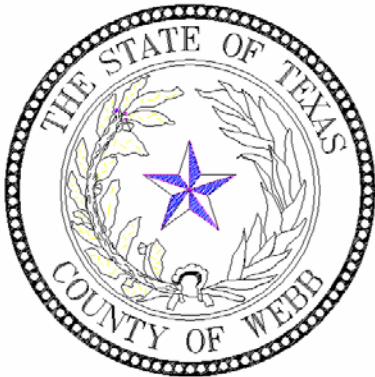


# PROJECT MANUAL

## CONTRACT DOCUMENTS SPECIFICATIONS & INSTRUCTIONS TO BIDDERS

### PROJECT 2023-001 CHACON CREEK TRIBUTARY 1 MAINTENANCE CONTRACT



## WEBB COUNTY DRAINAGE DISTRICT No. 1

### District Board Members

Margie Arce  
President

Sara Sanchez  
Treasurer



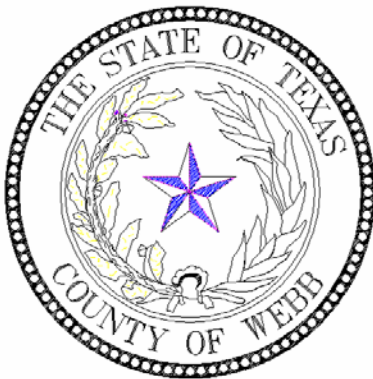
Crane Engineering Corp.  
1310 Junction Drive, Ste. B  
Laredo, Texas 78041  
Firm # F-3353

Mr. Edward D. Garza, P.E., CFM  
District Engineer

## NOVEMBER 2022

**PROJECT MANUAL**  
**CONTRACT DOCUMENTS**  
**SPECIFICATIONS & INSTRUCTIONS TO BIDDERS**

**PROJECT 2023-001**  
**CHACON CREEK TRIBUTARY 1 MAINTENANCE**  
**CONTRACT**



**WEBB COUNTY DRAINAGE**  
**DISTRICT No. 1**

**District Board Members**

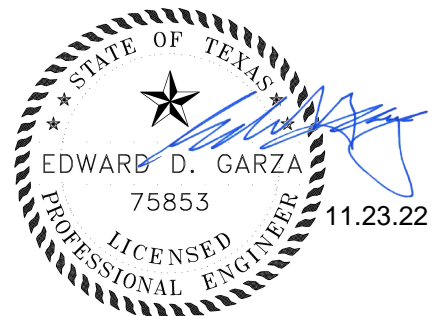
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**Mr. Edward D. Garza, P.E., CFM**  
District Engineer



**NOVEMBER 2022**

**WEBB COUNTY DRAINAGE DISTRICT**  
**PROJECT 2023-001 CHACON CREEK TRIBUTARY 1 MAINTENANCE CONTRACT**

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**Project Specifications**

- 1 Notice to Bidders
- 2 Project Description
- 3 Scope of Work
- 4 Proposal
- 5 Terms & Conditions of Invitation for Bids

Attachment A Contractor's and Subcontractor's Insurance  
Attachment B Bid Bond Requirements

**Project Plans**

- 6 Location Map
- 7 Plans

**Division D Technical Provisions**

Section 402 Clearing and Grubbing  
Section 416 Expansion Joint Materials  
Section 606 NPDES Requirements  
Section 812 Definitions

**TxDOT**

Section 712 Cleaning and Sealing Joints and Cracks (Concrete Pavement)  
Section 713 Cleaning and Sealing Joints and Cracks (Asphalt Pavement)  
Section 734 Litter Removal  
Section 735 Debris Removal  
Section 752 Tree and Brush Removal  
DMS 6310 Joint Sealants and Fillers

# **PROJECT SPECIFICATIONS**



Webb County Drainage District No. 1  
Project 2023-001  
Chacon Creek Tributary 1 Maintenance Contract

**Section 1 - Notice to Bidders**

**Formal Invitation for Bids**

Notice is hereby given that the Webb County Drainage District No. 1 is accepting sealed bids, subject to the Terms and Conditions of this Invitation for Bids and contract provisions, for the awarding of an annual contract for the trash and debris removal, mowing and vegetation maintenance services, and tree trimming for the Chacon Creek Tributary 1 area within the Webb County Drainage District No. 1 boundary. Plans and specifications may be viewed and/or downloaded free of charge from the Webb County Drainage District No. 1 website:

<https://webbcountydrainage.com/>

Plans and specifications may also be reviewed free of charge at the office of Crane Engineering Corp., 1310 Junction Drive, Suite B, Laredo, Texas 78041. Copies may be obtained upon payment of \$50.00 for each set of documents. Bids will be received at the office of Crane Engineering until **5:00 P.M., Thursday, December 22, 2022** at which time all bids received will be opened and read publicly.

A Pre-bid conference with prospective bidders will be held on Tuesday, December 6, 2022 at 4:00 P.M. at Crane Engineering Corporation, 1310 Junction Drive, Suite B, Laredo, Texas 78041.

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Bids are to be submitted in a sealed envelope clearly marked:

**BID: Webb County Drainage District No. 1 – Project 2023-001  
Chacon Creek Tributary 1 Maintenance Contract**

**Bids are to be mailed and/or hand delivered to:**

Crane Engineering Corp.  
1310 Junction Drive, Suite B  
Laredo, Texas 78041

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*The Webb County Drainage District No. 1 reserves the right to reject any and all bids, and to waive any minor irregularities.*

**Publication Dates:**

**Sunday, November 27, 2022**

**Sunday, December 4, 2022**

Webb County Drainage District No. 1  
Project 2023-001  
Chacon Creek Tributary 1 Maintenance Contract

## Section 2 – Project Description

The Webb County Drainage District No. 1 is herein soliciting bids from interested parties for awarding an annual service contract for maintenance services for the Chacon Creek Tributary 1 area as identified on attached location maps, boundary maps, and plans & details. The maintenance services consists of trash, debris, and silt removal, mowing and vegetation maintenance services, concrete joint maintenance, access road clearing and tree trimming with limb removal for the Chacon Creek Tributary 1 area including Los Presidentes Pond; Concord Hills Pond, Earthen, and Concrete Channel; Lago Del Valle Pond and Dam; Independence Hills Pond; Merida Pond and Floodplain; Cuatro Vientos Norte Earthen and Concrete Channel; Cuatro Vientos Phase X Earthen Channel; Las Misiones Pond; City of Laredo Summers Pond; UISD-Garcia Pond; Lomas Del Sur Pond and Earthen Channel; Southern Development Earthen Channel and Wetland; and La Terraza Apartments Channel within the Webb County Drainage District No. 1 boundary.

The term of this contract shall be for a period of twelve (12) months with the option to extend this contract for two (2) additional twelve (12) month periods. The District's obligation for performance of an annual supply contract beyond the current fiscal year is contingent upon the availability of appropriated funds from which payments for the contract purchases can be made. If no funds are appropriated and budgeted during the next fiscal year, this contract becomes null and void.

Location	Area (AC)	Maintenance Program				
		Mowing Cycle		Tree Maintenance		One Time Maintenance
		BASE BID	ALT. BID	Plans	Sheet	
Cuatro Vientos Norte Channels	2.03	✓	✓	✓	✓	2
Los Presidentes Pond & Concrete Channel	11.09	✓	✓	✓	✓	3
UISD-Garcia Pond	0.43	✓	✓	✓	✓	4
Lago Del Valle Phase 2 Pond & Earthen Channel	1.49	✓	✓	✓	✓	5
Independence Hills Pond	2.71	✓	✓	✓	✓	6
Las Misiones Pond	2.06	✓	✓	✓	✓	7
Concord Hills Pond & Channels	10.48	✓	✓	✓	✓	8
Lago Del Valle Dam	3.62	✓	✓	✓	✓	9
Merida Pond & Floodplain	5.32	✓	✓	✓	✓	10
City of Laredo Summers Pond	2.63	✓	✓	✓	✓	11
Lomas Del Sur Pond & Channel	18.90	✓	✓	✓	✓	12
Cuatro Vientos Phase X Earthen Channel	1.73	✓	✓	✓	✓	13
La Terraza Apartments Channel	2.41	✓	✓	✓	✓	14
Southern Dev. Ph. 4 Earthen Channel & Wetland	12.13	✓	✓	✓	✓	15
Southern Dev. Ph. III Concrete & Earthen Channel	1.93	✓	✓	✓	✓	16
Las Misiones Park	0.41	✓	✓	✓	✓	17

Webb County Drainage District No. 1  
Project 2023-001  
Chacon Creek Tributary 1 Maintenance Contract

### **Section 3 – Scope of Work**

#### **1. Initial Pond / Channel / Access Maintenance & Clean Up (Additive Alternate)**

- This work is a one (1) time lump sum service and is required to be completed prior to commencing the mowing cycle.
- Provide all labor, equipment, and supplies for the above-mentioned services.
- Engineer to direct contractor on selective tree cutting.
- The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected.

The following is a description of services which will be required under these specifications:

- 1.1 Collection of trash, debris, litter, and branches from the areas as specified.
- 1.2 Mow all growth along the pond and channel flow areas, slopes of the creeks, channels, and ponds along the walls and fences, and between expansion joints in and around concrete channel if applicable. Grass areas to be mowed to a 2-3 inch height.
- 1.3 Trim trees to remove dead limbs and establish canopy to a 9-10 foot canopy height as a minimum. All trees with 2" caliper and greater to remain unless directed for removal by WCDD. Engineer to mark trees in the field during initial clearing to assist with tree preservation program. Apply pruning paint on cut tree limbs. All trees 2" caliper and lower are to be removed. All tree stumps to be removed.
- 1.4 Prepare circular basin around each tree with a caliper of 2" and greater, as needed.
- 1.5 Rake up, pick up, and remove all trimmings, clippings, and cuttings. (To be removed within 72 hours after cutting)
- 1.6 Convert clippings to mulch and place in tree basin and around vegetated areas.
- 1.7 Remove silt from pipes and culverts.
- 1.8 Clear access road leading to maintenance area. Trim vegetation along road to provide adequate access for vehicles.
- 1.9 Fill void areas along channel with collected silt.
- 1.10 Haul away and properly dispose of all waste generated from specified area being cleared to the City of Laredo landfill.
- 1.11 Refer to plan sheets for additional one time maintenance work including, seeding, painting graffiti, installing silt fence, gravel filters, etc.

#### **2. Mowing Cycle (Base Bid)**

- Provide all labor, equipment, and supplies for the above mentioned services.
- The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected.
- A service cycle is defined by finishing all the work in consecutive working day periods.
- These services will be required six (6) times a year between the months of February and November.

Webb County Drainage District No. 1  
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The following is a description of the services which will be required for each cycle under these specifications:

- 2.1 Collection of trash, debris, litter, and branches from the areas as specified.
- 2.2 Mow all growth within the pond and channel flow areas, embankments, slopes of the creeks, channels, and ponds along the walls and fences, and between expansion joints in and around concrete channel.
- 2.3 Remove any dead limbs from trees.
- 2.4 Rake up, pick up, and remove all trimmings, clippings, and cuttings.
- 2.5 Haul away and properly dispose of all the waste generated to the City of Laredo landfill.

**3. Tree Maintenance (Base Bid)**

- Provide all labor, equipment, and supplies for the above-mentioned services.
- The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected.
- A service cycle is defined by finishing all the work in consecutive working day periods.
- These services will be required twice a year. Once during the winter months (October – February) and once during the summer months (June – July).

The following is a description of the services which will be required for each cycle under these specifications:

- 3.1 Trim trees to remove dead and low lying limbs and establish canopy to a 9-10 foot canopy as a minimum. Apply pruning paint to exposed cuts within 15 minutes of cut.
- 3.2 Rake up, pick up, and remove all trimmings, clippings, and cuttings.
- 3.3 Haul away and properly dispose of all the waste generated to the City of Laredo landfill.

**4. Clean Up Cycle (As Needed)**

- Provide all labor, equipment, and supplies for the above-mentioned services.
- The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected.
- A service cycle is defined by finishing all the work in consecutive working day periods.

The following is a description of the services which will be required for each cycle under these specifications:

- 4.1 Collection of trash, debris, litter, and branches from the areas as specified.
- 4.2 Haul away and properly dispose of all the waste generated to the City of Laredo landfill.
- 4.3 Remove silt from pipes, culverts, and gabion filters (as best as possible) and place as backfill at necessary areas.
- 4.4 These services will be required upon request of the district.

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**5. Joint Sealant Cycle (Base Bid)**

- Provide all labor, equipment, and supplies for the above-mentioned services.
- The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected.
- A service cycle is defined by finishing all the work in consecutive working day periods.
- These services will be required twice a year at a minimum of six (6) months apart.

The following is a description of the services which will be required for each cycle under these specifications:

- 5.1 Collection of trash, debris, litter, and branches from concrete channel area as specified.
- 5.2 Remove all growth and silt within concrete channel flow areas, slopes of the creeks, channels, and ponds along the walls and fences, and between expansion joints in and around concrete channel.
- 5.3 Haul away and properly dispose of all the waste generated to the City of Laredo landfill. Use silt to fill in voids upstream and downstream of concrete channel;
- 5.4 Remove existing sealant material and brush or vacuum out the openings to ensure that any pebbles, dirt or loose debris are removed. Apply weed killer to all joint areas.
- 5.5 Prepare joint with backer rod before applying joint sealant. Backer rod should be 1/8" larger than the width of the joint. Push backer rod down into the joint and leave a minimum joint depth of 1/4" and up to a 1/2" maximum.
- 5.6 Apply engineer approved joint sealant in a uniform manner.

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**Section 4 – Proposal**

**Bidder Information**

**Please complete all information requested below and submit with your bid package.**

“The undersigned affirms that they are duly authorized to execute this contract, that this company, corporation, firm, partnership, or individual has not prepared this bid in collusion with any other bidder, and that the contents of this bid as to prices, terms or conditions of said bid have not been communicated by the undersigned nor by any employee or agent to any other person engaged in this type of business prior to the official opening of this bid. By submitting this bid the vendor agrees to the Webb County Drainage District No. 1 bid specifications and all terms and conditions stipulated in the bid document.”

\_\_\_\_\_  
Firm Name

\_\_\_\_\_  
Signer's Name (print/type)

\_\_\_\_\_  
Address

\_\_\_\_\_  
Signature of person authorized to sign bid

\_\_\_\_\_  
City, State, Zip

\_\_\_\_\_  
Date

\_\_\_\_\_  
Phone Number

\_\_\_\_\_  
Fax Number

Prompt Payment Discount \_\_\_\_\_% \_\_\_\_\_days If no discount is offered, net 30 days will apply.  
Indicate Status:

\_\_\_\_\_ Corporation

\_\_\_\_\_ Partnership

\_\_\_\_\_ Sole Proprietorship

\_\_\_\_\_ Other (specify) \_\_\_\_\_

State how long under its present name. \_\_\_\_\_

Tax Identification number \_\_\_\_\_

Email Address \_\_\_\_\_

**Acknowledgment of Addenda: (Please initial and date)**

Addendum #1: \_\_\_\_\_

Addendum #2: \_\_\_\_\_

Addendum #3: \_\_\_\_\_

Webb County Drainage District No. 1  
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**Bid Schedule**

**I. Yearly Maintenance – Base Bid**

Item #	Description	Cycles	Cost / Cycle	Extended
1	Mowing Cycle at 16 locations as per plans	6	\$	\$
2	Tree Maintenance at 11 locations as per plans	2	\$	\$
3	Joint Sealant at 11 locations as per plans	2	\$	\$
Total Yearly Maintenance				\$

Total Base Bid

I. Yearly Maintenance \$ \_\_\_\_\_

Written in words \_\_\_\_\_

**II. Additive Alternate #1 – One Time Maintenance**

Item #	Description	Cycles	Cost / Cycle	Extended
4	One time maintenance at Cuatro Vientos Norte Channel	1	\$	\$
5	One time maintenance at Los Presidentes Pond	1	\$	\$
6	One time maintenance at UISD/Garcia Pond	1	\$	\$
7	One time maintenance at Lago Del Valle Phase 2 Pond	1	\$	\$
8	One time maintenance at Independence Hills Pond	1	\$	\$
9	One time maintenance at Las Misiones Pond	1	\$	\$
10	One time maintenance at Concord Hills Pond and Channels	1	\$	\$
11	One time maintenance at Lago del Valle Dam	1	\$	\$
12	One time maintenance at Merida Pond & Floodplain	1	\$	\$
13	One time maintenance at City of Laredo Summers Pond	1	\$	\$
14	One time maintenance at Lomas del Sur Pond & Channel	1	\$	\$
15	One time maintenance at Cuatro Vientos X Earthen Channel	1	\$	\$

Webb County Drainage District No. 1  
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Item #	Description	Cycles	Cost / Cycle	Extended
16	One time maintenance at La Terraza Apartments Channel	1	\$	\$
17	One time maintenance at Southern Development Phase 4 Earthen Channel & Wetland	1	\$	\$
18	One time maintenance at Southern Development Phase III Concrete Channel	1	\$	\$

**III. Additive Alternate #2**

Item #	Description	Cost / Cycle
19	Clean up cycle per location area less than 5 acres	\$
20	Initial clean up (silt removal) of 40 LF of 24" RCP at UISD Garcia Pond at Lago Del Valle Subdivision	\$
21	Illegal dumping clean up per location	\$
22	Provide 3-man crew for 8-hour workday to remove trees less than 2" caliper	\$
23	Daily rate to convert clippings into mulch and place around existing tree basins or along trails	\$

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Webb County Drainage District No. 1  
Project 2023-001  
Chacon Creek Tributary 1 Maintenance Contract

**Statement of Qualifications**

***Information from bidders must be completed and submitted with bid proposal***

**1. Previous Maintenance Projects Completed for Public Entities**

1)	Name of Project:	_____
	Value of Contract:	_____
	Contract Duration:	_____
	Owner Contact Info:	_____
2)	Name of Project:	_____
	Value of Contract:	_____
	Contract Duration:	_____
	Owner Contact Info:	_____
3)	Name of Project:	_____
	Value of Contract:	_____
	Contract Duration:	_____
	Owner Contact Info:	_____

Experience Data: Include resume of job Superintendent.

