ADDENDUM No. 3

Date: April 18, 2013

City of Austin

Project Name: Todd Lane Improvements from Ben White to Saint Elmo

C.I.P. No. 6755.002

This Addendum forms a part of Contract and clarifies, corrects or modifies original Bid Documents, dated February 25, 2013. Acknowledge receipt of this addendum in space provided on bid form. Failure to do so may subject bidder to disqualification.

A. Project Manual Revisions:

VOLUME 1 OF 2: REMOVE IN ITS ENTIRETY TABLE OF CONTENTS AND REPLACE WITH THE ATTACHED TABLE OF CONTENTS;

VOLUME 1 OF 2: REMOVE IN ITS ENTIRETY SECTION 00300U BID FORM (UNIT PRICE) AND REPLACE WITH THE ATTACHED SECTION 00300U BID FORM (UNIT PRICE);

VOLUME 1 OF 2: REMOVE IN ITS ENTIRETY SPECIAL PROVISION SP411S (VERSION 01/10/13) AND REPLACE WITH THE ATTACHED SP411S (VERSION 04/16/13);

VOLUME 1 OF 2: ADD ATTACHED SPECIAL PROVISION SP430S (VERSION 04/16/13).

B. Drawing Revisions:

REPLACE: Sheet 3 in its entirety with the attached sheet 3

REPLACE: Sheet 37 in its entirety with the attached sheet 37

REPLACE: Sheet 38 in its entirety with the attached sheet 38

REPLACE: Sheet 40 in its entirety with the attached sheet 40

REPLACE: Sheet 66 in its entirety with the attached sheet 66

REPLACE: Sheet 67 in its entirety with the attached sheet 67

REPLACE: Sheet 68 in its entirety with the attached sheet 68

REPLACE: Sheet 74 in its entirety with the attached sheet 74

REPLACE: Sheet 87 in its entirety with the attached sheet 87

REPLACE: Sheet 88 in its entirety with the attached sheet 88

REPLACE: Sheet 90 in its entirety with the attached sheet 90

DC

REPLACE: Sheet 94 in its entirety with the attached sheet 94

REPLACE: Sheet 96 in its entirety with the attached sheet 96

REPLACE: Sheet 115 in its entirety with the attached sheet 115

ADD: Sheet 172 – Traffic Control Plan Phase 3 – Roundabout

ADD: Sheet 173 – Traffic Control Plan Phase 4 – Roundabout

ADD: Sheet 174 – Traffic Control Plan Phase 3 – St. Elmo Road

ADD: Sheet 175 – Traffic Control Plan Phase 4 – St. Elmo Road

This addendum consists of 30 page(s)/ 18 sheet(s).

Approved by OWNER

Xiaoqin Zhang, P.E.

Approved by ENGINEER/ARCHITECT

STATE OF TEXAS
XIAOQIN ZHANG
96436
LICENSED
PROFESSIONAL ENGINEER

04-18-13

END

Document Number		Title

VOLUME 1

INTRODUCTORY INFORMATION

05/06/11		Title Page
01/11/13		Table of Contents

BIDDING REQUIREMENTS, CONTRACT FORMS, & CONDITIONS OF THE CONTRACT

Pre-Bid Information

00020	03/12/12	Invitation for Bids

Instructions to Bidders

00100	08/09/12	Instructions to Bidders

Information Available to Bidders

00220	05/06/11	Geotechnical Data

Bid Forms

00300U	03/12/12	Bid Form (Unit Price)

Supplements to Bid Forms

00400	08/09/12	Statement of Bidder's Experience
00405	09/25/05	Certificate of Non-Suspension or Debarment
00410	05/06/11	Statement of Bidder's Safety Experience
00440	05/06/11	Affidavit - Prohibited Activities
00475	05/06/11	Nonresident Bidder Provisions

Agreement Form

00500	03/12/12	Agreement

Bonds and Certificates

00610	02/23/10	Performance Bond
00620	02/23/10	Payment Bond
00630	08/09/12	Nondiscrimination Certificate
00631	03/12/12	Title VI Assurances Appendix A
00650	07/30/12	Certificate of Insurance
00670	08/09/12	Sales Tax Exemption Certificate
00680	06/05/06	Non-Use of Asbestos Affidavit (Prior to Construction)
00681	06/05/06	Non-Use of Asbestos Affidavit (After Construction)

General Conditions

00700	03/12/12	General Conditions

Supplementary Conditions

00810	08/09/12	Supplemental General Conditions
00820	03/12/12	Modifications to Bidding Requirements and Contract Forms
00830	03/12/12	Wage Rates and Payroll Reporting
00830BC	01/04/13	Wage Rates Building Construction Trades
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Addenda

Document Number		Title
00900	02/23/10	Addendum

SPECIFICATIONS

Division 1 - General Requirements

01010	08/09/12	Summary of Work
01050	09/13/10	Grades Lines & Levels
01095	07/21/03	Reference Standards and Definitions
01096	05/06/11	Stormwater Pollution Prevention Plan (SWPPP)
01200	08/09/12	Project Meetings
01300	05/06/11	Submittals
01352	02/23/10	Sustainable Construction Requirements
01353	08/09/12	Construction Equipment Emissions Reduction Plan
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01500	08/09/12	Temporary Facilities
01505	09/13/10	Construction and Demolition Waste Management
01550	08/09/12	Public Safety and Convenience
01900	03/12/12	Prohibition of Asbestos Containing Materials
01900a	06/05/06	Statement of Non-Inclusion of Asbestos Containing Material (E/A Prior to Design)
01900b	06/05/06	Statement of Non-Inclusion of Asbestos Containing Material (E/A After Design)

City Standard Technical Specifications

Series 100 -- Earthwork

101S	Preparing Right of Way	01/04/11
102S	Clearing and Grubbing	08/20/07
104S	Removing Portland Cement Concrete	08/20/07
110S	Street Excavation	11/18/04
111S	Excavation	11/18/04
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202S	Hydrated Lime and Lime Slurry	08/18/00
203S	Lime Treatment for Materials in Place	11/21/05
204S	Portland Cement Treatment for Materials in Place	08/18/00
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220S	Sprinkling for Dust Control	02/24/10
230S	Rolling (Flat Wheel)	08/20/07
232S	Rolling (Pneumatic Tire)	08/20/07
234S	Rolling (Tamping)	08/20/07
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Document Number	Title	
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307S	Tack Coat	02/24/10
312S	Seal Coat	02/21/01
313S	Cleaning and/or Sealing Joints and Cracks (Asphaltic Concrete)	02/24/10
315S	Milling Asphaltic Concrete Pavement and Non-Portland Cement Concrete Bases	02/24/10
340S	Hot Mix Asphaltic Concrete Pavement	04/04/12
341S	Paving Fabric	02/21/01
360S	Concrete Pavement	02/24/10
Series 400 -- Concrete and Structures		
401S	Structural Excavation and Backfill	11/13/07
402S	Controlled Low Strength Material	11/13/07
403S	Concrete for Structures	01/04/11
405S	Concrete Admixtures	11/13/07
406S	Reinforcing Steel	11/13/07
407S	Fibrous Concrete	07/01/09
408S	Concrete Joint Materials	11/13/07
409S	Membrane Curing	11/13/07
410S	Concrete Structures	11/13/07
411S	Surface Finishes for Concrete	11/13/07
413S	Cleaning and/or Sealing Joints and Cracks (PCC)	11/13/07
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416S	Waterstops	11/13/07
425S	Prestressed Concrete Structures	11/13/07
430S	P.C. Concrete Curb and Gutter	12/09/08
431S	Machine Laid PCC Curb and Gutter	04/03/09
432S	P.C. Concrete Sidewalks	01/04/10
433S	P.C. Concrete Driveways	12/09/08
434S	P.C. Concrete Medians and Islands	11/13/07
436S	P.C. Concrete Valley Gutters	11/13/07
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503S	Frames, Grates, Rings and Covers	02/17/00
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505S	Concrete Encasement and Encasement Pipe	02/24/10
506	Manholes	03/15/11
507S	Bulkheads	03/26/08
508S	Miscellaneous Structures and Appurtenances	02/24/10
509S	Excavation Safety Systems	02/24/10
510	Pipe	02/24/10

Document Number	Title	
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551S	Pipe Underdrains	11/18/04
559S	Portland Cement Concrete Box Culverts	03/26/08
591S	Riprap for Slope Protection	09/01/11
593S	P.C. Concrete Retards	02/24/10
594S	Gabions and Revet Mattresses	04/05/99
Series 600 -- Environmental Enhancement		
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602S	Sodding for Erosion Control	06/16/08
604S	Seeding for Erosion Control	08/18/10
605S	Soil Retention Blanket	06/21/07
606S	Fertilizer	06/21/07
607S	Slope Stabilization Applications for Erosion Control	05/23/00
608S	Planting	06/16/08
609S	Native Grasslands Seeding and Planting for Erosion Control	08/18/10
610S	Preservation of Trees and Other Vegetation	01/04/11
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639S	Rock Berm	08/18/10
641S	Stabilized Construction Entrance	06/21/07
642S	Silt Fence	09/01/11
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702S	Removal and Relocation of Existing Fences	05/20/02
Series 800 -- Urban Transportation		
801S	Constructing a Detour	06/21/07
802S	Project Signs	02/24/10
803S	Barricades, Signs and Traffic Handling	06/21/07
824S	Traffic Signs	02/24/10
827S	Designated Bicycle Lane Signing	05/23/00
829S	Designated Bicycle Lane Markings	08/20/03
860S	Pavement Marking Paint	05/23/00
862S	Temporary Removable Pavement Markings	05/05/03
863S	Reflectorized Pavement Markers	02/24/10
864S	Abbreviated Pavement Markings	06/21/07
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Document Number	Title	
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875S	Pavement Surface Preparation for Markings	11/21/05

Special Provisions to City Standard Technical Specifications

SP236S	Proof Rolling	01/29/13
SP402S	Controlled Low Strength Material	01/22/13
SP411S	Surface Finishes for Concrete	04/16/13
SP414S	Concrete Retaining Walls	03/18/13
SP430S	P.C. Concrete Curb and Gutter	04/16/13
SP506S	Manholes	01/11/13
SP508S	Miscellaneous Structures and Appurtenances	01/11/13
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SP511S	Water Valves	01/11/13
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SP602S	Sodding for Erosion Control	01/24/13
SP604S	Seeding for Erosion Control	01/24/13
SP608S	Planting	01/11/13
SP609S	Native Grassland Seeding and Planting	10/29/12
SP802S	Business Access Signs	10/29/12
SP870S	Work Zone Pavement Markings	02/27/13
SP874S	Eliminating Existing Pavement Markings and Markers	02/27/13

Special Specifications

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SS508BM	Biofiltration Media	10/24/12
SS603	Irrigation System	01/24/13
SS611	Extended Landscape Maintenance	12/03/12
SS612	Topsoil Mix	02/02/13
SS730	Special Work Zone Construction	01/22/13
SS826	Portable Changeable Message Signs	01/25/13
SS1699	Water Quality Biofiltration Ponds	03/11/13

VOL. 2 02/2011 MBE/WBE Procurement Program Package

END

SPECIAL PROVISION To

Standard Specification Item No. 411S (Version: 11/13/2007)
Surface Finishes for Concrete

For this project Item 411S, Surface Finishes for Concrete, dated 11-13-2007, of the City of Austin Standard Technical Specifications is hereby amended with respect to the clauses cited below. No other clauses or requirements of this Section of the City of Austin Standard Specifications are waived or changed.

411S.1 Description

Replace the first paragraph with the following:

This item shall govern the stamped pattern of concrete at locations indicated on the Drawings or as directed by the Engineer or designated representative in accordance with this Standard Specification Item.

411S.8 Special Surface Finishes

Add the following paragraph (4):

The stamped concrete as indicated on the Drawings shall be designed to provide the appearance including the length and width of pavers by Bomanite Belgian Block Textured Pattern – TL-08030 Running Bond Belgian Block (48" x 20 5/8") or approved equal by Project Manager or Engineer.

The stamped concrete shall be stained with Chem Systems, Inc. Integral Colors -1050#1615 – 5 lbs or approved equal by Project Manager or Engineer. The General Contractor is to provide a 5'x5' stamped and stained mockup before the actual work is done.

411S.9 Measurement and Payment

Delete this section in its entirety and replace with the following:

Payment

Payment for increased or decreased costs due to a change in design on those items measured as "Cubic Yard", "Each", Square Foot", "Square Yard" or "Linear Foot" will be determined by Change Order. Quantities revised in this manner will be subject to the provisions of the "General Conditions", Article 11.

The unit prices bid for the stamped concrete shall include full compensation for furnishing, hauling, and mixing all concrete materials; placing, finishing, stamping and curing all concrete; furnishing and placing expansion joint material as required by this item; and for all forms and false work, labor, tolls, equipment and incidentals necessary to complete the work as indicated on the drawings.

Payment will be made under the following:

Pay Item No. SP411S-A: Stamped Concrete (Stained Green in Color) - Per Square Yard

End

SPECIAL PROVISION
To Standard Specification Item No. 430S
P.C. Concrete Curb and Gutter (Version 12/09/08)

For this project, Item 430S, P.C. Concrete Curb and Gutter, dated 12-09-2008, of the City of Austin Standard Technical Specifications is hereby amended with respect to the clauses cited below. No other clauses or requirements of this section of the City of Austin Standard Technical Specification are waived or changed.

1. **430S.6 Payment**

   ADD the following:

Pay Item No. SP430S-A12	P.C. Concrete Curb and Gutter (12-Inch Wide Top of Curb)	Per Linear Foot

END

The undersigned, in compliance with the Invitation for Bids for construction of the following Project: **Todd Lane Improvements From Ben White to St. Elmo**

(CIP ID# 6755.002) (IFB6100 CLMC423) for the City of Austin, Texas, having examined the Project Manual, Drawings and Addenda, the site of the proposed Work and being familiar with all of the conditions surrounding construction of the proposed Project, having conducted all inquiries, tests and investigations deemed necessary and proper; hereby proposes to furnish all labor, permits, material, machinery, tools, supplies and equipment, and incidentals, and to perform all Work required for construction of the Project in accordance with the Project Manual, Drawings and Addenda within the time indicated for the following prices of:

Note: The Bidder will enter the line item subtotal in the "Amount" column below, which is the product of the estimated "Quantity" multiplied by the "Unit Price". Any mathematical errors will be corrected for the purpose of determining the correct Amount to be entered in the Bid Form. The Amounts, including any corrected Amounts, will then be totaled to determine the actual amount of the Bid.

STREET **8071-6207-9053**

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
101S-B	43	STA	PREPARING RIGHT-OF-WAY, PER 100 FOOT STA.	$_____	$_____
110S-B	105	CY	STREET EXCAVATION, PLAN QUANTITY	$_____	$_____
130S-A	2,000	CY	CLASS A (SELECT BORROW), PLAN QUANTITY	$_____	$_____
132S-A	1,630	CY	EMBANKMENT	$_____	$_____
204S-A	250	SY	PORTLAND CEMENT TREATMENT OF MATERIALS IN PLACE 6 INCH THICKNESS	$_____	$_____
204S-B	11	BARREL	PORTLAND CEMENT	$_____	$_____
210S-A	40	CY	FLEXIBLE BASE	$_____	$_____
SS277-A	92	TON	LIME FOR LIME-CEMENT TREATMENT	$_____	$_____
SS277-B	70	TON	CEMENT FOR LIME-CEMENT TREATMENT	$_____	$_____

STREET **8071-6207-9053**

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
SS277-C	21,938	SY	LIME-CEMENT TREATMENT, (24 IN. THICK)	$_____	$_____
315S-A	4,500	SY	SURFACE MILLING	$_____	$_____
340S-B-D2	250	SY	HOT MIX ASPHALTIC CONCRETE PAVEMENT, 2 INCHES, TYPE D	$_____	$_____
340S-B-D1.5	21,938	SY	HOT MIX ASPHALTIC CONCRETE PAVEMENT, 1.5 INCHES, TYPE D	$_____	$_____
340S-B-C3	21,938	SY	HOT MIX ASPHALTIC PAVEMENT, 3.0 INCHES, TYPE C	$_____	$_____
340S-B-A1.5	2,475	SY	HOT MIX ASPHALTIC PAVEMENT, 1.5 INCHES, TYPE A	$_____	$_____
340S-B-A5	21,938	SY	HOT MIX ASPHALTIC CONCRETE PAVEMENT, 5 INCHES, TYPE A	$_____	$_____
340S-B-B12	1,150	SY	HOT MIX ASPHALTIC CONCRETE PAVEMENT, 12 INCHES, TYPE B	$_____	$_____
340S-B6	3,500	SY	HOT MIX ASPHALTIC CONCRETE PAVEMENT, 6.0 INCHES, TYPE B (TEMP. PAVEMENT, BUS PAVING AND TEMP. DRIVES)	$_____	$_____
360S-A	470	SY	10 INCH CONCRETE PAVEMENT W/STEEL REINF. PER COA STANDARD DETAIL 1000S-7 (FOR BUS PAVING SECTION)	$_____	$_____
SP402S-B	2,100	CY	FAST SET CLSM (SPECIAL WORK ZONE)	$_____	$_____
403S-CY	270	CY	CLASS A CONCRETE FILL	$_____	$_____
SP411S-A	343	SY	STAMPED CONCRETE (STAINED GREEN IN COLOR)	$_____	$_____

STREET **8071-6207-9053**

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
430S-A	12,080	LF	P.C. CONCRETE CURB AND GUTTER (EXCAVATION)	$_____	$_____
SP430S-A12	520	LF	P.C. CONCRETE CURB AND GUTTER (12-INCH TOP OF CURB)	$_____	$_____
432S-4	45,350	SF	NEW P.C. CONCRETE SIDEWALKS, 4 INCH THICKNESS	$_____	$_____
433S-C	25,500	SF	TYPE II P.C. CONCRETE DRIVEWAYS	$_____	$_____
480S-RP-1	51	EA	CURB RAMP WITH PAVERS (TYPE 1)	$_____	$_____
510-AW5 IRR	1,070	LF	PIPE, 5 IN. DIA. SDR-CLASS 200 (ALL DEPTHS), INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
510-AW4 IRR	140	LF	PIPE, 4 IN. DIA. SCHEDULE 40 PVC (ALL DEPTHS), INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
510-AW3 IRR	300	LF	PIPE, 3 IN. DIA. SCHEDULE 40 PVC (ALL DEPTHS), INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
510-AW2 SCH 40 IRR	60	LF	PIPE, 2 IN. DIA. SCHEDULE 40 PVC (ALL DEPTHS), INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
510-AW2.5 IRR	180	LF	PIPE, 2.5 IN. DIA. SCHEDULE 40 PVC (ALL DEPTHS), INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
510-AW1.5 IRR	780	LF	PIPE, 1.5 IN. DIA. SCHEDULE 40 PVC (ALL DEPTHS), INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
602S-C	2,594	SY	BERMUDA MULCH SODDING	$_____	$_____

STREET **8071-6207-9053**

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
SP602S-B	1,837	SY	EMERALD ZOYSIA BLOCK SODDING, 100% COVERAGE, PLAN QUANTITY	$_____	$_____
610S-R	21	EA	REMOVAL OF EXISTING TREES	$_____	$_____
610S-A	1,650	LF	PROTECTIVE FENCING TYPE A CHAIN LINK FENCE (TYPICAL APPLICATION - HIGH DAMAGE POTENTIAL)	$_____	$_____
610S-B	150	LF	PROTECTIVE FENCING TYPE B WOOD FENCE (TYPICAL APPLICATION - HIGH DAMAGE POTENTIAL) (PLANKING)	$_____	$_____
623S	508	SF	DRY STACK ROCK WALL	$_____	$_____
701S-H	120	LF	SECURITY FENCE, 8 FOOT HIGH, TYPE CHAIN LINK	$_____	$_____
701S-CD	2	EA	CHAIN LINK VEHICULAR DOUBLE SWING GATE, 8 FOOT X 12 FOOT	$_____	$_____
702S-A	92	LF	REMOVE AND RELOCATE EXISTING 6 FOOT, CHAIN LINK FENCE	$_____	$_____
SS730	32	STA	SPECIAL WORK ZONE CONSTRUCTION	$_____	$_____
829S-A6BW	2,150	LF	TYPE I BICYCLE LANE MARKINGS, 6 INCHES IN WIDTH, BROKEN WHITE IN COLOR	$_____	$_____
829S-A6SW	8,300	LF	TYPE I BICYCLE LANE MARKINGS, 6 INCHES IN WIDTH, SOLID WHITE IN COLOR	$_____	$_____

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
829S-B	28	EA	TYPE I BICYCLE LANE PREFERENTIAL (DIRECTIONAL ARROW) SYMBOLS, WHITE IN COLOR	$_____	$_____
829S-C	12	EA	TYPE I BICYCLE LANE PREFERENTIAL (BIKE RIDER) SYMBOL, WHITE IN COLOR	$_____	$_____
863S-4	17	EA	REFLECTORIZED PAVEMENT MARKER (TYPE II-B-B)	$_____	$_____
863S-5	140	EA	REFLECTORIZED PAVEMENT MARKERS (TYPE II-C-R)	$_____	$_____
871S-A4SW	140	LF	REFLECTORIZED TYPE I THERMOPLASTIC PAVEMENT MARKINGS 4 INCHES IN WIDTH, 90 MILS IN THICKNESS, SOLID WHITE IN COLOR	$_____	$_____
871S-A4SY	10,800	LF	REFLECTORIZED TYPE I THERMOPLASTIC PAVEMENT MARKINGS 4 INCHES IN WIDTH, 90 MILS IN THICKNESS, SOLID YELLOW IN COLOR	$_____	$_____
871S-A4BW	150	LF	REFLECTORIZED TYPE I THERMOPLASTIC PAVEMENT MARKINGS 4 INCHES IN WIDTH, 90 MILS IN THICKNESS, BROKEN WHITE IN COLOR	$_____	$_____
871S-A12W	50	LF	REFLECTORIZED TYPE I THERMOPLASTIC PAVEMENT MARKINGS 12 INCHES IN WIDTH, 90 MILS IN THICKNESS, WHITE IN COLOR	$_____	$_____

STREET **8071-6207-9053**

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
871S-A24W	200	LF	REFLECTORIZED TYPE I THERMOPLASTIC PAVEMENT MARKINGS 24 INCHES IN WIDTH, 90 MILS IN THICKNESS, WHITE IN COLOR	$_____	$_____
871S-A60	75	LF	REFLECTORIZED TYPE I THERMOPLASTIC PAVEMENT MARKINGS 60 INCHES IN WIDTH, 90 MILS IN THICKNESS, GREEN IN COLOR	$_____	$_____
871S-A72	40	LF	REFLECTORIZED TYPE I THERMOPLASTIC PAVEMENT MARKINGS 72 INCHES IN WIDTH, 90 MILS IN THICKNESS, GREEN IN COLOR	$_____	$_____
871S-B	6	EA	REFLECTORIZED TYPE I THERMOPLASTIC PAVEMENT MARKINGS, 4 INCHES IN WIDTH, 90 MILS IN THICKNESS, WHITE IN COLOR	$_____	$_____

SUBTOTAL STREET..... $_____

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
403S-EA	1	EA	SPLITTER BOX COMPLETE IN PLACE	$_____	$_____
SP414S-C-SF6	3,610	SF	CAST-IN-PLACE PORTLAND CEMENT CONCRETE RETAINING WALL, (6 IN THICK) INCLUDING REINFORCEMENT	$_____	$_____
SP414S-C-SF10	6,963	SF	CAST-IN-PLACE PORTLAND CEMENT CONCRETE RETAINING WALL, (10 IN THICK) INCLUDING REINFORCEMENT	$_____	$_____
SP414S-C-SF12	1,815	SF	CAST-IN-PLACE PORTLAND CEMENT CONCRETE RETAINING WALL, (12 IN THICK) INCLUDING REINFORCEMENT	$_____	$_____
SP414S-SF-LS	2,138	SF	LIMESTONE RETAINING WALL (10 IN THICKNESS) INCLUDING REINFORCEMENT	$_____	$_____
432S-PRC-4	12,600	LF	PEDESTRIAN ADA RAILING OPTION 3 (STANDARD 707S-4)	$_____	$_____
501S-36	93	LF	JACKING OR BORING 36 IN. PIPE, CLASS STEEL (PER ASTM A134, W/MIN. THICKNESS OF 9/16" INCLUDING SPACERS)	$_____	$_____
506S-J6X4	2	EA	JUNCTION BOX (6 FT. X 4FT.)	$_____	$_____
506S-J6X5	1	EA	JUNCTION BOX (6 FT. X 5FT.)	$_____	$_____
506S-J7X6	1	EA	JUNCTION BOX (7 FT. X 6 FT.)	$_____	$_____
506S-J7X4	1	EA	JUNCTION BOX (7 FT. X 4 FT.)	$_____	$_____

