FIVE RATIO - ONE PART ORGANIC MATTER AND FIVE PARTS SOIL. PLANTING MIX SHALL BE A MIN OF 6-INCHES DEEP.
- ALL PLANT BEDS TO BE MULCHED TO A DEPTH OF 2-INCHES. MULCH SHALL BE HIGH QUALITY, DOUBLE-GROUND, PREMIUM HARDWOOD MULCH. IT SHALL NOT BE DYED RED OR BLACK, BUT SHALL BE A NATURAL BROWN COLOR. MULCH SHALL HAVE BEEN AGED FOR A MINIMUM OF SIX MONTHS AND NOT LONGER THAN TWO YEARS. MULCH SHALL BE SHREDDED TO A UNIFORM SIZE, FREE OF DIRT, DEBRIS AND FOREIGN MATTER, WITH PIECES NO THICKER THAN 1/4-INCH OR LARGER THAN 2-INCHES IN ANY DIRECTION. MULCH MUST BE FREE OF STRINGY MATERIAL OR CHUNKS OVER 3-INCHES IN SIZE AND SHALL NOT CONTAIN, IN THE JUDGMENT OF THE OWNER'S REPRESENTATIVE, AN EXCESS OF FINE PARTICLES.
- REFERENCE TXDOT SPECIFICATION 192 LANDSCAPE PLANTING AND TXDOT SPECIFICATION 193 LANDSCAPE ESTABLISHMENT.
- CONTRACTOR SHALL SUBMIT SAMPLES OF PLANTING SOIL, MULCH, FERTILIZER, AND GRAVEL FOR APPROVAL BY OWNER'S REPRESENTATIVE.
- PLANT MATERIALS LOCATION TO BE STAKED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO PLANTING.
- ALL AREAS DISTURBED BY PLANTING OPERATIONS SHALL BE FINE GRADED.
- ALL LANDSCAPE AREAS TO BE WEED FREE AT TIME OF FINAL ACCEPTANCE. HERBICIDE SHALL BE APPLIED PER MANUFACTURER'S RECOMMENDATIONS.



PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
LISA M WHITE, RLA #2522
ON 16 SEP 2015

MTR
May Turin Ramirez Engineers, LLC
• Engineers
• Surveyors
• Planners

12770 CIMARRON PATH SUITE 100
SAN ANTONIO, TX 78249
PH: (210) 555-5051
FAX: (210) 555-5055
TXBE FIRM # 5257

JACOBS
2705 BEE CAVE ROAD, SUITE 300
AUSTIN, TEXAS 78758
PH: (512) 314-3100
FAX: (512) 314-3138
TXBE FIRM # 2005

CITY OF SAN ANTONIO
TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT
2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE

**LANDSCAPE SCHEDULE
AND PLANTING DETAILS**

70% SUBMITTAL
DRWN BY: CM

PROJECT NO.: WJDL7101
DSGN BY: LW

DATE: 5/24/15
CHKD BY: LW

SHEET NO.: 1 OF 2

P:\W\1760 COSA DREAMWOOD BRIDGE\700 WORKING DOCUMENTS\740 SHEETS\SSHTINDEX.DWG

ELECTRICAL SERVICES DATA SHEET												
Elec. Service ID	Plan Sheet Number	Electrical Service Description	Service *Conduit Size	Service Conductors No./Size	Safety Switch Amps	Main Ckt. Bkr. Pole/Amps	Lighting Contactor Amps	Panel/bd/ Loadcenter Amp Rating	Branch Dircuit ID	Branch Ckt. Bkr. Pole/Amps	Branch Circuit Amps	KVA Load