**NOTE:** **TO BE SUBMITTED UPON REQUEST  
IS NOT AN ACCEPTABLE ANSWER**

**2. Equipment List**

MACHINE	YEAR	OWN/LEASE

Webb County Drainage District No. 1  
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**3. References**

1)	Name:	_____
	Title:	_____
	Phone:	_____
	Email:	_____
2)	Name:	_____
	Title:	_____
	Phone:	_____
	Email:	_____
3)	Name:	_____
	Title:	_____
	Phone:	_____
	Email:	_____

**NOTE:**

**TO BE SUBMITTED UPON REQUEST  
IS NOT AN ACCEPTABLE ANSWER**

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Webb County Drainage District No. 1  
Project 2023-001  
Chacon Creek Tributary 1 Maintenance Contract

**Section 5 – Terms & Conditions of Invitation for Bids**

**5.1 General Conditions**

Bidders are required to submit bids upon the following expressed conditions:

- 5.1.1 Bidders shall thoroughly examine these specifications, schedule instructions, and other contract documents. Once the award has been made, failure to read all specifications, instructions, and the contract documents of the District shall not be cause to alter the original contract or for a vendor to request additional compensation.
- 5.1.2 Bidders shall make all investigations necessary to thoroughly inform themselves regarding facilities and locations for delivery of materials and equipment as required by the bid conditions. No pleas of ignorance by the bidder of conditions that exist or that may hereafter exist as a result of failure or omission on the part of the bidder to make the necessary examinations and investigations, or failure to fulfill in every detail the requirements of the contract documents, will be accepted as a basis for varying the requirements of the District or the compensation to the vendor.
- 5.1.3 Bidders are advised that District contracts are subject to all legal requirements provided for in the applicable County, State, and Federal Statutes.
- 5.1.4 Unit (per cycle) prices shall be shown and where there is an error in extension of price, the unit price shall govern.
- 5.1.5 Bidders for the construction work must submit a satisfactory Cashier's or Certified Check, or bidder's bond having a minimum **Best's Rating A** according to Best's Key Rating Guide Latest Edition from a surety duly authorized and licensed in the State of Texas, payable without recourse to the order of the Webb County Drainage District No. 1, in an amount not less than five percent (5%) of the total bid based on the bid which check of bond shall be submitted as a guarantee that the bidder will enter into a contract, and execute performance and payment bonds within ten (10) days after Notice of Award of contract is given to him for contracts in excess of \$25,000.00. Bids without the required check or bond will NOT be considered.
- 5.1.6 The successful bidder for the construction of the improvements must furnish a Certificate of Insurance, and a satisfactory Performance Bond in the amount of 100% of the total contract price, and a satisfactory Payment Bond in such amount, duly executed by such bidder as principal and by a corporate surety duly authorized so to act under the laws of the State of Texas. See Section A-08 for bond forms. The successful bidder will be required to provide Performance and Payment Bonds issued by an insurance company which meets the minimum State requirements and is licensed in the State of Texas, and has a Best's Key according to Best's Key Rating Guide Latest Edition as follows:

Webb County Drainage District No. 1  
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<u>Construction Contract</u>	<u>Minimum Best's Rating</u>
25,001 – 250,000	A
250,000 – 1,000,000	A
Over 1,000,000	A

In the event the base bid amount is \$25,000.00 or LESS than \$25,000.00, a Payment Bond and Performance Bond will NOT BE REQUIRED. A Bid Guarantee in the form of a Cashier's or Certified Check or Bid Bond and the Certificate of Insurance however, WILL BE REQUIRED.

- 5.1.7 Vendor will be responsible for providing all safety warning signs advising the public of work in progress. In addition, when vendor employees are working on street right of way areas, each employee must wear a safety orange vest.

## **5.2 Preparation of Bids**

Bids will be prepared in accordance with the following:

- 5.2.1 All information required by the bid form shall be furnished. The Bidder shall print or type the business name and manually sign the schedule.
- 5.2.2 Unit prices shall be shown and where there is an error in extension of price, the unit price shall govern.
- 5.2.3 Alternate bids will not be considered unless authorized by the invitation for bids or any applicable addendum.
- 5.2.4 Proposed delivery time must be shown and shall include Sundays and holidays.

## **5.3 Description of Supplies**

Any catalog or manufacturer's reference used in describing an item is merely descriptive, and not restrictive, unless otherwise noted, and it used only to indicate type and quality of material. Bidder is required to state exactly what they intend to furnish; otherwise bidder shall be required to furnish the items as specified.

## **5.4 Submission of Bids**

- 5.4.1 Bids and changes thereto shall be enclosed in sealed envelopes, properly addressed and to include the date and hour of the bid opening, and the material or services bid on shall be typed or written on the face of the envelope.
- 5.4.2 Unless otherwise noted on the Notice to Bidders cover sheet, all bids must be submitted to the office of Crane Engineering Corp., 1310 Junction Drive, Suite B, Laredo, Texas 78041.
- 5.4.3 Bids must be submitted on the forms furnished. Telegraphic and facsimile bids will not be considered.
- 5.4.4 Samples, when required, must be submitted within the time specified, at no expense to the Webb County Drainage District No. 1. If not destroyed or used

Webb County Drainage District No. 1  
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up during testing, samples will be returned upon request at the bidder's expense.

- 5.4.5 Bids must be valid for a period of ninety (90) days. An extension to hold bid pricing for actual quantity bids may be requested by the District.

## **5.5 Rejection of Bids**

The Webb County Drainage District No. 1 may reject a bid if:

- 5.5.1 Bidder misstates or conceals any material fact in the bid.
- 5.5.2 Bid does not strictly conform to the law or the requirements of the bid.
- 5.5.3 Bidder is in arrears on existing contracts or taxes with the Webb County Drainage District No. 1.
- 5.5.4 If bids are conditional. Bidder may qualify their bid for acceptance by the District on an "ALL OR NONE" basis. An "ALL OR NONE" basis bid must include all items in the specifications.
- 5.5.5 In the event that a bidder is delinquent in the payment of taxes on the day the bids are opened, including state and local taxes, such fact shall constitute grounds for rejection of the bid or cancellation of the contract. A bidder is considered delinquent, regardless of any contract or agreed judgments to pay such delinquent taxes.
- 5.5.6 No bid submitted herein shall be considered unless the bidder warrants that, upon execution of a contract with the Webb County Drainage District No. 1, bidder will not engage in employment practices such as discriminating against employees because of race, color, sex, creed, or national origin. Bidder will submit such reports as the Webb County Drainage District No. 1 may therefore require assuring compliance with said practices.
- 5.5.7 The Webb County Drainage District No. 1 may reject all bids or any part of a bid whenever it is deemed necessary.
- 5.5.8 The Webb County Drainage District No. 1 may waive any minor informalities or irregularities in any bid.

## **5.6 Withdrawal of Bids**

Bids may not be withdrawn after they have been publicly opened, unless approved by the Webb County Drainage District No. 1

## **5.7 Late Bids or Modifications**

Bids and modifications received after the time set for the bid opening will not be considered. Late bids will be returned to the bidder unopened.

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**5.8 Clarification of Objection to Bid Specifications**

5.8.1 If any person contemplating submitting a bid for this project is in doubt as to the true meaning of the specifications, or other bid documents, or any part thereof, they may submit to Crane Engineering on or before seven (7) days prior to the scheduled opening date a request for clarification. All requests for information shall be made in writing, and the person submitting the request will be responsible for its prompt delivery. Any interpretation of the bid, if made, will be made only by and addendum duly issued by Crane Engineering. A copy of such addendum will be mailed or delivered to each vendor having received a set of bid documents. The Webb County Drainage District No. 1 will not be responsible for any other explanations or interpretations of the proposed bid made or given prior to the bid opening or award of contract.

5.8.2 Protest Procedures: The purpose of this procedure is to establish procedures whereby a vendor may protest specific procurement actions by the Webb County Drainage District No. 1.

The following sequence of activities must take place in filing a protest:

- 1) To be performed by protesting vendor: Within ten (10) days prior to the time that the District considers the recommendation from Crane Engineering, the protesting vendor must provide written protest to Crane Engineering. Such protest must include specific reasons for the protest.
- 2) To be performed by District's Purchasing Officer: Shall review the records of procurement and determine legitimacy and procedural correctness. Within five (5) working days, Crane Engineering shall provide written response to the protesting vendor of the decision.
- 3) If the protesting vendor is not satisfied with the decision of Crane Engineering, such protesting vendor may appeal to the Webb County Drainage District No. 1. If the protesting vendor cannot resolve the issue with the District, he shall be entitled to address his concerns when the District considers the awarding of the contract. Such appeal may be made only after exhausting all administrative procedures through the District.

All protests must be duly submitted via Certified Mail to:  
Crane Engineering Corp.  
1310 Junction Drive, Suite B  
Laredo, Texas 78041

**5.9 Bidder Discounts**

5.9.1 Percent discounts within a certain period of time can be considered in making the award. The period of the discount offered should be sufficient to permit payments within such period in the regular course of business by the Webb County Drainage District No. 1.

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- 5.9.2 In connection with any discounts offered, time will be computed from the date of receipt of supplies or service or from the date a correct invoice is received, whichever is the later date. Payment is deemed to be made on the date the check is mailed.

**5.10 Intent of Contract**

There are two (2) types of contracts awarded for materials, equipment, or services.

5.10.1 Actual Quantities Contract

Quantities specified are actual amounts and are based on the best available information. The purpose of this contract is to establish prices for the amounts and kind of commodities indicated. The quantity indicated is the quantity the District wants to purchase, but the actual amount purchased is subject to change orders which may increase or decrease the commodities purchased by 25% more or less.

5.10.2 Annual Supply Contracts

This contract does not commit the Webb County Drainage District No. 1 to purchase the quantities indicated. The quantities are estimates and are based on the best available information. The purpose of this contract is to establish prices for the commodities or services needed, should the Webb County Drainage District No. 1 need to purchase these commodities or services. Since the quantities are estimates, the Webb County Drainage District No. 1 may purchase more than the estimated quantities, less than the estimated quantities, or not purchase any quantities at all. The needs of the Webb County Drainage District No. 1 shall govern the amount that is purchased and change orders will not be applicable.

The Webb County Drainage District No. 1's obligation for performance of annual supply contract beyond the current fiscal year is contingent upon the availability of appropriated funds from which payments for the contract purchases can be made. If no funds are appropriated and budgeted during the next fiscal year, this contract becomes null and void.

If the contract is for the construction of public works or for the purchase of materials, equipment, and supplies, the municipality may let the contract either on a lump-sum basis or a unit price bases as the Webb County Drainage District No. 1 determines in the specifications. If the contract is let on a unit price basis, the information furnished to the bidders is the approximate quantity needed, based on the best available information, buy payment to the contract will be based on the actual quantity constructed or supplied according to the change orders.

**5.11 Award of Contract**

- 5.11.1 The contract will be awarded to the lowest responsible bidder or the vendor who provides the best value for the District, whose price and other factors have

Webb County Drainage District No. 1  
Project 2023-001  
Chacon Creek Tributary 1 Maintenance Contract

been considered in accordance to the provisions of the State of Texas – Local Government Code.

- 5.11.2 The Webb County Drainage District No. 1 reserves the right to accept any item or group of items in the bid specifications, unless the bidder qualifies its bid by specific limitation. Proof: The bidder shall bear the burden of proof of compliance with the Webb County Drainage District No. 1 specifications.
- 5.11.3 A written award of acceptance (a duly approved purchase order or Letter of Award) furnished by the District to the successful bidder results in a binding contract without further action by either party. These Terms and Conditions shall be the basis and governing document of the binding contract.
- 5.11.4 Prices must be quoted F.O.B. destination Laredo, Texas, unless otherwise specified in the invitation to bid. The place of delivery shall be that set forth in the purchase order.
- 5.11.5 Title & Risk of Loss: The title and risk of loss of goods shall not pass to the Webb County Drainage District No. 1 until the Webb County Drainage District No. 1 actually receives and takes possession of the goods at the point or points of delivery. The terms of this agreement is “no arrival, no sale.”
- 5.11.6 Delivery time and prompt payment discounts will be considered in breaking ties. In the event of a tie bid, the successful bidder will be determined by choosing lots at the District meeting.
- 5.11.7 The Webb County Drainage District No. 1 shall give written notice to the contractor (supplier) if any of the following conditions exist:
- 1) Contractor does not provide materials in compliance with specifications and/or within the time schedule specified in bid.
  - 2) Contractor neglects or refuses to remove materials or equipment which have been rejected by the District if found not to comply with the specifications.
  - 3) The contractor makes an unauthorized assignment for the benefit of any contractor.

Upon receiving written notification from the Webb County Drainage District No. 1 that one of the above conditions has occurred, the contractor must remedy the problem within ten (10) days, to the complete satisfaction of the District, or the contract will be immediately cancelled.

## **5.12 Payment and Invoicing**

- 5.12.1 All invoices to the Webb County Drainage District No. 1 have a thirty (30) day term from receipt of supplies or completion of services.



Webb County Drainage District No. 1  
Project 2023-001  
Chacon Creek Tributary 1 Maintenance Contract

5.12.2 Discount terms will be computed from the date of receipt and acceptance of supplies or services. Payment shall be deemed to be made from that date.

5.12.3 All invoices must show the purchase order number and invoices shall be legible. Items billed on invoices should be specific as to applicable stock, manufacturer catalog, or part number. All items must show unit prices. If prices are based on discounts from list, then prices must appear on bid schedule.

5.12.4 All invoices shall be mailed to:

Mr. Edward D. Garza, P.E.  
Crane Engineering Corp.  
1310 Junction Drive, Suite B  
Laredo, Texas 78041

**5.13 Non-Collusive Affidavit**

The Webb County Drainage District No. 1 may require that vendors submit a Non-Collusive Affidavit. The vendor will not be required to state that the party submitting a proposal or bid, that such proposal or bid is genuine and not collusive or sham; that said Bidder has not colluded, conspired, connived or agreed, directly or indirectly, with any Bidder or Person, to put in a sham bid or to refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference, with any person, to fix the bid price or affiant or of any other Bidder, or to fix any overhead, profit or cost element of said bid price, or of that of any other Bidder, or to secure any advantage against the District or any person interested in the proposed contract; and that all statements in said proposal or bid are true.

**5.14 Insurance Requirements**

The bidder shall furnish the Webb County Drainage District No. 1 with original copies of valid insurance policies herein required upon execution of the contract and shall maintain said policies in full force and effect at all times during the term of this contract.

5.14.1 Commercial General Liability in the name of the contractor in minimum amount of \$1,000,000 per occurrence and \$2,000,000 general aggregate for bodily injury and property damage which coverage shall include products/completed operation (\$1,000,000 products completed/operations aggregate) written on an occurrence form. Contractual liability must be maintained covering the Contractor's obligation contained in the contract.

5.14.2 Workers' Compensation Insurance, at statutory requirements limits, including Employers' Liability coverage in a minimum limits of \$1,000,000 each occurrence each accident and \$1,000,000 disease each occurrence and \$1,000,000 each disease aggregate.

5.14.3 Commercial Auto Liability insurance at minimum combined single limit of \$1,000,000 per occurrence for bodily injury and property damage, including owned, non-owned, and hired car coverage.

Webb County Drainage District No. 1  
Project 2023-001  
Chacon Creek Tributary 1 Maintenance Contract

5.14.4 The Webb County Drainage District No. 1 shall be named as an additional insured with respect to General and Auto Liability. A waiver of subrogation in favor of the Webb County Drainage District No. 1 shall be contained in the Workers' Compensation and all liability policies. All insurance policies shall be endorsed to require the insurer to immediately notify the Webb County Drainage District No. 1 of any material change in the insurance coverage. All insurance policies shall be endorsed to the effect that the Webb County Drainage District No. 1 will receive at least sixty (60) days' notice prior cancellation or non-renewal of insurance. All insurance policies, which name the Webb County Drainage District No. 1 as an additional insured must be endorsed to read as primary coverage regardless of the application of other insurance. Insurer must be rated A- or greater by AM Best Rating with an admitted carrier licensed by the Texas Department of Insurance. All liability policies shall contain no cross-liability exclusion or insured versus insured restrictions.

5.14.5 The Webb County Drainage District No. 1 shall be named and listed as a certificate holder. The insurance company must provide notice to the Webb County Drainage District No. 1 in the event of any changes to coverage being provided by the service provider. If the coverage period shown on the contractor's current certificate of coverage ends during the duration of the contract period, the successful contractor must provide the new certificate of coverage to the Webb County Drainage District No. 1, before the end of the coverage period. All notices shall be given to the Webb County Drainage District No. 1 at the following address:

Crane Engineering Corp.  
1310 Junction Drive, Suite B  
Laredo, Texas 78041

**5.15 Award of Contract**

Submission and award of bid shall be based on the "Terms and Conditions of the Invitation for Bids" which is attached and is part of these specifications. This contract will be awarded to the lowest responsible bidder or the bidder who provides the best value for the District, and whose bid price and other factors have been considered in accordance to the provisions of Chapters 252 and 271 of the State of Texas – Local Government Code.

**ATTACHMENT A**  
**CONTRACTOR'S AND SUBCONTRACTOR'S INSURANCE**

The Contractor shall not commence work under this Contract until he/she has obtained all the insurance required under this paragraph and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on his/her Sub-Contract until the insurance required of the Subcontractor has been so obtained and approved.

- A. Compensation Insurance: The Contractor shall procure and shall maintain during the life of this Contract Workmen's Compensation Insurance as required by applicable State or Territorial law for all of his/her employees to be engaged in work at the site of the project under this Contract and, in case of any such work sublet, the Contractor shall require the Subcontractor similarly to provide Workmen's Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Workmen's Compensation Insurance. In the case where any class of employees engaged in hazardous work on the project under this Contract and is not protected under the Workmen's Compensation Statute, The Contractor shall provide and shall cause each Subcontractor to provide adequate employee's liability insurance for the protection of such of his/her employee as are not otherwise protected.
- B. Contractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance: The Contractor shall procure and shall maintain during the life of his Contract: Contractor's Public Liability Insurance, Contractor's Property Damage Insurance and Vehicle Liability Insurance in the amount of not less than \$200,000 for bodily injury, including accidental death, to any one person and an amount not less than \$300,000 on account of any one occurrence: Property Damage in the amount not less than \$100,000 per occurrence and \$200,000 aggregate; and Vehicle Liability of \$100,000 for any one person or \$200,000 for each occurrence.
- C. Subcontractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance: The Contractor shall either (1) require each of his/her Subcontractor to procure and shall maintain during the life of his /her Subcontractor, Subcontractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance of the type and in the amount specified in Subparagraph b. above or, (2) insure the activities of his/her Subcontractors in his/her policy specified in Subparagraph b. above.
- D. Scope of Insurance and Special Hazards: The insurance required under Subparagraph b. and c. above shall provide adequate protection for the Contractor and his/her Subcontractor's, respectively, against damage claims which may arise from operations under this Contract, whether such operations be by the insured or by any one directly or indirectly employed by him/her and also against any of the special hazard which may be encountered in the performance of this Contract.
- E. Builder's Risk Insurance (Fire and Extended Coverage): The Contractor shall procure and shall maintain during the life of this Contract Builder's Risk Insurance (Fire and Extended Coverage) on a 100 percent (100%) completed value basis on the insurable portion of the project. The Owner, the Contractor, and Subcontractor (as their interests may appear), shall be named as the Insured.

- F. Proof of Carriage of Insurance: The Contractor shall furnish the Owner with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. Such certificates shall also contain substantially the following statement: "The Insurance covered by this certificate will not be cancelled or materially altered, except after ten (10) days written notice has been received by the Owner". The Owner, the Contractor, and Subcontractor (as their interests may appear), shall be named as the Insured.
- G. The Webb County Drainage District shall be named as an additional insured with respect to General Liability and Automobile Liability. A blanket waiver of subrogation in favor of the Webb County Drainage District shall be contained in the Workers Compensation, and all liability policies.