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
506S-J7X4X7	1	EA	JUNCTION BOX (7 FT. X 4 FT. X 7 FT.)	$_____	$_____
506S-J10X5X5	1	EA	JUNCTION BOX (10 FT. X 5 FT. X 5 FT.)	$_____	$_____
SP506S-J1.5X1.5	9	EA	SCREW COVER IRRIGATION BOX (ALL DEPTHS)	$_____	$_____
506S-J3X.33	12	LF	JUNCTION BOX (3 FT. X .33 FT)	$_____	$_____
506S-J3X0.5	12	LF	JUNCTION BOX (3 FT. X 0.5 FT)	$_____	$_____
506S-J4X.33	22	LF	JUNCTION BOX (4 FT. X .33 FT)	$_____	$_____
506S-J6X.35	12	LF	JUNCTION BOX (6 FT. X .35 FT)	$_____	$_____
506S-J1X.33	8	LF	JUNCTION BOX (1FT. X .33 FT.)	$_____	$_____
506S-M4	9	EA	STANDARD PRE-CAST MANHOLE W/ PRE-CAST BASE, 4 FT DIA.	$_____	$_____
506S-D4	3	EA	DROP MANHOLE W/ PRE-CAST BASE, 4 FT DIA.	$_____	$_____
508S-IG5X1.5	3	EA	INLET GRATED (5 FT. X 1.5 FT.)	$_____	$_____
508S-IG10X2	1	EA	INLET GRATED (10 FT. X 2 FT.)	$_____	$_____
SP508S-IG5X4	1	EA	GRATE INLET (5 FT. X 4 FT.)	$_____	$_____
508S-I10S	6	EA	INLET, STANDARD	$_____	$_____

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
SP508S-I10R	5	EA	MODIFIED CURB INLET, RECESSED	$_____	$_____
SP508S-HP	1	EA	12 IN FLAT THICKNESS CONCRETE HEADWALL WITH PEDESRIAN HAND RAIL	$_____	$_____
SS508BM	370	CY	BIOFILTRATION MEDIUM	$_____	$_____
509S-1	2,227	LF	TRENCH EXCAVATION SAFETY PROTECTIVE SYSTEMS (ALL DEPTHS)	$_____	$_____
510-ASD18C3	591	LF	PIPE, 18 IN. DIA, CLASS III RCP (ALL DEPTHS) INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
510-ASD18C4	800	LF	PIPE, 18 IN. DIA. CLASS IV RCP (ALL DEPTHS) INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
510-ASD24	694	LF	PIPE, 24 IN. DIA, CLASS IV RCP (ALL DEPTHS) INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
510-ASD36C3	25	LF	PIPE, 36 IN. DIA., CLASS III RCP (ALL DEPTHS) INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
510-ASD36C4	53	LF	PIPE, 36 IN. DIA., CLASS IV RCP (ALL DEPTHS) INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
510-ASD6	500	LF	PIPE, 6 IN. DIA., PVC (ALL DEPTHS) INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
SP510-ASD 6	3,000	LF	6 IN, SCH 40 PERFORATED PVC PIPE	$_____	$_____
SP510 VIDEO	2,227	LF	VIDEO INSPECTION OF NEWLY INSTALLED BOX CULVERTS AND STORM DRAIN PIPE	$_____	$_____

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
559S-6X1.5	12	LF	PRECAST CONCRETE BOX CULVERTS (6 FT. X 1.5 FT.)	$_____	$_____
559S-4X3	379	LF	PRECAST CONCRETE BOX CULVERTS (4 FT. X 3 FT.)	$_____	$_____
559S-5X3	565	LF	PRECAST CONCRETE BOX CULVERTS (5 FT. X 3 FT.)	$_____	$_____
559S-6X3	60	LF	PRECAST CONCRETE BOX CULVERTS (6 FT. X 3 FT.)	$_____	$_____
559S-7X3	535	LF	PRECAST CONCRETE BOX CULVERTS (7 FT. X 3 FT.)	$_____	$_____
591S-A	150	SY	DRY ROCK RIPRAP (1 FT-5 FT)	$_____	$_____
SS603-A	1	LS	IRRIGATION SYSTEM	$_____	$_____
604S-C	7,559	SY	NATIVE SEEDING FOR EROSION CONTROL METHOD	$_____	$_____
608S-1RB	21	EA	PLANTING TYPE REDBUD SIZE IN 2 CAL IN.	$_____	$_____
608S-1CM	8	EA	PLANTING TYPE CHILEAN MESQUITE, SIZE IN 3 CAL IN.	$_____	$_____
608S-1DM	9	EA	PLANTING TYPE 'BUBBA' DESERT WILLOW, SIZE IN 2 CAL IN.	$_____	$_____
608S-1LO	7	EA	PLANTING TYPE LACEY OAK, SIZE IN 3 CAL IN.	$_____	$_____
608S-1MB	11	EA	PLANTING TYPE MEXICAN BUCKEYE, SIZE IN 2 CAL IN.	$_____	$_____
608S-1MP	10	EA	PLANTING TYPE MEXICAN PLUM, SIZE IN 2 CAL IN.	$_____	$_____

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
608S-1PH	11	EA	PLANTING TYPE POSSUMHAW HOLLY, SIZE IN 2 CAL IN.	$_____	$_____
608S-1TA	10	EA	PLANTING TYPE TEXAS ASH, SIZE IN 3 CAL IN.	$_____	$_____
608S-1ML	15	EA	PLANTING TYPE TEXAS MOUNTAIN LAUREL, SIZE IN 2 CAL. IN.	$_____	$_____
608S-1YH	26	EA	PLANTING TYPE PRIDE OF HOUSTON YAUPON HOLLY, SIZE IN 2 CAL IN.	$_____	$_____
SP608S-1LP	976	EA	PLANTING, 1 GALLON CONTAINERS, PER PLANS	$_____	$_____
SP608S-5LP	264	EA	PLANTING, 5 GALLON CONTAINERS, PER PLANS	$_____	$_____
SP608S-15LP	9	EA	PLANTING, 15 GAL. CONTAINERS, PER PLANS	$_____	$_____
SP608S-2A	33	CY	HARDWOOD MULCH, 3 IN THICK, PROPOSED TREES	$_____	$_____
SP608S-2B	59	CY	HARDWOOD MUCH, 3 IN THICKNESS, EXISTING TREES PER PLANS	$_____	$_____
SP608S-2C	13	CY	HARDWOOD MULCH, 3 IN THICKNESS, IN R.O.W. PER PLANS	$_____	$_____
SP608S-2D	38	CY	HARDWOOD OR ROCK MULCH, 3 IN THICK, PLANTING BEDS IN RAIN GARDENS AND BIOFILTRATION PONDS	$_____	$_____
SP608S-2E	128	EA	TREE STAKING SYSTEM	$_____	$_____
SP608S-T1	2	EA	TRANSPLANTING, TREE, 8 IN DIAMETER	$_____	$_____
SP608S-SG1	5	EA	TREE & ROOT PROTECTION SIGNAGE	$_____	$_____

STORM **8071-6207-9053**

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
SP608S-1A	12	MO	PLANT ESTABLISHMENT PERIOD	$_____	$_____
SP609S-M	12	MO	MANAGEMENT PRACTICE	$_____	$_____
SS611-A	12	MO	EXTENDED LANDSCAPE MAINTENANCE	$_____	$_____
SS612-A	1,150	CY	TOPSOIL MIX	$_____	$_____
SS1699 WQBP1	1	EA	WATER QUALITY BIOFILTRATION POND #1	$_____	$_____
SS1699 WQBP2	1	EA	WATER QUALITY BIOFILTRATION POND #2	$_____	$_____

SUBTOTAL STORM ..... $_____

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
501S-16	96	LF	JACKING OR BORING 16 IN. PIPE, CLASS STEEL (PER ASTM A134 W/MIN. THICKNESS OF 3/8" INCLUDING SPACERS)	$_____	$_____
504S-1RM	15	EA	REPOSITIONING & ADJUSTING WATER METERS	$_____	$_____
504S-3W	8	EA	ADJUSTING WATER VALVE BOXES TO GRADE	$_____	$_____
509S-1W	3,955	LF	TRENCH EXCAVATION SAFETY PROTECTIVE SYSTEMS (ALL DEPTHS)	$_____	$_____
510-AW8PVC	3,180	LF	PIPE, 8 IN. DIA. PVC C-900, (ALL DEPTHS), INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
510-AW8DI	145	LF	PIPE, 8 IN. DIA. DI CL 350, (ALL DEPTHS), INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
510-AW6DI	590	LF	PIPE, 6 IN. DIA. DI CL 350, (ALL DEPTHS), INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
510-AW6PVC	40	LF	PIPE, 6 IN. DIA. PVC C-900, (ALL DEPTHS), INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
510-AW2K	40	LF	PIPE, 2 IN. DIA. COPPER TYPE K, (ALL DEPTHS), INCLUDING EXCAVATION AND BACKFILL	$_____	$_____
510-BW 8x1.5	17	EA	INSTALLING OR RECONNECTING LATERAL SERVICE TO EXISTING OR REPLACED PIPE (SINGLE 1 ½ IN. WATER SERVICE CONNECTION)	$_____	$_____
510-IR 24X8 DIA.	1	EA	PRESSURE TAPS, 24 IN. DIA. X 8 IN. DIA. (STEEL FULL-BODY TAPPING SLEEVE AND VALVE)	$_____	$_____

WATER **3960-2207-6359**

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
510-JW8X8	3	EA	WET CONNECTION 8 IN. DIA X 8 IN. DIA.	$_____	$_____
510-KW	1.5	TON	DUCTILE IRON FITTINGS	$_____	$_____
511S-A2	1	EA	VALVES, GATE TYPE, 2 IN. DIAMETER	$_____	$_____
511S-A6	21	EA	VALVES, GATE TYPE, 6 IN. DIAMETER	$_____	$_____
511S-A8	14	EA	VALVES, GATE TYPE, 8 IN. DIAMETER	$_____	$_____
511S-C	1	EA	BACKFLOW PREVENTOR, 2 INCH DIA.	$_____	$_____
511S-B	19	EA	FIRE HYDRANTS (SEE STANDARD NO. 511S-17)	$_____	$_____
511S-F	1	EA	AUTOMATIC COMBINATION AIR/VACUUM RELEASE VALVE ASSEMBLY, 2" DIAMETER	$_____	$_____
SP511S-J8	2	EA	PERMANENT INSERTION VALVE, 8 IN DIAMETER, COMPLETE IN PLACE	$_____	$_____

SUBTOTAL WATER..... $_____

WASTEWATER **4570-2307-8376**

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
506S 4WW	9	EA	MINOR MANHOLE HEIGHT ADJUSTMENT, 48" DIA.	$_____	$_____
510-BWW 6X8	10	EA	INSTALLING OR RECONNECTING LATERAL SERVICE TO EXISTING OR REPLACED PIP (6" DIA. SDR-26 PVC WASTEWATER SERVICE CONNECTION – SINGLE, INCLUDING NEW CLEANOUT)	$_____	$_____

SUBTOTAL WASTE WATER..... $_____

GENERAL **8071-6207-9053**

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
628S-C	32	EA	FILTER CURB INLET PROTECTION (NEW INLET)	$_____	$_____
628S-D	10	EA	FILTER CURB INLET PROTECTION (EXISTING INLET)	$_____	$_____
639S	625	LF	ROCK BERM	$_____	$_____
641S	1	EA	STABILIZED CONSTRUCTION ENTRANCE	$_____	$_____
642S	7,830	LF	SILT FENCE FOR EROSION CONTROL	$_____	$_____
700S-TM	1	LS	TOTAL MOBILIZATION PAYMENT	$_____	$_____
801S	1	LS	CONSTRUCTING A DETOUR	$_____	$_____
802S-B C.I.P	4	EA	C.I.P. PROJECT SIGNS	$_____	$_____

GENERAL **8071-6207-9053**

Bid Item	Quantity	Unit	Item Description	Unit Price	Amount
SP 802S-BAS	30	EA	BUSINESS ACCESS SIGNS	$_____	$_____
803S-CD	540	CD	BARRICADES, SIGNS, AND TRAFFIC HANDLING	$_____	$_____
SS826	280	CD	PORTABLE CHANGEABLE MESSAGE SIGNS	$_____	$_____

SUBTOTAL GENERAL..... $_____

Subtotal Street.....$_____

Subtotal Storm.....$_____

Subtotal Water.....$_____

Subtotal Waste Water.....$_____

Subtotal General.....$_____

TOTAL BID: .....$_____

In the event of a mathematical error, the correct product, determined by using the "Unit Price" and "Quantity", and the correct sum, determined by totaling the correct line item Amounts, will prevail over the amount entered by the Bidder. The unit prices shown above will be the unit prices used to tabulate the Bid and used in the Contract, if awarded by the City.

Optional Information on Bid Prices Submitted by Computer Printout

In lieu of handwritten unit prices in figures in ink on the Bid forms above, Bidders, at their option, may submit an original computer printout sheet bearing certification by, and signature for, the Bidding firm. The unit prices shown on acceptable printouts will be the unit prices used to tabulate the Bid and used in the Contract if awarded by the City. As a minimum, computer printouts must contain all information and in the format shown on the attached page: "Example of Bid Prices Submitted by Computer Printout" form.

If a computer printout is used, the Bidder must still execute that portion of the unit price Bid form which acknowledges the Bid Guaranty, Time of Completion, Liquidated Damages, and all addenda that may have been issued.

Bids with unit prices by computer printout may be rejected, if:

1. The computer printout does not include the required certification, set forth in the attached "Example".
2. The computer printout is not signed in the name of the firm to whom the Project Manual was issued.
3. The computer printout is non-responsive or otherwise omits required Bid items or includes items not shown on the Bid forms in the Project Manual.

4. The other required Bid documents issued by the City are not fully executed as provided above.
5. The signed Section 00300U is not returned with the signed computer printout.

If the Bid submitted by the Bidder contains both the form furnished by the City, completed according the instructions, and also a computer printout, completed according to the instructions, unit prices of only one will be considered. In this situation, the unit Bid prices shown on the computer printout will be used to determine the Bid.

BID GUARANTY: A Bid guaranty must be enclosed with this Bid, as required in Section 00020 or Section 00020S, in the amount of not less than five percent (5%) of the total Bid. Following the Bid opening, submitted Bids may not be withdrawn for a period of Ninety (90) Calendar Days. Award of Contract will occur within this period, unless mutually agreed between the parties. The Bid guaranty may become the property of the OWNER, or the OWNER may pursue any other action allowed by law, if:

- Bidder withdraws a submitted Bid within the period stated above;
- Bidder fails to submit the required post Bid information within the period specified in Section 00020S or 00100, or any mutually agreed extension of that period;
- or Bidder fails to execute the Contract and furnish the prescribed documentation (bonds, insurance, etc.) needed to complete execution of the Contract within five (5) calendar days after notice of award, or any mutually agreed extension of that period.

GEOTECHNICAL BASELINE ACKNOWLEDGEMENT: The undersigned bidder certifies that he/she has read and understands the Geotechnical Baseline Report (GBR), the Geotechnical Data Report, the Reflection Survey Report, and all other geological and geotechnical information and data as provided in the Contract Documents, including all Addenda. ***The Bidder acknowledges and agrees that the GBR represents the contractual statement of the subsurface conditions reasonably anticipated to be encountered during construction. The GBR will be used to evaluate whether subsurface conditions differ materially from those indicated in the GBR.***

TIME OF COMPLETION: The undersigned Bidder agrees to commence work on the date specified in the written "Notice to Proceed" to be issued by the OWNER and to **substantially** complete construction of the improvements, as required by the Project Manual, Drawings and Addenda for the Work within **Five Hundred Forty(540) Calendar** Days. **If a Substantial Completion date has been specified, the Bidder further agrees to reach Final Completion within Three Hundred Sixty Five (365) Calendar Days after substantial completion as required by the Project Manual, Drawings and Addenda for the work.** The Bidder further agrees that should the Bidder fail to (**substantially complete the Work or to finally** complete the Work within the number of days indicated in the Bid or as subsequently adjusted, Bidder shall pay the liquidated damages for each consecutive day thereafter as provided below; unless the OWNER elects to pursue any other action allowed by law.

The Final Completion duration has been set to encompass the required Landscape Maintenance period (Refer to Special Specification SS611).

WAIVER OF ATTORNEY FEES: In submitting its bid, in consideration for the waiver of its right to attorney's fees by the OWNER, the Bidder knowingly and intentionally agrees to and shall waive the right to attorney's fees under Section 271.153 of the Texas Local Government Code in any administrative proceeding, alternative dispute resolution proceeding, or litigation arising out of or connected to any Contract awarded pursuant to this solicitation process.

LIQUIDATED DAMAGES: The Bidder understands and agrees that the timely completion of the described Work is of the essence. The Bidder and OWNER further agree that the OWNER's actual damages for delay caused by failure to timely complete the Project are difficult, if not impossible to measure. However, with respect to the additional administrative and consultant costs to be incurred by OWNER, the reasonable estimate of such damages has been calculated and agreed to by OWNER and Bidder. Therefore, the Bidder and the OWNER agree that for each and every **Calendar Day** the Work or any portion thereof, remains incomplete after the **Substantial Completion** date as established by the above paragraph, "Time of Completion", payment will be due to the Owner in the amount of **One Thousand Seven Hundred Fifty dollars ($1,750.00) per Calendar Day** as liquidated damages, not as a penalty, but for delay damages to the OWNER. If both Substantial and Final Completion dates have been specified, the Bidder and the OWNER further agree that for each and every **Calendar Day** the Work or any portion thereof, remains incomplete after the Final date as established by the above paragraph, "Time of Completion", payment will be due to the OWNER in the amount of **Two Hundred Ten dollars ($210.00) per Calendar Day** as liquidated damages, not as a penalty, but for delay damages to the OWNER. Such amount shall be deducted by the OWNER from any Contract payment due. In the event of a default or breach by the CONTRACTOR and demand is made upon the surety to complete the project, in accordance with the Contract Documents, the surety shall be liable for liquidated damages pursuant to the Contract Documents in the same manner as the CONTRACTOR would have been.

OWNER reserves the right to reject any or all Bids and to waive any minor informality in any Bid or solicitation procedure (a minor informality is one that does not affect the competitiveness of the Bids).

The undersigned acknowledges receipt of the following addenda:

Addendum No. 1 dated _____ Received _____

Addendum No. 2 dated _____ Received _____

Addendum No. 3 dated _____ Received _____

Addendum No. 4 dated _____ Received _____

Addendum No. 5 dated _____ Received _____

_____
Secretary, *if Bidder is a Corporation

_____
Bidder

(Seal)

_____
Authorized Signature

_____
Title

_____
Date

_____

_____
Address

Telephone Number / FAX Number

Email Address for Person Signing Bid

Email Address for Bidder's Primary Contact Person

* Copy of Corporate Resolution and minutes with certificate of officer of Bidder as to authority of signatory to bind Bidder is to be signed and dated no earlier than one week before Bid date, and attached to this document.

EXAMPLE: BID PRICES SUBMITTED BY COMPUTER PRINTOUT

Project Name:
CIP ID #:
IFB #:

Bid Item #	***Bid Item Description***	***Unit***	***Qty***	***Unit Bid Price***	***Total Amount***
				Total Bid:	

(YOUR FIRM'S NAME) certifies that the unit prices shown on this completed computer printout for all of the bid items and the alternates contained in this proposal are the unit prices intended and that its Bid will be tabulated using these unit prices and no other information from this printout. (YOUR FIRM'S NAME) acknowledges and agrees that the total bid amount shown will be read as its total bid. *In the event of a mathematical error*, the correct product, determined by using the "Unit Price" and "Quantity", and the correct sum, determined by totaling the correct line item Amounts, will prevail over the amount entered by the Bidder.

Signed: _____

Title: _____

Date: _____

End

119	WATER LINE PLAN AND PROFILE STA 14+00 - 18+00
120	WATER LINE PLAN AND PROFILE STA 18+00 - 22+00
121	WATER LINE PLAN AND PROFILE STA 22+00 - 26+00
122	WATER LINE PLAN AND PROFILE STA 26+00 - 30+00
123	WATER LINE PLAN AND PROFILE STA 30+00 - END
124	WATER STANDARD DETAILS SHEET 1
125	WATER STANDARD DETAILS SHEET 2
126	WATER STANDARD DETAILS SHEET 3
127	WATER STANDARD DETAILS SHEET 4
128	WASTEWATER STANDARD DETAILS SHEET 1
129	WASTEWATER STANDARD DETAILS SHEET 2
130	WASTEWATER STANDARD DETAILS SHEET 3
131	PROPOSED STRIPING PLAN SHEET STA. 0+00 TO 6+50
132	PROPOSED STRIPING PLAN SHEET STA. 6+50 TO 14+50
133	PROPOSED STRIPING PLAN SHEET STA. 14+50 TO 22+50
134	PROPOSED STRIPING PLAN SHEET STA. 22+50 TO 30+50
135	PROPOSED STRIPING PLAN SHEET STA. 30+50 TO END
136	PROPOSED STRIPING PLAN TRANSITION SHEET 1
137	PROPOSED STRIPING PLAN TRANSITION SHEET 2
138	STRIPING PLAN DETAILS
139	PHASE 1 AND 2 TRAFFIC CONTROL DETOUR
140	TEMPORARY TRAFFIC CONTROL PLAN PHASE 1 STA. 0+00 TO 20+00
141	TEMPORARY TRAFFIC CONTROL PLAN PHASE 1 STA. 20+00 TO END
142	TEMPORARY TRAFFIC CONTROL PLAN PHASE 2 STA. 0+00 TO 20+00
143	TEMPORARY TRAFFIC CONTROL PLAN PHASE 2 STA. 20+00 TO END
144	TEMPORARY TRAFFIC CONTROL DETAIL SHEET 1
145	TEMPORARY TRAFFIC CONTROL DETAIL SHEET 2
146	TEMPORARY TRAFFIC CONTROL DETAIL SHEET 3
147	TEMPORARY TRAFFIC CONTROL DETAIL SHEET 4
148	TEMPORARY TRAFFIC CONTROL DETAIL SHEET 5
149	TEMPORARY TRAFFIC CONTROL DETAIL SHEET 6
150	TEMPORARY TRAFFIC CONTROL DETAIL SHEET 7
151	SPECIAL TRAFFIC CONTROL DETAILS
152	LANDSCAPE PLAN: ROUNDABOUT, RAIN GARDENS #6 & #7 (LS#1)
153	LANDSCAPE PLAN: BIOFILTRATION POND #1 & STREETSCAPE (LS#2)
154	LANDSCAPE PLAN: LANDSCAPE: STREETSCAPE (LS#3)
155	LANDSCAPE PLAN: STREETSCAPE (LS#4)
156	LANDSCAPE PLAN: RAIN GARDEN #4 & STREETSCAPE (LS#5)
157	LANDSCAPE PLAN: RAIN GARDEN #3 & STREETSCAPE (LS#6)
158	LANDSCAPE PLAN: RAIN GARDEN #5 & STREETSCAPE (LS#7)
159	LANDSCAPE PLAN: RAIN GARDEN #1 & STREETSCAPE (LS#8)
160	LANDSCAPE PLAN: RAIN GRADEN #2 & STREETSCAPE (LS#9)
161	LANDSCAPE PLAN: BIOFILTRATION POND #2 & STREETSCAPE (LS#10)
162	LANDSCAPE PLAN: STREETSCAPE (LS#11)
163	LANDSCAPE NOTES (LS#12)
164	LANDSCAPE NOTES & DETAILS (LS#13)
165	IRRIGATION PLAN (IR1)
166	IRRIGATION PLAN (IR2)
167	IRRIGATION PLAN (IR3)
168	IRRIGATION PLAN (IR4)
169	IRRIGATION NOTES & DETAILS (IR5)
170	IRRIGATION DETAILS (IR6)
171	IRRIGATION DETAILS (IR7)
172	TRAFFIC CONTROL PLAN PHASE 3-ROUNDABOUT
173	TRAFFIC CONTROL PLAN PHASE 4-ROUNDABOUT
174	TRAFFIC CONTROL PLAN PHASE 3-ST. ELMO ROAD
175	TRAFFIC CONTROL PLAN PHASE 4-ST. ELMO ROAD

REV NO.	BY	DATE	REVISION DESCRIPTION
1	EZ	04-18-13	4 SHEETS ADDED - ADDENDUM #3

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
04-18-13

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E., LIC.# 96436

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

SHEET INDEX II

ENGINEERING DESIGN

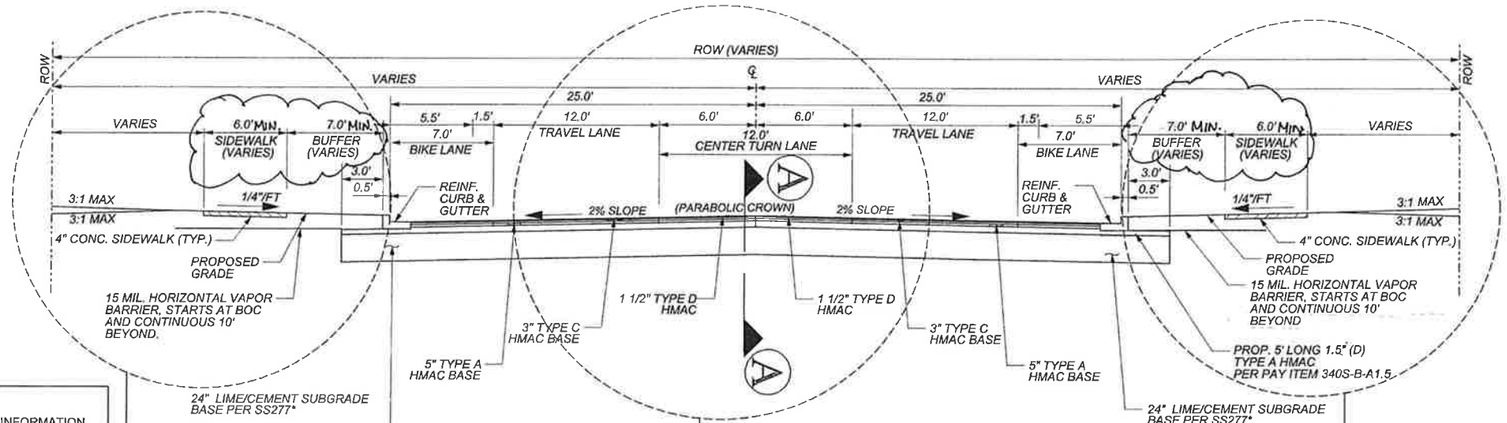
NOTES	NAME	DATE
SURVEY BY	BPJ	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AQ	2012

ESD
ENGINEERING SERVICES DIVISION

PERMIT NUMBER
SP-2012-0155D

SHEET NUMBER 3 OF 175

N:\Teams\PWD_Todd_Lane_Roundabout_Redesign\DGN\TODD_IN_IN01.dgn
18-APR-2013



PROPOSED
TYPICAL CROSS SECTION
NTS

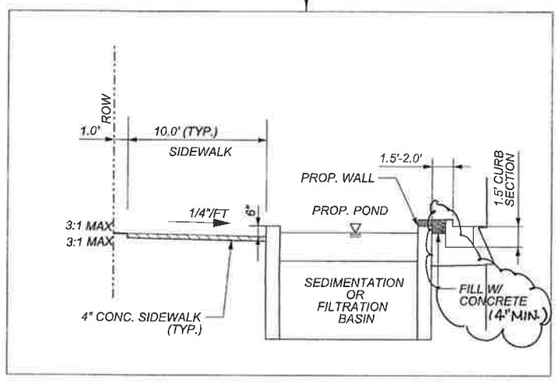
NOTES:

1. FOR COMPLETE GEOTECHNICAL INFORMATION INCLUDING BORING LOGS, SEE SECTION 00220 (GEOTECHNICAL DATA REPORT) OF THE PROJECT MANUAL.
2. COMPACTION SHOULD BE AT LEAST 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH TxDOT TEST METHOD TEX-113-E.
3. ALL CURB AND GUTTER SHALL BE REINFORCED PER CITY OF AUSTIN STANDARD DETAIL S430S-2, UNLESS NOTED OTHERWISE ON THE PLANS.