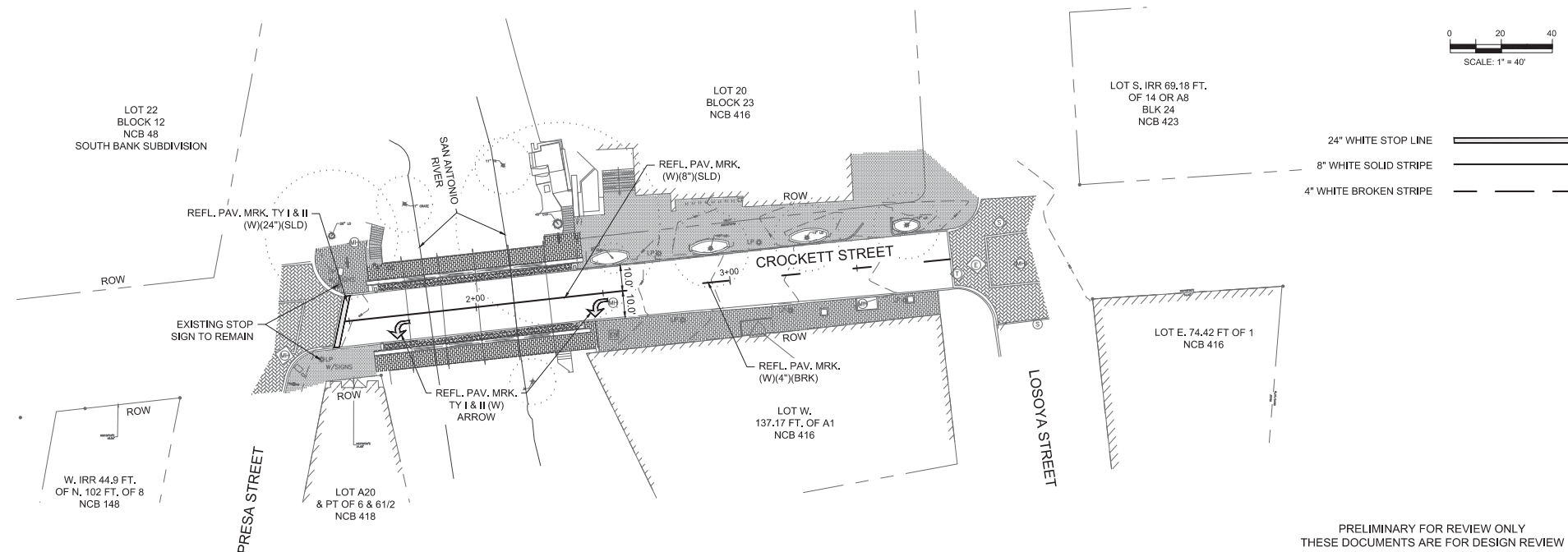
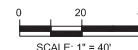
SCHEDULE OF ILLUMINATION ASSEMBLIES				
POLE NUMBER	STATION	OFFSET	ILLUMINATION ASSEMBLY DESCRIPTION	COMMENTS

ILLUMINATION SUMMARY				
ITEM	DESC CODE	DESCRIPTION	UNIT	QTY
618	6014	CONDT (PVC) (SCH 40) (3/4")	LF	
618.1		CONDT (PVC) (SCH 40) (2")	LF	
618	6062	CONDT (RM) (3/4")	LF	
618	6064	CONDT (RM) (1")	LF	
618		CONDT (FMC) (1")	LF	
620	6003	ELEC CONDR (NO.12) BARE	LF	
620	6004	ELEC CONDR (NO.12) INSULATED	LF	
620	6007	ELEC CONDR (NO.8) BARE	LF	
620	6008	ELEC CONDR (NO.8) INSULATED	LF	
628.1		ELECTRICAL SERVICES (PER INSTALLATION)	EA	
		WALKWAY FIXTURE (PENDANT MOUNT)	EA	
		TABLE FIXTURE (FLUST MOUNT)	EA	
		WATER FIXTURE (FLUSH MOUNT)	EA	
		TRUSS FIXTURE (FLUSH MOUNT)	EA	
		HOLIDAY LIGHTING	EA	
		FOUNTAIN FIXTURE	EA	
		LANDSCAPE FIXTURE	EA	

SUMMARY OF CONDUIT AND CABLES													
RUN NO.	LENGTH (ft.)	CONDUITS				CABLES							
		2" PVC		1" RMC		#12 AWG (BARE)		#12 AWG (INS)		#8 AWG (BARE)		#8 AWG (INS)	
		Number	Length	Number	Length	Number	Length	Number	Length	Number	Length	Number	Length
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
TOTAL			0		0		0		0		0		0

PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
JAMES A. KRATZ, P.E. #86301
ON \$DATE\$

JACOBS 2705 BEE CAVE ROAD, SUITE 300 AUSTIN, TEXAS 78786 PHE (512) 314-3100 FAX: (512) 314-3135 TBPE FIRM # 2966		
CITY OF SAN ANTONIO TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT 2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE		
ILLUMINATION TABLES		
70% SUBMITTAL DRWN BY: LW	PROJECT NO.: WJXL7101 DSGN BY: JAK	DATE: 7/24/2015 CHKD BY:
		SHEET NO.: 39 OF 43