**CERTIFICATE OF INSURANCE**

To: Webb County Drainage District  
 Owner  
 Address  
 Address

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

**Project: Chacon Creek Tributary 1 Maintenance Contract**

This is to certify that

\_\_\_\_\_  
 Name

\_\_\_\_\_  
 Address

\_\_\_\_\_  
 Phone number

is, at the date of this certificate, insured by this Company with respect to the business operations hereinafter described for the types of insurance and in accordance with the provisions of the standard policies used by this company, and further, hereinafter described. Exceptions to standard policies used by this company, and further, hereinafter described. Exceptions to standard policy noted on reverse side hereof.

**TYPE OF INSURANCE**

\_\_\_\_\_  
 Policy #

\_\_\_\_\_  
 Effective

\_\_\_\_\_  
 Expires

\_\_\_\_\_  
 Limits of availability

\_\_\_\_\_  
 Workmen's compensation

\_\_\_\_\_  
 Public Liability

\_\_\_\_\_  
 1 Person \$

\_\_\_\_\_  
 1 Accident \$

\_\_\_\_\_  
 Contingent Liability

\_\_\_\_\_  
 Property Damage

---

Builder's Risk

---

Automobile

---

Other

The foregoing policies (do) (do not) cover all subcontractors

---

Locations Covered

---

---

Descriptions of Operations Covered

The above policies either in the body thereof or by appropriate endorsement provide that they may not be changed or canceled by the insurer in less than five days after the insured has received written notice of such change or cancellation.

---

WITNESS

---

Contractor/Firm

---

Name

---

Signature

---

Address

---

Title

---

City/State/Zip

---

City/State/Zip

---

Phone Number

---

Phone Number

---

Fax Number

**ATTACHMENT B  
PERFORMANCE BOND**

(As required by Chapter 2253, Texas Government Code)

THE STATE OF { }  
COUNTY OF { }

KNOW ALL MEN BY THESE PRESENTS: That we (1) \_\_\_\_\_  
\_\_\_\_\_ a (2)  
\_\_\_\_\_ of \_\_\_\_\_ hereafter called Principal and (3)  
\_\_\_\_\_ of \_\_\_\_\_, State of  
\_\_\_\_\_, hereinafter called the Surety, are held and firmly bound unto (4)  
\_\_\_\_\_ of \_\_\_\_\_ hereinafter called Owner,  
in the penal sum of \_\_\_\_\_ (\$\_\_\_\_\_) Dollars in  
lawful money of the United States, to be paid in (5) WEBB COUNTY, TEXAS for the payment  
of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators  
and successors, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION is such that Whereas, the Principal entered into a  
certain Contract with (6) \_\_\_\_\_ the Owner, dated the \_\_\_\_\_  
day of \_\_\_\_\_, 20\_\_\_\_\_ a copy of which is hereto attached and made a part hereof  
for the Construction of:

**WEBB COUNTY DRAINAGE DISTRICT – CHACON CREEK TRIBUTARY 1 MAINTENANCE CONTRACT**

(hereinafter called the "Work")

Date of Bond must not be prior to Date of Contract.

These notes refer to the numbers in body of Contract above:

- (1) Correct name of Contractor.
- (2) A Corporation, or Partnership or an Individual, as case may be.
- (3) Correct name of Surety.
- (4) Correct name of Owner.
- (5) County and State.
- (6) Owner.

NOW THEREFORE, if the Principals shall well, truly and faithfully perform the work in accordance with the Plans, Specifications and Contract Documents during the original term thereof, and any extensions thereof which may be granted by the Owner with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED FURTHER, that if any legal action be filed upon this Bond, venue shall lie WEBB County, State of Texas, and that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed hereunder or the Specifications accompanying the same shall in any wise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

IN WITNESS WHEREOF, this Instrument is executed in six counterparts, each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

ATTEST:

\_\_\_\_\_  
(Principal) Secretary

\_\_\_\_\_  
PRINCIPAL

(SEAL)

\_\_\_\_\_  
By

\_\_\_\_\_  
Address

\_\_\_\_\_  
Witness as to Principal

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

\_\_\_\_\_  
Address

\_\_\_\_\_  
Phone number

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



ATTEST:

\_\_\_\_\_  
Secretary

(SEAL)

\_\_\_\_\_  
(Surety) Secretary

(SEAL)

\_\_\_\_\_  
Witness as to Surety

\_\_\_\_\_  
Address

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

\_\_\_\_\_  
SURETY

\_\_\_\_\_  
By

\_\_\_\_\_  
Address

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

\_\_\_\_\_  
Phone number

**PAYMENT BOND**

(As required by Chapter 2253, Texas Government Code)

THE STATE OF { }  
 COUNTY OF { }

KNOW ALL MEN BY THESE PRESENTS: That we (1) \_\_\_\_\_  
 \_\_\_\_\_ a (2)  
 \_\_\_\_\_ of \_\_\_\_\_ hereafter called Principal and (3)  
 \_\_\_\_\_ of \_\_\_\_\_, State of  
 \_\_\_\_\_, hereinafter called the Surety, are held and firmly bound unto (4)  
 \_\_\_\_\_ of \_\_\_\_\_ hereinafter called Owner,  
 and unto all Persons, Firms, and Corporations who may furnish materials for, or perform labor  
 upon the building or improvements hereinafter referred to in the penal sum of  
 \_\_\_\_\_ (\$ \_\_\_\_\_) Dollars in lawful money of the United  
 States, to be paid in (5) WEBB COUNTY, TEXAS for the payment of which sum well and truly  
 to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly  
 and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION is such that Whereas, the Principal entered into a  
 certain Contract with (6) \_\_\_\_\_ the Owner, dated the \_\_\_\_\_ day  
 of \_\_\_\_\_, 20\_\_\_\_ a copy of which is hereto attached and made a part hereof for  
 the construction of:

**WEBB COUNTY DRAINAGE DISTRICT – CHACON CREEK TRIBUTARY 1 MAINTENANCE CONTRACT**

(hereinafter called the "Work")

Date of Bond must not be prior to Date of Contract.

These footnotes refer to the numbers in body of contract above:

- (1) Correct name of Contractor.
- (2) A Corporation, or Partnership or an Individual, as case may be.
- (3) Correct name of Surety.
- (4) Correct name of Owner.
- (5) County and State.
- (6) Owner.

NOW THEREFORE, if the Principals shall well, truly and faithfully perform the work in accordance with the Plans, Specifications and Contract Documents during the original term thereof, and any extensions thereof which may be granted by the Owner with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such Contract, then this obligation shall be null and void; otherwise to remain in full force and effect.

This Bond is made and entered into solely for the protection of all claimants supplying labor and material in the prosecution of the work provided for in said Contract, and all such claimants shall have a direct right of action under the Bond as provided in Section 2253.073, Texas Government Code.

PROVIDED FURTHER, that if any legal action be filed upon this Bond, venue shall lie WEBB County, State of Texas, and that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications accompanying the same shall in any wise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

PROVIDED FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in six counterparts, each one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_.

ATTEST:

\_\_\_\_\_  
(Principal) Secretary

\_\_\_\_\_  
PRINCIPAL

(SEAL)

\_\_\_\_\_  
By

\_\_\_\_\_  
Address

\_\_\_\_\_  
Witness as to Principal

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

\_\_\_\_\_  
Address

\_\_\_\_\_  
Phone number

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

ATTEST:

\_\_\_\_\_  
(Surety) Secretary

\_\_\_\_\_  
By

(SEAL)

\_\_\_\_\_  
Address

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

\_\_\_\_\_  
Phone number

NOTE: If Contractor is Partnership, all Partners should execute Bond.

## PERFORMANCE – PAYMENT BOND FORM

---

\_\_\_\_\_(Seal)  
Individual Principal

---

Address

Business – Address

City/State/Zip Code

City/State/Zip Code

---

Phone number

---

Phone number

ATTEST:

Corporate Principal

---

Address

---

Phone number

City/State/Zip Code

(Affix corporate seal)

ATTEST:

By \_\_\_\_\_

---

Address

City/State/Zip Code

Corporate

Surety

Business Address

City/State/Zip Code

---

Phone number

**CERTIFICATE AS TO CORPORATE PRINCIPAL**

I, \_\_\_\_\_, certify that I am the \_\_\_\_\_,  
Secretary of the Corporation named as Principal in the within Bond; that \_\_\_\_\_  
\_\_\_\_\_ who signed the said Bond on behalf of the Principal was then  
\_\_\_\_\_, of said Corporation; that I know his signature thereof is genuine; and  
that said Bond was duly signed, sealed, an attested for and in behalf of said Corporation by  
authority of its governing body.

\_\_\_\_\_  
Title

\_\_\_\_\_  
(Affix Corporate Seal)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Phone number

The rate of premium on this Bond is \_\_\_\_\_ per thousand. Total of premium charge  
\$ \_\_\_\_\_

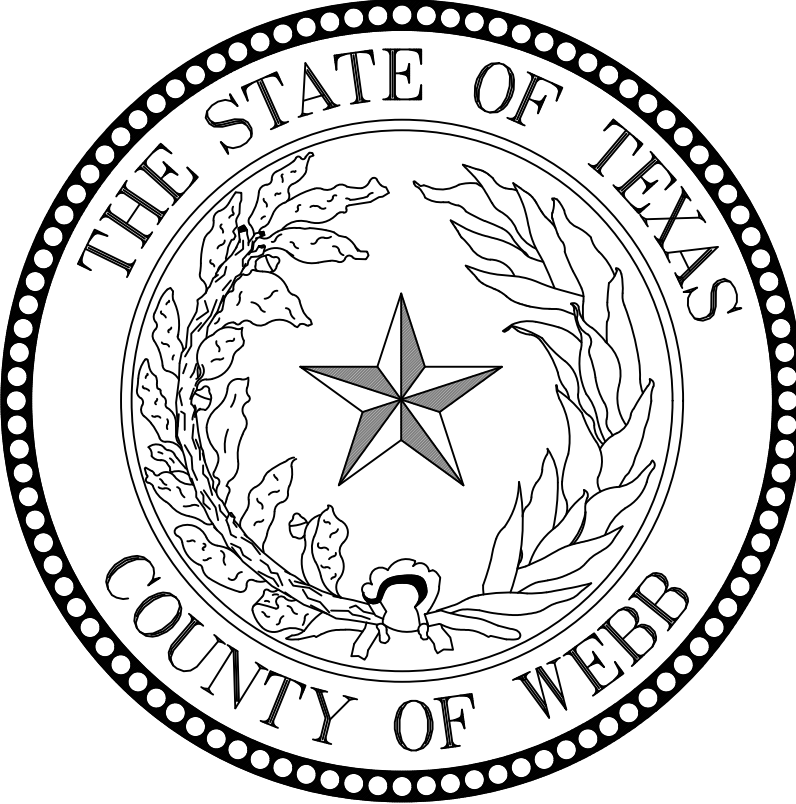
**NOTE:**

The above must be filled in by Corporate Surety. Power-of-Attorney of person signed for  
Surety company must be attached.

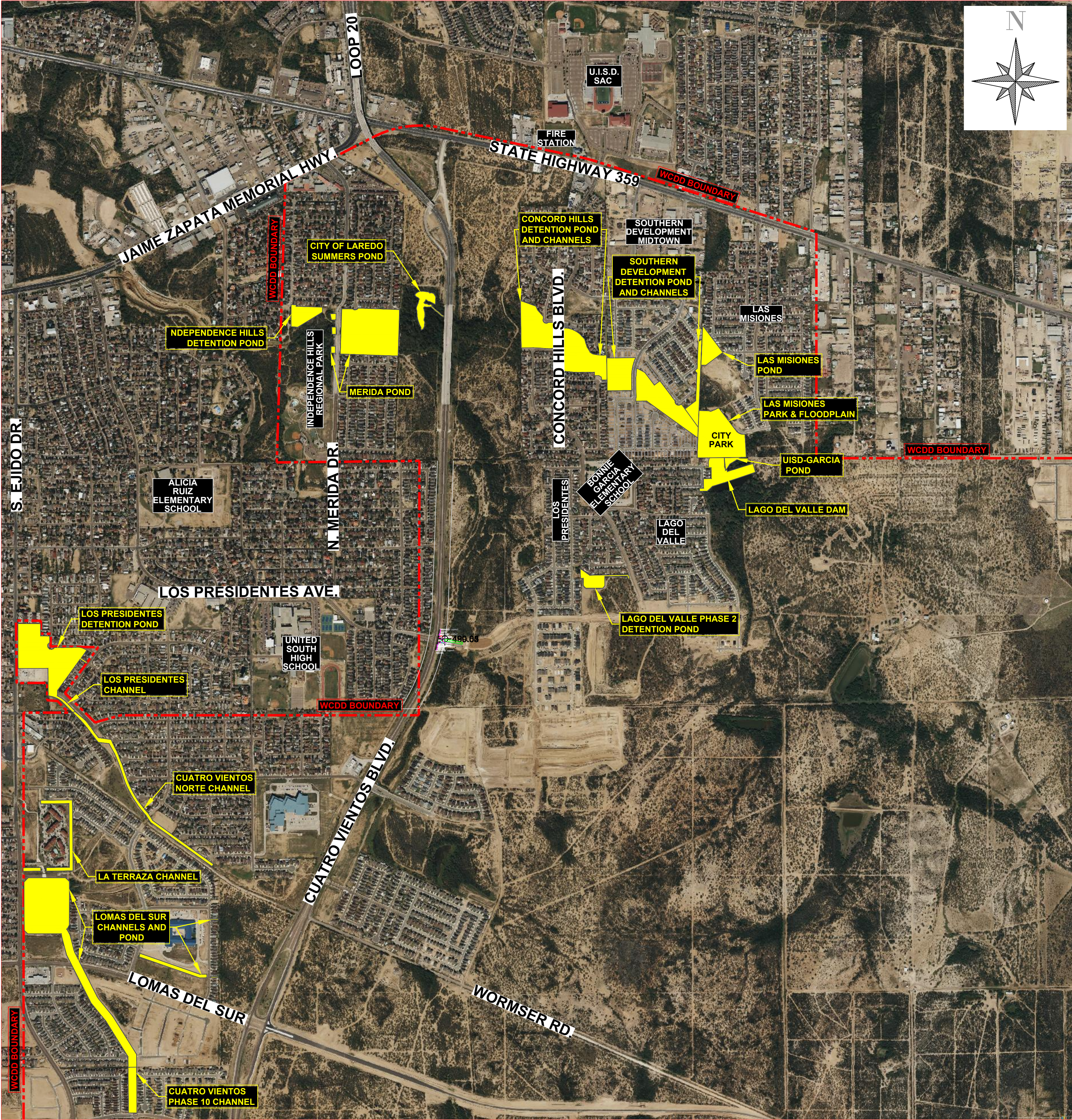
# **PROJECT PLANS**



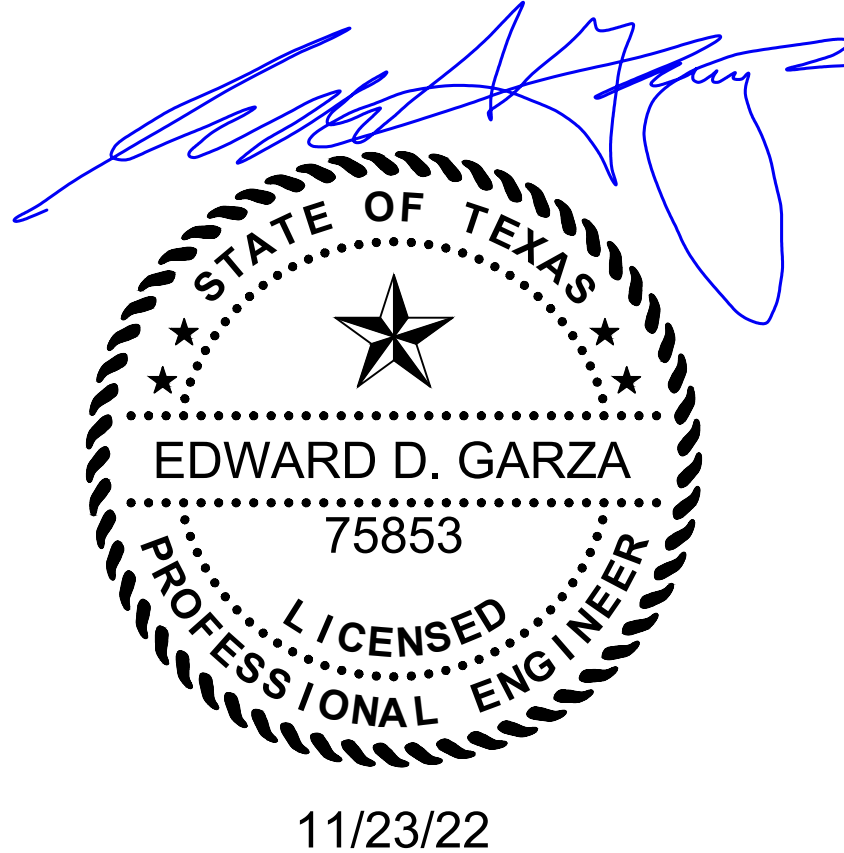
WEBB COUNTY DRAINAGE DISTRICT No. 1  
PROJECT 2023-001  
CHACON CREEK TRIBUTARY 1 MAINTENANCE CONTRACT  
LAREDO, TEXAS



WEBB COUNTY DRAINAGE  
DISTRICT No. 1  
BOARD MEMBERS  
MARGIE ARCE, PRESIDENT  
SARA SANCHEZ, TREASURER



Sheet List Table	
Sheet #	Sheet Title
1	TITLE PAGE-LOCATION-SHEET INDEX PLAN
2	CUATRO VIENTOS NORTH CHANNEL
3	LOS PRESIDENTES CHANNEL & POND
4	U.I.S.D. - GARCIA POND
5	LAGO DEL VALLE PHASE 2 POND
6	INDEPENDENCE HILLS POND
7	LAS MISIONES POND
8	CONCORD HILLS CHANNEL & POND
9	LAGO DEL VALLE DAM
10	MERIDA POND & FLOODPLAIN
11	SUMMERS POND
12	LOMAS DEL SUR CHANNEL & POND
13	CUATRO VIENTOS PHASE 10 CHANNEL
14	LA TERRAZA CHANNELS
15	SOUTHERN DEV. PH. IV CHANNEL & POND
16	SOUTHERN DEV. PH. III CONCRETE CHANNEL
17	LAS MISIONES PARK & FLOODPLAIN



11/23/22

No.	Revision/Issue	Date

FIRM NAME AND ADDRESS  
**CRANE ENGINEERING CORP.**  
1310 JUNCTION DRIVE SUITE B  
LAREDO, TX 78041 956-712-1996  
FIRM REGISTRATION NO. F-3353