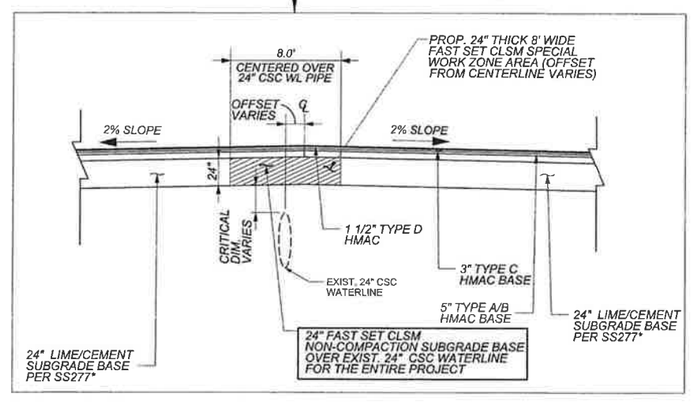
NOTES:

1. PLEASE REFER TO CROSS SECTION A-A ON PROPOSED ROUNDABOUT LAYOUT AND GRADING PLAN (SHT. 69) FOR CONC. PAVER AND SUBGRADE PREPARATION DETAILS.

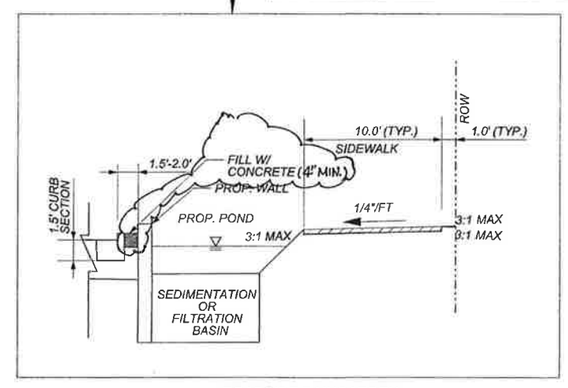
2. PLEASE REFER TO WATER QUALITY POND DETAIL SHEET 99 FOR TYPICAL RAIN GARDEN CROSS SECTION DETAILS.



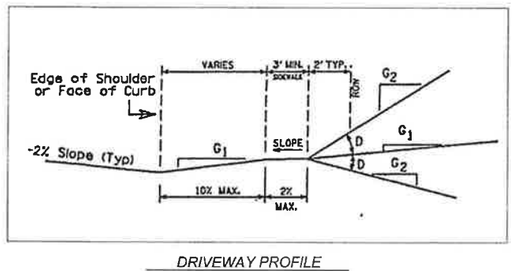
ROADSIDE RAINGARDEN/BIOFILTRATION POND
NTS



CLSM NON-COMPACTION
SUBGRADE FOR EX. 24" TRANSMISSION MAIN
NTS



ROADSIDE RAINGARDEN
NTS



DRIVEWAY PROFILE
NTS

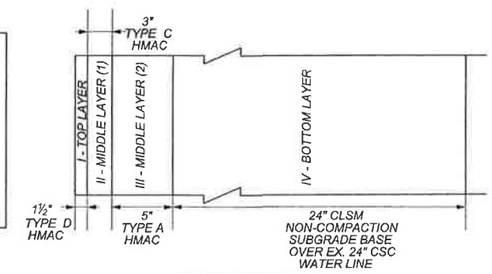
DRIVEWAY VOLUME (ADT)	D = GRADE CHANGE STANDARD	MAXIMUM
> 1500*	0%	3%
500 -1500	3%	6%
<500	6%	15%

NOTE:

BASED ON BROWN & GAY ENGINEERS, INC. TRAFFIC VOLUME STUDY AS OF JUNE 7, 2011, THE EXISTING 24-HOUR TRAFFIC VOLUME AT ONE EXIST. DRIVEWAY NORTH OF THE TODD LANE/E. ST. ELMO INTERSECTION IS APPROXIMATELY 9,990 VEHICLES PER DAY. THE ESTIMATED 24-HOUR TRAFFIC VOLUME AT THE OTHER DRIVEWAY NORTH OF THE TODD LANE/BUSINESS CENTER DRIVE INTERSECTION IS 10,170 VEHICLES PER DAY.

SPECIAL NOTE

1. PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES ON THE PROJECT SUCH AS EXCAVATING, HAULING, OR FILLING, THE CONSTRCTOR SHALL POT-HOLE THE EXISTING 24 INCH CONCRETE STEEL CYLINDER WATER LINE AT LEAST EVERY 100 FEET ALONG ITS ENTIRE LENGTH. THE CENTERLINE OF THE WATER LINE SHALL BE MARKED AT THE GROUND SURFACE BY FLAGGED STAKES OR OTHER READILY VISIBLE MARKINGS TO WARN OF THE PIPE'S LOCATION. THE MARKINGS SHALL BE MAINTAINED AND CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED WITHIN 4 FEET FROM EITHER SIDE OF THE CENTERLINE OF THE PIPE UNTIL SUCH TIME AS THE WORK DESCRIBED IN SPECIAL SPECIFICATION (ITEM SP402S) CONTROLLED LOW STRENGTH CONCRETE, HAS BEEN COMPLETED OR THE DEPTH OF COVER ON THE 24 INCH PIPE EXCEEDS FOUR FEET.



CROSS SECTION A-A
NTS

REV. NO.	BY	DATE	REVISION DESCRIPTION
1	EZ	4/17/13	ADDED DRWG. 3

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
04-16-13
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E., LIC.# 96436

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

ROADWAY TYPICAL CROSS SECTION

ENGINEERING DESIGN

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AD	2012

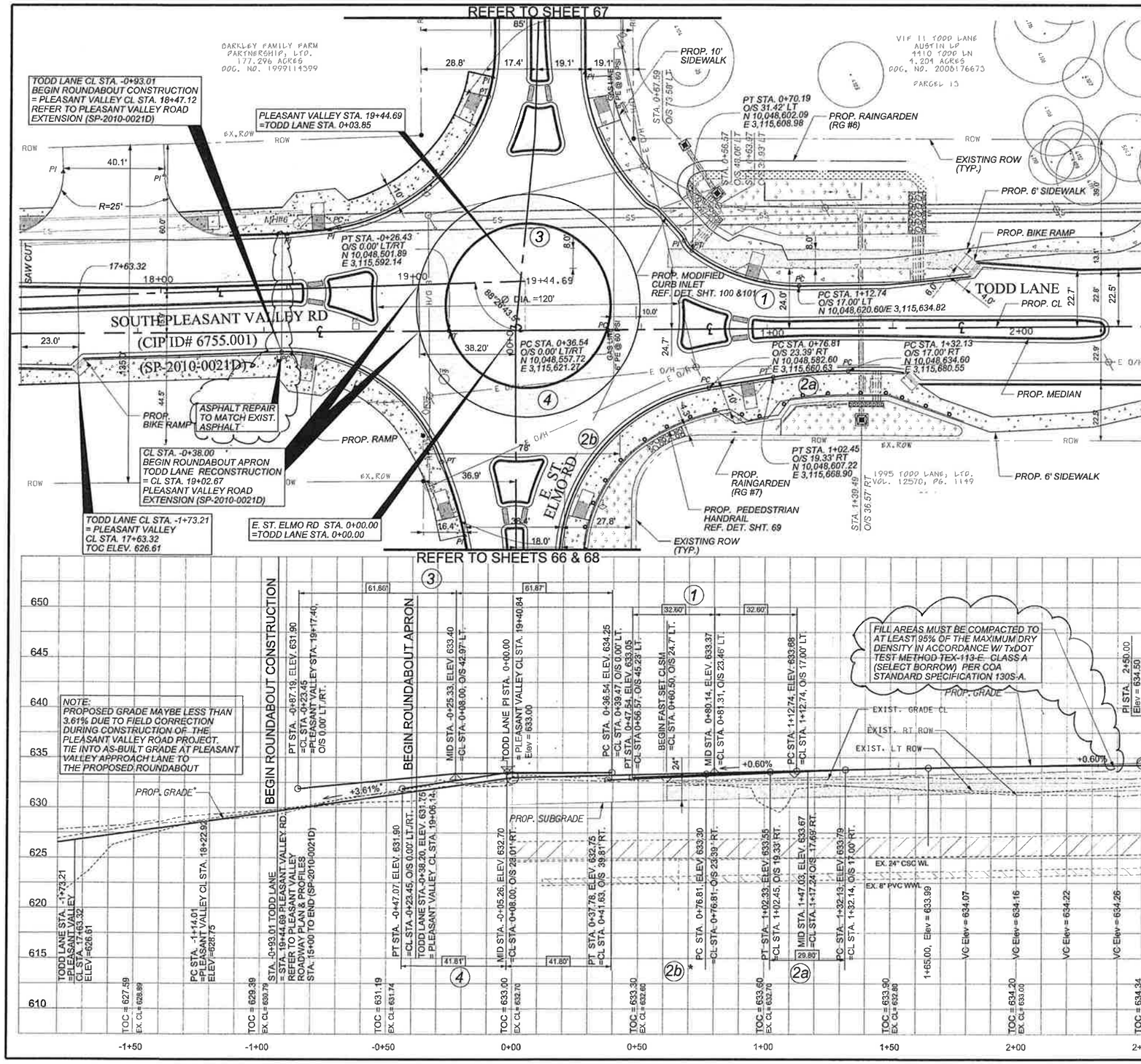
N.T.S.

PERMIT NUMBER
SP-2012-0155D

SHEET NUMBER 37 OF 175

N:\Teams\PWD_Todd_Lane_Roundabout_Redesign\NON\ADDENDUM\TODD_RD_TYP.dgn

15-APR-2013



NOTE:
PROPOSED GRADE MAYBE LESS THAN 3.61% DUE TO FIELD CORRECTION DURING CONSTRUCTION OF THE PLEASANT VALLEY ROAD PROJECT. TIE INTO AS-BUILT GRADE AT PLEASANT VALLEY APPROACH LANE TO THE PROPOSED ROUNDABOUT

SPECIAL NOTE

1. PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES ON THE PROJECT SUCH AS EXCAVATING, HAULING, OR FILLING, THE CONSTRCTOR SHALL POT-HOLE THE EXISTING 24 INCH CONCRETE STEEL CYLINER WATER LINE AT LEAST EVERY 100 FEET ALONG ITS ENTIRE LENGTH. THE CENTERLINE OF THE WATER LINE SHALL BE MARKED AT THE GROUND SURFACE BY FLAGGED STAKES OR OTHER READILY VISIBLE MARKINGS TO WARN OF THE PIPE'S LOCATION. THE MARKINGS SHALL BE MAINTAINED AND CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED WITHIN 4 FEET EITHER SIDE OF THE CENTERLINE OF THE PIPE UNTIL SUCH TIME AS THE WORK DESCRIBED IN SPECIAL PROVISION (SP402S-B) SPECIAL WORK ZONE, HAS BEEN COMPLETED OR THE DEPTH OF COVER ON THE 24 INCH PIPE EXCEEDS FOUR FEET.

NOTES:

1. PLEASE REFER TO PROPOSED ROUNDABOUT LAYOUT AND GRADING PLAN (SHT. 66) FOR ALL CURVE DATA AND PC/PT/PI LOCATIONS AND ELEVATIONS FOR CURVE 2b.
2. ALL PROPOSED DRIVEWAYS FOR THIS PROJECT SHALL BE TYPE II, UNLESS NOTED OTHERWISE ON THE PLANS.
3. ALL PROPOSED SIDEWALKS FOR THIS PROJECT SHALL BE CONSTRUCTED WITH #3 REINF. BARS, PER COA STANDARD DETAIL 432S-1.

NOTE:
REFER TO LANDSCAPE IRRIGATION SHEETS FOR LANDSCAPE IRRIGATION SLEEVES.

CAUTION:
RELOCATE EXISTING UTILITY POWER POLES

CAUTION:
EXISTING 6" GAS LINE (PE @ 60 PSI) AT THE INTERSECTION OF EAST ST. ELMO AND TODD LANE CONTACT TEXAS GAS SERVICE FOR LOCATES PRIOR TO ANY WORK ON THIS PROJECT.

CAUTION:
EXISTING AUSTIN ENERGY UTILITY POWER POLES TO BE RELOCATED BY AUSTIN ENERGY. REFER TO AUSTIN ENERGY RELOCATION UTILITY LAYOUT PLANS FOR NEW POLE LOCATIONS (TYP.)

PROFILE LEGEND

- PROPOSED GRADE @ TOC*
- EXISTING GRADE @ CENTERLINE
- EXISTING GRADE @ RIGHT R.O.W.
- EXISTING GRADE @ LEFT R.O.W.
- PROPOSED CONCRETE SIDEWALK /DRIVEWAY
- PROP. 24" THICK x 8' WIDE FAST SET CLSM AREA OVER EX. 24" CSC WL

HORIZONTAL SCALE IN FEET: 0 20 40

VERTICAL SCALE IN FEET: 0 5 10

REV. NO.	BY	DATE	REVISION DESCRIPTION
1	C.E.	04/01/13	ADD NOTES - ADDENDUM #3

STATE OF TEXAS — XIAOQIN ZHANG, P.E. — 96436 — LICENSED PROFESSIONAL ENGINEER — 04-16-13

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E., LIC.# 96436

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS (FROM BEN WHITE TO ST. ELMO)

ROADWAY PLAN AND PROFILE STA. -1+73.21 - 2+50

ENGINEERING DESIGN — CITY OF AUSTIN — FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AG	2012

PERMIT NUMBER SP-2012-0155D

SHEET NUMBER 38 OF 175

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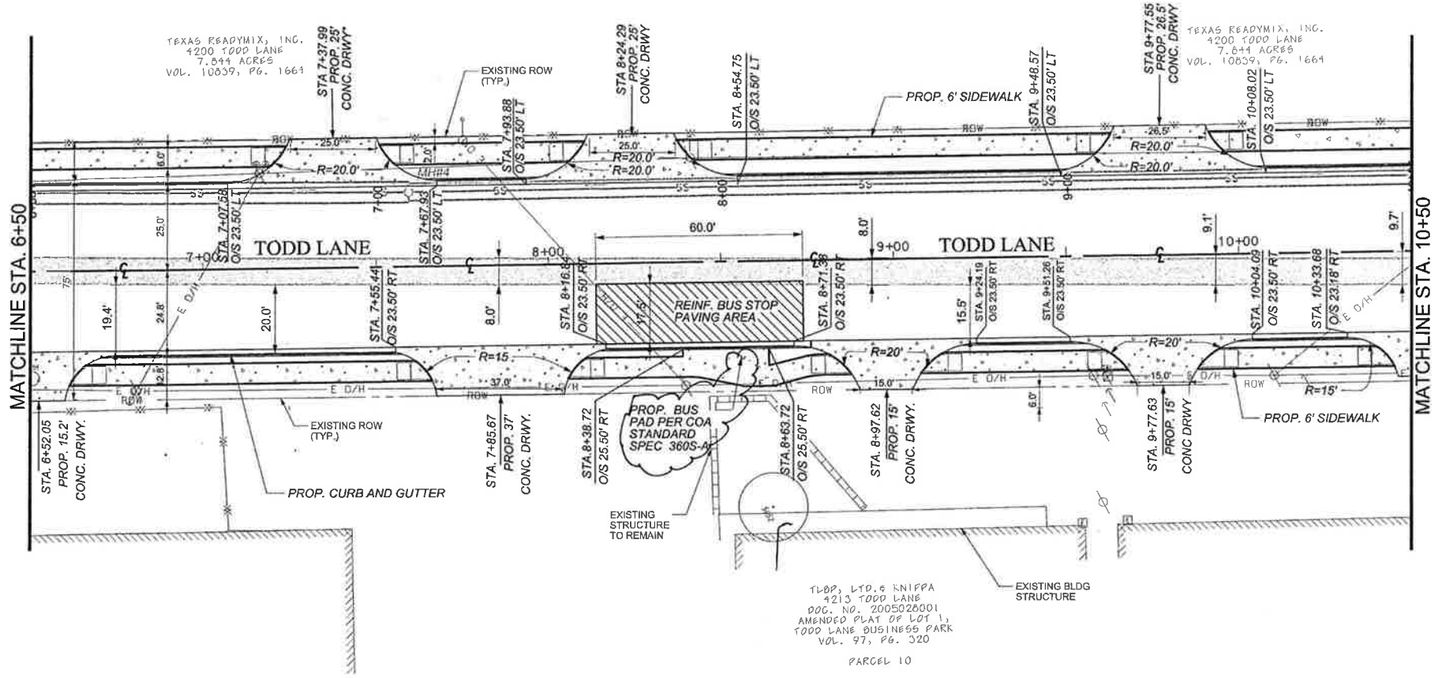
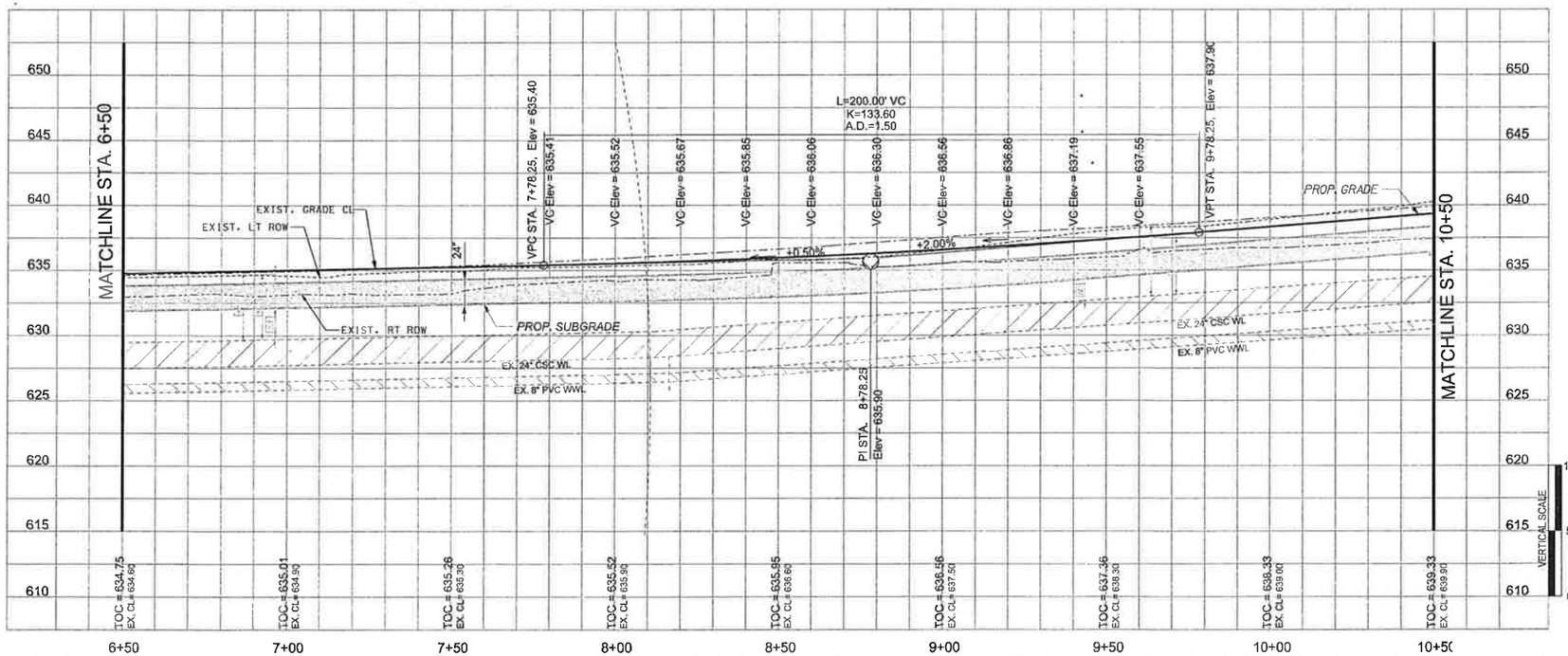
5-APR-2013





NOTE:
1. ALL PROPOSED DRIVEWAYS FOR THIS PROJECT SHALL BE TYPE II, UNLESS NOTED OTHERWISE ON THE PLANS.
2. SEE CITY OF AUSTIN STANDARD DETAIL 1000S-7 FOR REINF. BUS STOP PAVING AREA.

NOTE:
REFER TO LANDSCAPE IRRIGATION SHEETS FOR LANDSCAPE IRRIGATION SLEEVES.

CAUTION:
EXISTING AUSTIN ENERGY UTILITY POWER POLES TO BE RELOCATED BY AUSTIN ENERGY. REFER TO AUSTIN ENERGY RELOCATION UTILITY LAYOUT PLANS FOR NEW POLE LOCATIONS (TYP.)