PRELIMINARY FOR REVIEW ONLY
THESE DOCUMENTS ARE FOR DESIGN REVIEW
AND NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES. THEY WERE
PREPARED BY, OR UNDER SUPERVISION OF:
RAYMOND TARIN JR., P.E. #87060
ON JULY 29, 2015

SHEET TOTALS			
ITEM NO.	BID ITEM DESCRIPTION	UNIT	EST. QUANTITY
535.2	4 INCH WIDE WHITE LINE	LF	128
535.4	8 INCH WIDE WHITE LINE	LF	110
535.7	24 INCH WIDE WHITE LINE	LF	21
535.9	LEFT WHITE ARROW	EA	2

MIR
May Tarin Ramirez Engineers, LLC
12770 CIMARRON PATH SUITE 100
SAN ANTONIO, TX 78249
PH: (210) 698-5051
FAX: (210) 698-5085
TBPE FIRM #5297

JACOBS
2705 BEE CAVE ROAD, SUITE 300
AUSTIN, TEXAS 78706
FAX: (512) 314-3135
TBPE FIRM # 2906

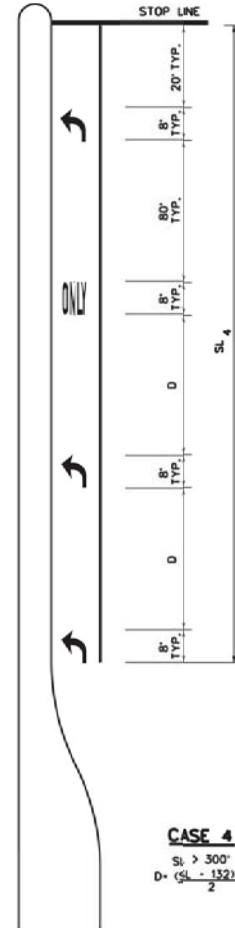
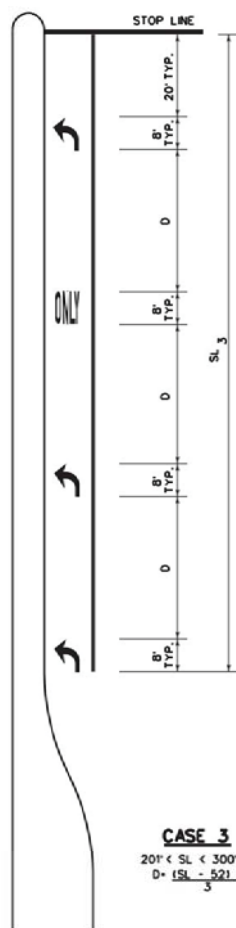
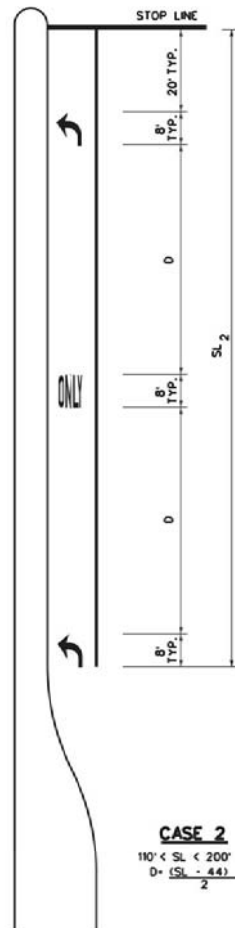
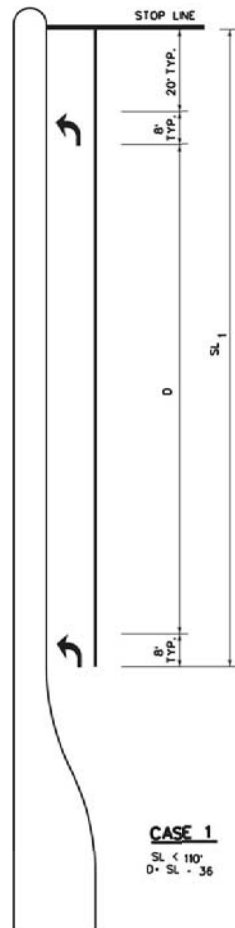
CITY OF SAN ANTONIO
TRANSPORTATION & CAPITAL IMPROVEMENTS DEPARTMENT
2012 CITYWIDE BRIDGE PROGRAM - CROCKETT BRIDGE
**SIGNING AND PAVEMENT
MARKING LAYOUT**

70% SUBMITTAL
DRWN BY:

PROJECT NO.: WJXL7101
DSGN BY:

DATE: 8/04/15
CHKD BY:

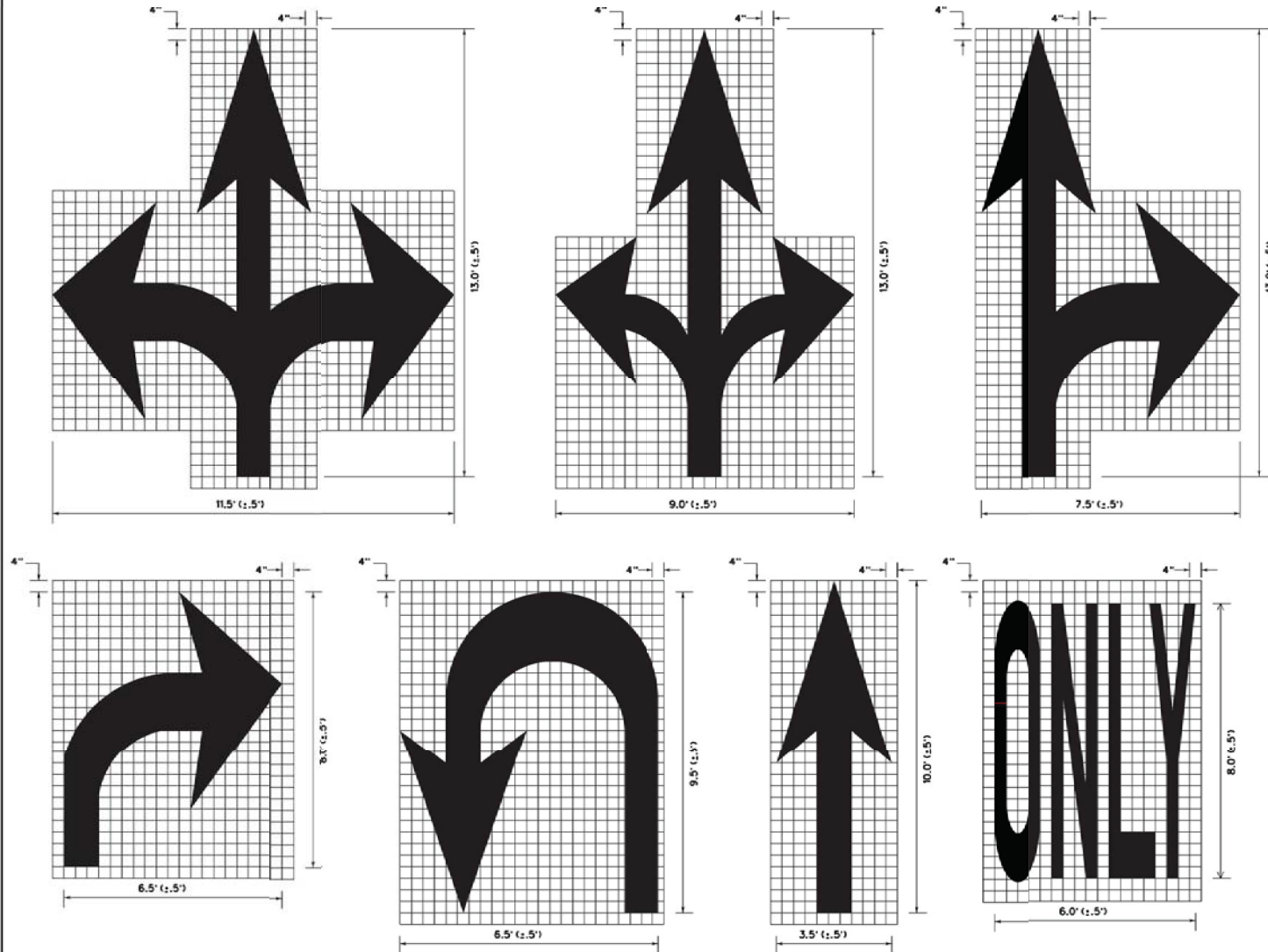
SHEET NO.: 40 OF 43



KEY:
 SL - STORAGE LENGTH (FEET)
 D - DISTANCE BETWEEN ARROWS AND LEGENDS (FEET)

- GENERAL NOTES:
1. THESE DETAILS ALSO APPLY TO RIGHT-TURN LANES.
 2. FOR DUAL-TURN LANES, DIMENSIONS SHALL BE THE SAME FOR EACH LANE.
 3. SL DIMENSION IS FROM STOP LINE TO END OF TURN LANE, WHICH DOES NOT INCLUDE TAPER LENGTH.
 4. PAVEMENT ARROWS AND "ONLY" LEGEND MARKINGS ARE TYPICALLY USED AT SIGNALIZED INTERSECTIONS AND AT UNSIGNALIZED INTERSECTIONS WHERE A DEMONSTRATED NEED EXISTS.
 5. MINIMUM SL = 110'. SL MAY BE LESS THAN 110 FEET AS DIRECTED BY THE CITY TRAFFIC ENGINEER.