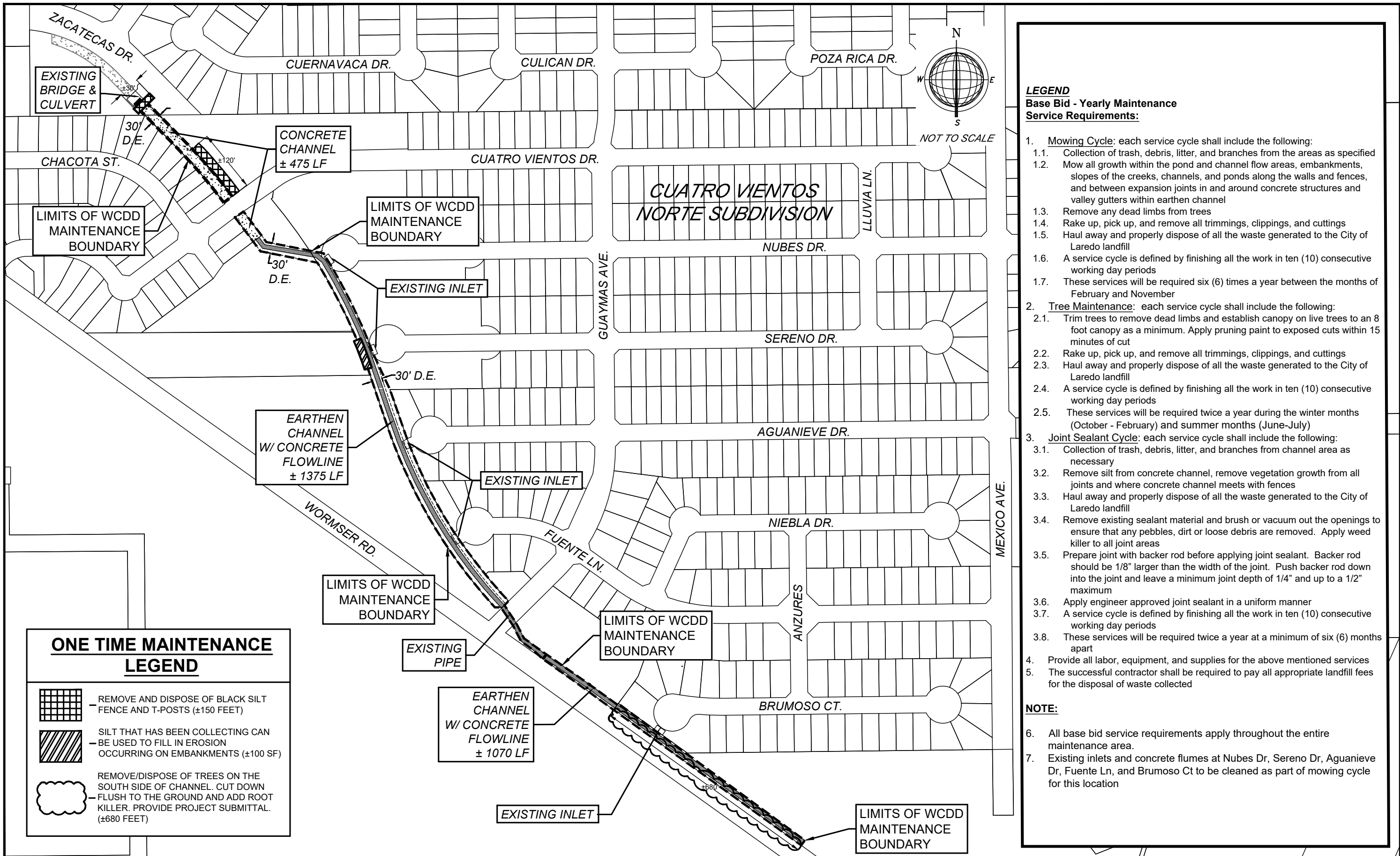


Project Name and Address  
**WEBB COUNTY DRAINAGE DISTRICT NO. 1  
PROJECT 2023-001  
CHACON CREEK TRIBUTARY 1  
MAINTENANCE CONTRACT**

Sheet Title  
**LOCATION MAP**

Date 10/27/2022	Sheet 1
Scale N.T.S.	





DATE: 10/27/2022

N.T.S.



**CRANE ENGINEERING CORP.**

1310 JUNCTION DRIVE  
LAREDO, TX 78041  
FIRM REGISTRATION NO. F-3353

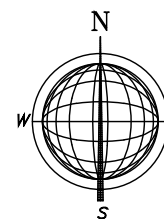
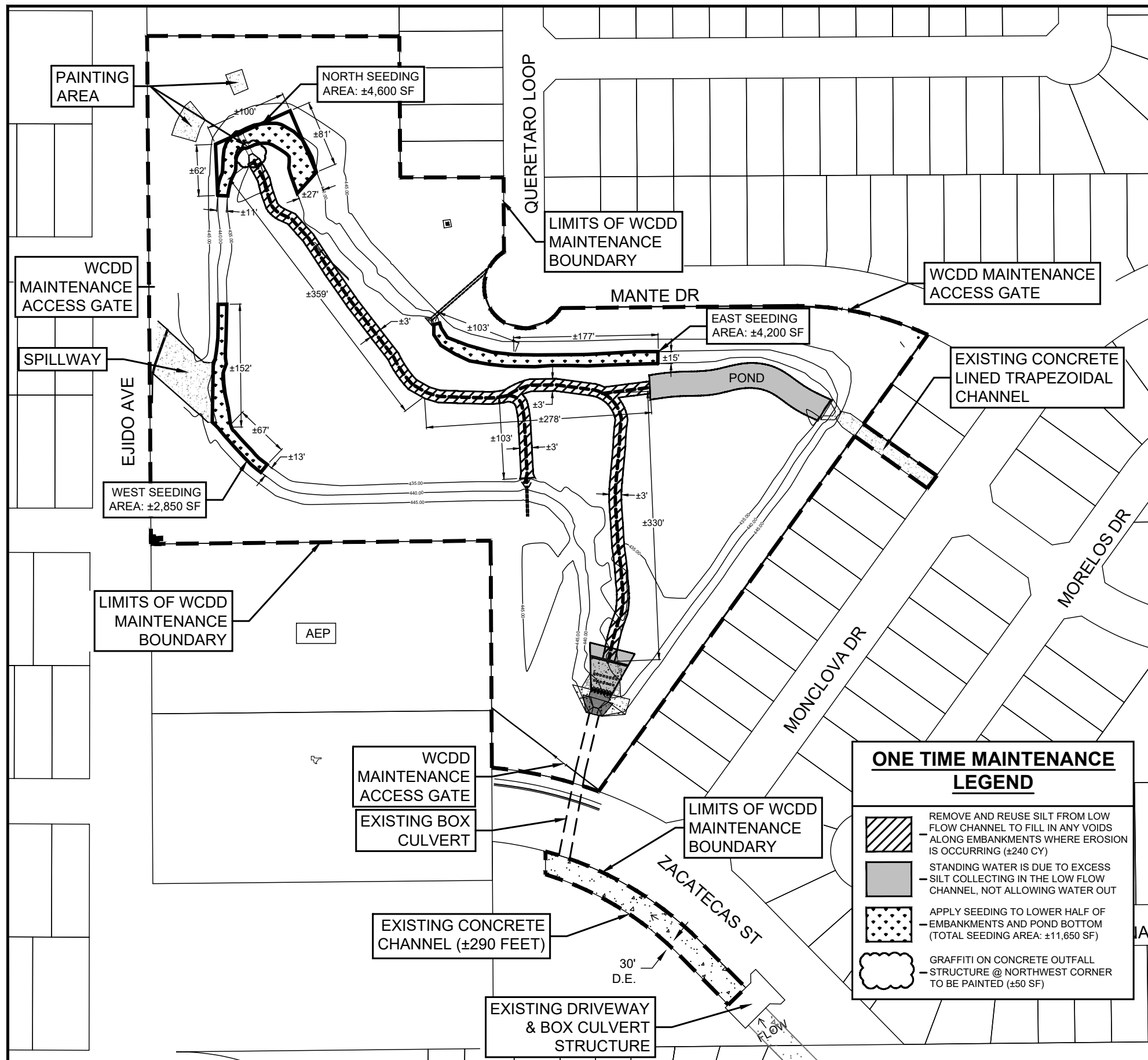
SUITE B  
956-712-1996

**Webb County Drainage District**  
*Maintenance Contract*

**Cuatro Vientos Norte Subdivision**  
**Existing Drainage Channel**

SHEET **2**

OF **17**



**LEGEND**

**Base Bid - Yearly Maintenance  
Service Requirements:**

- Mowing Cycle:** each service cycle shall include the following: *NOT TO SCALE*
  - Collection of trash, debris, litter, and branches from the areas as specified
  - Mow all growth within the pond and channel flow areas, embankments, slopes of the creeks, channels, and ponds along the walls and fences, and between expansion joints in and around concrete structures
  - Remove any dead limbs from trees
  - Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - These services will be required six (6) times a year between the months of February and November
- Tree Maintenance:** each service cycle shall include the following:
  - Trim trees to remove dead limbs and establish canopy to an 8 foot canopy as a minimum. Apply pruning paint to exposed cuts within 15 minutes of cut
  - Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - These services will be required twice a year during the winter months (October - February) and summer months (June-July)
- Joint Sealant Cycle:** each service cycle shall include the following:
  - Collection of trash, debris, litter, and branches from channel area as necessary
  - Remove silt from concrete channel, remove vegetation growth from all joints and where concrete channel meets with
  - Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - Remove existing sealant material and brush or vacuum out the openings to ensure that any pebbles, dirt or loose debris are removed. Apply weed killer to all joint areas
  - Prepare joint with backer rod before applying joint sealant. Backer rod should be 1/8" larger than the width of the joint. Push backer rod down into the joint and leave a minimum joint depth of 1/4" and up to a 1/2" maximum
  - Apply engineer approved joint sealant in a uniform manner
  - A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - These services will be required twice a year at a maximum of six (6) months apart
- Provide all labor, equipment, and supplies for the above mentioned services
- The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected

**NOTE:**

- All base bid service requirements apply throughout the entire maintenance area.
- Painting of graffiti includes cleaning of existing concrete, applying (2) coats of primer and (2) coats of paint; color choice selection by WCDD.

**ONE TIME MAINTENANCE  
LEGEND**

- REMOVE AND REUSE SILT FROM LOW FLOW CHANNEL TO FILL IN ANY VOIDS ALONG EMBANKMENTS WHERE EROSION IS OCCURRING (±240 CY)
- STANDING WATER IS DUE TO EXCESS SILT COLLECTING IN THE LOW FLOW CHANNEL, NOT ALLOWING WATER OUT
- APPLY SEEDING TO LOWER HALF OF EMBANKMENTS AND POND BOTTOM (TOTAL SEEDING AREA: ±11,650 SF)
- GRAFFITI ON CONCRETE OUTFALL STRUCTURE @ NORTHWEST CORNER TO BE PAINTED (±50 SF)

DATE: 10/27/2022

N.T.S.



**CRANE ENGINEERING CORP.**

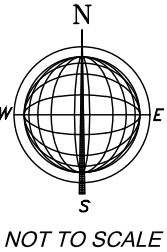
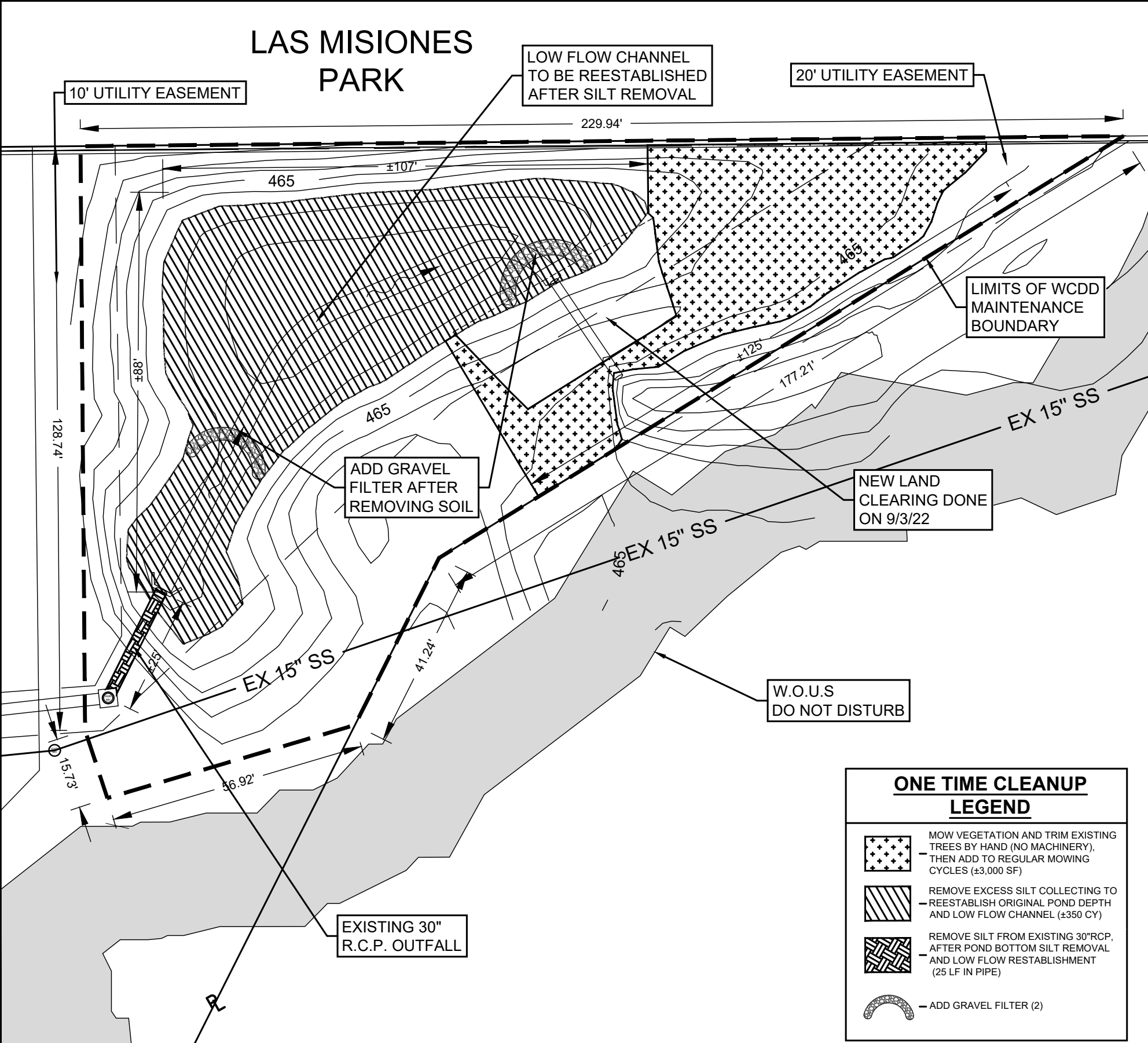
1310 JUNCTION DRIVE SUITE B  
LAREDO, TX 78041 956-712-1996  
FIRM REGISTRATION NO. F-3353

**Webb County Drainage District  
Maintenance Contract**

**Los Presidentes Pond & Channel**

SHEET **3**

OF **17**



**LEGEND**  
**Base Bid - Yearly Maintenance**  
**Service Requirements:**

- Mowing Cycle:** each service cycle shall include the following:
  - Collection of trash, debris, litter, and branches from the areas as specified
  - Mow all growth within the pond and channel flow areas, embankments, slopes of the creeks, channels, and ponds along the walls and fences, and between expansion joints in and around concrete structures
  - Remove any dead limbs from trees
  - Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - These services will be required six (6) times a year between the months of February and November
- Tree Maintenance:** each service cycle shall include the following:
  - Trim trees to remove dead limbs and establish canopy to a 8 foot canopy as a minimum. Apply pruning paint to exposed cuts within 15 minutes of cut
  - Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - These services will be required twice a year during the winter months. (October - February) and summer months (June - July)
- Provide all labor, equipment, and supplies for the above mentioned services
- The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected

**NOTE:**

- All base bid service requirements apply throughout the entire maintenance area.

DATE: 10/27/2022

N.T.S.