PROFILE LEGEND

- PROPOSED GRADE @ TOC*
- EXISTING GRADE @ CENTERLINE
- EXISTING GRADE @ RIGHT R.O.W.
- EXISTING GRADE @ LEFT R.O.W.
- PROPOSED CONCRETE SIDEWALK /DRIVEWAY
- PROP. 24" THICK x 8' WIDE FAST SET CLSM AREA OVER EX. 24" CSC WL

REV. NO.	BY	DATE	REVISION DESCRIPTION
1	EZ	04/16/13	ADD NOTE - ADDENDUM 3

STATE OF TEXAS
XIAODIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
4-16-13
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAODIN ZHANG, P.E. LIC. 96436

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

ROADWAY PLAN AND PROFILE
STA. 6+50 - 10+50

ENGINEERING CITY OF AUSTIN FOUNDED 1839 DESIGN

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AQ	2012

0 20 40 HORIZONTAL SCALE IN FEET
0 5 10 VERTICAL SCALE IN FEET

PERMIT NUMBER
SP-2012-0155D

SHEET NUMBER 40 OF 175

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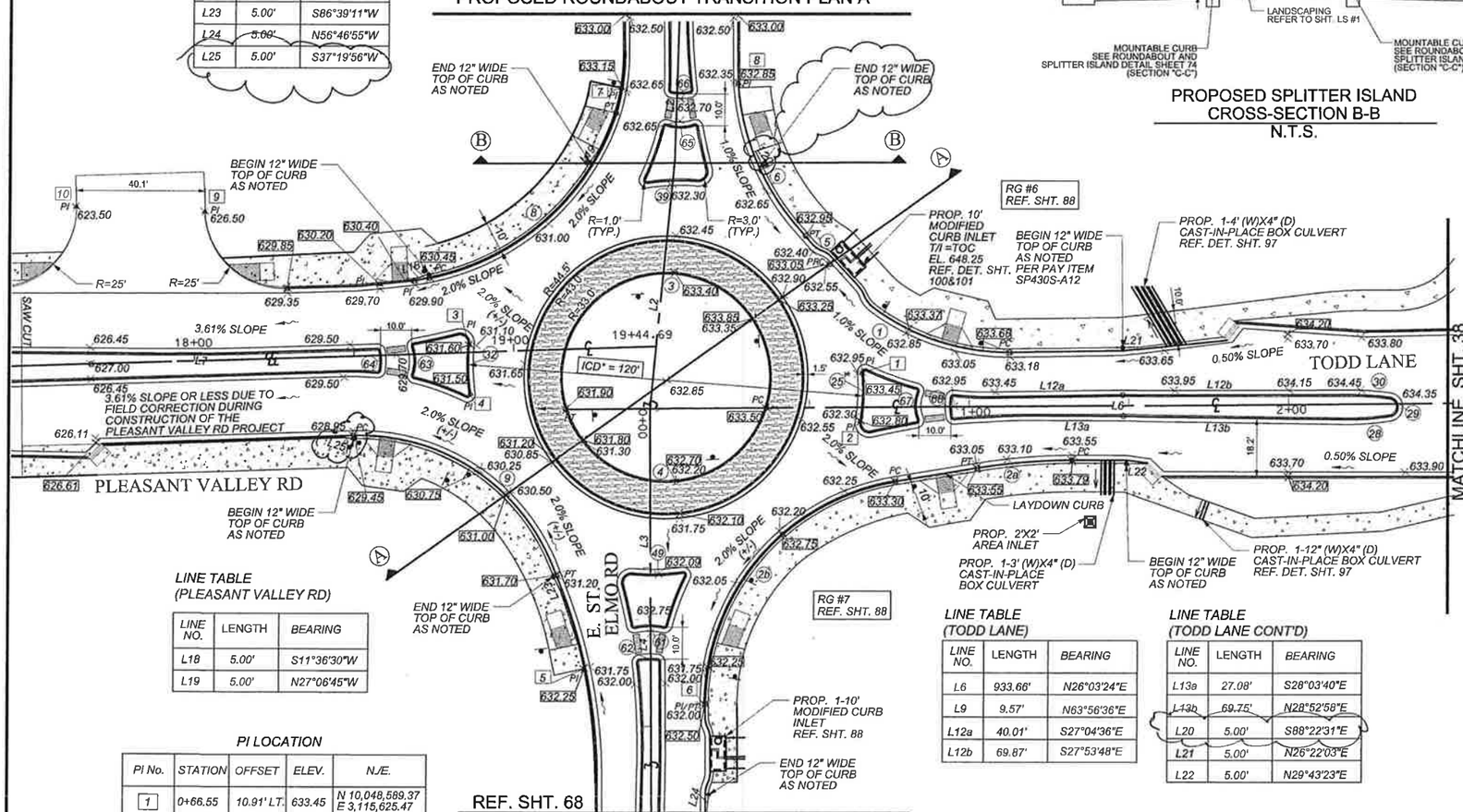
5-APR-2013

LINE TABLE (E. ST. ELMO RD)

LINE NO.	LENGTH	BEARING
L2	221.89'	S29°36'36"W
L3	78.66'	N33°24'48"E
L4	230.70'	N62°26'52"W
L23	5.00'	S86°39'11"W
L24	5.00'	N56°46'55"W
L25	5.00'	S37°19'56"W

REF. SHT. 67
PROPOSED ROUNDABOUT TRANSITION PLAN A



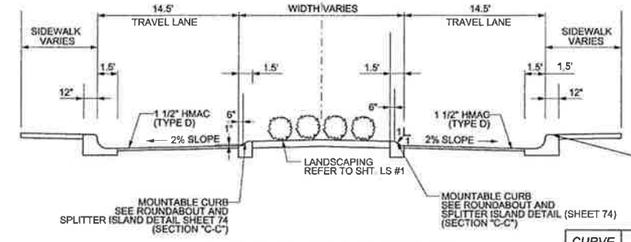
LINE TABLE (PLEASANT VALLEY RD)

LINE NO.	LENGTH	BEARING
L18	5.00'	S11°36'30"W
L19	5.00'	N27°06'45"W

PI LOCATION

PI No.	STATION	OFFSET	ELEV.	N/E.
1	0+66.55	10.91' LT.	633.45	N 10,048,589.37 E 3,115,625.47
2	0+65.89	4.34' RT.	632.80	N 10,048,581.73 E 3,115,638.69
3	18+84.30	2.33' LT.	631.60	N 10,048,761.19 E 3,115,857.95
4	18+84.23	13.05' RT	631.50	N 10,048,774.95 E 3,115,864.81
5	19+19.10	100.62' RT	632.25	N 10,048,469.00 E 3,115,667.04
6	0+17.01	81.46' RT.	632.50	N 10,048,497.25 E 3,115,694.89
7	19+36.24	93.20' RT.	633.15	N 10,048,564.52 E 3,115,510.71
8	0+28.05	102.64' LT	632.85	N 10,048,597.67 E 3,115,526.34
9	18+04.60	47.00' LT.	626.50	N 10,048,430.99 E 3,115,484.13
10	17+64.60	49.68' LT.	623.50	N 10,048,396.23 E 3,115,464.15

PROPOSED SPLITTER ISLAND CROSS-SECTION B-B
N.T.S.



NOTE:
WIDEN TYPICAL TOP OF CURB FROM 6" TO 12" AS NOTED ON THIS PLAN.

CURVE DATA

CURVE No.	Radius (R)	Curve Length (L)	Tangent (T)	Chord (C)	Delta (I)
1	70.00'	45.73'	23.72'	44.93'	37°26'04"
2a	190.00'	29.80'	14.93'	29.76'	08°59'06"
2b	70.89'	100.08'	60.42'	91.97'	80°53'06"
3	33.00'	123.73'	104.48'	62.97'	214°04'49"
4	33.00'	83.61'	105.24'	62.97'	145°10'11"
5	100.00'	11.74'	5.87'	11.73'	06°43'28"
6	77.41'	53.85'	29.50'	52.77'	53°07'48"
8	77.41'	81.96'	45.29'	78.19'	60°39'54"
9	65.00'	82.94'	48.20'	77.43'	73°15'45"
28	90.00'	13.72'	6.87'	13.70'	08°43'55"
29	3.00'	8.56'	6.89'	5.94'	08°45'09"
30	90.00'	13.75'	20.69'	13.73'	163°30'00"
61	20.20'	8.99'	4.57'	8.92'	25°30'20"
62	22.81'	5.63'	2.83'	5.62'	15°57'38"
63	13.16'	8.66'	4.50'	8.51'	37°43'24"
64	20.58'	5.92'	2.98'	5.90'	16°28'44"
65	12.01'	8.65'	4.52'	8.46'	41°14'53"
66	18.21'	5.78'	2.92'	5.76'	18°11'58"
67	10.55'	8.62'	4.57'	8.38'	46°47'28"
68	21.98'	6.00'	3.02'	5.98'	15°38'55"

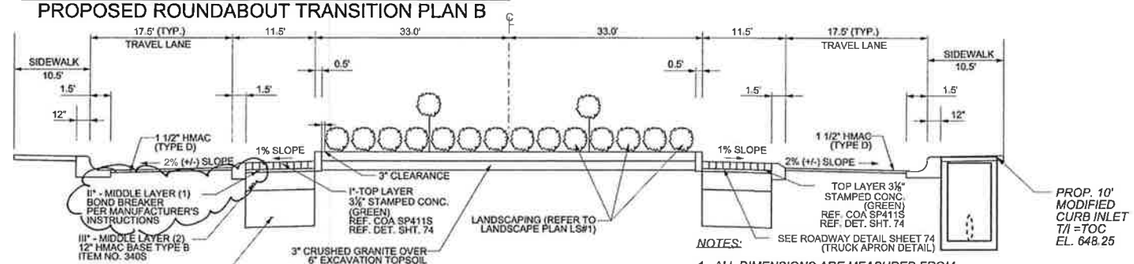
LINE TABLE (TODD LANE)

LINE NO.	LENGTH	BEARING
L6	933.66'	N26°03'24"E
L9	9.57'	N63°56'36"E
L12a	40.01'	S27°04'36"E
L12b	69.87'	S27°53'48"E

LINE TABLE (TODD LANE CONT'D)

LINE NO.	LENGTH	BEARING
L13a	27.08'	S28°03'40"E
L13b	69.75'	N28°52'58"E
L20	5.00'	S88°22'31"E
L21	5.00'	N26°22'03"E
L22	5.00'	N29°43'23"E

REF. SHT. 68
PROPOSED ROUNDABOUT TRANSITION PLAN B



NOTES:
1. ALL DIMENSIONS ARE MEASURED FROM FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL PROPOSED DRIVEWAYS FOR THIS PROJECT SHALL BE TYPE II, UNLESS NOTED OTHERWISE ON THE PLANS.

PROPOSED ROUNDABOUT CROSS-SECTION A-A
N.T.S.

NOTES:
1. ICD STANDS FOR INSCRIBED CIRCLE DIAMETER
2. REFER TO SHT. 67 & 68 PROPOSED ROUNDABOUT TRANSITION PLAN A/B FOR SPLITTER ISLAND CURVE DATA.

LEGEND

- × 626.21 — PROP. LOG/BOC /MEDIAN SPOT ELEV. SPOT ELEV.
- × 633.68 — PROP. TOC SPOT ELEV.
- PROP. CURB & GUTTER W/ 6" BOC
- PROP. CURB & GUTTER W/ 12" BOC
- TRANSITION FROM 12" TOP OF CURB TO 6" TOP OF CURB
- PROP. DRAINAGE FLOW PATH
- PROPOSED CONCRETE SIDEWALK

REV. NO.	BY	DATE	REVISION DESCRIPTION
1	CG	04/17/13	ADD NOTE - MODIFIED L13 & RANGE L20&L25

STATE OF TEXAS — XIAODIN ZHANG, P.E. — 96436 — LICENSED PROFESSIONAL ENGINEER — 04-16-13

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAODIN ZHANG,P.E. LIC.# 96436

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

PROPOSED ROUNDABOUT LAYOUT AND GRADING PLAN

ENGINEERING DESIGN — CITY OF AUSTIN — FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AO	2012

0 20 40 HORIZONTAL SCALE IN FEET

PERMIT NUMBER SP-2012-0155D

SHEET NUMBER 66 OF 175

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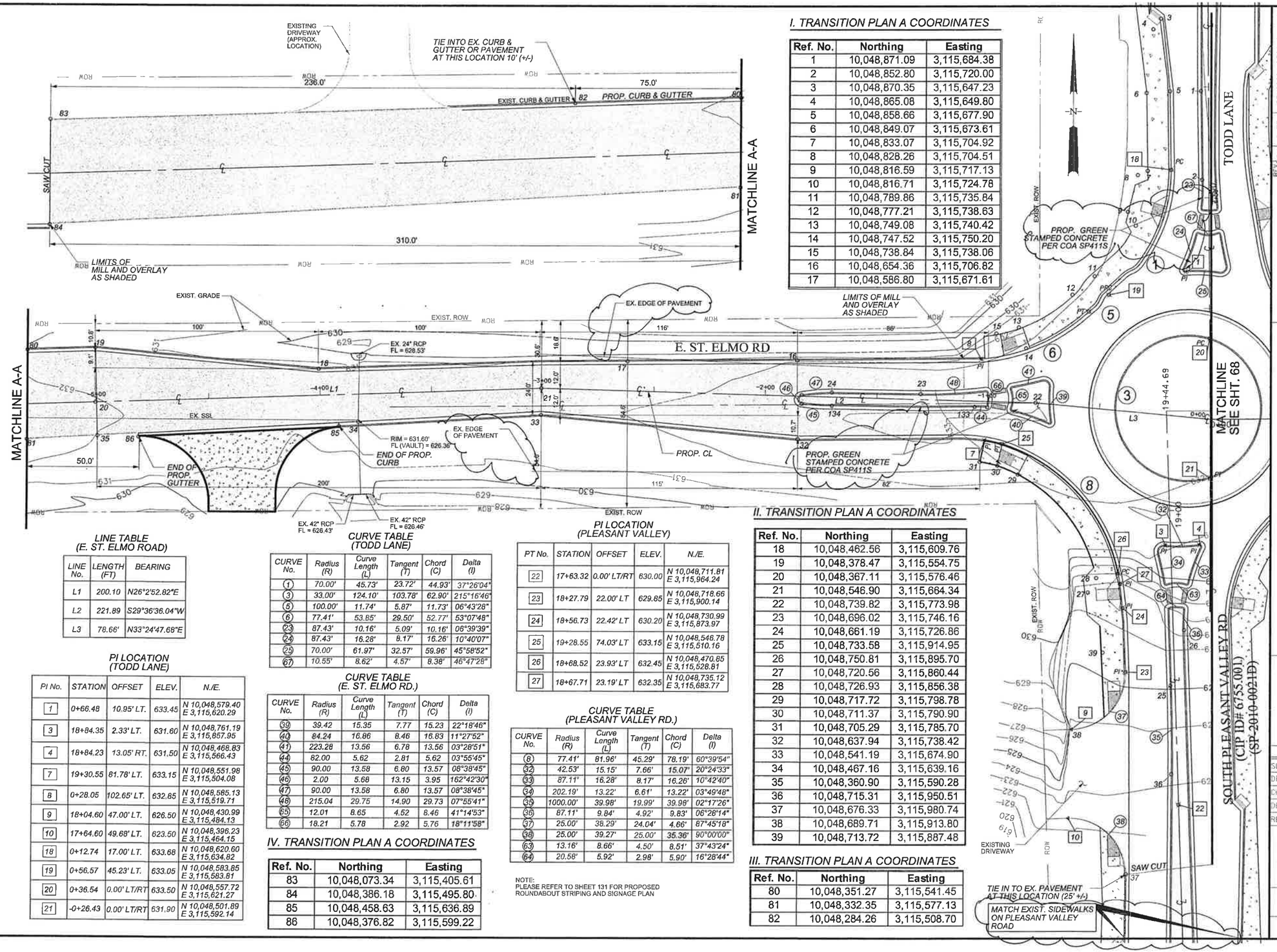
18-APR-2013



I. TRANSITION PLAN A COORDINATES

Ref. No.	Northing	Easting
1	10,048,871.09	3,115,684.38
2	10,048,852.80	3,115,720.00
3	10,048,870.35	3,115,647.23
4	10,048,865.08	3,115,649.80
5	10,048,858.66	3,115,677.90
6	10,048,849.07	3,115,673.61
7	10,048,833.07	3,115,704.92
8	10,048,828.26	3,115,704.51
9	10,048,816.59	3,115,717.13
10	10,048,816.71	3,115,724.78
11	10,048,789.86	3,115,735.84
12	10,048,777.21	3,115,738.63
13	10,048,749.08	3,115,740.42
14	10,048,747.52	3,115,750.20
15	10,048,738.84	3,115,738.06
16	10,048,654.36	3,115,706.82
17	10,048,586.80	3,115,671.61

II. TRANSITION PLAN A COORDINATES

Ref. No.	Northing	Easting
18	10,048,462.56	3,115,609.76
19	10,048,378.47	3,115,554.75
20	10,048,367.11	3,115,576.46
21	10,048,546.90	3,115,664.34
22	10,048,739.82	3,115,773.98
23	10,048,696.02	3,115,746.16
24	10,048,661.19	3,115,726.86
25	10,048,733.58	3,115,914.95
26	10,048,750.81	3,115,895.70
27	10,048,720.56	3,115,860.44
28	10,048,726.93	3,115,856.38
29	10,048,717.72	3,115,798.78
30	10,048,711.37	3,115,790.90
31	10,048,705.29	3,115,785.70
32	10,048,637.94	3,115,738.42
33	10,048,541.19	3,115,674.90
34	10,048,467.16	3,115,639.16
35	10,048,360.90	3,115,590.28
36	10,048,715.31	3,115,950.51
37	10,048,676.33	3,115,980.74
38	10,048,689.71	3,115,913.80
39	10,048,713.72	3,115,887.48

III. TRANSITION PLAN A COORDINATES

Ref. No.	Northing	Easting
80	10,048,351.27	3,115,541.45
81	10,048,332.35	3,115,577.13
82	10,048,284.26	3,115,508.70

IV. TRANSITION PLAN A COORDINATES

Ref. No.	Northing	Easting
83	10,048,073.34	3,115,405.61
84	10,048,386.18	3,115,495.80
85	10,048,458.63	3,115,636.89
86	10,048,376.82	3,115,599.22

LINE TABLE (E. ST. ELMO ROAD)

LINE No.	LENGTH (FT)	BEARING
L1	200.10	N26°2'52.82"E
L2	221.89	S29°36'36.04"W
L3	78.66'	N33°24'47.68"E

PI LOCATION (TODD LANE)

PI No.	STATION	OFFSET	ELEV.	N./E.
1	0+66.48	10.95' LT.	633.45	N 10,048,579.40 E 3,115,620.29
3	18+84.35	2.33' LT.	631.60	N 10,048,761.19 E 3,115,857.95
4	18+84.23	13.05' RT.	631.50	N 10,048,468.83 E 3,115,566.43
7	19+30.55	81.78' LT.	633.15	N 10,048,551.98 E 3,115,504.08
8	0+28.05	102.65' LT.	632.85	N 10,048,585.13 E 3,115,519.71
9	18+04.60	47.00' LT.	626.50	N 10,048,430.99 E 3,115,484.13
10	17+64.60	49.68' LT.	623.50	N 10,048,396.23 E 3,115,464.15
18	0+12.74	17.00' LT.	633.68	N 10,048,620.60 E 3,115,634.82
19	0+56.57	45.23' LT.	633.05	N 10,048,583.85 E 3,115,583.81
20	0+36.54	0.00' LT/RT	633.50	N 10,048,557.72 E 3,115,621.27
21	-0+26.43	0.00' LT/RT	631.90	N 10,048,501.89 E 3,115,592.14

CURVE TABLE (TODD LANE)

CURVE No.	Radius (R)	Curve Length (L)	Tangent (T)	Chord (C)	Delta (I)
1	70.00'	45.73'	23.72'	44.93'	37°26'04"
3	33.00'	124.10'	103.78'	62.90'	215°16'46"
5	100.00'	11.74'	5.87'	11.73'	06°43'28"
6	77.41'	53.85'	29.50'	52.77'	53°07'48"
23	87.43'	10.16'	5.09'	10.16'	06°39'39"
24	87.43'	16.28'	8.17'	16.26'	10°40'07"
25	70.00'	61.97'	32.57'	59.96'	45°58'52"
67	10.55'	8.62'	4.57'	8.38'	46°47'28"

CURVE TABLE (E. ST. ELMO RD.)

CURVE No.	Radius (R)	Curve Length (L)	Tangent (T)	Chord (C)	Delta (I)
39	39.42	15.35	7.77	15.23	22°18'46"
40	84.24	16.86	8.46	16.83	11°27'52"
41	223.28	13.56	6.78	13.56	03°28'51"
44	82.00	5.62	2.81	5.62	03°55'45"
45	90.00	13.58	6.80	13.57	08°38'45"
46	2.00	5.68	13.15	3.95	162°42'30"
47	90.00	13.58	6.80	13.57	08°38'45"
48	215.04	29.75	14.90	29.73	07°55'41"
65	12.01	8.65	4.52	8.46	41°14'53"
66	18.21	5.78	2.92	5.76	18°11'58"

PI LOCATION (PLEASANT VALLEY)

PT No.	STATION	OFFSET	ELEV.	N./E.
22	17+63.32	0.00' LT/RT	630.00	N 10,048,711.81 E 3,115,964.24
23	18+27.79	22.00' LT	629.85	N 10,048,718.66 E 3,115,900.14
24	18+56.73	22.42' LT	630.20	N 10,048,730.99 E 3,115,873.97
25	19+28.55	74.03' LT	633.15	N 10,048,546.78 E 3,115,510.16
26	18+68.52	23.93' LT	632.45	N 10,048,470.85 E 3,115,528.81
27	18+67.71	23.19' LT	632.35	N 10,048,735.12 E 3,115,683.77

CURVE TABLE (PLEASANT VALLEY RD.)

CURVE No.	Radius (R)	Curve Length (L)	Tangent (T)	Chord (C)	Delta (I)
8	77.41'	81.96'	45.29'	78.19'	60°39'54"
32	42.53'	15.15'	7.66'	15.07'	20°24'33"
33	87.11'	16.28'	8.17'	16.26'	10°42'40"
34	202.19'	13.22'	6.61'	13.22'	03°49'48"
35	1000.00'	39.98'	19.99'	39.98'	02°17'26"
36	87.11'	9.84'	4.92'	9.83'	06°28'14"
37	25.00'	38.29'	24.04'	4.66'	87°45'18"
38	25.00'	39.27'	25.00'	35.36'	90°00'00"
63	13.16'	8.66'	4.50'	8.51'	37°43'24"
64	20.58'	5.92'	2.98'	5.90'	16°28'44"

NOTE:
PLEASE REFER TO SHEET 131 FOR PROPOSED ROUNDABOUT STRIPING AND SIGNAGE PLAN

REV. NO.	BY	DATE	REVISION DESCRIPTION
1	CZ	04/17/13	ADD NOTES-PROCEDURES

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
04-16-13
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E., LIC.# 96436

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

PROPOSED ROUNDABOUT TRANSITION PLAN A

ENGINEERING DESIGN — CITY OF AUSTIN — FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AO	2012

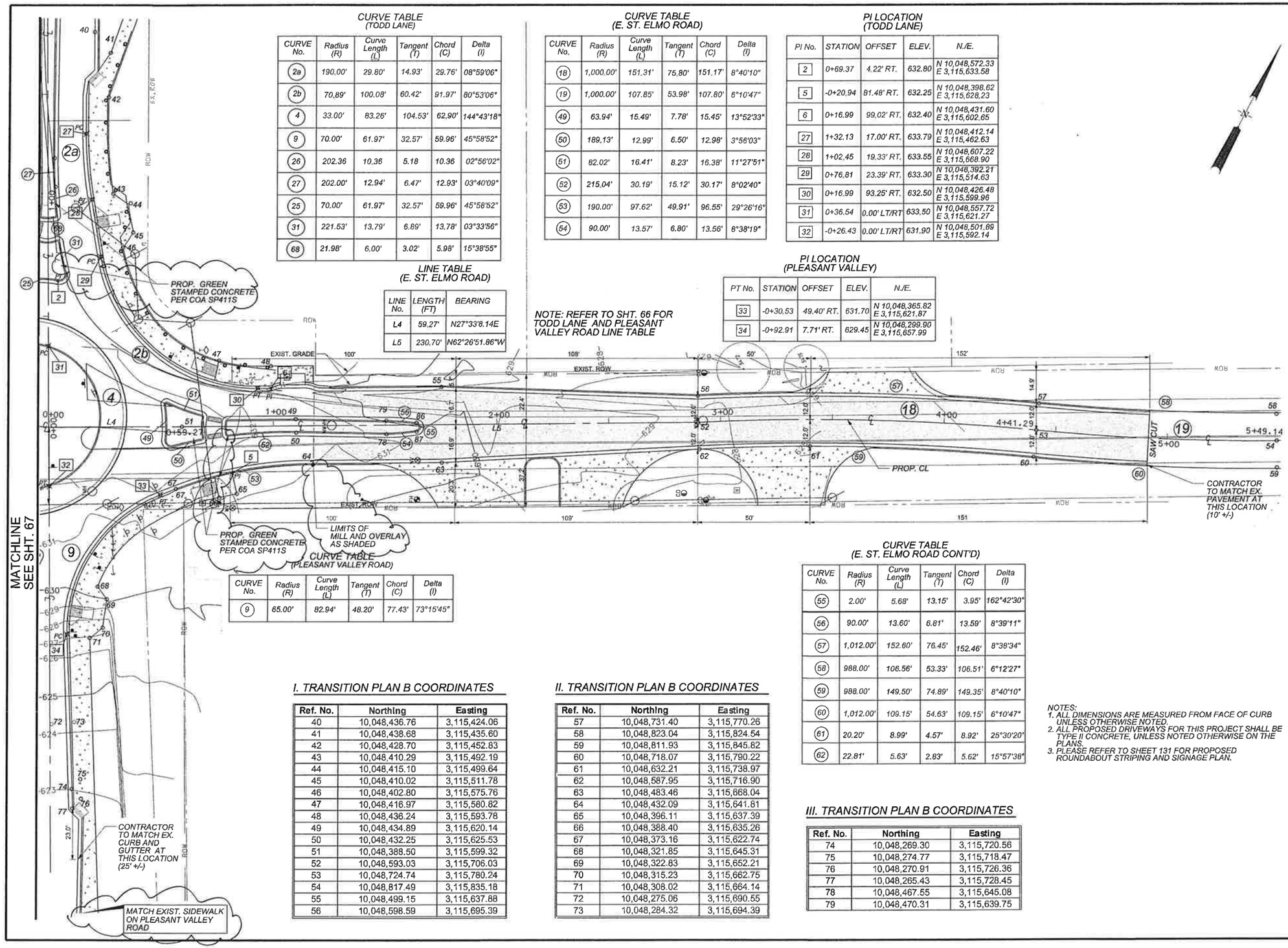
0 20 40
HORIZONTAL SCALE IN FEET

N:\Teams\PWQ_Todd_Lane_Roundabout_Redesign\DGN\ADDENDUM\1000_RD_TP_PA01.dgn

PERMIT NUMBER
SP-2012-0155D

SHEET NUMBER 67 OF 175

05-APR-2013



NOTE: REFER TO SHT. 66 FOR TODD LANE AND PLEASANT VALLEY ROAD LINE TABLE

CURVE TABLE (TODD LANE)