SEPTEMBER 2009			
CITY OF SAN ANTONIO			
DEPARTMENT OF PUBLIC WORKS			
TRAFFIC ENGINEERING STANDARDS			
LEFT-TURN "ONLY" AND ARROW			
SPACING WORKSHEET			
SHEET 1 OF 16			
DATE	PROJECT NO.	DATE	8/04/15
DRWN BY: JLM	DESIGN BY: CBE	CHECK BY: M.E.	SHEET NO. 41 OF 43



NOTES:

1. MINIMUM 8 FOOT WHITE MARKINGS SHALL BE USED, UNLESS OTHERWISE NOTED. IF MESSAGE CONSISTS OF MORE THAN ONE WORD, IT SHOULD BE PLACED WITH FIRST WORD NEAREST THE DRIVER.
2. THESE DETAILS ARE STANDARD SIZE FOR NORMAL INSTALLATION; SIZES MAY BE REDUCED APPROXIMATELY ONE-THIRD DEPENDING ON CONDITIONS.
3. THE LONGITUDINAL SPACE BETWEEN MARKINGS SHOULD BE 30 FEET.
4. MARKINGS CONSIDERED APPROPRIATE FOR USE WHEN WARRANTED INCLUDE THE FOLLOWING:
 - A. REGULATORY
 - STOP
 - RIGHT (LEFT) TURN ONLY
 - 25 MPH
 - SYMBOL ARROWS
 - B. WARNING
 - STOP AHEAD
 - SIGNAL AHEAD
 - SCHOOL
 - SCHOOL X-ING
 - PEDESTRIAN X-ING
 - R X R (SEE RCPM DETAIL)
 - OTHER WORDS OR SYMBOLS MAY BE NECESSARY UNDER CERTAIN CONDITIONS
5. UNCONTROLLED USE OF PAVEMENT MARKINGS CAN RESULT IN DRIVER CONFUSION. WORD AND SYMBOL MARKINGS SHOULD BE NO MORE THAN THREE LINES.
6. THE WORD "STOP" SHALL NOT BE USED ON THE PAVEMENT UNLESS ACCOMPANIED BY A STOP LINE AND STOP SIGN. THE WORD "STOP" SHALL NOT BE PLACED ON THE PAVEMENT IN ADVANCE TO A STOP LINE, UNLESS EVERY VEHICLE IS REQUIRED TO STOP AT ALL TIMES.
7. PAVEMENT MARKINGS SHOULD GENERALLY BE NO MORE THAN ONE LANE IN WIDTH, WITH SCHOOL MESSAGES BEING THE EXCEPTION. FOR DETAILS OF SCHOOL AND SCHOOL CROSSING PAVEMENT MARKINGS, REFER TO PART VII OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
8. SPACING BETWEEN LETTERS SHOULD BE APPROXIMATELY 4 INCHES. THE WIDTH OF LETTERS MAY VARY DEPENDING ON THE WIDTH OF THE TRAVEL LANES.
9. LANE-USE ARROW MARKINGS MAY BE USED TO CONVEY EITHER GUIDANCE OR MANDATORY MESSAGES. ARROWS USED TO CONVEY A MANDATORY MOVEMENT MUST BE ACCOMPANIED BY STANDARD SIGNS AND THE PAVEMENT MARKING WORD "ONLY".
10. PAVEMENT MARKINGS ARE TO BE LOCATED AS SPECIFIED ELSEWHERE IN THE PLANS.

SEPTEMBER 2009

CITY OF SAN ANTONIO

DEPARTMENT OF PUBLIC WORKS

TRAFFIC ENGINEERING STANDARDS

STANDARD PAVEMENT MARKINGS
(ARROWS)

SHEET 3 OF 16

DATE	8/04/15
PROJECT NO.	
DESIGN BY	DATE
CHD BY	DATE
SHEET NO.	42 OF 43