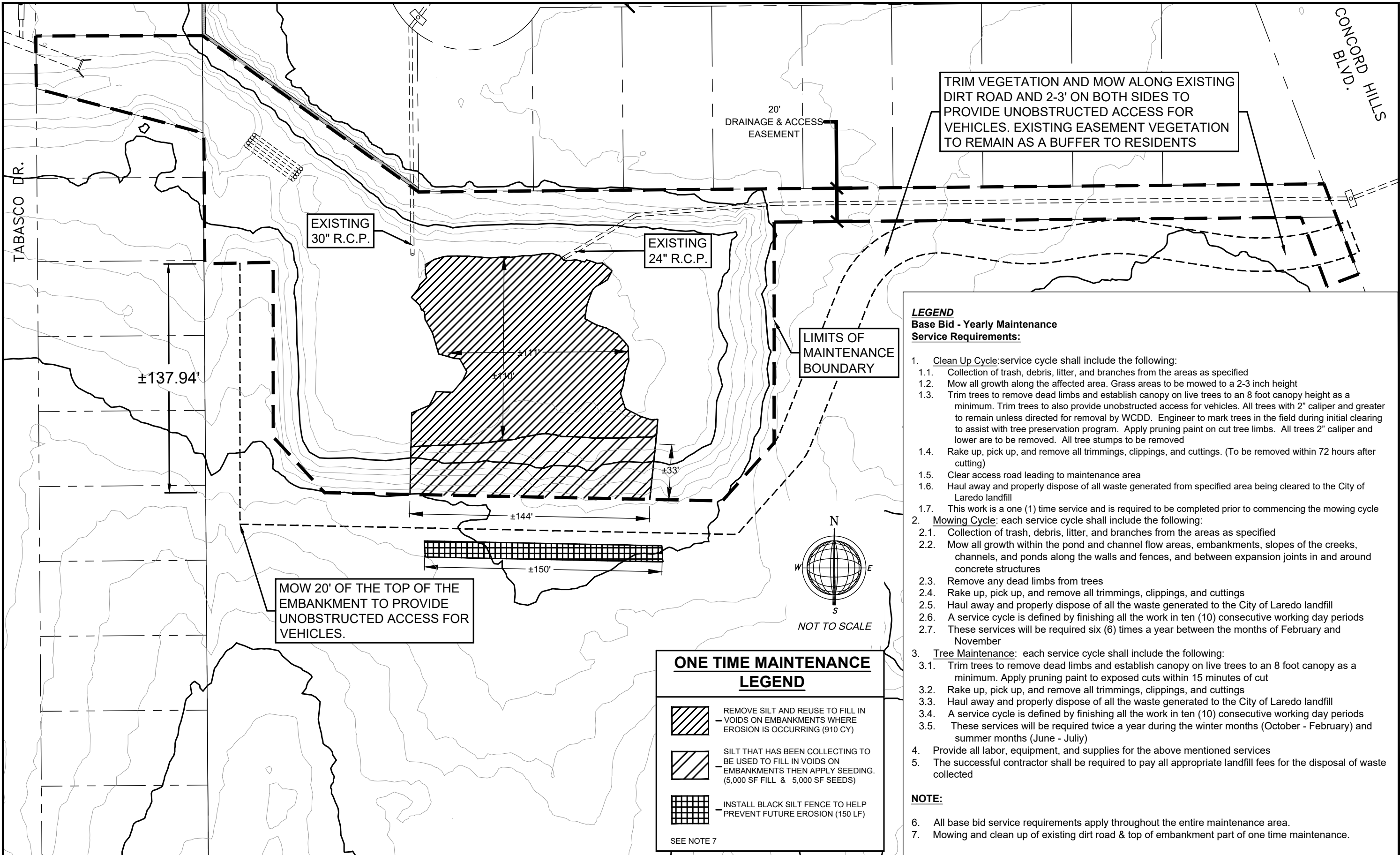


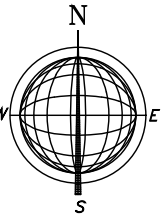
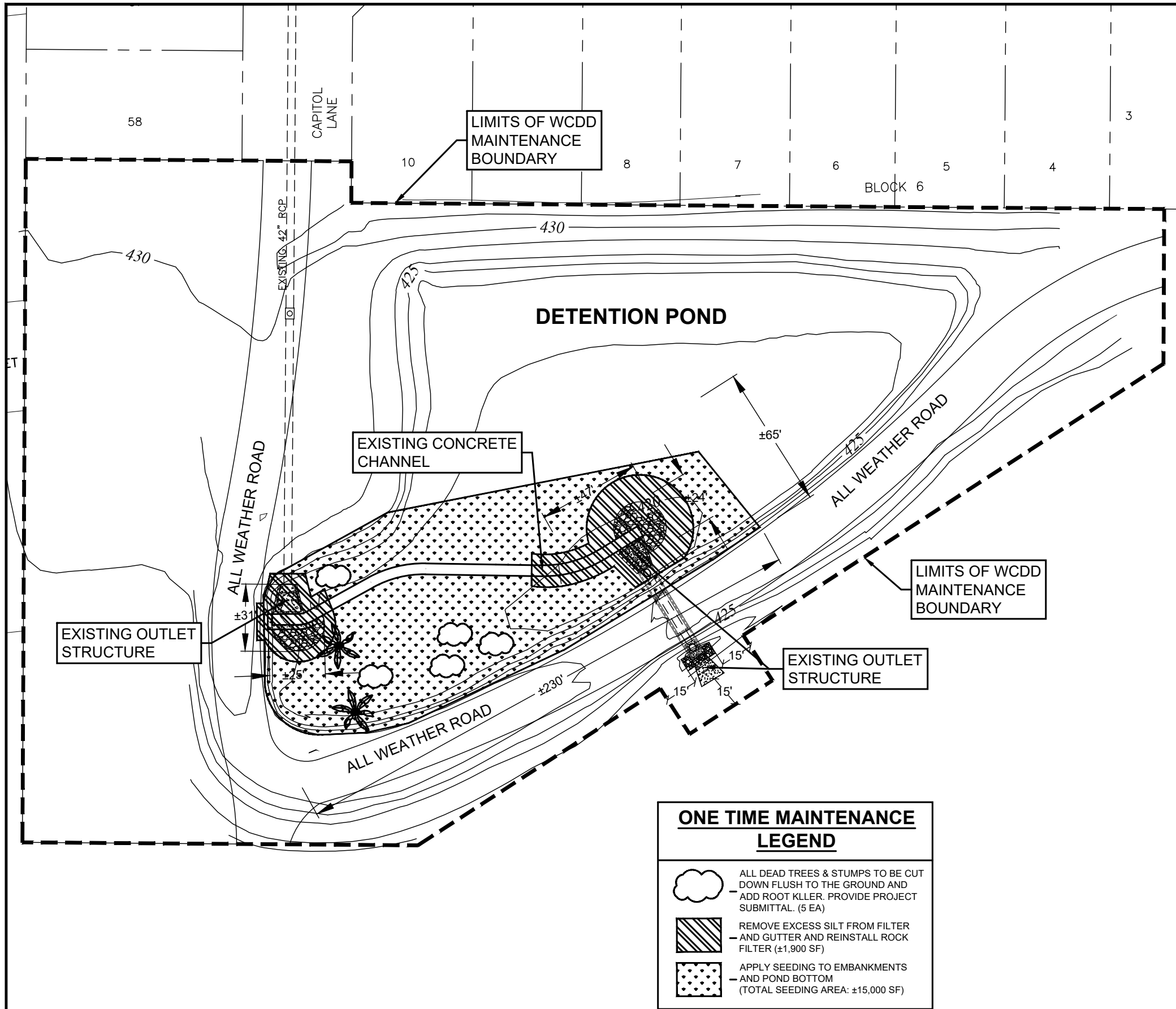
**CRANE ENGINEERING CORP.**  
1310 JUNCTION DRIVE SUITE B  
LAREDO, TX 78041 956-712-1996  
FIRM REGISTRATION NO. F-3353

**Webb County Drainage District**  
*Maintenance Contract*

*UISD-Garcia Off-site Pond*

SHEET **4**  
OF **17**





NOT TO SCALE

**LEGEND**

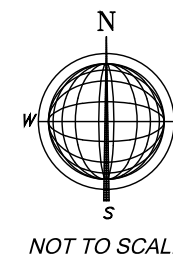
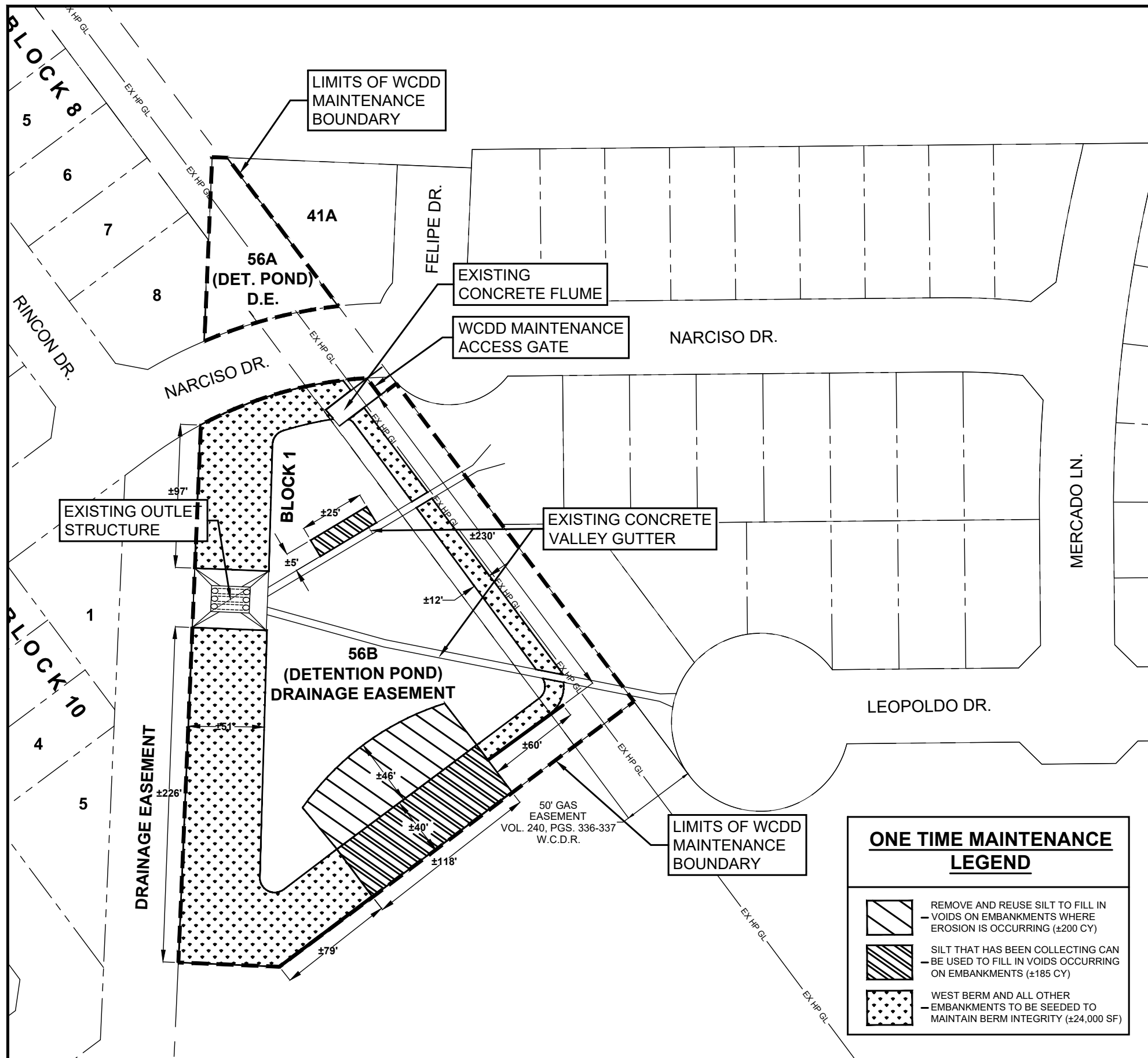
**Base Bid - Yearly Maintenance**

**Service Requirements:**

1. **Mowing Cycle:** each service cycle shall include the following:
  - 1.1. Collection of trash, debris, litter, and branches from the areas as specified
  - 1.2. Mow all growth within the pond and channel flow areas, embankments, slopes of the creeks, channels, and ponds along the walls and fences, and between expansion joints in and around concrete structures
  - 1.3. Remove any dead limbs from trees
  - 1.4. Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - 1.5. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 1.6. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 1.7. These services will be required six (6) times a year between the months of February and November
2. **Tree Maintenance:** each service cycle shall include the following:
  - 2.1. Trim trees to remove dead limbs and establish canopy to a 8 foot canopy as a minimum. Apply pruning paint to exposed cuts within 15 minutes of cut
  - 2.2. Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - 2.3. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 2.4. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 2.5. These services will be required twice a year during the winter months (October - February) and summer months (June - July)
3. **Joint Sealant Cycle:** each service cycle shall include the following:
  - 3.1. Collection of trash, debris, litter, and branches from channel area as necessary
  - 3.2. Remove silt from concrete channel, remove vegetation growth from all joints and where concrete channel meets with fences
  - 3.3. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 3.4. Remove existing sealant material and brush or vacuum out the openings to ensure that any pebbles, dirt or loose debris are removed. Apply weed killer to all joint areas
  - 3.5. Prepare joint with backer rod before applying joint sealant. Backer rod should be 1/8" larger than the width of the joint. Push backer rod down into the joint and leave a minimum joint depth of 1/4" and up to a 1/2" maximum
  - 3.6. Apply engineer approved joint sealant in a uniform manner
  - 3.7. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 3.8. These services will be required twice a year at a minimum of six (6) months apart
4. Provide all labor, equipment, and supplies for the above mentioned services
5. The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected

**NOTE:**

6. All base bid service requirements apply throughout the entire maintenance area.
7. Mowing cycles applies to outlet structures as well



# **LEGEND**




## **Base Bid - Yearly Maintenance Service Requirements:**

1. **Mowing Cycle:** each service cycle shall include the following:
  - 1.1. Collection of trash, debris, litter, and branches from the areas as specified
  - 1.2. Mow all growth within the pond and channel flow areas, embankments, slopes of the creeks, channels, and ponds along the walls and fences, and between expansion joints in and around concrete structures and valley gutters within pond
  - 1.3. Remove any dead limbs from trees
  - 1.4. Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - 1.5. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 1.6. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 1.7. These services will be required six (6) times a year between the months of February and November
2. **Tree Maintenance:** each service cycle shall include the following:
  - 2.1. Trim trees to remove dead limbs and establish canopy on live trees to an 8 foot canopy as a minimum. Apply pruning paint to exposed cuts within 15 minutes of cut
  - 2.2. Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - 2.3. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 2.4. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 2.5. These services will be required twice a year during the winter months (October - February) and summer months (June - July)
3. Provide all labor, equipment, and supplies for the above mentioned services
4. The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected

## **NOTE:**

5. All base bid service requirements apply throughout the entire boundary area.

## **ONE TIME MAINTENANCE LEGEND**

- |   |   |
|---|---|
|  | REMOVE AND REUSE SILT TO FILL IN VOIDS ON EMBANKMENTS WHERE EROSION IS OCCURRING (±200 CY)    |
|  | SILT THAT HAS BEEN COLLECTING CAN BE USED TO FILL IN VOIDS OCCURRING ON EMBANKMENTS (±185 CY) |
|  | WEST BERM AND ALL OTHER EMBANKMENTS TO BE SEEDED TO MAINTAIN BERM INTEGRITY (±24,000 SF)      |

DATE: 10/27/2022

N.T.S.



**CRANE ENGINEERING CORP.**

1310 JUNCTION DRIVE SUITE B  
LAREDO, TX 78041 956-712-1996  
FIRM REGISTRATION NO. F-3353

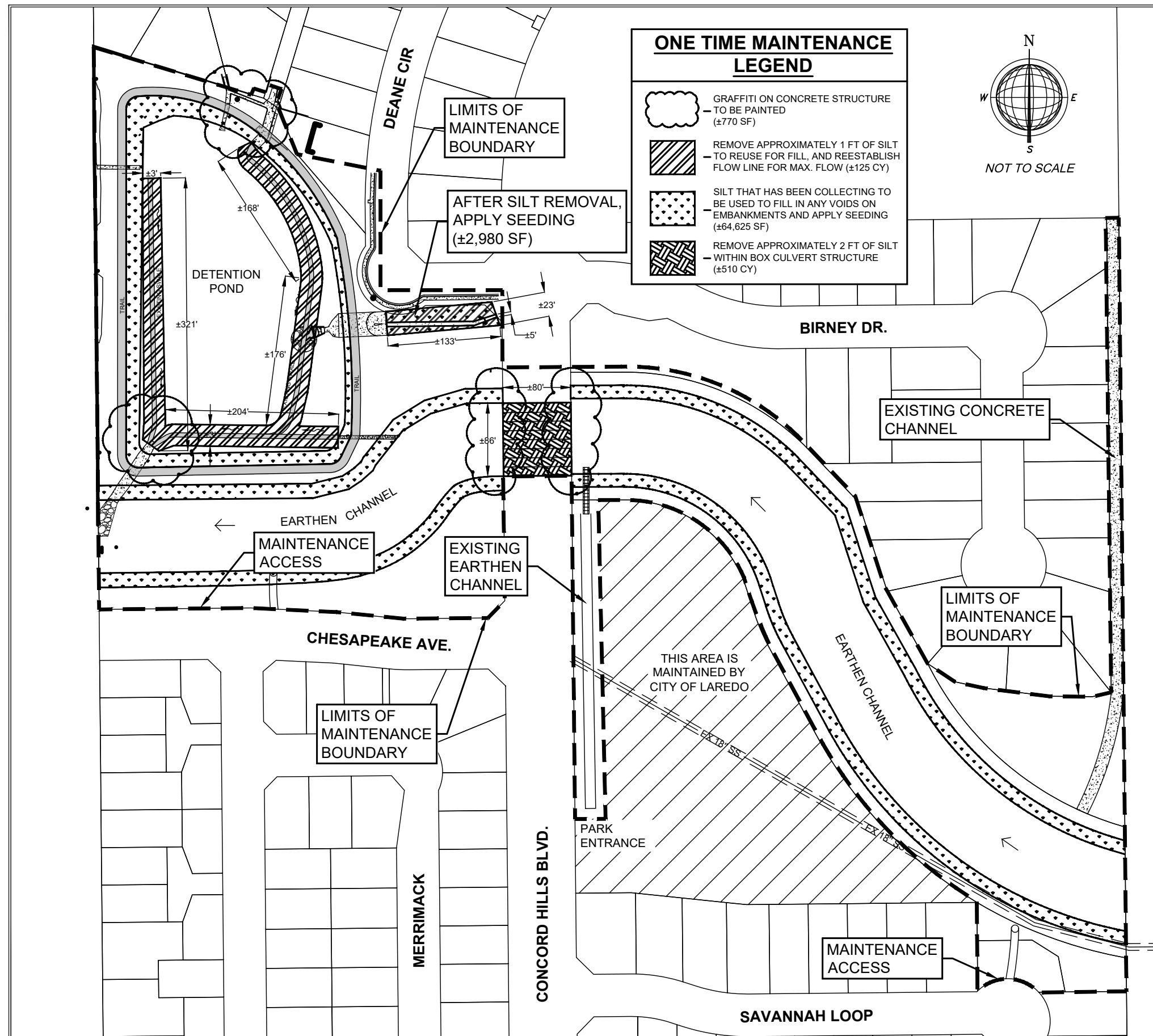
**Webb County Drainage District**  
**Maintenance Contract**

*Las Misiones Pond*

SHEET **7**

OF **17**





# LEGEND

## Base Bid - Yearly Maintenance

### Service Requirements:

- Mowing Cycle:** each service cycle shall include the following:
  - Collection of trash, debris, litter, and branches from the areas as specified
  - Mow all growth within the pond and channel flow areas, embankments, slopes of the creeks, channels, and ponds along the walls and fences, and between expansion joints in and around concrete structures and valley gutters within the pond
  - Remove any dead limbs from trees
  - Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - These services will be required six (6) times a year between the months of February and November
- Tree Maintenance:** each service cycle shall include the following:
  - Trim trees to remove dead limbs and establish canopy on live trees to an 8 foot canopy as a minimum. Apply pruning paint to exposed cuts within 15 minutes of cut
  - Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - These services will be required twice a year during the winter months (October - February) and summer months (June - July)
- Joint Sealant Cycle:** each service cycle shall include the following:
  - Collection of trash, debris, litter, and branches from channel area as necessary
  - Remove silt from concrete channel, remove vegetation growth from all joints and where concrete channel meets with fences
  - Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - Remove existing sealant material and brush or vacuum out the openings to ensure that any pebbles, dirt or loose debris are removed. Apply weed killer to all joint areas
  - Prepare joint with backer rod before applying joint sealant. Backer rod should be 1/8" larger than the width of the joint. Push backer rod down into the joint and leave a minimum joint depth of 1/4" and up to a 1/2" maximum
  - Apply engineer approved joint sealant in a uniform manner
  - A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - These services will be required twice a year at a minimum of six (6) months apart
- Provide all labor, equipment, and supplies for the above mentioned services
- The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected

### NOTE:

- All base bid service requirements apply throughout the entire maintenance boundary area.
- Removal of vegetation within sidewalks along Deane CIR, Birney Dr, and Chesapeake Ave. included with mowing cycle for this pond
- Painting of graffiti includes cleaning of existing concrete, applying (2) coats of primer and (2) coats of paint; color choice selection by WCDD.

DATE: 10/27/2022

N.T.S.