CURVE No.	Radius (R)	Curve Length (L)	Tangent (T)	Chord (C)	Delta (I)
2a	190.00'	29.80'	14.93'	29.76'	08°59'06"
2b	70.89'	100.08'	60.42'	91.97'	80°53'06"
4	33.00'	83.26'	104.53'	62.90'	144°43'18"
9	70.00'	61.97'	32.57'	59.96'	45°58'52"
26	202.36	10.36	5.18	10.36	02°56'02"
27	202.00'	12.94'	6.47'	12.93'	03°40'09"
25	70.00'	61.97'	32.57'	59.96'	45°58'52"
31	221.53'	13.79'	6.89'	13.78'	03°33'56"
68	21.98'	6.00'	3.02'	5.98'	15°38'55"

CURVE TABLE (E. ST. ELMO ROAD)

CURVE No.	Radius (R)	Curve Length (L)	Tangent (T)	Chord (C)	Delta (I)
18	1,000.00'	151.31'	75.80'	151.17'	8°40'10"
19	1,000.00'	107.85'	53.98'	107.80'	6°10'47"
49	63.94'	15.49'	7.78'	15.45'	13°52'33"
50	189.13'	12.99'	6.50'	12.98'	3°56'03"
51	82.02'	16.41'	8.23'	16.38'	11°27'51"
52	215.04'	30.19'	15.12'	30.17'	8°02'40"
53	190.00'	97.62'	49.91'	96.55'	29°26'16"
54	90.00'	13.57'	6.80'	13.56'	8°38'19"

PI LOCATION (TODD LANE)

PI No.	STATION	OFFSET	ELEV.	N./E.
2	0+69.37	4.22' RT.	632.80	N 10,048,572.33 E 3,115,633.58
5	-0+20.94	81.48' RT.	632.25	N 10,048,398.62 E 3,115,628.23
6	0+16.99	99.02' RT.	632.40	N 10,048,431.60 E 3,115,602.65
27	1+32.13	17.00' RT.	633.79	N 10,048,412.14 E 3,115,462.63
28	1+02.45	19.33' RT.	633.55	N 10,048,607.22 E 3,115,668.90
29	0+76.81	23.39' RT.	633.30	N 10,048,392.21 E 3,115,514.63
30	0+16.99	93.25' RT.	632.50	N 10,048,426.48 E 3,115,599.96
31	0+36.54	0.00' LT/RT	633.50	N 10,048,557.72 E 3,115,621.27
32	-0+26.43	0.00' LT/RT	631.90	N 10,048,501.89 E 3,115,592.14

LINE TABLE (E. ST. ELMO ROAD)

LINE No.	LENGTH (FT)	BEARING
L4	59.27'	N27°33'8.14E
L5	230.70'	N62°26'51.86"W

PI LOCATION (PLEASANT VALLEY)

PT No.	STATION	OFFSET	ELEV.	N./E.
33	-0+30.53	49.40' RT.	631.70	N 10,048,365.82 E 3,115,621.87
34	-0+92.91	7.71' RT.	629.45	N 10,048,299.90 E 3,115,657.99

CURVE TABLE (PLEASANT VALLEY ROAD)

CURVE No.	Radius (R)	Curve Length (L)	Tangent (T)	Chord (C)	Delta (I)
9	65.00'	82.94'	48.20'	77.43'	73°15'45"

CURVE TABLE (E. ST. ELMO ROAD CONT'D)

CURVE No.	Radius (R)	Curve Length (L)	Tangent (T)	Chord (C)	Delta (I)
55	2.00'	5.68'	13.15'	3.95'	162°42'30"
56	90.00'	13.60'	6.81'	13.59'	8°39'11"
57	1,012.00'	152.60'	76.45'	152.46'	8°38'34"
58	988.00'	106.56'	53.33'	106.51'	6°12'27"
59	988.00'	149.50'	74.89'	149.35'	8°40'10"
60	1,012.00'	109.15'	54.63'	109.15'	6°10'47"
61	20.20'	8.99'	4.57'	8.92'	25°30'20"
62	22.81'	5.63'	2.83'	5.62'	15°57'36"

I. TRANSITION PLAN B COORDINATES

Ref. No.	Northing	Easting
40	10,048,436.76	3,115,424.06
41	10,048,438.68	3,115,435.60
42	10,048,428.70	3,115,452.83
43	10,048,410.29	3,115,492.19
44	10,048,415.10	3,115,499.64
45	10,048,410.02	3,115,511.78
46	10,048,402.80	3,115,575.76
47	10,048,416.97	3,115,580.82
48	10,048,436.24	3,115,593.78
49	10,048,434.89	3,115,620.14
50	10,048,432.25	3,115,625.53
51	10,048,388.50	3,115,599.32
52	10,048,593.03	3,115,706.03
53	10,048,724.74	3,115,780.24
54	10,048,817.49	3,115,835.18
55	10,048,499.15	3,115,637.88
56	10,048,598.59	3,115,695.39

II. TRANSITION PLAN B COORDINATES

Ref. No.	Northing	Easting
57	10,048,731.40	3,115,770.26
58	10,048,823.04	3,115,824.54
59	10,048,811.93	3,115,845.82
60	10,048,718.07	3,115,790.22
61	10,048,632.21	3,115,738.97
62	10,048,587.95	3,115,716.90
63	10,048,483.46	3,115,668.04
64	10,048,432.09	3,115,641.81
65	10,048,396.11	3,115,637.39
66	10,048,388.40	3,115,635.26
67	10,048,373.16	3,115,622.74
68	10,048,321.85	3,115,645.31
69	10,048,322.83	3,115,652.21
70	10,048,315.23	3,115,662.75
71	10,048,308.02	3,115,664.14
72	10,048,275.06	3,115,690.55
73	10,048,284.32	3,115,694.39

III. TRANSITION PLAN B COORDINATES

Ref. No.	Northing	Easting
74	10,048,269.30	3,115,720.56
75	10,048,274.77	3,115,718.47
76	10,048,270.91	3,115,726.36
77	10,048,265.43	3,115,728.45
78	10,048,467.55	3,115,645.08
79	10,048,470.31	3,115,639.75

NOTES:
1. ALL DIMENSIONS ARE MEASURED FROM FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL PROPOSED DRIVEWAYS FOR THIS PROJECT SHALL BE TYPE II CONCRETE, UNLESS NOTED OTHERWISE ON THE PLANS.
3. PLEASE REFER TO SHEET 131 FOR PROPOSED ROUNDABOUT STRIPING AND SIGNAGE PLAN.

REV. NO.	BY	DATE	REVISION DESCRIPTION
1	EZ	04/16/13	ADDENDUM #3

STATE OF TEXAS — XIAOQIN ZHANG, P.E. — 96436 — LICENSED PROFESSIONAL ENGINEER — 04-16-13

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E., LIC.# 96436

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

PROPOSED ROUNDABOUT TRANSITION PLAN B

CITY OF AUSTIN ENGINEERING DESIGN — FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AO	2012

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HORIZONTAL SCALE IN FEET

PERMIT NUMBER
SP-2012-0155D

SHEET NUMBER 68 OF 175

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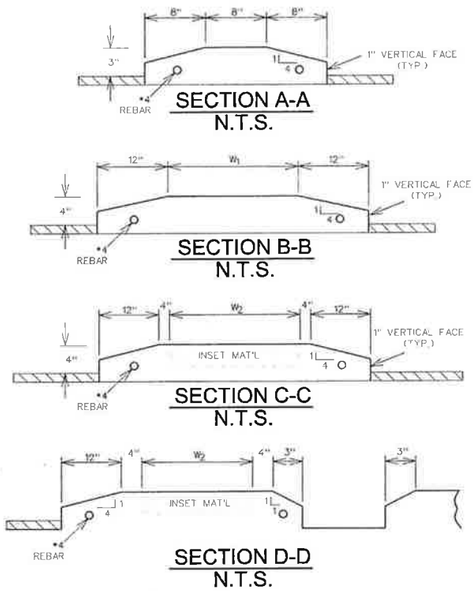
15-APR-2013

INSET MATERIAL IS 4" MIN. THICK. MATERIALS INCLUDE UNIT PAVERS, COLORED & PATTERNED CONCRETE OR COLORED & STAMPED ASPHALT. MINIMUM AREA FOR CONSIDERING INSET MATERIAL IS 50 SQ.FT.

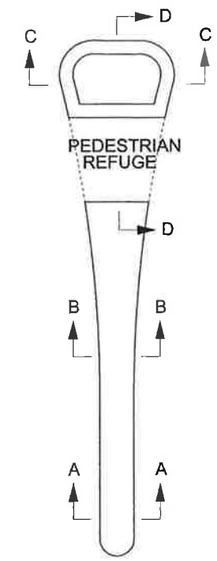
PURPOSE:
DEFINE SHAPE OF MOUNTABLE SPLITTER ISLANDS FOR MODERN ROUNDABOUTS AND MINI ROUNDABOUTS. CONTEXT DEFINES NEXT FOR EITHER MOUNTABLE OR BARRIER FUNCTION.

NOTES:
*PROVIDE POSITIVE GUIDANCE TO TRAFFIC
*ESTABLISH CONSISTENCY
*ALLOW FOR BREACHING BY LARGE VEHICLES AND FIRE APPARATUS IF APPROPRIATE FOR CONTEXT

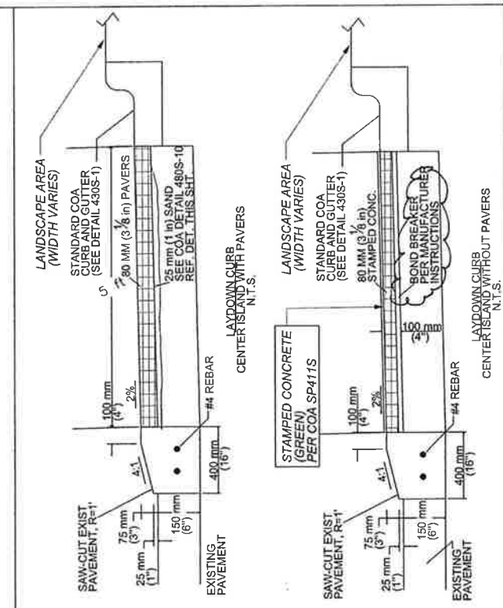
SPLITTER ISLAND SECTION | 1 OF 4



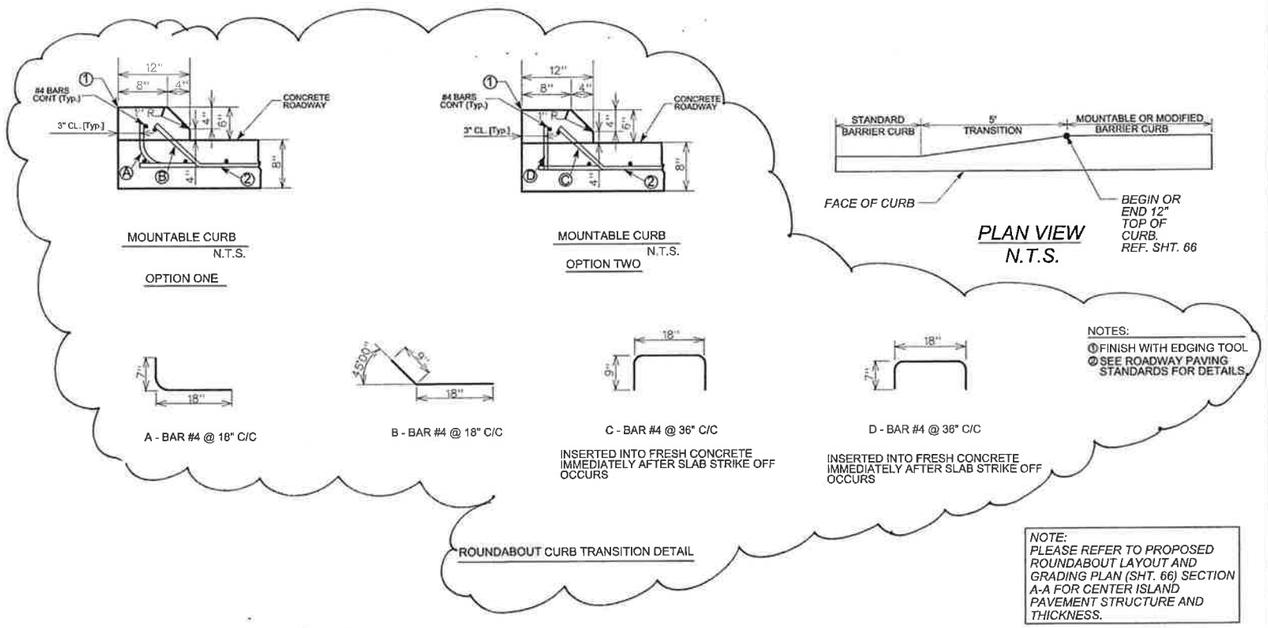
SPLITTER ISLAND SECTION | 3 OF 4



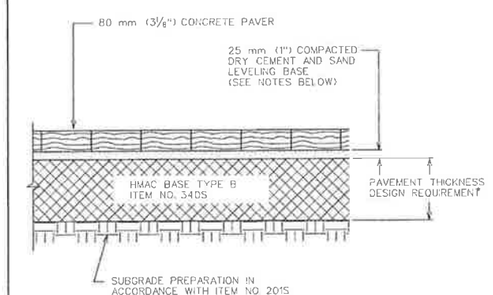
SPLITTER ISLAND SECTION | 2 OF 4



CENTER ISLAND DETAIL (WITH AND WITHOUT PAVERS) | 1 OF 4



NOTE:
PLEASE REFER TO PROPOSED ROUNDABOUT LAYOUT AND GRADING PLAN (SHT. 66) SECTION A-A FOR CENTER ISLAND PAVEMENT STRUCTURE AND THICKNESS.



INSTALLATION OF DRY CEMENT AND SAND LEVELING BASE AND JOINTS MATERIALS NOTES:

1. MATERIAL TO BE 1 PART CEMENT AND 3 PARTS SAND.
2. DRY MIXTURE SHALL BE LIGHTLY WETTED PRIOR TO PLACEMENT OF PAVERS.
3. AFTER COMPACTION OF PAVERS, JOINTS SHALL BE FILLED WITH DRY CEMENT-SAND MIXTURE AND EXCESS MATERIAL REMOVED FROM PAVING SURFACE.
4. COMPLETED JOINTS SHALL BE FOGGED LIGHTLY WITH WATER.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	CONCRETE PAVER PAVEMENT SECTION	
RECORD COPY SIGNED BY BILL GARDNER 11/18/04 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 480S-10

REV. NO.	BY	DATE	REVISION DESCRIPTION
1	EZ	04/17/13	ADD NOTE & DETAILS - ADDENDUM #3

STATE OF TEXAS
XIAODIN ZHANG, P.E.
96436
LICENSED
PROFESSIONAL ENGINEER
04-16-13

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAODIN ZHANG, P.E., LIC.# 96436

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

CONSTRUCTION DETAILS OF ROUNDABOUT
PROPOSED ROADWAY DETAILS SHEET 6

ENGINEERING CITY OF AUSTIN FOUNDED 1839 DESIGN

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AD	2012

N.T.S.

PERMIT NUMBER
SP-2012-0155D

SHEET NUMBER 74 OF 175

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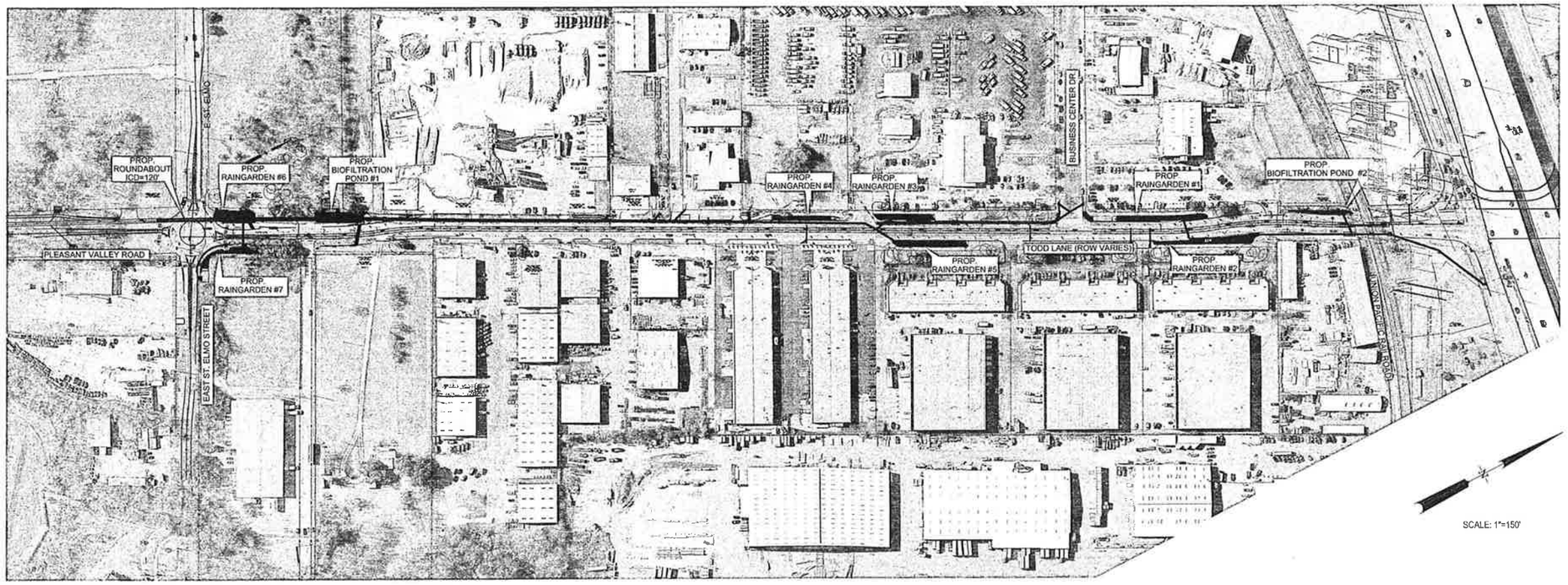
9-APR-2013



SUMMARY OF PROP. RETAINING WALL THICKNESS FOR RAIN GARDENS AND BIOFILTRATION PONDS

Pond Ref. No.	Drainage Area	Pond Plan View Sheet No.	Retaining Wall Reference Sheet No.	Retaining Wall Height (ft)	Chain Link Fence (Yes/No)	Pedestrian Handrail (Yes/No)	Retaining Wall Thickness (t) (in.)
Raingardens North of Business Center Drive (Country Club West Watershed)							
RG#1	C-1A	SHT. 92	SHT. 103	4.0' max	No	Yes (partially)	6" & 10" (w/ Pedestrian Handrail)
RG#2	C-2A	SHT. 93	SHT. 103	3.0' max	No	Yes (partially)	6" & 10" (w/ Pedestrian Handrail)
Raingardens South of Business Center Drive (Williamson Watershed)							
RG#3	A-2*	SHT. 91	SHT. 103	4.0' max	No	No	6" & 10"
RG#4	A-3	SHT. 90	SHT. 103	3.0' max	No	Yes (partially)	6" & 10" (w/ Pedestrian Handrail)
RG#5	A-1	SHT. 91	SHT. 103	4.0' max	No	No	10"
Raingardens at Proposed Roundabout (Williamson Watershed)							
RG#6	D-1	SHT. 88	SHT. 103	5.0' max	No	No	
RG#7	D-2	SHT. 88	SHT. 103		No	Yes (partially)	
Biofiltration Pond #1 Northwest of Todd Lane & St. Elmo (Williamson Watershed)							
BP #1	Drainage Area	Pond Plan View Sheet No.	Retaining Wall Reference Sheet No.	Retaining Wall Height (ft)	Chain Link Fence (Yes/No)	Pedestrian Handrail (Yes/No)	Retaining Wall Thickness (t) (in.)
	A-4* & A-5*	SHT. 89	SHT. 102	9.0' max	Yes	No	12"
Biofiltration Pond #2 Southwest of Existing Railroad (Country Club West Watershed)							
BP #2	Drainage Area	Pond Plan View Sheet No.	Retaining Wall Reference Sheet No.	Retaining Wall Height (ft)	Chain Link Fence (Yes/No)	Pedestrian Handrail (Yes/No)	Retaining Wall Thickness (t) (in.)
	C-1B	SHT. 94	SHT. 103	5.0' max	No	No	10"
	C-2B						

NOTES:
1. PLEASE REFER TO SHT. 102 FOR BIOFILTRATION POND #1 RETAINING WALL NOTES AND DETAILS.

2. PLESE REFER TO SHT. 103 FOR RAIN GARDENS AND BIOFILTRATION POND #2 RETAINING WALL NOTES AND DETAILS.

3. FOR PEDESTRIAN HAND RAILING, SILVER COLOR IS PREFERRED FOR RAIN GARDEN #7 AND BLACK OR DARK GREEN FOR ALL INTERIOR RAIN GARDENS AND BIOFILTRATION PONDS.

SUMMARY OF PROPOSED RAINGARDENS AND BIOFILTRATION PONDS

Pond Ref. No.	Drainage Area	Sed. Area Req'd (s.f.)	Fil. Area Req'd (s.f.)	Total Area Req'd (s.f.)	Sed. Area Provided (s.f.)	Fil. Area Provided (s.f.)	Total Area Provided (s.f.)
Raingardens North of Business Center Drive (Country Club West Watershed)							
#1	C-1A	899	181	1,080	1,757	529	2,286
#2	C-2A	1,403	249	1,651	1,454	755	2,209
Raingardens South of Business Center Drive (Williamson Watershed)							
#3	A-2*	1,062	191	1,243	1,662	256	1,918
#4	A-3	886	160	1,046	1,101	199	1,300
#5	A-1	1,312	233	1,545	1,532	552	2,084
Raingardens at Proposed Roundabout (Williamson Watershed)							
#6	D-1	1,031.00	188.00	1,219	1,702	265	1,967
#7	D-2	875.00	160.00	1,035	1,829	243	2,072
Biofiltration Pond #1 Northwest of Todd Lane & St. Elmo (Williamson Watershed)							
	Drainage Area	Sed. Vol. Req'd (c.f.)	Fil. Vol. Req'd (c.f.)	Total WQV Req'd (c.f.)	Sed. Area Provided (s.f.)	Fil. Area Provided (s.f.)	Total Area/WQV Provided (s.f./c.f.)
	A-4* & A-5*	2,157	2,157	10,785	1,440	1,057	2,497/10,883
Biofiltration Pond #2 Southwest of Existing Railroad (Country Club West Watershed)							
	Drainage Area	Sed. Vol. Req'd (c.f.)	Fil. Vol. Req'd (c.f.)	Total WQV Req'd (c.f.)	Sed. Area Provided (s.f.)	Fil. Area Provided (s.f.)	Total Area/WQV Provided (s.f./c.f.)
	C-1B	-	-	-	-	-	-
	C-2B	-	-	-	-	-	-
Subtotal		462	462	2,310	1,156	455	* 1,611/2,310

REV. NO.	BY	DATE	REVISION DESCRIPTION
1	EZ	04/01/13	REVISED TABLE & NOTES - ADDENDUM #3

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
04-16-13

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E., LIC.# 96436

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

PROPOSED WATER QUALITY POND LOCATIONS MAP

ENGINEERING DESIGN CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AO	2012

0 150 300
HORIZONTAL SCALE IN FEET

PERMIT NUMBER
SP-2012-0155D

SHEET NUMBER 87 OF 175

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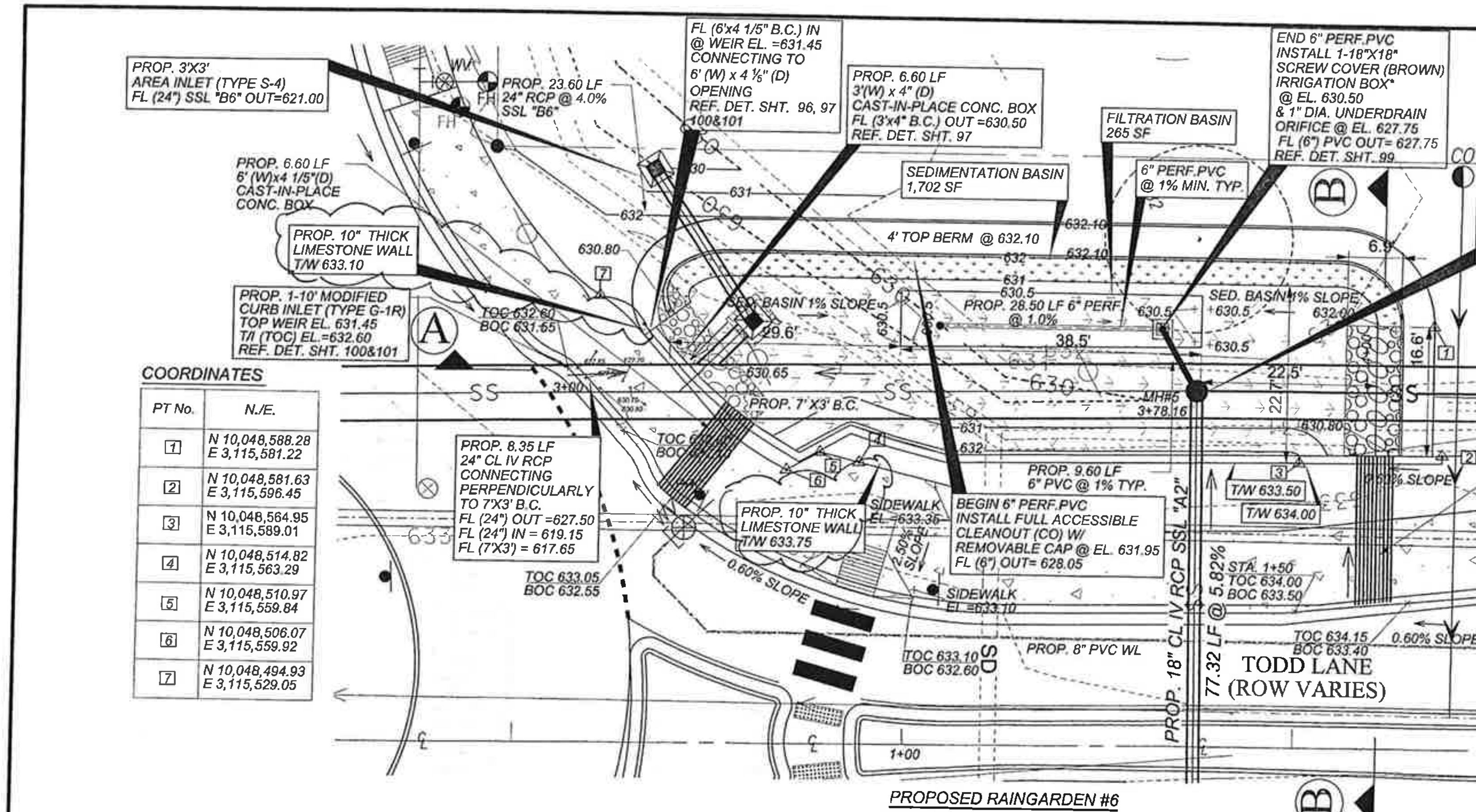
15-APR-2013



PROPOSED RAINGARDEN #6

COORDINATES

PT No.	N./E.
1	N 10,048,588.28 E 3,115,581.22
2	N 10,048,581.63 E 3,115,596.45
3	N 10,048,564.95 E 3,115,589.01
4	N 10,048,514.82 E 3,115,563.29
5	N 10,048,510.97 E 3,115,559.84
6	N 10,048,506.07 E 3,115,559.92
7	N 10,048,494.93 E 3,115,529.05

SEDIMENTATION BASIN

Stage (ft msl)	Area (sf)	Storage (cf)
630.50	0	0
631.00	1,441	360
631.45	1,702	1,068
632.00	2022	2,092
632.50	2,089	3,120

FILTRATION BASIN

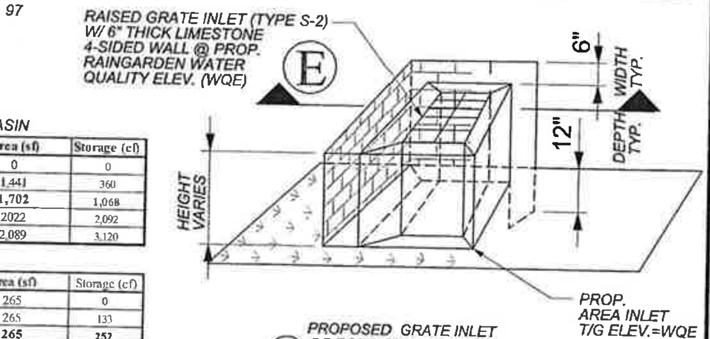
Stage (ft msl)	Area (sf)	Storage (cf)
630.50	265	0
631.00	265	133
631.45	265	252
632.00	265	398
632.50	265	530

APPENDIX R-11
RAIN GARDEN CALCULATIONS
FOR DEVELOPMENT PERMITS

Raingarden #6 (Drainage Area "D-1", W. Station 0+00 to Sta. 2+60, Williamson Watershed)

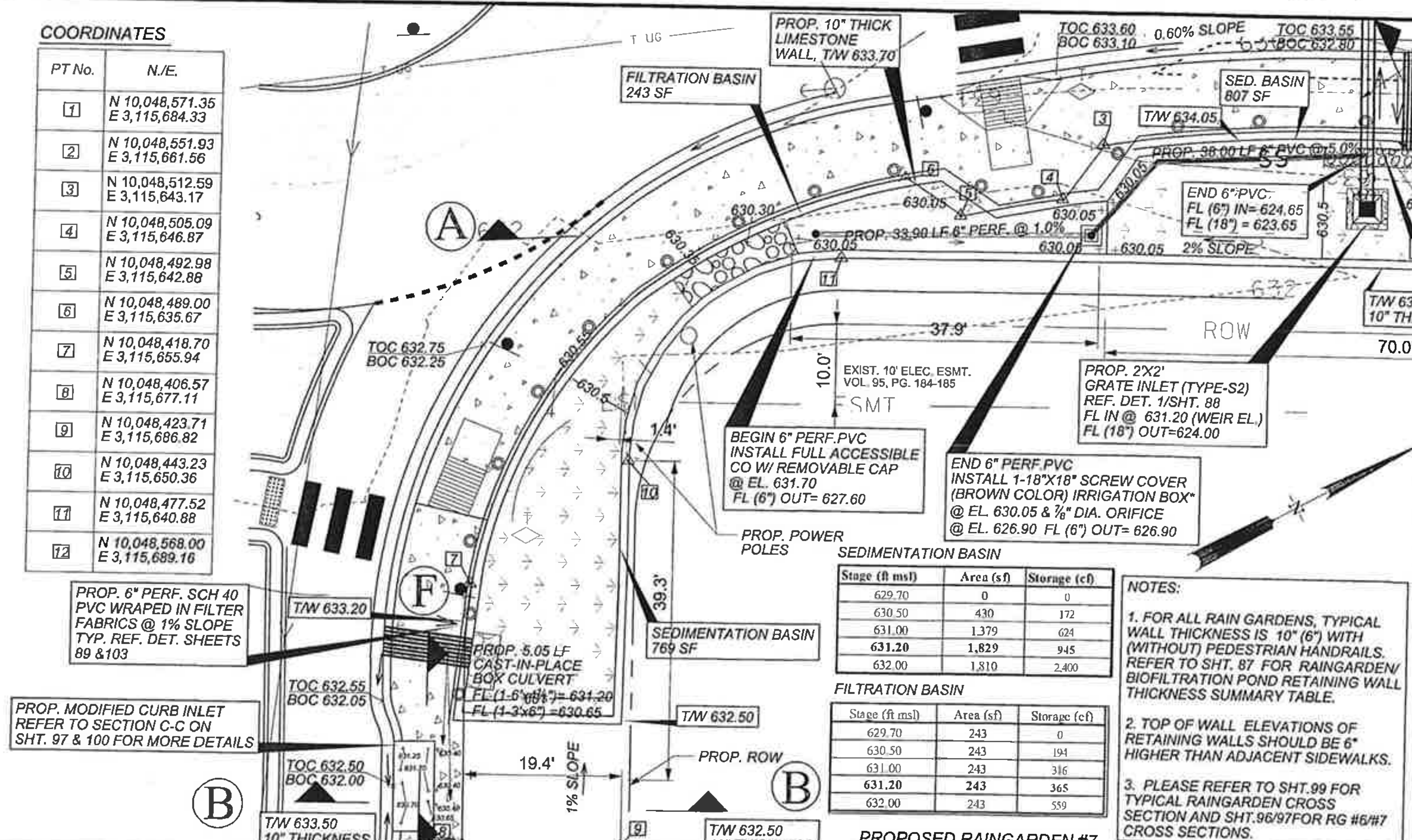
DRAINAGE AREA DATA

	Required	Provided
Drainage Area to Control (DA≤1.0 acre)	0.48 ac	
Drainage Area Impervious Cover	45.43 %	
Capture Depth (CD)	0.75 in.	
Water Quality Volume (CD*DA*3630)	1,314 cf.	1,415 cf
WATER QUALITY CONTROL CALCULATIONS		
The Water quality control is to be RAIN GARDEN		
25 year Peak Flow Rate to Control (Q25)	3.02 cfs	
100 year Peak Flow Rate to Control (Q100)	4.22 cfs	
Filtration Pond Area (Af=WQV/7)	188 sf.	265 s.f.
Depth of Filtration Media (L≥1.5)	1.5 ft.	
Effective Porosity Water Quality Volume (WQV$_{ep}$=0.24*Af*L)		95 cf
Ponded Water quality Volume (WQV$_{ponded}$ = WQV-WQV$_{ep}$)		1,219 cf.
Sedimentation Pond Area (A$_{sed}$=(1.0*(WQV-WQV$_{ep}$))-Af)	1,031 sf.	1,702 s.f.
(Note: Maximum of Ponding Depth of 1.0 ft is assumed)	(≥20% of WQ Pond Area)	
Rain Garden Pond Drawdown Time	≥48 hr	48 hr.
Underdrain Orifice Size (diameter)		1.0 in.
Underdrain Orifice Size (area)		0.785 sq.in.
Water Quality Elevation (WQE)		631.45 ft. msl
Elevation of Splitter/Overflow Weir	≥WQE ft.msl	631.45 ft. msl
Length of Splitter Weir		8 ft.
Required Head to Pass Q25		0.25 ft.
Required Head to Pass Q100	≤0.5 ft. ft.	0.31 ft.
Pond Freeboard Provided to Pass Q100	≥0.25 ft	0.34 ft.
Top of Berm	632.10 ft.	



1 PROPOSED GRATE INLET OR POND OUTLET DETAIL

NTS



PROPOSED RAINGARDEN #7

COORDINATES

PT No.	N./E.
1	N 10,048,571.35 E 3,115,684.33
2	N 10,048,551.93 E 3,115,661.56
3	N 10,048,512.59 E 3,115,643.17
4	N 10,048,505.09 E 3,115,646.87
5	N 10,048,492.98 E 3,115,642.88
6	N 10,048,489.00 E 3,115,635.67
7	N 10,048,418.70 E 3,115,655.94
8	N 10,048,406.57 E 3,115,677.11
9	N 10,048,423.71 E 3,115,686.82
10	N 10,048,443.23 E 3,115,650.36
11	N 10,048,477.52 E 3,115,640.88
12	N 10,048,568.00 E 3,115,689.16

SEDIMENTATION BASIN

Stage (ft msl)	Area (sf)	Storage (cf)
629.70	0	0
630.50	430	172
631.00	1,379	624
631.20	1,829	945
632.00	1,810	2,400

FILTRATION BASIN

Stage (ft msl)	Area (sf)	Storage (cf)
629.70	243	0
630.50	243	194
631.00	243	316
631.20	243	365
632.00	243	559

NOTES:

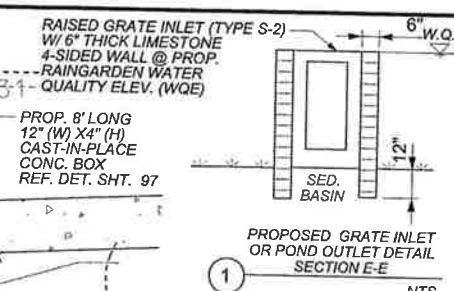
1. FOR ALL RAIN GARDENS, TYPICAL WALL THICKNESS IS 10" (6") WITH (WITHOUT) PEDESTRIAN HANDRAILS. REFER TO SHT. 87 FOR RAINGARDEN/ BIOFILTRATION POND RETAINING WALL THICKNESS SUMMARY TABLE.
2. TOP OF WALL ELEVATIONS OF RETAINING WALLS SHOULD BE 6" HIGHER THAN ADJACENT SIDEWALKS.
3. PLEASE REFER TO SHT.99 FOR TYPICAL RAINGARDEN CROSS SECTION AND SHT.96/97FOR RG #6/#7 CROSS SECTIONS.

APPENDIX R-11
RAIN GARDEN CALCULATIONS
FOR DEVELOPMENT PERMITS

Raingarden #7 (Drainage Area "D-2", E. Station 0+00 to Sta. 2+60, Williamson Watershed)

DRAINAGE AREA DATA

	Required	Provided
Drainage Area to Control (DA≤1.0 acre)	0.31 ac	
Drainage Area Impervious Cover	70.61 %	
Capture Depth (CD)	1.01 in.	
Water Quality Volume (CD*DA*3630)	1,123 cf.	1,397 cf
WATER QUALITY CONTROL CALCULATIONS		
The Water quality control is to be RAIN GARDEN		
25 year Peak Flow Rate to Control (Q25)	2.28 cfs	
100 year Peak Flow Rate to Control (Q100)	3.15 cfs	
Filtration Pond Area (Af=WQV/7)	160 s.f.	243 s.f.
Depth of Filtration Media (L≥1.5)	1.5 ft.	
Effective Porosity Water Quality Volume (WQV$_{ep}$=0.24*Af*L)		87 cf.
Ponded Water quality Volume (WQV$_{ponded}$ = WQV-WQV$_{ep}$)		1,036 cf.
Sedimentation Pond Area (A$_{sed}$=(1.0*(WQV-WQV$_{ep}$))-Af)	875 sf.	1,829 s.f.
(Note: Maximum of Ponding Depth of 1.0 ft is assumed)	(≥20% of WQ Pond Area)	
Rain Garden Pond Drawdown Time	≥48 hr	48 hr
Underdrain Orifice Size (diameter)		7/8 in.
Underdrain Orifice Size (area)		0.601 sq in.
Water Quality Elevation (WQE)		631.20 ft. msl
Elevation of Splitter/Overflow Weir	≥WQE ft.msl	631.20 ft. msl
Length of Splitter Weir		8 ft.
Required Head to Pass Q25		0.21 ft.
Required Head to Pass Q100	≤0.5 ft. ft.	0.26 ft.
Pond Freeboard Provided to Pass Q100	≥0.25 ft	1.04 ft.
Top of Wall	632.50 ft.	



1 PROPOSED GRATE INLET OR POND OUTLET DETAIL SECTION E-E

NTS

NOTES:

1. REFER TO SHT. LS #1 (SHT. 152) FOR RGS #6 & #7 & ROUNDABOUT LANDSCAPE PLANS;
2. FILL AREAS MUST BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH TxDOT TEST METHOD TEX-113-E PRIOR TO RAIN GARDEN/WATER QUALITY POND CONSTRUCTION.
3. ALL RETAINING WALLS FOR RAINGARDENS ARE 6 INCHES IN THICKNESS EXCEPT 10 INCHES FOR PEDESTRIAN HAND RAILING.
4. CONTRACTOR SHALL PROVIDE WATERPROOF AND SEAL THE SCREW COVER IRRIGATION BOX.

RAINGARDEN LEGEND

- EXISTING GRADE
- PROP. GRADE
- PROP. POND
- EXISTING STORM DRAIN PIPE
- PROP. STORM DRAIN PIPE
- PROP. 6" PERF. PVC
- PROP. PED. HAND RAIL
- PROP. POND BOTTOM
- PROP. EARTHEN BERM 3:1 SLOPE
- PROP. FLOW SPREADER

REV. NO.	BY	DATE	REVISION DESCRIPTION
1	EZ	04-18-13	MODIFICATIONS ADDENDUM#3

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
04-18-13

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG,P.E. LIC.# 96436

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS (FROM BEN WHITE TO ST. ELMO)

WATER QUALITY POND PROPOSED RAINGARDENS #6 AND #7

ENGINEERING
CITY OF AUSTIN
FOUNDED 1839
DESIGN

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AO	2012

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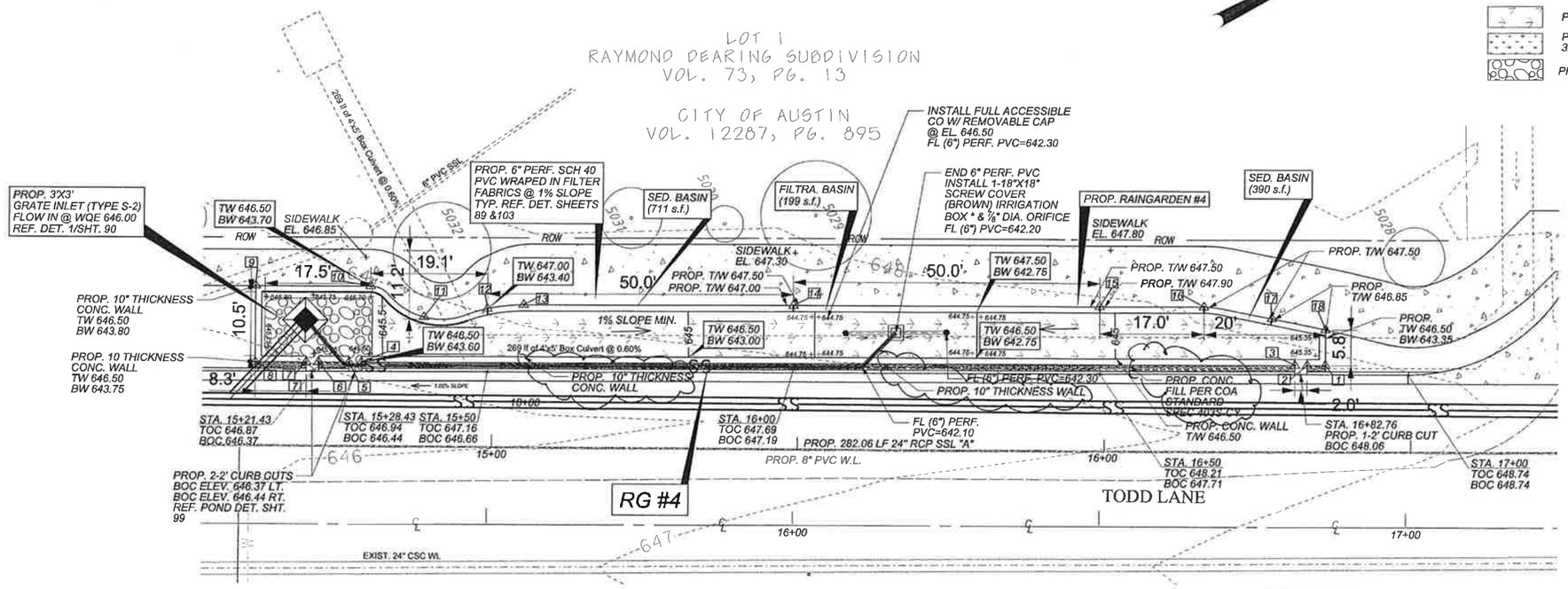
HORIZONTAL SCALE IN FEET

PERMIT NUMBER
SP-2012-0155D

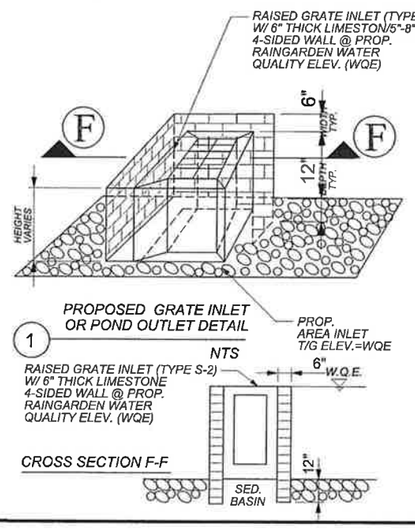
SHEET NUMBER 88 OF 175

18-APR-2013



RAINGARDEN LEGEND

- EXISTING GRADE
- PROP. GRADE
- PROP. POND
- EXISTING STORM DRAIN PIPE
- PROP. STORM DRAIN PIPE
- PROP. 6" PERF. PVC
- PROP. PED. HAND RAIL
- PROP. POND BOTTOM
- PROP. EARTHEN BERM 3:1 SLOPE
- PROP. FLOW SPREADER



RAINGARDEN #4

APPENDIX B-11
RAIN GARDEN CALCULATIONS FOR DEVELOPMENT PERMITS

RG # 4 (Drainage Area "A-3", W. Station 14+80 to Sta. 18+00, Williamson Watershed)

DRAINAGE AREA DATA	Required	Provided
Drainage Area to Control (DA≤1.0 acre)	0.39 ac	
Drainage Area Impervious Cover	48.93 %	
Capture Depth (CD)	0.78 in.	
Water Quality Volume (CD*DA*3630)	1,118 cf	1,221 cf
WATER QUALITY CONTROL CALCULATIONS		
The Water quality control is to be RAIN GARDEN		
25 year Peak Flow Rate to Control (Q25)	2.81 cfs	
100 year Peak Flow Rate to Control (Q100)	3.90 cfs	
Filtration Pond Area (Af=WQV/7)	160 sf	199 s.f.
Depth of Filtration Media (Lf=1.5)	1.5 ft	
Effective Porosity Water Quality Volume (WQV$_{ne}$=0.24*Af*Lf)		72 cf.
Ponded Water quality Volume (WQV $_{ponded}$ = WQV-WQV$_{ne}$)		1,046 cf.
Sedimentation Pond Area (A$_{sed}$=(1.0*(WQV-WQV$_{ne}$))/Af)	836 sf	1317 s.f.
(Note: Maximum of Ponding Depth of 1.0 ft is assumed)	(≥20% of WQ Pond Area)	
Rain Garden Pond Drawdown Time	≥48 hr	48 hr
Underdrain Orifice Size (diameter)		2.8 in.
Underdrain Orifice Size (area)		0.601 sq.in.
Water Quality Elevation (WQE)		646 ft. msl.
Elevation of Splitter/Overflow Weir	≥WQE ft msl.	646 ft. msl.
Length of Splitter Weir		12 ft.
Required Head to Pass Q25		0.18 ft.
Required Head to Pass Q100	≤0.5 ft. ft.	0.23 ft.
Pond Freeboard Provided to Pass Q100	≥0.25 ft	0.27 ft.
Top of Wall	646.5	

RAINGARDEN #4

SEDIMENTATION BASIN

Stage (ft msl)	Area (sf)	Storage (cf)
644.75	0	0
645.00	324	41
645.30	790	208
645.50	895	376
645.75	1,101	626
646.00	**1,101**	**901**
647.00	1,101	2,002
648.00	1,101	3,103

FILTRATION BASIN

Stage (ft msl)	Area (sf)	Storage (cf)
644.75	199	0
645.00	199	50
645.30	199	109
645.50	199	149
645.75	199	199
646.00	**199**	**249**
647.00	199	448
648.00	199	647

COORDINATES

PT No.	N./E.	PT No.	N./E.	PT No.	N./E.
1	N 10,050,003.32 E 3,116,353.19	7	N 10,049,856.43 E 3,116,275.12	13	N 10,049,892.20 E 3,116,283.36
2	N 10,050,000.67 E 3,116,351.78	8	N 10,049,849.12 E 3,116,271.23	14	N 10,049,931.12 E 3,116,304.05
3	N 10,049,998.90 E 3,116,350.84	9	N 10,049,854.99 E 3,116,260.19	15	N 10,049,975.22 E 3,116,327.48
4	N 10,049,864.39 E 3,116,279.35	10	N 10,049,871.51 E 3,116,268.97	16	N 10,049,990.24 E 3,116,335.46
5	N 10,049,862.59 E 3,116,278.39	11	N 10,049,876.84 E 3,116,277.55	17	N 10,049,999.15 E 3,116,342.34
6	N 10,049,858.20 E 3,116,276.06	12	N 10,049,886.66 E 3,116,281.18	18	N 10,050,006.05 E 3,116,348.04

NOTES:

1. PLEASE REFER TO SHT. LS #5 (SHT. 156) FOR POND LANDSCAPE PLAN AND SHT. 97 &99 FOR TYPICAL RAINGARDEN CROSS SECTIONS.
2. FILL AREAS MUST BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH TxDOT TEST METHOD TEX-113-E PRIOR TO RAIN GARDEN/ WATER QUALITY POND CONSTRUCTION.
3. CONTRACTOR SHALL PROVIDE WATERPROOF AND SEAL THE SCREW COVER IRRIGATION BOX.