## CRANE ENGINEERING CORP.

1310 JUNCTION DRIVE  
LAREDO, TX 78041  
FIRM REGISTRATION NO. F-3353

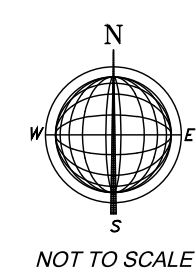
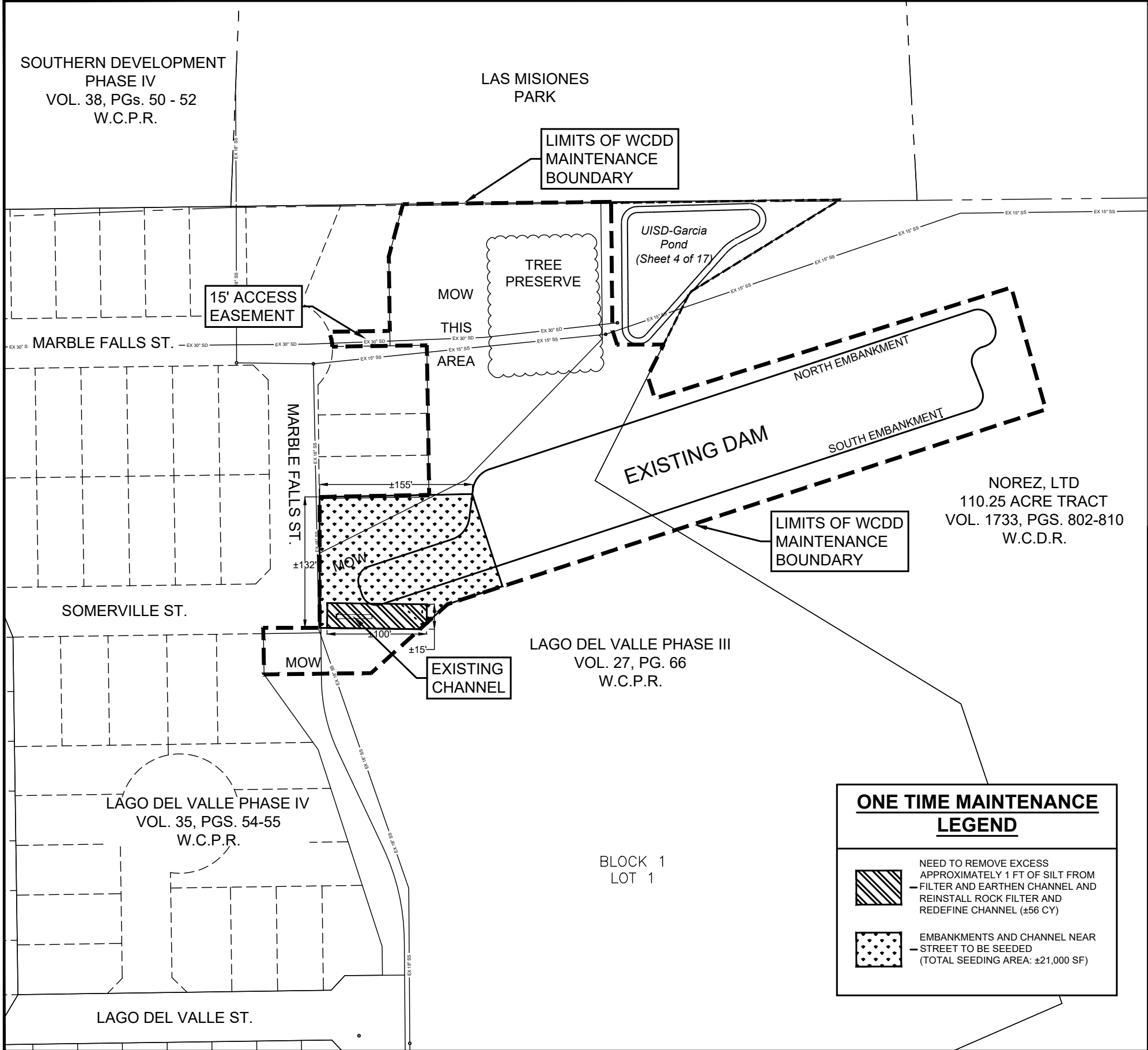
SUITE B  
956-712-1996

## Webb County Drainage District Maintenance Contract

## Concord Hills Pond & Drainage Channels

SHEET **8**

OF **17**



**LEGEND**



**Base Bid - Yearly Maintenance Service Requirements:**

- Mowing Cycle:** each service cycle shall include the following:
  - Collection of trash, debris, litter, and branches from the areas as specified
  - Mow all growth within the dam embankments, and channel flow areas
  - Remove any dead limbs from trees
  - Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - These services will be required six (6) times a year between the months of February and November
- Tree Maintenance:** each service cycle shall include the following:
  - Trim trees to remove dead limbs and establish canopy to a 8 foot canopy as a minimum. Apply pruning paint to exposed cuts within 15 minutes of cut
  - Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - These services will be required twice a year during the winter months (October - February) and the summer months (June - July)
- Provide all labor, equipment, and supplies for the above mentioned services
- The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected

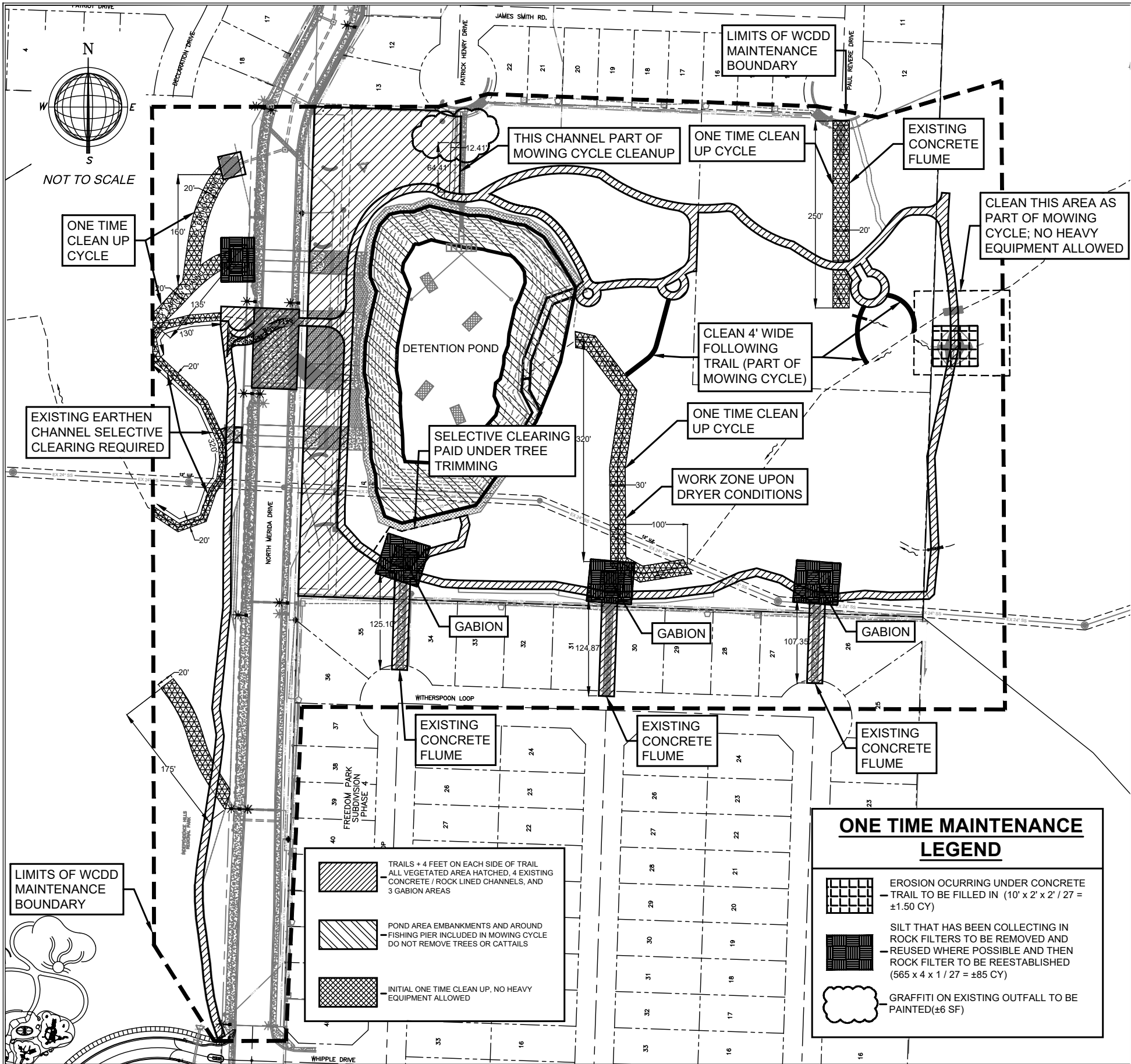
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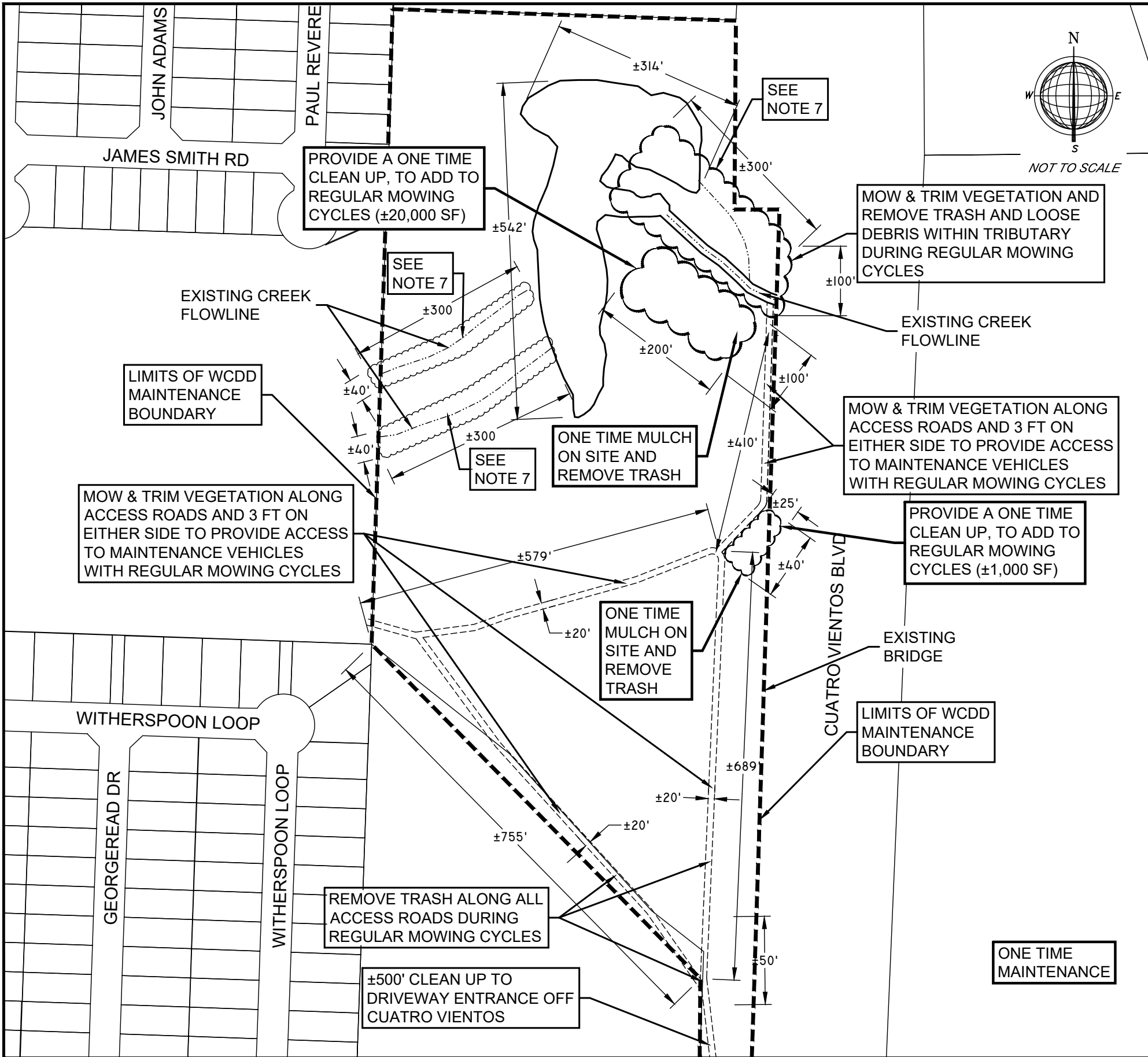
- All base bid service requirements apply throughout the entire maintenance boundary

**ONE TIME MAINTENANCE LEGEND**

-  NEED TO REMOVE EXCESS APPROXIMATELY 1 FT OF SILT FROM FILTER AND EARTHEN CHANNEL AND REINSTALL ROCK FILTER AND REDEFINE CHANNEL (±56 CY)
-  EMBANKMENTS AND CHANNEL NEAR STREET TO BE SEEDED (TOTAL SEEDING AREA: ±21,000 SF)





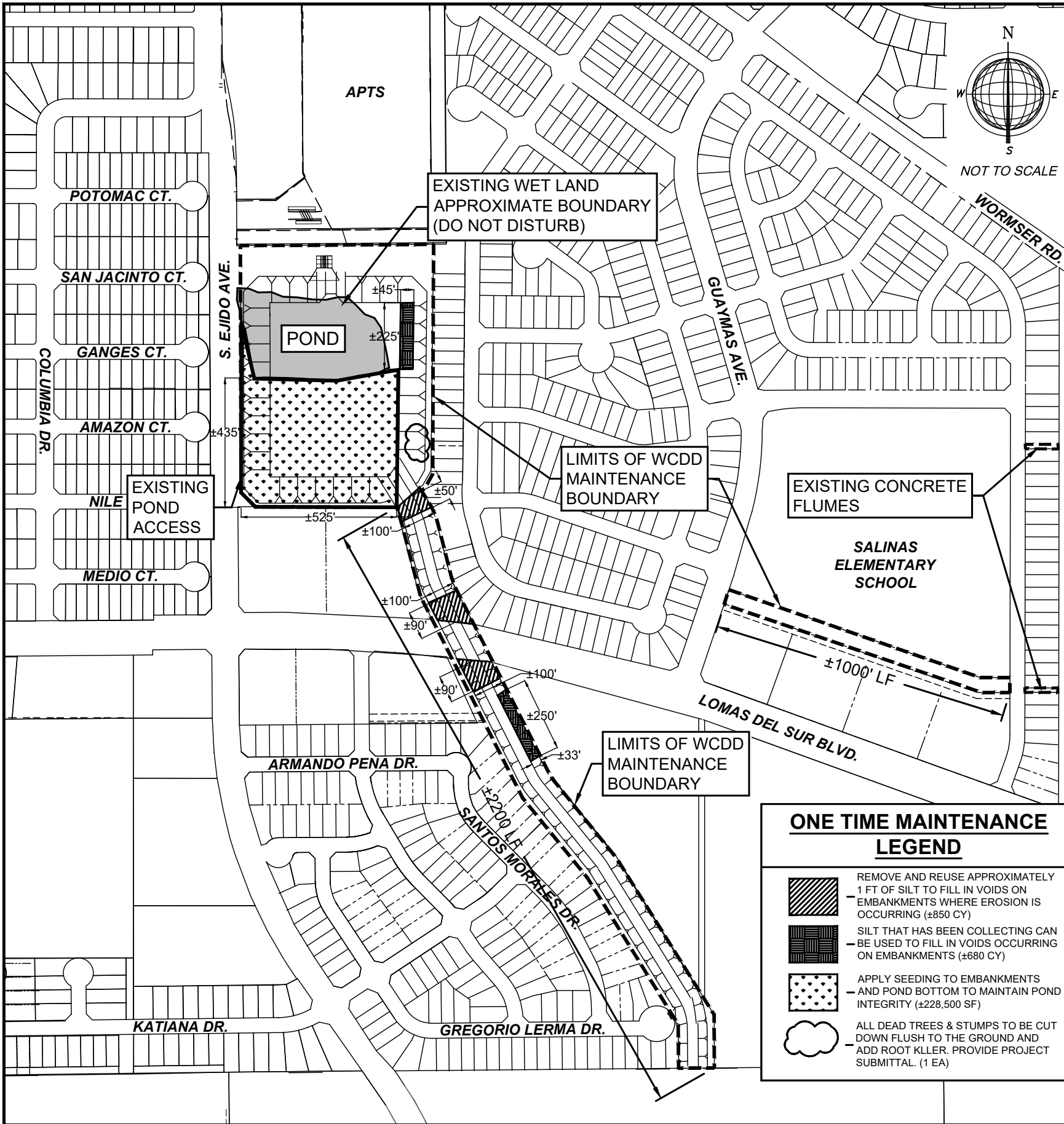


**LEGEND**  
**Base Bid - Yearly Maintenance**  
**Service Requirements:**

1. **Clean up cycle:** service cycle shall include the following:
  - 1.1. Collection of trash, debris, litter, and branches from the areas as specified
  - 1.2. Mow all growth along the pond. Grass areas to be mowed to a 2-3 inch height
  - 1.3. Trim trees to remove dead limbs and establish canopy on live trees to an 8 foot canopy height as a minimum. All trees with 2" caliper and greater to remain unless directed for removal by WCDD. Engineer to mark trees in the field during initial clearing to assist with tree preservation program. Apply pruning paint on cut tree limbs. All trees 2" caliper and lower are to be removed. All tree stumps to be removed
  - 1.4. Prepare circular basin around each tree with a caliper of 2" and greater, as needed
  - 1.5. Rake up, pick up, and remove all trimmings, clippings, and cuttings. (To be removed within 72 hours after cutting)
  - 1.6. Convert clippings to mulch and place in tree basin and around vegetated areas
  - 1.7. Clear access road leading to maintenance area
  - 1.8. Haul away and properly dispose of all waste generated from specified area being cleared to the City of Laredo landfill
  - 1.9. This work is a one (1) time service and is required to be completed prior to commencing the mowing cycle
2. **Mowing Cycle:** each service cycle shall include the following:
  - 2.1. Collection of trash, debris, litter, and branches from the areas as specified
  - 2.2. Mow all growth within the pond
  - 2.3. Remove any dead limbs from trees
  - 2.4. Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - 2.5. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 2.6. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 2.7. These services will be required two (2) times a year between the months of February and November
3. **Tree Maintenance:** each service cycle shall include the following:
  - 3.1. Trim trees to remove dead limbs and establish canopy on live trees to an 8 foot canopy as a minimum. Apply pruning paint to exposed cuts within 15 minutes of cut
  - 3.2. Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - 3.3. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 3.4. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 3.5. These services will be required twice a year during the winter months (October - February) and summer months (June - July)
4. Provide all labor, equipment, and supplies for the above mentioned services
5. The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected

**NOTE:**

6. All base bid service requirements apply throughout the entire maintenance area.
7. (A) Remove/Dispose all dead limbs, trash, debris on the ground from this area.  
(B) Trim trees by removing dead limbs and low lying tree limbs and create a canopy of 10 feet from the ground.  
(C) Do not disturb creek, waterways, existing vegetation, or wildlife.  
(D) No heavy equipment allowed.