REV. NO.	BY	DATE	REVISION DESCRIPTION
1	EZ	04-08-13	MODIFICATIONS - ADDENDUM #3

STATE OF TEXAS
XIAODIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
04-08-13

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAODIN ZHANG, P.E., LIC.# 96436

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

WATER QUALITY PLAN
PROPOSED RAINGARDEN #4

ENGINEERING DESIGN
CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AO	2012

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HORIZONTAL SCALE IN FEET

PERMIT NUMBER
SP-2012-0155D

SHEET NUMBER 90 OF 175

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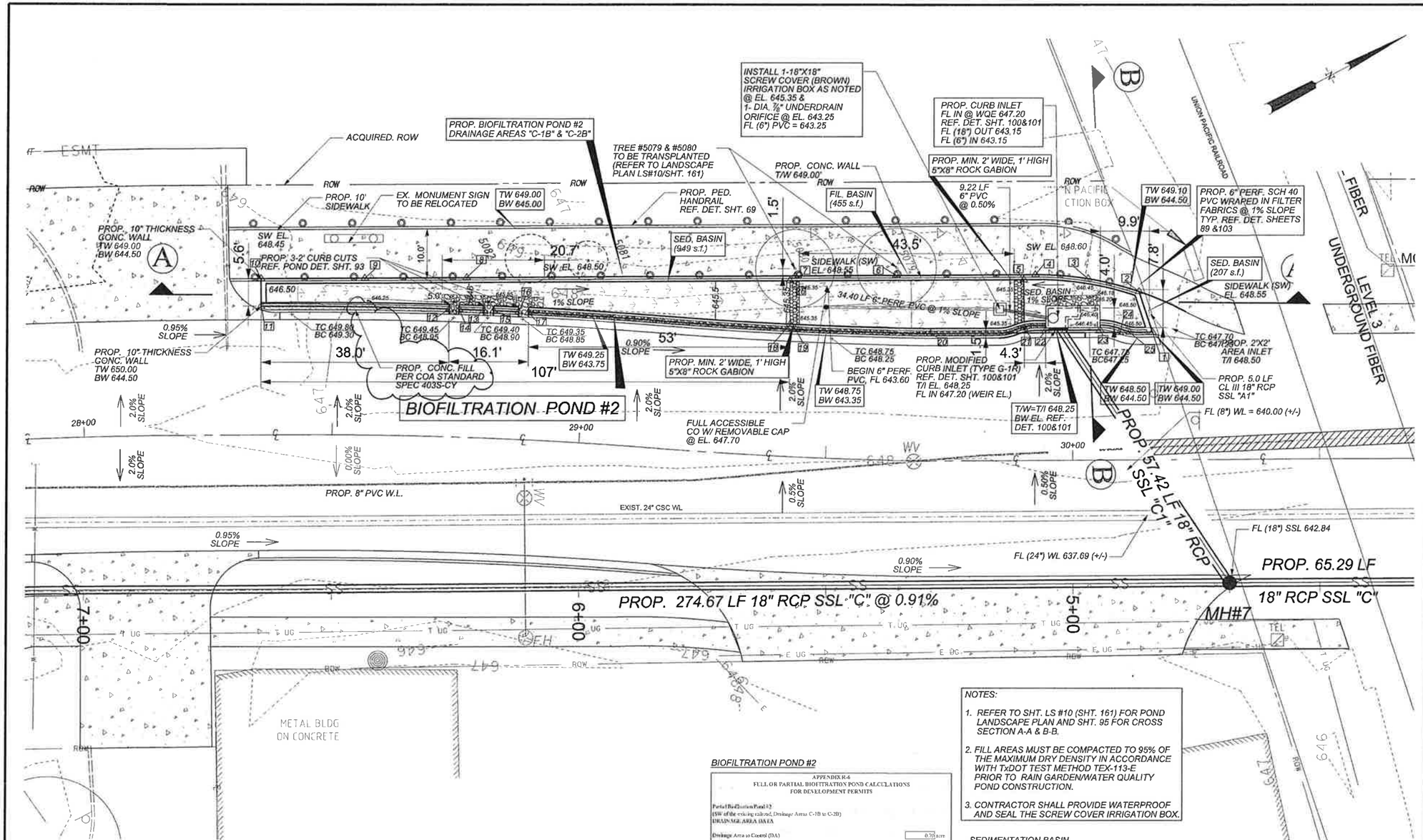
18-APR-2013



COORDINATES

PT No.	N./E.	PT No.	N./E.	PT No.	N./E.	PT No.	N./E.	PT No.	N./E.
1	N 10,051,184.86 E 3,116,959.53	6	N 10,051,144.43 E 3,116,924.93	11	N 10,051,027.97 E 3,116,870.21	16	N 10,051,073.43 E 3,116,895.68	21	N 10,051,162.28 E 3,116,946.56
2	N 10,051,186.36 E 3,116,950.95	7	N 10,051,126.36 E 3,116,915.46	12	N 10,051,061.32 E 3,116,888.54	17	N 10,051,075.16 E 3,116,896.68	22	N 10,051,172.79 E 3,116,953.20
3	N 10,051,178.42 E 3,116,943.76	8	N 10,051,067.41 E 3,116,884.54	13	N 10,051,063.05 E 3,116,889.54	18	N 10,051,120.85 E 3,116,923.70	23	N 10,051,174.56 E 3,116,954.13
4	N 10,051,169.39 E 3,116,938.02	9	N 10,051,049.20 E 3,116,875.00	14	N 10,051,067.36 E 3,116,892.08	19	N 10,051,121.30 E 3,116,925.13	24	N 10,051,178.99 E 3,116,956.45
5	N 10,051,166.83 E 3,116,937.80	10	N 10,051,030.58 E 3,116,865.23	15	N 10,051,069.09 E 3,116,893.07	20	N 10,051,145.03 E 3,116,938.66	25	N 10,051,194.86 E 3,116,959.53

BIOFILTRATION POND #2

APPENDIX R-6
FULL OR PARTIAL BIOFITRATION POND CALCULATIONS FOR DEVELOPMENT PERMITS

Partial Bio-Filtration Pond #2
(SW of the existing railroad, Drainage Areas C-1B to C-2B)
DRAINAGE AREA DATA

Drainage Area to Control (DA)		0.78 acre
Drainage Area Impervious Cover		60.92%
Capture Depth (CD= 0.5*(IC-20)/100))		0.91 in
WATER QUALITY CONTROL CALCULATIONS	Required	Provided
The Water Quality control is to be PARTIAL BIOFILTRAION		
25-year Peak Flow Rate to Control (Q25)	4.78 cfs	
100-year Peak Flow Rate to Control (Q100)	6.58 cfs	
Water Quality Volume (WQV=CD x DA x 3630)	2,310	2,350 cf
Maximum Ponding Depth in Sedimentation Pond (H)	1.65	0
For Full Sedimentation Pond Area (minimum WQV)	minimum WQV	N/A sf
For Partial Sedimentation Pond Volume (minimum 20% WQV)	462	1,576 cf
Filtration Pond Area (See Section 1.6.7.C WQV/(7+2.5*H))	260	455 sf
Filtration Pond Volume	462	774 cf
Water Quality Elevation	647.20 ft. msl	
Elevation of Splitter Overflow Weir (minimum WQ elevation)	647.20 ft. msl	647.20 ft. msl
Length of Splitter Weir		11.5 ft.
Required Head to Pass the Design Flow Q25		0.26 ft.
Required Head to Pass the Design Flow Q100	maximum 1.0 ft.	0.34 ft.
Pond Freeboard Provided in Pass Q100	minimum 0.25 ft.	0.47 ft.
Bio-Filtration Pond Drawdown Time	Maximum 48 hr.	48 hr.
Underdrain Orifice Size (diameter)		3/8 in.
Underdrain Orifice Size (area)		0.00 sq in.

NOTES:

1. REFER TO SHT. LS #10 (SHT. 161) FOR POND LANDSCAPE PLAN AND SHT. 95 FOR CROSS SECTION A-A & B-B.
2. FILL AREAS MUST BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH TxDOT TEST METHOD TEX-113-E PRIOR TO RAIN GARDEN/WATER QUALITY POND CONSTRUCTION.
3. CONTRACTOR SHALL PROVIDE WATERPROOF AND SEAL THE SCREW COVER IRRIGATION BOX.

SEDIMENTATION BASIN

Stage (ft msl)	Area (sf)	Storage (cf)
645.35	0	0
645.50	270	20
646.00	781	293
646.50	1,156	767
647.00	1,156	1,345
647.20	**1,156**	**1,576**
648.00	1,156	2,501

FILTRATION BASIN

Stage (ft msl)	Area (sf)	Storage (cf)
645.35	455	0
645.50	455	0
646.00	455	228
646.50	455	455
647.00	455	683
647.20	**455**	**774**
648.00	455	1,138

RAINGARDEN LEGEND

- EXISTING GRADE
- PROP. GRADE
- PROP. POND
- EXISTING STORM DRAIN PIPE
- PROP. STORM DRAIN PIPE
- PROP. 6" PERF. PVC
- PROP. PED. HAND RAIL
- PROP. POND BOTTOM
- PROP. EARTHEN BERM 3:1 SLOPE
- PROP. FLOW SPREADER

REV NO.	BY	DATE	REVISION DESCRIPTION
1	EZ	04/17/13	RAISED NOTE ADDENDUM #3

STATE OF TEXAS — XIAODIN ZHANG, P.E. — 96436 — LICENSED PROFESSIONAL ENGINEER
04-16-13
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAODIN ZHANG, P.E., LIC.# 96436

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

WATER QUALITY POND
PROPOSED BIOFILTRATION POND #2

ENGINEERING CITY OF AUSTIN FOUNDED 1839 DESIGN

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AD	2012

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HORIZONTAL SCALE IN FEET

PERMIT NUMBER
SP-2012-0155D

SHEET NUMBER 94 OF 175

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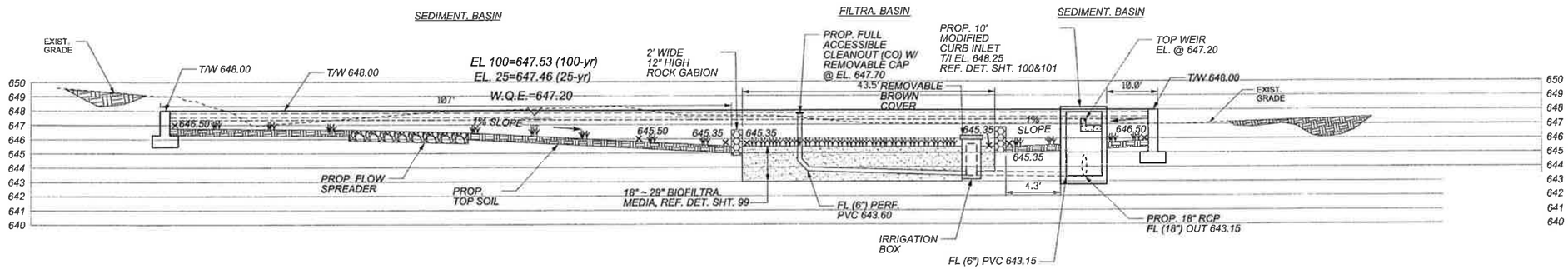
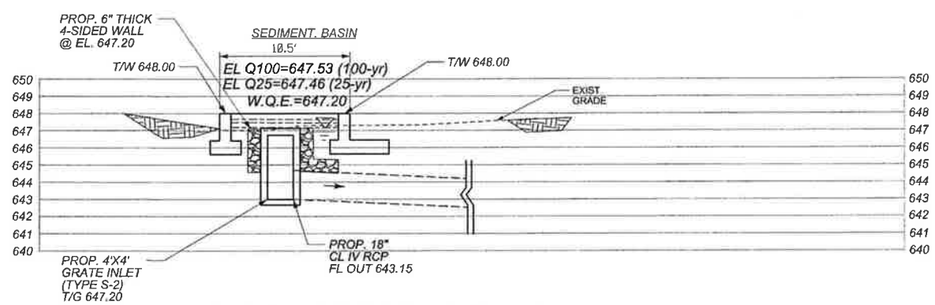
15-APR-2013



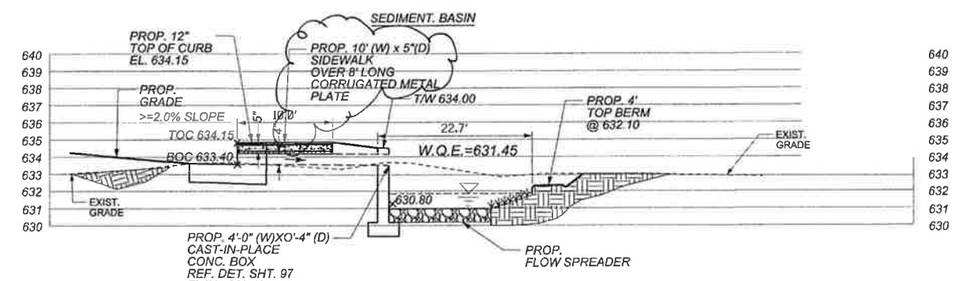
BIOFILTRATION POND #2

SECTION A-A



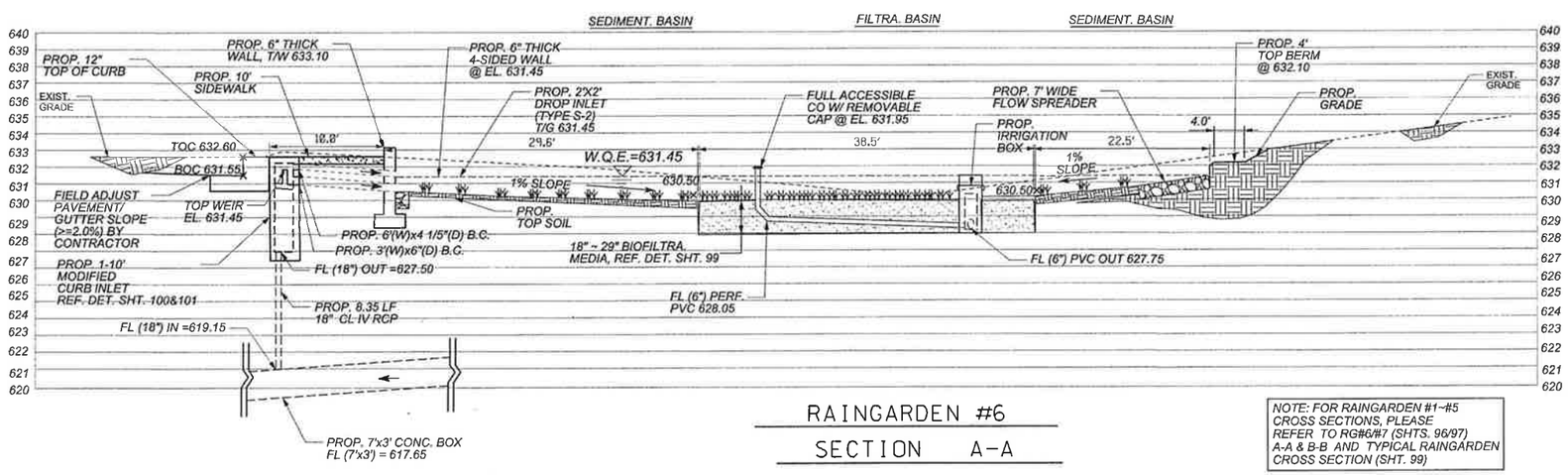
BIO-FILTRATION POND #2

SECTION B-B



RAINGARDEN #6

SECTION B-B



RAINGARDEN #6

SECTION A-A

NOTE: FOR RAINGARDEN #1~#5 CROSS SECTIONS, PLEASE REFER TO RG#6/#7 (SHTS. 96/97) A-A & B-B AND TYPICAL RAINGARDEN CROSS SECTION (SHT. 99)

REV. NO.	BY	DATE	REVISION DESCRIPTION
1	CZ	04/17/13	ADD/REVISE NOTE ADDENDUM #3

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
4-16-13

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E., LIC.# 96436

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

WATER QUALITY POND
CROSS SECTIONS, SHEET 2

ENGINEERING DESIGN CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AO	2012

N.T.S.

PERMIT NUMBER
SP-2012-0155D

SHEET NUMBER 96 OF 175

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9:40PM 2013

PLEASANT VALLEY EXTENSION PROJECT (SP-2010-0021D)

REFER TO PLEASANT VALLEY EXTENSION PROJECT FOR WATERLINE RELOCATIONS AND REVISIONS AT THIS INTERSECTION (CIP NO. 6755.001)

ST. ELMO PROP. 8" WATERLINE
STA 0+00
CONNECT TO EXIST. 8" CI WL
WITH PROP. 8" C900 PVC PIPE
X=3115497.5236, Y=10048606.9176

ST. ELMO WATERLINE
STA. 0+11.91
INSTALL: 1-45°BEND

CUT & PLUG

ST. ELMO WATERLINE
STA 0+37.68
INSTALL: 1-8" GV#_____

ST. ELMO WATERLINE
STA 0+45.46
INSTALL:
1-22.5° BEND
1 - 8"X6" SWIVEL TEE
1 - 6" GATE VALVE #672014
1 - STANDARD FIRE HYDRANT #672016
12.5 LF 6" DI CLASS 350 PIPE

ST. ELMO WATERLINE
STA. 0+32.71
INSTALL: 1-45°BEND

WL STA. -6.56 =
CL STA. 0+66.81 TODD LANE 28.23' O/S LT
1-24"x8" STEEL FULL-BODY TAPPING SLEEVE AND VALVE, TYP. 2, INCL. THRUST BLOCKING, PER C.O.A. SPL WW-243B. SUBMITTAL MUST BE REVIEWED AND APPROVED BY AWU AND ENGINEER PRIOR TO INSTALLATION
1-8" GV#_____

CUT & PLUG

ST. ELMO WATERLINE
STA 1+21.54
INSTALL: 1-22.5°BEND

ST. ELMO WATERLINE
STA 1+32.84
INSTALL: 1-45°BEND

ST. ELMO WATERLINE
STA 1+41.11=
WL STA 0+07
INSTALL:
1-8"x8" SWIVEL TEE
2-8" 45° VERT. BEND
1-8" GV#_____

RELOCATE WW CLEANOUT FROM EXISTING LOCATION TO INSIDE EDGE OF ROW AT PROP. WL STA. 1+10.74
CL STA. 1+70.08 O/S 73.7' LT

WL STA 1+10.74
6" WWL XING

WL STA 0+86.01
6" WWL XING

PROPOSED SIDEWALK (TYP.)

MATCHLINE STA. 2+50= WL STA. 1+90

ALL BRANCH CONNECTIONS SHALL HAVE THE VALVE BOLTED TO THE MAIN BY METHODS OF FLANGE OR SWIVEL TEES. FOSTER ADAPTORS MAY BE USED IN LIEU OF FLANGE OR SWIVEL TEES WHEN CALLED OUT ON PLANS BY DESIGN ENGINEER.

CALL BEFORE YOU DIG
CONTRACTOR SHALL CALL DIG TESS AT (800) DIG-TESS (344-8377) FOR UTILITY LOCATIONS PRIOR TO ANY WORK FOR THIS PROJECT.

NOTE: AE POLES / DOWN GUYS AND ELECTRIC VAULTS IN CONFLICT WITH PROPOSED UTILITIES FOR THIS ROADWAY PROJECT SHALL BE RELOCATED BY A.E. (TYP.) SEE POLE RELOCATION PLANS PROVIDED BY AUSTIN ENERGY.

RECORD REFERENCES

QUAD MAP NUMBER	WASTEWATER PROJECT NUMBER	WATER INTERSECTION MAP	WATER PROJECT NUMBER	WATER PROJECT NUMBER
J-17	84-0016	5029	87-0032	52-500

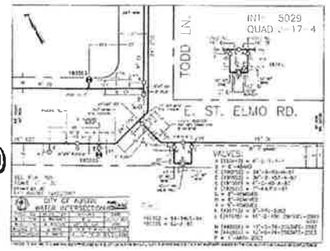
SPECIAL WORK ZONE

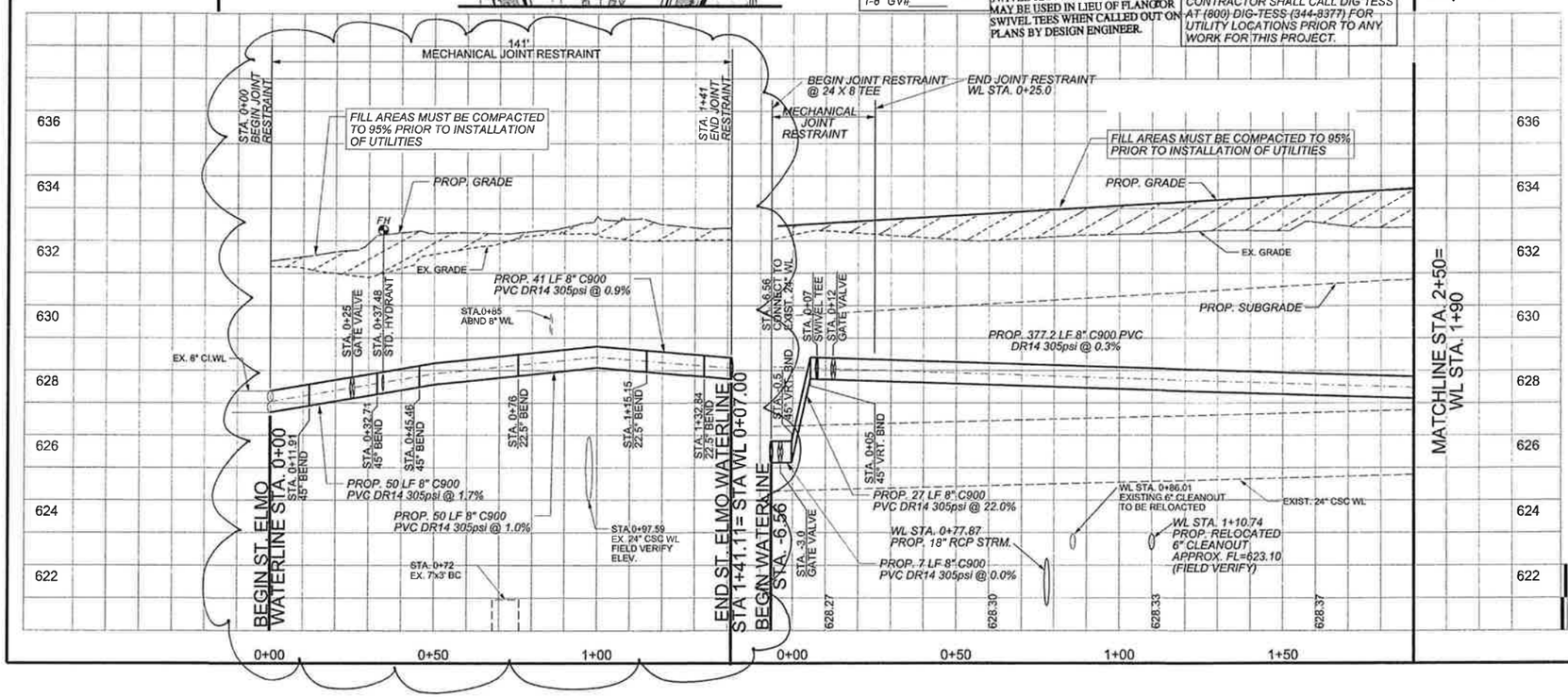
PROP. 24" THICK x 8' WIDE FAST SET CLSM AREA OVER EX. 24" CSC WL

SPECIAL NOTE

1. PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES ON THE PROJECT SUCH AS EXCAVATING, HAULING, OR FILLING, THE CONSTRCTOR SHALL POT-HOLE THE EXISTING 24 INCH CONCRETE STEEL CYLINDER WATER LINE AT LEAST EVERY 100 FEET ALONG ITS ENTIRE LENGTH. THE CENTERLINE OF THE WATER LINE SHALL BE MARKED AT THE GROUND SURFACE BY FLAGGED STAKES OR OTHER READILY VISIBLE MARKINGS TO WARN OF THE PIPE'S LOCATION. THE MARKINGS SHALL BE MAINTAINED AND CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED WITHIN 4 FEET FROM EITHER SIDE OF THE CENTERLINE OF THE PIPE UNTIL SUCH TIME AS THE WORK DESCRIBED IN SPECIAL PROVISION (ITEM SP-4025) CONTROLLED LOW STRENGTH CONCRETE, HAS BEEN COMPLETED OR THE DEPTH OF COVER ON THE 24 INCH PIPE EXCEEDS FOUR FEET.

REVIEWED
APR 17 2013
Austin Water Utility





WATER PLAN & PROFILE NOTES:
1. UTILITIES SHOWN REFLECT THE BEST INFORMATION AVAILABLE AT THE TIME THE PROJECT WAS DESIGNED. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES THAT ARE TO BE EXTENDED, TIE-TO, CROSSED, OR ALTERED, OR SUBJECT TO DAMAGE/ INCONVENIENCE BY THE CONSTRUCTION OPERATIONS.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD LOCATE & RECONNECT ALL WATER AND WASTEWATER SERVICES DISRUPTED BY CONSTRUCTION OF THIS PROJECT WITH NEW PIPE FROM THE MAIN TO THE ROW, METER OR HOUSE CONNECTION. FIELD LOCATIONS, BOTH HORIZONTAL AND VERTICAL, SHALL BE PERFORMED AT LEAST 300 FEET IN ADVANCE OF THE PROPOSED CONSTRUCTION.
3. ALL WATER SERVICE LINES INSTALLED SHALL BE BETWEEN SERVICE TAP AND METER WITH TYPE K COPPER PIPE. ALL WATER SERVICE LINES SHALL MATCH EXISTING SIZE OR 1 1/2" (ONE AND ONE HALF INCH) MINIMUM. BACKFLOW PREVENTORS FOR FIRE LINES SHALL BE PROVIDED BY THE UTILITY CUSTOMER.
4. FIRE HYDRANT LOCATIONS MAY BE FIELD ADJUSTED, IF NECESSARY, TO AVOID CONFLICTS WITH FUTURE DRIVEWAYS, POWER POLES AND OTHER UTILITY MANHOLES. AVOID INSTALLING BENDS IN FIRE HYDRANT LEADS.
5. CONTRACTOR SHALL FOLLOW ALL CITY OF AUSTIN GUIDELINES AND REQUIREMENTS CONCERNING THE USE, HANDLING, AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS, INCLUDING A.C. PIPE. ANY CONNECTION MADE TO AN A.C. WATER LINE FOR RELOCATION PURPOSES SHALL BEGIN AND END AT AN EXISTING A.C. JOINT.
6. WATERLINE JOINT DEFLECTIONS SHALL NOT EXCEED 80% OF THE MANUFACTURER'S MAXIMUM ALLOWABLE JOINT DEFLECTION PER JOINT. WATERLINE JOINT DEFLECTION THAT EXCEED 80% SHALL BE PULLED THROUGH MULTIPLE PIPE JOINTS. DR14 PIPE SHALL BE CLASS 200.
7. ALL THE WORK WILL COMPLY WITH THE CITY OF AUSTIN STANDARD SPECIFICATION AND DETAILS.
8. ALL WATER LINES WILL BE INSTALLED WITH AT LEAST 48" OF COVER BELOW FINISHED GRADE.
9. CONSTRUCTION IS LIMITED TO WITHIN THE ROAD RIGHT-OF-WAY. ANY ADDITIONAL STAGING AND STORAGE AREA OUTSIDE APPROVED LIMITS OF CONSTRUCTION REQUIRE PROCESS OF COMPLETE GENERAL PERMIT REQUEST PRIOR TO USE.
10. ALL HORIZONTAL & VERTICAL WATERLINE BENDS SHALL BE MECHANICALLY RESTRAINED TO THE MAIN USING MECHANICAL JOINT RESTRAINT DEVICES SUCH AS MEGALUG OR APPROVED EQUAL, SEE SPL WW-27A.
11. ALL FIRE HYDRANTS THAT ARE TO BE ABANDONED SHALL BE REMOVED, SALVAGED & RETURNED TO THE AUSTIN WATER UTILITY. NOTICE MUST BE GIVEN 48 HOURS PRIOR TO RETURN. CONTACT FRED CLEVELAND AT 972-1133 OR CHARLIE HARRIS AT 872-1188.
12. ALL EXISTING METERS AND MANHOLES TO REMAIN (GAS, WATER, WASTEWATER, ELECTRIC, ETC.) SHALL BE ADJUSTED TO FINISH GRADE ELEVATIONS.
13. COMPACTION SHALL BE AT LEAST 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH TXDOT TEST METHOD TEX-114-E.