**ONE TIME MAINTENANCE  
LEGEND**

- REMOVE AND REUSE APPROXIMATELY 1 FT OF SILT TO FILL IN VOIDS ON EMBANKMENTS WHERE EROSION IS OCCURRING (±850 CY)
- SILT THAT HAS BEEN COLLECTING CAN BE USED TO FILL IN VOIDS OCCURRING ON EMBANKMENTS (±680 CY)
- APPLY SEEDING TO EMBANKMENTS AND POND BOTTOM TO MAINTAIN POND INTEGRITY (±228,500 SF)
- ALL DEAD TREES & STUMPS TO BE CUT DOWN FLUSH TO THE GROUND AND ADD ROOT KLLER. PROVIDE PROJECT SUBMITTAL. (1 EA)

**LEGEND**  
**Base Bid - Yearly Maintenance**  
**Service Requirements:**

- Clean up cycle:** service cycle shall include the following:
  - Collection of trash, debris, litter, and branches from the areas as specified
  - Mow all growth along the channels. Grass areas to be mowed to a 2-3 inch height
  - Trim trees to remove dead limbs and establish canopy on live trees to an 8 foot canopy height as a minimum. All trees with 2" caliper and greater to remain unless directed for removal by WCDD. Engineer to mark trees in the field during initial clearing to assist with tree preservation program. Apply pruning paint on cut tree limbs. All trees 2" caliper and lower are to be removed. All tree stumps to be removed
  - Prepare circular basin around each tree with a caliper of 2" and greater, as needed
  - Rake up, pick up, and remove all trimmings, clippings, and cuttings. (To be removed within 72 hours after cutting)
  - Convert clippings to mulch and place in tree basin and around vegetated areas
  - Remove silt from gravel filters / embankment
  - Haul away and properly dispose of all waste generated from specified area being cleared to the City of Laredo landfill
  - This work is a one (1) time service and is required to be completed prior to commencing the mowing cycle
- Mowing Cycle:** each service cycle shall include the following:
  - Collection of trash, debris, litter, and branches from the areas as specified
  - Mow all growth within the pond and channel flow areas, embankments, slopes of the creeks, channels, ponds along the walls and fences, between expansion joints in and around concrete structures, and walking trail
  - Remove any dead limbs from trees
  - Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - These services will be required six (6) times a year between the months of February and November
- Tree Maintenance:** each service cycle shall include the following:
  - Trim trees to remove dead limbs and establish canopy on live trees to an 8 foot canopy as a minimum. Apply pruning paint to exposed cuts within 15 minutes of cut
  - Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - These services will be required twice a year during the winter months (October - February) and summer months (June - July)
- Joint Sealant Cycle:** each service cycle shall include the following:
  - Collection of trash, debris, litter, and branches from channel area as necessary
  - Remove silt from concrete channels, concrete structures (outlets) and concrete flumes remove vegetation growth from all joints and where concrete channel meets with fence
  - Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - Remove existing sealant material and brush or vacuum out the openings to ensure that any pebbles, dirt or loose debris are removed. apply weed killer to all joint areas
  - Prepare joint with backer rod before applying joint sealant. Backer rod should be 1/8" larger than the width of joint. Push backer rod down into the joint and leave a minimum joint depth of 1/4" and up to a 1/2" maximum
  - Apply engineer approved joint sealant in a uniform manner
  - A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - These services will be required twice a year at a minimum of six (6) months apart
- Provide all labor, equipment, and supplies for the above mentioned services
- The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected

**NOTE:**

- All base bid service requirements apply throughout the entire maintenance area.
- Joint sealant cycle applies to all concrete flumes

DATE: 10/27/2022

N.T.S.



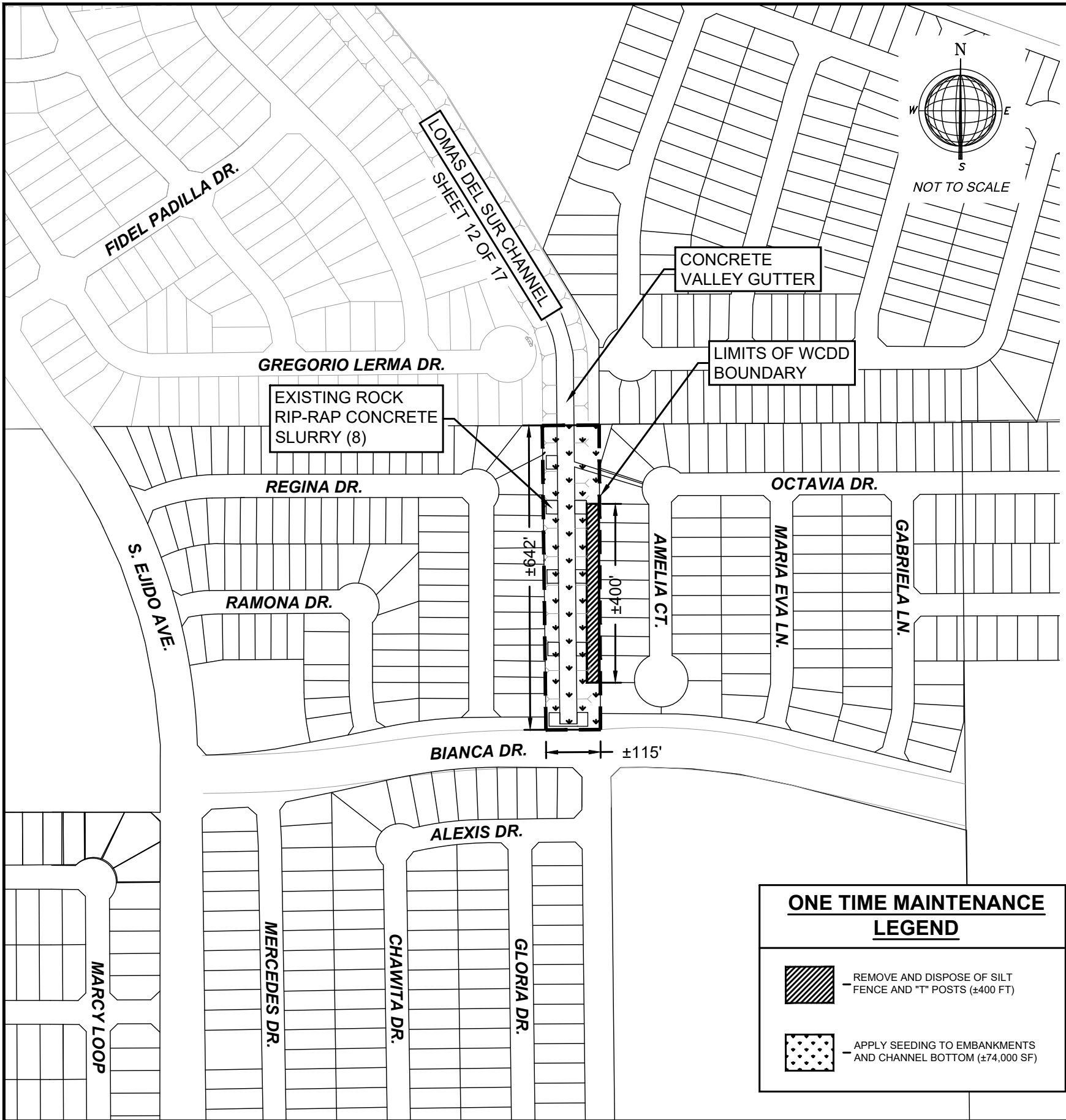
**CRANE ENGINEERING CORP.**  
 1310 JUNCTION DRIVE SUITE B  
 LAREDO, TX 78041 956-712-1996  
 FIRM REGISTRATION NO. F-3353

**Webb County Drainage District**  
**Maintenance Contract**

**Lomas Del Sur Pond  
 & Drainage Channels**

SHEET **12**

OF **17**





**LEGEND**  
**Base Bid - Yearly Maintenance**  
**Service Requirements:**

1. **Clean up cycle:** service cycle shall include the following:
  - 1.1. Collection of trash, debris, litter, and branches from the areas as specified
  - 1.2. Mow all growth along the channels. Grass areas to be mowed to a 2-3 inch height
  - 1.3. Trim trees to remove dead limbs and establish canopy on live trees to an 8 foot canopy height as a minimum. All trees with 2" caliper and greater to remain unless directed for removal by WCDD. Engineer to mark trees in the field during initial clearing to assist with tree preservation program. Apply pruning paint on cut tree limbs. All trees 2" caliper and lower are to be removed. All tree stumps to be removed
  - 1.4. Prepare circular basin around each tree with a caliper of 2" and greater, as needed
  - 1.5. Rake up, pick up, and remove all trimmings, clippings, and cuttings. (To be removed within 72 hours after cutting)
  - 1.6. Convert clippings to mulch and place in tree basin and around vegetated areas
  - 1.7. Remove silt from gravel filters / embankment
  - 1.8. Haul away and properly dispose of all waste generated from specified area being cleared to the City of Laredo landfill
  - 1.9. This work is a one (1) time service and is required to be completed prior to commencing the mowing cycle
2. **Mowing Cycle:** each service cycle shall include the following:
  - 2.1. Collection of trash, debris, litter, and branches from the areas as specified
  - 2.2. Mow all growth within the pond and channel flow areas, embankments, slopes of the creeks, channels, ponds along the walls and fences, between expansion joints in and around concrete structures, and walking trail
  - 2.3. Remove any dead limbs from trees
  - 2.4. Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - 2.5. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 2.6. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 2.7. These services will be required six (6) times a year between the months of February and November
3. **Tree Maintenance:** each service cycle shall include the following:
  - 3.1. Trim trees to remove dead limbs and establish canopy on live trees to an 8 foot canopy as a minimum. Apply pruning paint to exposed cuts within 15 minutes of cut
  - 3.2. Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - 3.3. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 3.4. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 3.5. These services will be required twice a year during the winter months (October - February) and summer months (June - July)
4. **Joint Sealant Cycle:** each service cycle shall include the following:
  - 4.1. Collection of trash, debris, litter, and branches from channel area as necessary
  - 4.2. Remove silt from concrete channels, concrete structures (outlets) and concrete flumes remove vegetation growth from all joints and where concrete channel meets with fence
  - 4.3. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 4.4. Remove existing sealant material and brush or vacuum out the openings to ensure that any pebbles, dirt or loose debris are removed. apply weed killer to all joint areas
  - 4.5. Prepare joint with backer rod before applying joint sealant. Backer rod should be 1/8" larger than the width of joint. Push backer rod down into the joint and leave a minimum joint depth of 1/4" and up to a 1/2" maximum
  - 4.6. Apply engineer approved joint sealant in a uniform manner
  - 4.7. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 4.8. These services will be required twice a year at a minimum of six (6) months apart
5. Provide all labor, equipment, and supplies for the above mentioned services
6. The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected

**NOTE:**

7. All base bid service requirements apply throughout the entire maintenance area.
8. Joint sealant cycle applies to all concrete flumes

**ONE TIME MAINTENANCE**  
**LEGEND**

-  REMOVE AND DISPOSE OF SILT FENCE AND "T" POSTS (±400 FT)
-  APPLY SEEDING TO EMBANKMENTS AND CHANNEL BOTTOM (±74,000 SF)

DATE: 10/27/22

N.T.S.

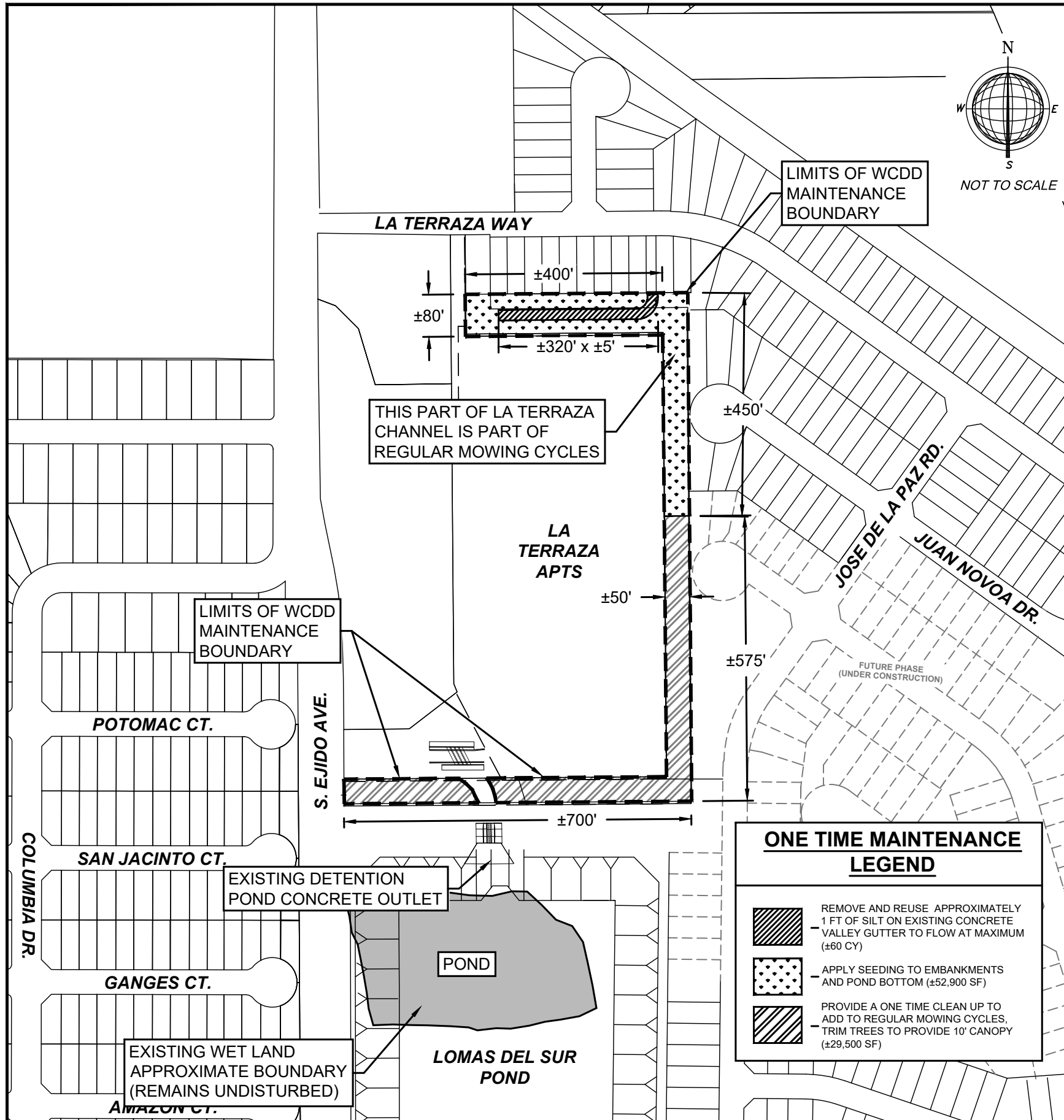


**CRANE ENGINEERING CORP.**  
1310 JUNCTION DRIVE SUITE B  
LAREDO, TX 78041 956-712-1996  
FIRM REGISTRATION NO. F-3353

**Webb County Drainage District**  
*Maintenance Contract*

*Cuatro Vientos PH.10*  
*Drainage Channel*

SHEET **13**  
OF **17**



**LEGEND**  
**Base Bid - Yearly Maintenance**  
**Service Requirements:**

- Clean up cycle:** service cycle shall include the following:
  - 1.1. Collection of trash, debris, litter, and branches from the areas as specified
  - 1.2. Mow all growth along the channels. Grass areas to be mowed to a 2-3 inch height
  - 1.3. Trim trees to remove dead limbs and establish canopy on live trees to an 8 foot canopy height as a minimum. All trees with 2" caliper and greater to remain unless directed for removal by WCDD. Engineer to mark trees in the field during initial clearing to assist with tree preservation program. Apply pruning paint on cut tree limbs. All trees 2" caliper and lower are to be removed. All tree stumps to be removed
  - 1.4. Prepare circular basin around each tree with a caliper of 2" and greater, as needed
  - 1.5. Rake up, pick up, and remove all trimmings, clippings, and cuttings. (To be removed within 72 hours after cutting)
  - 1.6. Convert clippings to mulch and place in tree basin and around vegetated areas
  - 1.7. Remove silt from gravel filters / embankment
  - 1.8. Haul away and properly dispose of all waste generated from specified area being cleared to the City of Laredo landfill
  - 1.9. This work is a one (1) time service and is required to be completed prior to commencing the mowing cycle
- Mowing Cycle:** each service cycle shall include the following:
  - 2.1. Collection of trash, debris, litter, and branches from the areas as specified
  - 2.2. Mow all growth within the pond and channel flow areas, embankments, slopes of the creeks, channels, ponds along the walls and fences, between expansion joints in and around concrete structures, and walking trail
  - 2.3. Remove any dead limbs from trees
  - 2.4. Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - 2.5. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 2.6. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 2.7. These services will be required six (6) times a year between the months of February and November
- Tree Maintenance:** each service cycle shall include the following:
  - 3.1. Trim trees to remove dead limbs and establish canopy on live trees to an 8 foot canopy as a minimum. Apply pruning paint to exposed cuts within 15 minutes of cut
  - 3.2. Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - 3.3. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 3.4. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 3.5. These services will be required twice a year during the winter months (October - February) and summer months (June - July)
- Joint Sealant Cycle:** each service cycle shall include the following:
  - 4.1. Collection of trash, debris, litter, and branches from channel area as necessary
  - 4.2. Remove silt from concrete channels, concrete structures (outlets) and concrete flumes remove vegetation growth from all joints and where concrete channel meets with fence
  - 4.3. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 4.4. Remove existing sealant material and brush or vacuum out the openings to ensure that any pebbles, dirt or loose debris are removed. apply weed killer to all joint areas
  - 4.5. Prepare joint with backer rod before applying joint sealant. Backer rod should be 1/8" larger than the width of joint. Push backer rod down into the joint and leave a minimum joint depth of 1/4" and up to a 1/2" maximum
  - 4.6. Apply engineer approved joint sealant in a uniform manner
  - 4.7. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 4.8. These services will be required twice a year at a minimum of six (6) months apart
- Provide all labor, equipment, and supplies for the above mentioned services
- The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected

**NOTE:**

7. All base bid service requirements apply throughout the entire maintenance area.
8. Joint sealant cycle applies to all concrete flumes

DATE: 10/27/2022

N.T.S.