REV. NO.	BY	DATE	REVISION DESCRIPTION
1	EZ	4-17-13	WATERLINE MODIFICATION ADDENDUM 3

STATE OF TEXAS
XIAODIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
04-16-13
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAODIN ZHANG, P.E. LIC.# 96436

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

WATER LINE PLAN AND PROFILE
STA. 0+00 - 1+90

ENGINEERING DESIGN CITY OF AUSTIN FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AO	2012

0 20 40
HORIZONTAL SCALE IN FEET
0 1 2
VERTICAL SCALE IN FEET

PERMIT NUMBER
SP-2012-0155D

SHEET NUMBER 115 OF 175

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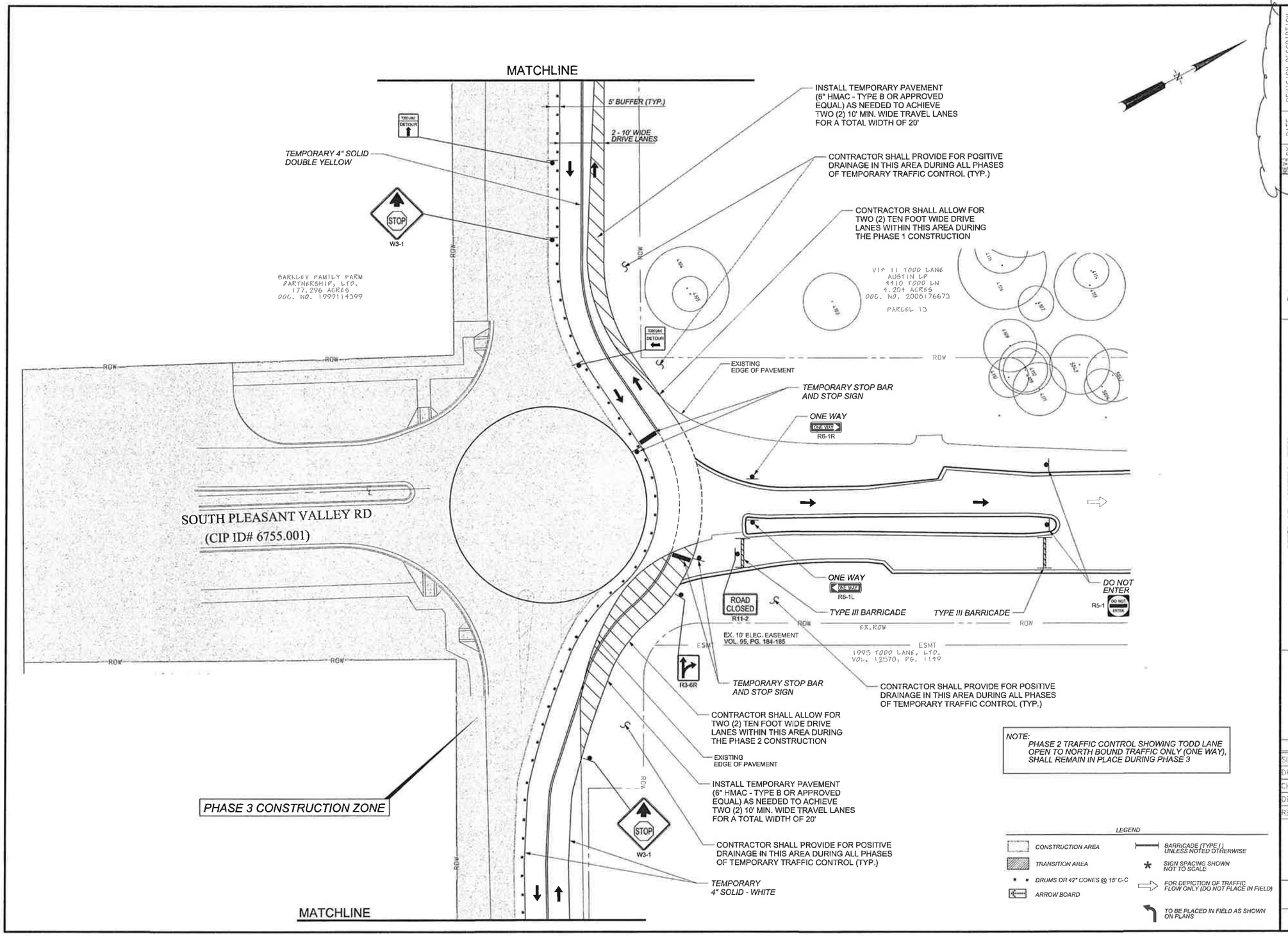
APR-2013

REPLACEMENT SHEET



NOTE:
PHASE 2 TRAFFIC CONTROL SHOWING TODD LANE OPEN TO NORTH BOUND TRAFFIC ONLY (ONE WAY), SHALL REMAIN IN PLACE DURING PHASE 3

LEGEND

- CONSTRUCTION AREA
- TRANSITION AREA
- DRUMS OR 42" CONES @ 15' C-C
- ARROW BOARD
- BARRICADE (TYPE I) UNLESS NOTED OTHERWISE
- * SIGN SPACING SHOWN NOT TO SCALE
- FOR DEPICTION OF TRAFFIC FLOW ONLY (DO NOT PLACE IN FIELD)
- TO BE PLACED IN FIELD AS SHOWN ON PLANS

REV# NO.	BY	DATE	REVISION DESCRIPTION
1	EZ	04/01/13	ADD ROUNDABOUT TRAFFIC CONTROL PLAN - SHEET 172 - ADDENDUM #3

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
04-1-13

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY XIAOQIN ZHANG, P.E. LIC# 96436

CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

TRAFFIC CONTROL PLAN
PHASE 3 - ROUNDABOUT

ENGINEERING CITY OF AUSTIN FOUNDED 1839 DESIGN

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AO	2012

0 20 40
HORIZONTAL SCALE IN FEET

PERMIT NUMBER
SP-2012-0155D

SHEET NUMBER 172 OF 175

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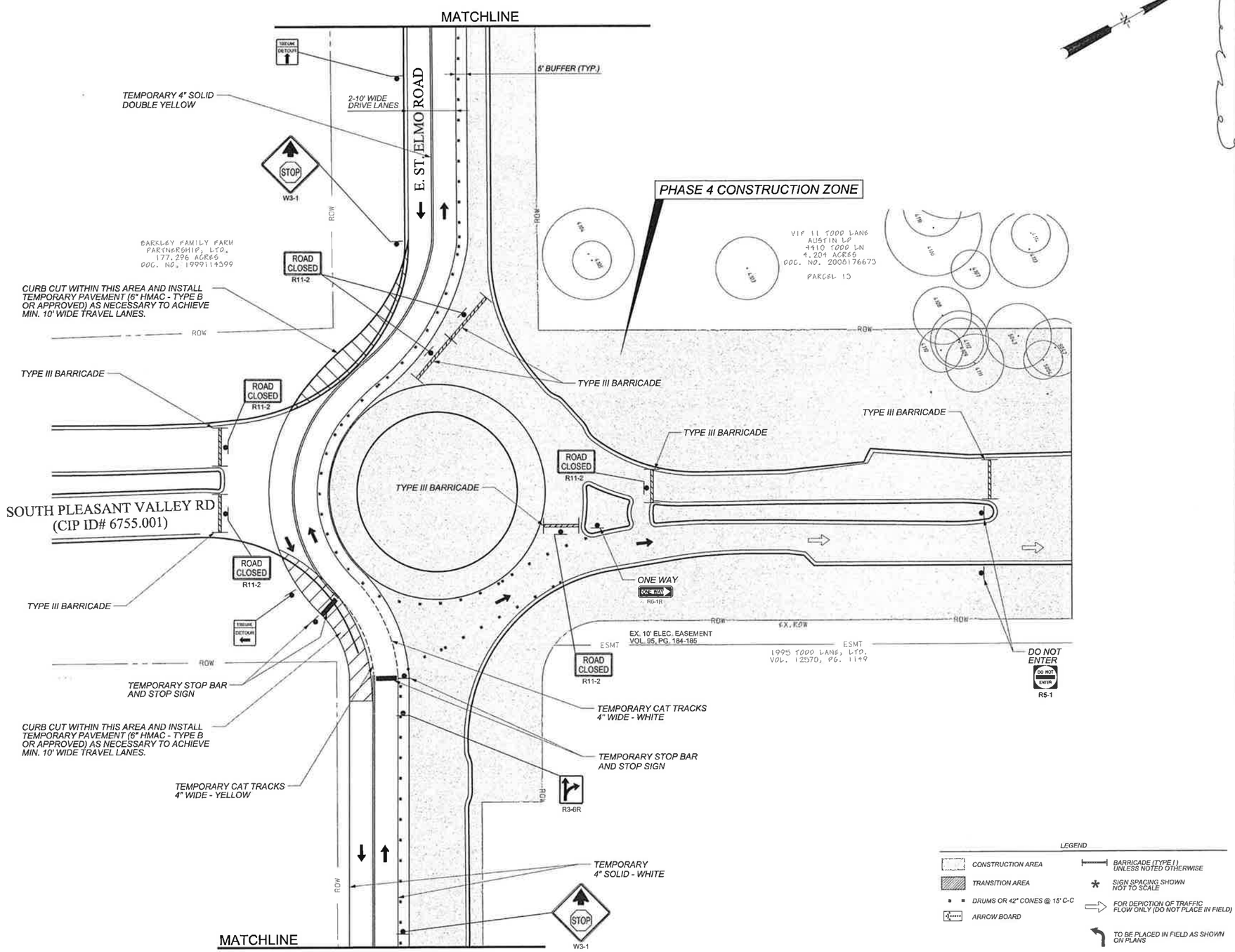

REV. NO.	BY	DATE	REVISION DESCRIPTION
	EZ	04/17/13	ADD ROUNDABOUT TRAFFIC CONTROL PLAN SHEET 173 - ADDED DEVICES

STATE OF TEXAS
XIAOQIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
04-16-13

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

TRAFFIC CONTROL PLAN
PHASE 4 - ROUNDABOUT

ENGINEERING CITY OF AUSTIN FOUNDED 1839 DESIGN

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AD	2012

0 20 40
HORIZONTAL SCALE IN FEET

PERMIT NUMBER
SP-2012-0155D

SHEET NUMBER 173 OF 175

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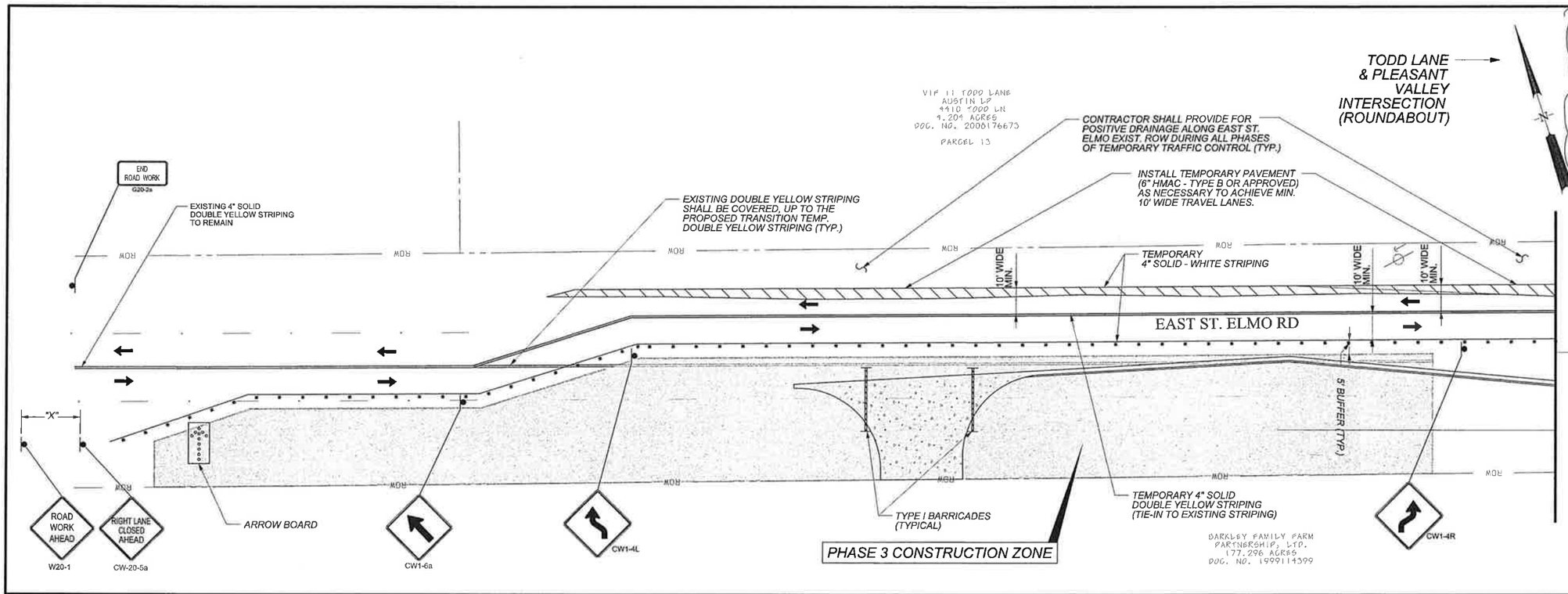
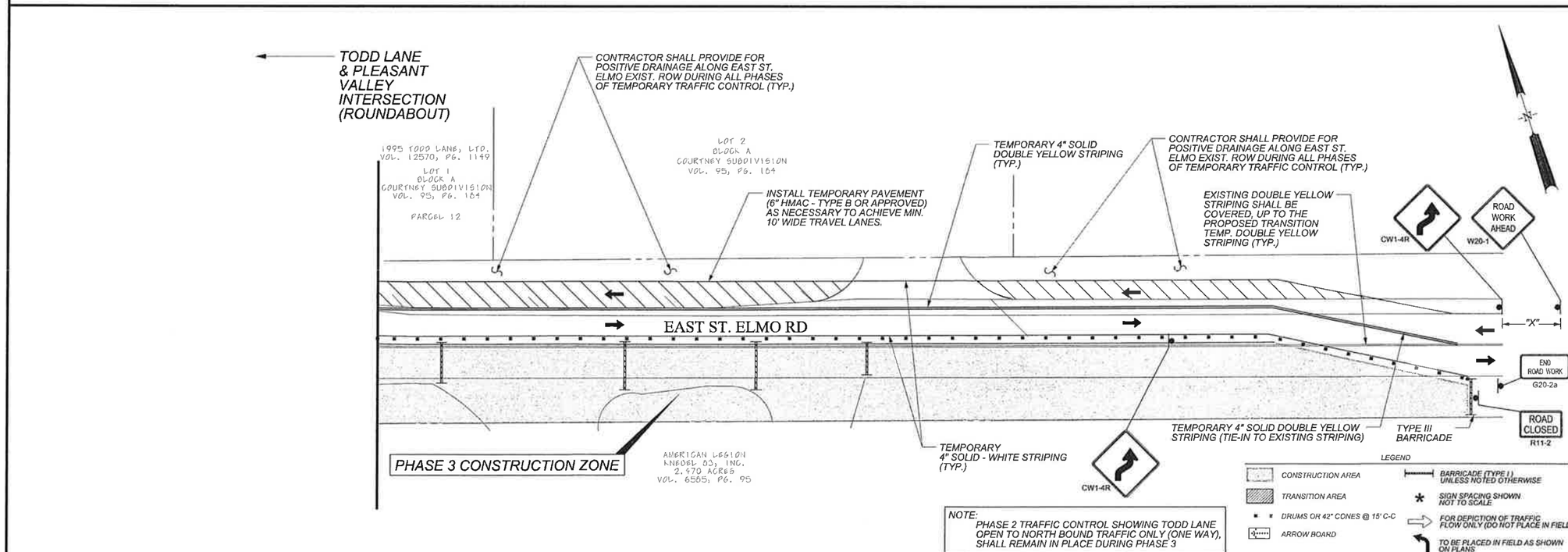
15-APR-2013





NOTE:
PHASE 2 TRAFFIC CONTROL SHOWING TODD LANE OPEN TO NORTH BOUND TRAFFIC ONLY (ONE WAY), SHALL REMAIN IN PLACE DURING PHASE 3

REV NO.	BY	DATE	REVISION DESCRIPTION
1	EZ	04/17/13	ADD ROUNDABOUT TRAFFIC CONTROL PLAN SHEET 174 - ADDENDUM 3

STATE OF TEXAS
XIAODIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
04-16-13

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

TRAFFIC CONTROL PLAN
PHASE 3 - ST. ELMO ROAD

ENGINEERING CITY OF AUSTIN FOUNDED 1839 DESIGN

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AQ	2012

0 20 40
HORIZONTAL SCALE IN FEET

PERMIT NUMBER
SP-2012-0155D

SHEET NUMBER 174 OF 175

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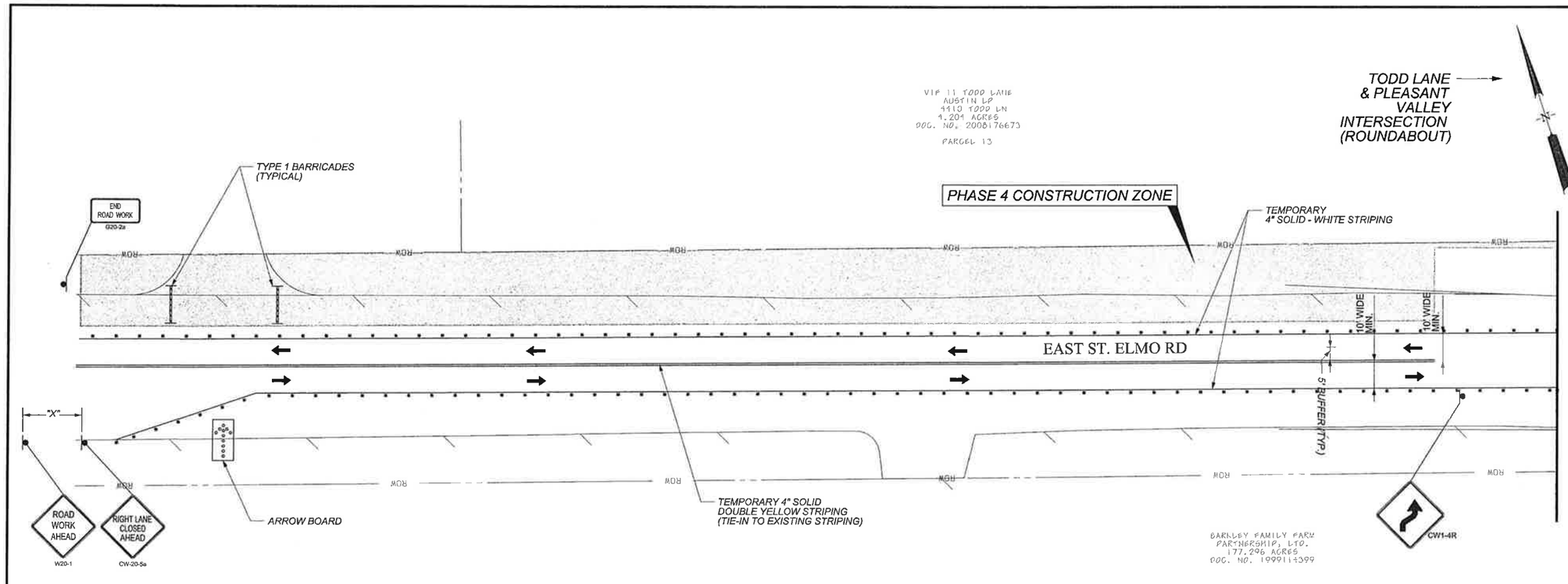
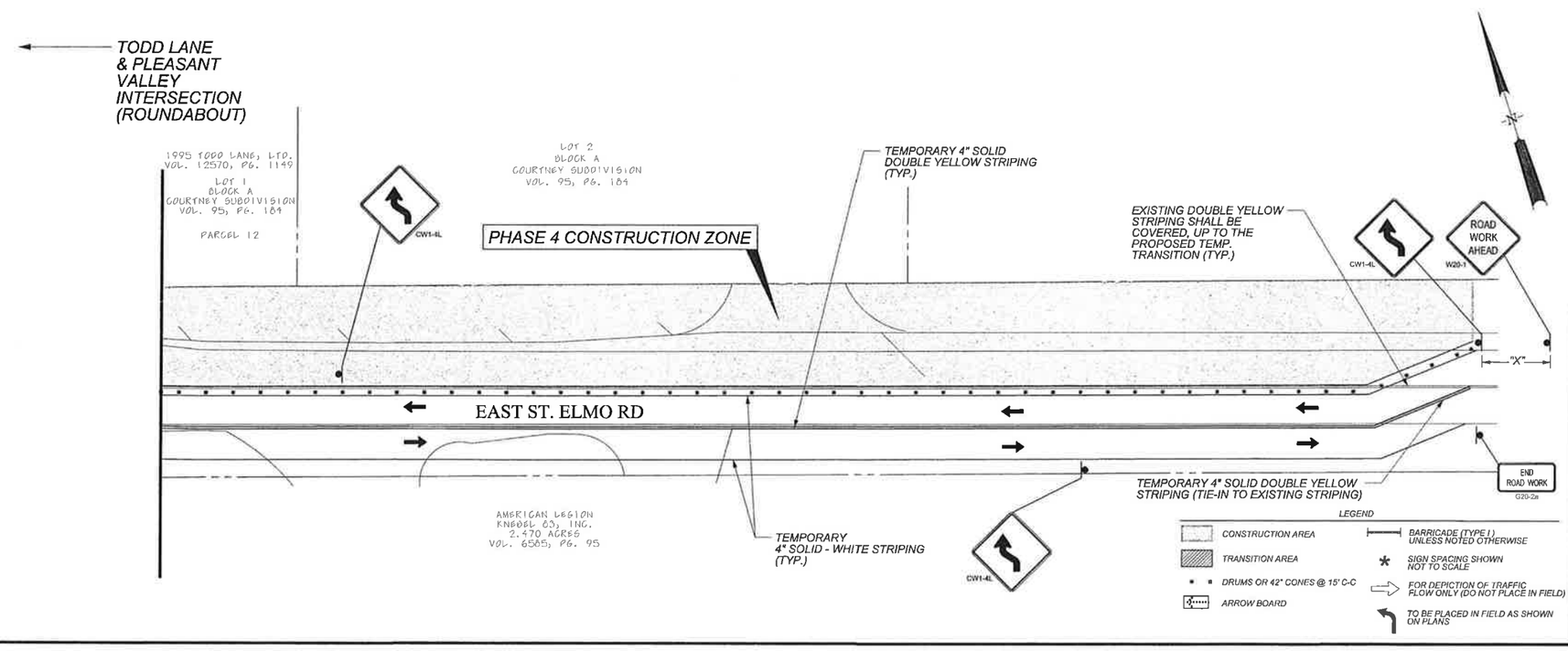
15-APR-2013





REV. NO.	BY	DATE	REVISION DESCRIPTION
1	EZ	04/17/13	ADD ROUNDABOUT TRAFFIC CONTROL PLAN SHEET 175 - ADDENDUM 3

STATE OF TEXAS
XIAODIN ZHANG, P.E.
96436
LICENSED PROFESSIONAL ENGINEER
04-16-13

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CITY OF AUSTIN, TEXAS
DEPARTMENT OF PUBLIC WORKS
ENGINEERING SERVICES DIVISION

TODD LANE IMPROVEMENTS
(FROM BEN WHITE TO ST. ELMO)

TRAFFIC CONTROL PLAN
PHASE 4 - ST. ELMO ROAD

ENGINEERING DESIGN
CITY OF AUSTIN
FOUNDED 1839

NOTES	NAME	DATE
SURVEY BY	BPI	2007
DRAWN BY	EZ/JG/MA	2012
CHECKED BY	CG/EZ	2012
DESIGNED BY	EZ	2012
REVIEWED BY	CG/AO	2012

0 20 40
HORIZONTAL SCALE IN FEET

PERMIT NUMBER
SP-2012-0155D

SHEET NUMBER 175 OF 175

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25-APR-2013