**CRANE ENGINEERING CORP.**

1310 JUNCTION DRIVE SUITE B  
LAREDO, TX 78041 956-712-1996  
FIRM REGISTRATION NO. F-3353

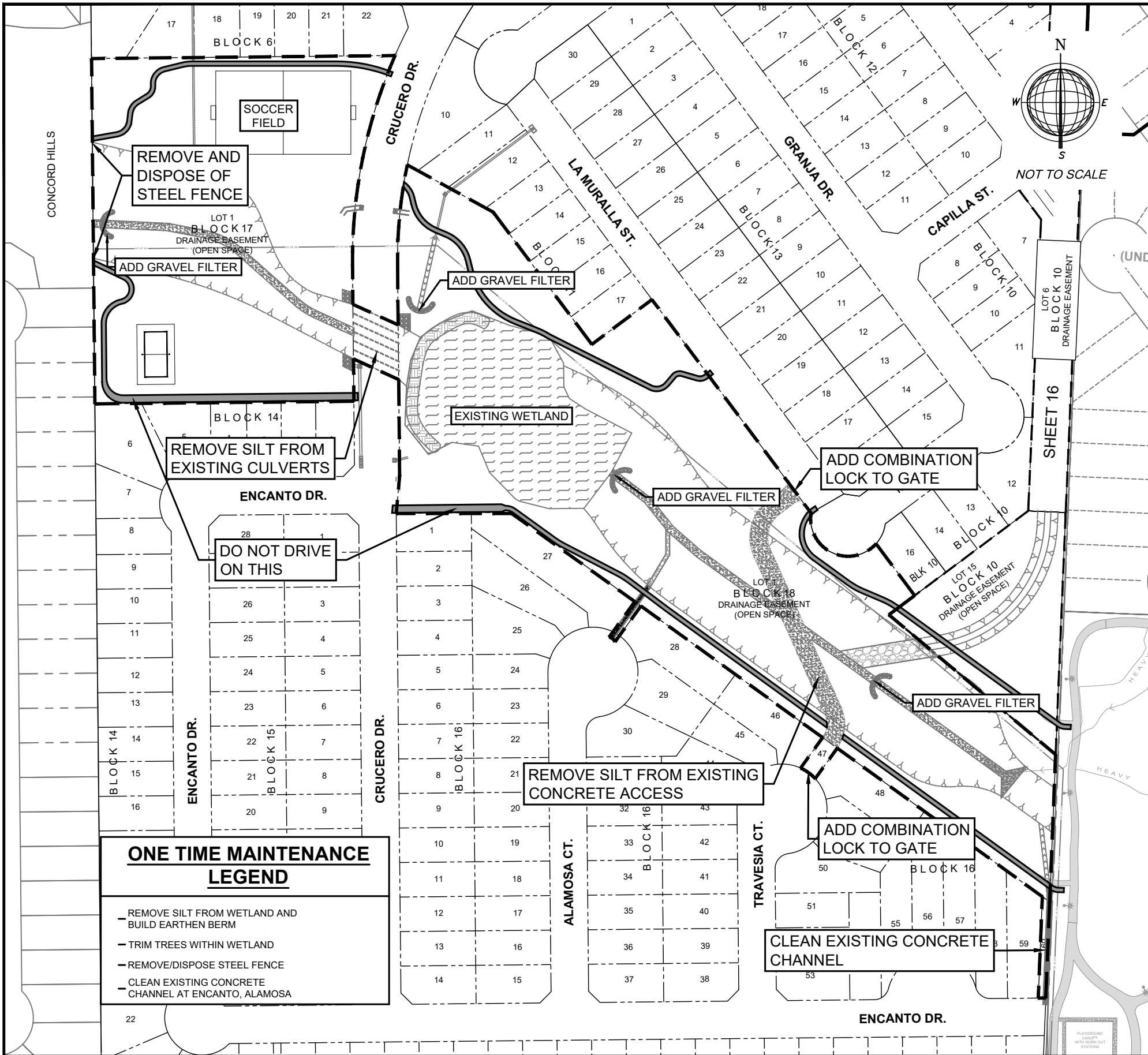
**Webb County Drainage District**  
**Maintenance Contract**

**La Terraza**  
**Drainage Channels**

SHEET **14**

OF **17**



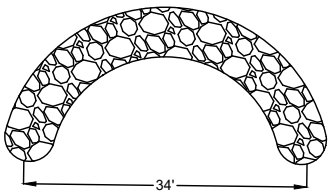


**LEGEND**  
**Base Bid - Yearly Maintenance**  
**Service Requirements:**

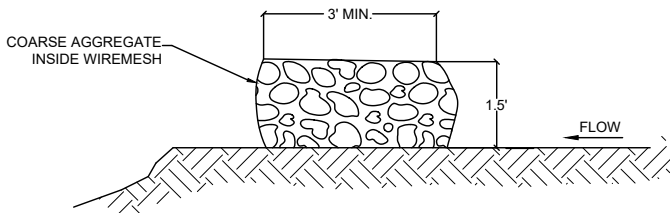
1. **Mowing Cycle:** Mow all growth along the pond, channel and floodplain areas, slopes of the creeks, channels, and ponds along the walls and fences, and between expansion joints in and around concrete channel; and between rock lined area.
2. **Tree Maintenance:** Trim trees to remove dead limbs and establish canopy to a 8-9 foot canopy as a minimum.
  - 2.1. Apply pruning paint to exposed cuts.
3. **Clean Up Cycle:** Collection of trash, debris, litter, and branches from the areas specified.
4. **Joint Sealant Cycle:** Remove existing sealant material and brush or vacuum out the openings to ensure that any pebbles, dirt or loose debris are removed. Apply weed killer to all joint areas.
  - 4.1. Prepare joint with backer rod before applying joint sealant. Backer rod should be 1/8" larger than the width of the joint. Push backer rod down into the joint and leave a minimum joint depth of 1/4" and up to a 1/2" maximum.
  - 4.2. Apply engineer approved joint sealant in a uniform manner.
5. Rake up, pick up and remove all trimmings, clippings, and cuttings.
6. Remove silt from pipes and culverts and place as backfill at necessary areas.
7. Prepare circular basin around each tree with a caliper of 2" and greater, as needed.
8. Convert clippings to mulch and place in tree basin and around vegetated areas.
9. Haul away and properly dispose of all waste generated to the City of Laredo Landfill.

**LEGEND**  
**Additive alternate #1 - One Time Maintenance (WETLAND)**  
**Service Requirements:**

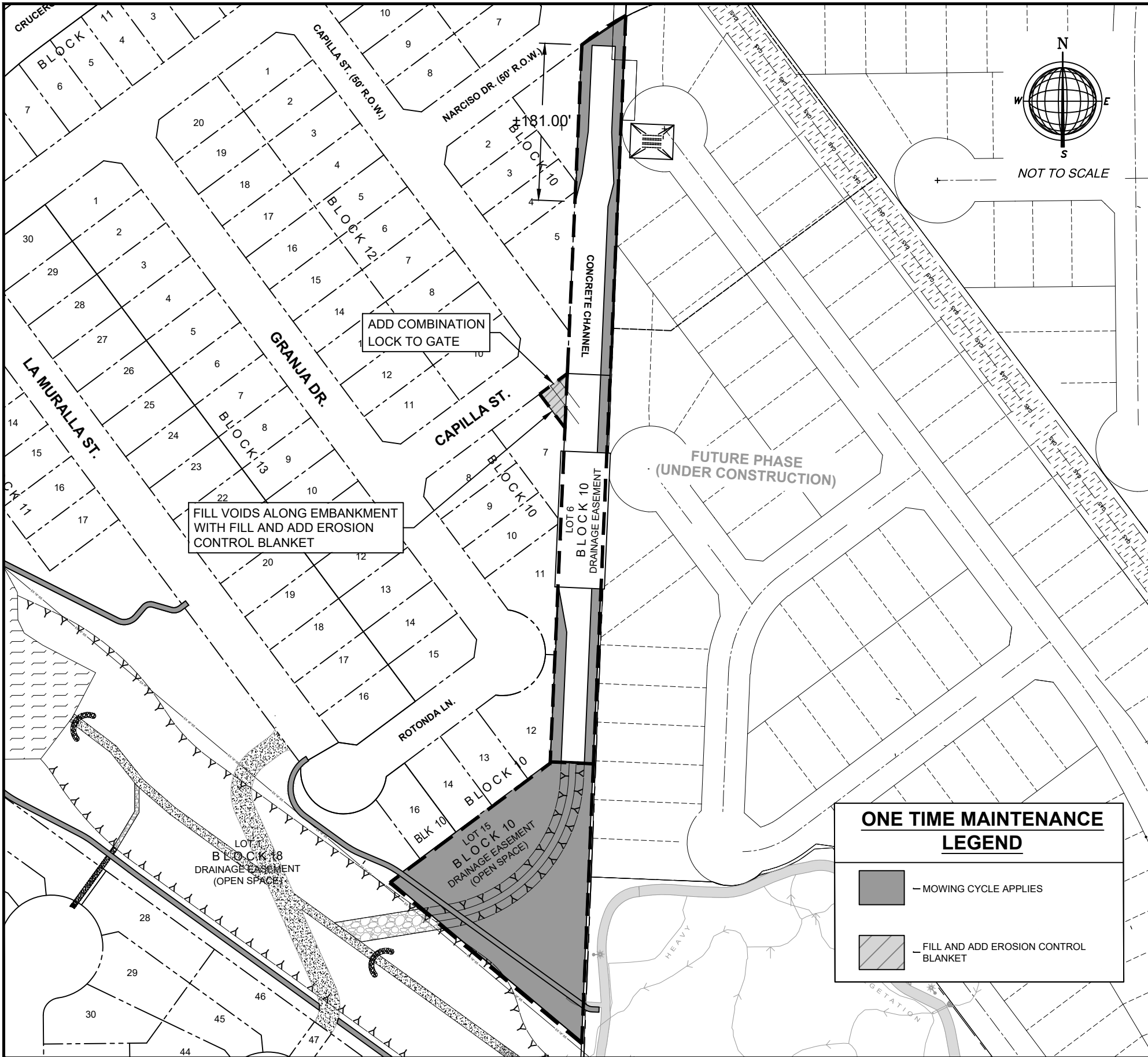
10. Remove trash, debris, silt from wetland area
11. Stock pile trash & debris and dispose at city landfill
12. Use removed silt to construct a three foot (3') high berm; berm to be twenty feet (20') wide.
13. Add Erosion Control Blanket (588 SY) and Seed Berm. (5292 SF)
14. Add 4 gravel filter as shown on plans
15. Add combination lock at two gate locations
16. Mowing along boundary of the pond is required
17. Tree clippings mulch remaining should be placed on either side of the trail.



**ROCK GRAVEL FILTER**  
N.T.S.



**ROCK GRAVEL FILTER**  
N.T.S.





**LEGEND**  
**Base Bid - Yearly Maintenance**  
**Service Requirements:**

1. Clean up cycle: service cycle shall include the following:
  - 1.1. Collection of trash, debris, litter, and branches from the areas as specified
  - 1.2. Mow all growth along the channels. Grass areas to be mowed to a 2-3 inch height
  - 1.3. Trim trees to remove dead limbs and establish canopy on live trees to an 8 foot canopy height as a minimum. All trees with 2" caliper and greater to remain unless directed for removal by WCDD. Engineer to mark trees in the field during initial clearing to assist with tree preservation program. Apply pruning paint on cut tree limbs. All trees 2" caliper and lower are to be removed. All tree stumps to be removed
  - 1.4. Prepare circular basin around each tree with a caliper of 2" and greater, as needed
  - 1.5. Rake up, pick up, and remove all trimmings, clippings, and cuttings. (To be removed within 72 hours after cutting)
  - 1.6. Convert clippings to mulch and place in tree basin and around vegetated areas
  - 1.7. Remove silt from gravel filters / embankment
  - 1.8. Haul away and properly dispose of all waste generated from specified area being cleared to the City of Laredo landfill
  - 1.9. This work is a one (1) time service and is required to be completed prior to commencing the mowing cycle
2. Mowing Cycle: each service cycle shall include the following:
  - 2.1. Collection of trash, debris, litter, and branches from the areas as specified
  - 2.2. Mow all growth within the pond and channel flow areas, embankments, slopes of the creeks, channels, ponds along the walls and fences, between expansion joints in and around concrete structures, and walking trail
  - 2.3. Remove any dead limbs from trees
  - 2.4. Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - 2.5. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 2.6. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 2.7. These services will be required six (6) times a year between the months of February and November
3. Tree Maintenance: each service cycle shall include the following:
  - 3.1. Trim trees to remove dead limbs and establish canopy on live trees to an 8 foot canopy as a minimum. Apply pruning paint to exposed cuts within 15 minutes of cut
  - 3.2. Rake up, pick up, and remove all trimmings, clippings, and cuttings
  - 3.3. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 3.4. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 3.5. These services will be required twice a year during the winter months (October - February) and summer months (June - July)
4. Joint Sealant Cycle: each service cycle shall include the following:
  - 4.1. Collection of trash, debris, litter, and branches from channel area as necessary
  - 4.2. Remove silt from concrete channels, concrete structures (outlets) and concrete flumes remove vegetation growth from all joints and where concrete channel meets with fence
  - 4.3. Haul away and properly dispose of all the waste generated to the City of Laredo landfill
  - 4.4. Remove existing sealant material and brush or vacuum out the openings to ensure that any pebbles, dirt or loose debris are removed. apply weed killer to all joint areas
  - 4.5. Prepare joint with backer rod before applying joint sealant. Backer rod should be 1/8" larger than the width of joint. Push backer rod down into the joint and leave a minimum joint depth of 1/4" and up to a 1/2" maximum
  - 4.6. Apply engineer approved joint sealant in a uniform manner
  - 4.7. A service cycle is defined by finishing all the work in ten (10) consecutive working day periods
  - 4.8. These services will be required twice a year at a minimum of six (6) months apart
5. Provide all labor, equipment, and supplies for the above mentioned services
6. The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected

**NOTE:**

7. All base bid service requirements apply throughout the entire maintenance area.
8. Joint sealant cycle applies to all concrete flumes

**ONE TIME MAINTENANCE**  
**LEGEND**

-  — MOWING CYCLE APPLIES
-  — FILL AND ADD EROSION CONTROL BLANKET

DATE: 10/27/2022

N.T.S.



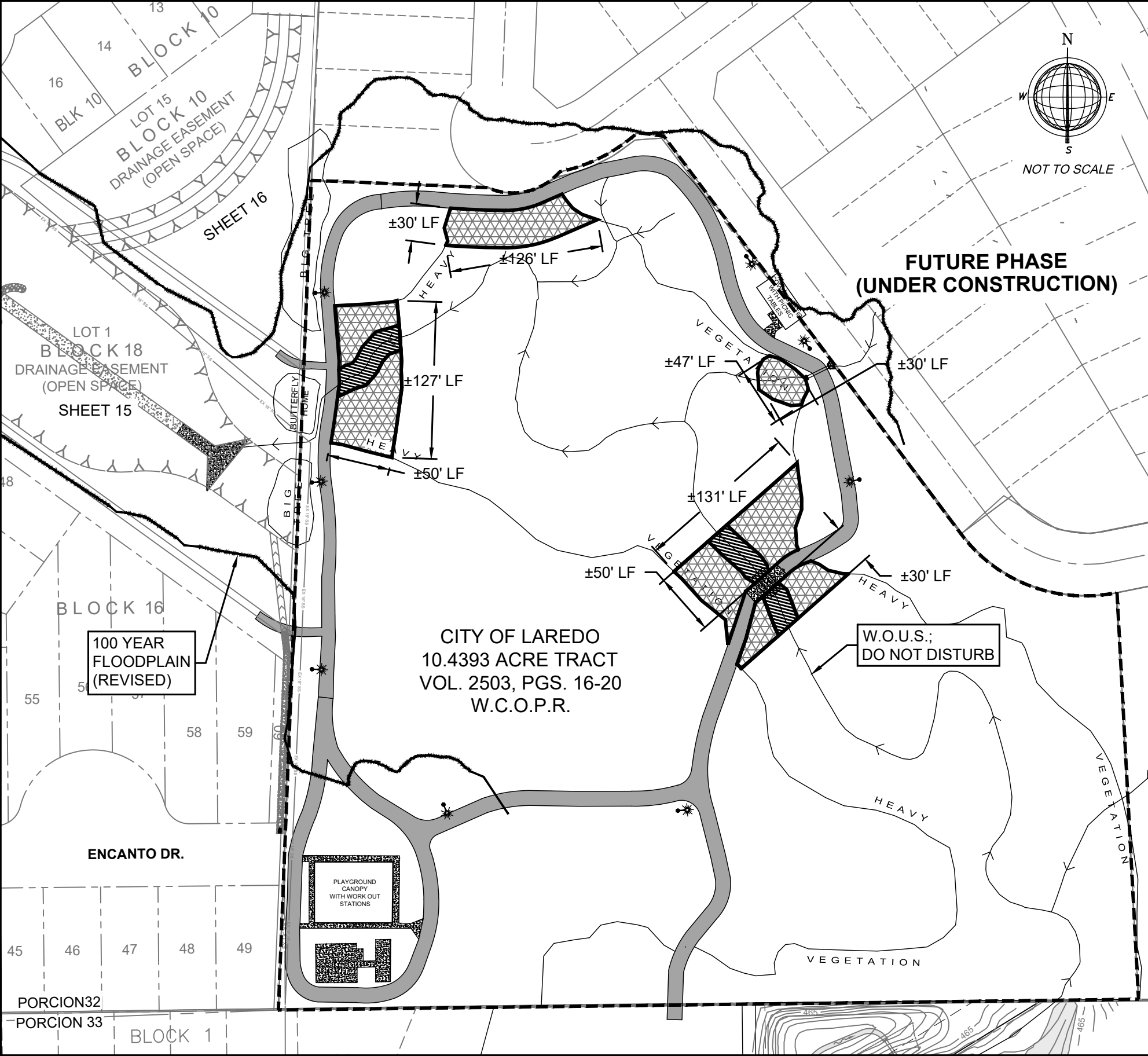
**CRANE ENGINEERING CORP.**  
1310 JUNCTION DRIVE SUITE B  
LAREDO, TX 78041 956-712-1996  
FIRM REGISTRATION NO. F-3353

**Webb County Drainage District**  
**Maintenance Contract**

***Southern Development Phase III***  
***Concrete Lined Channel***

SHEET **16**

OF **17**



ONE TIME MAINTENANCE  
LEGEND

NEEDS TO BE CUT BY HAND

INITIAL ONE TIME MAINTENANCE

- LEGEND
- Base Bid - Yearly Maintenance
- Service Requirements:
1. Mowing Cycle: Mow all growth within the shaded area only; no machinery.

2. Tree Maintenance: Trim trees to remove dead limbs and establish canopy to a 9-10 foot canopy as a minimum.

2.1. Apply pruning paint to exposed cuts within 15 minutes of cut.

3. Clean Up Cycle: Collection of trash, debris, litter, and branches from the areas specified.

4. Rake up, pick up and remove all trimmings, clippings, and cuttings.

5. Remove silt from pipes and culverts and place as backfill at necessary areas.

6. Prepare circular basin around each tree with a caliper of 2" and greater, as needed.

7. Convert clippings to mulch and place in tree basin and around vegetated areas.

8. Haul away and properly dispose of all waste generated to the City of Laredo Landfill.

- LEGEND
- Additive Alternate #1 - One Time Maintenance
- Service Requirements:
9. Collection of trash, debris, litter, and branches from the areas specified.

10. Mow all growth within the shaded area; no machinery allowed.

11. Trim trees to remove dead limbs and establish canopy to a 7-8 foot canopy as a minimum. All trees with 2" caliper and greater to remain unless directed for removal by WCDD. Engineer to mark trees in the field during initial clearing to assist with tree preservation program. Apply pruning paint on cut tree limbs. All trees 2" caliper and lower are to be removed. All tree stumps to be removed.

12. Prepare circular basin around each tree with a caliper of 2" and greater, as needed.

13. Rake up, pick up and remove all trimmings, clippings, and cuttings. (To be removed within 72 hours after cutting)

14. Convert clippings to mulch and place in tree basin and around vegetated areas.

15. Remove silt from pipes and culverts.

16. Clear access road leading to maintenance area.

17. Fill void areas along channel with collected silt.

18. Haul away and properly dispose of all waste generated from specified area being cleared to the City of Laredo Landfill.

19. This work is a one (1) time service and is required to be completed prior to commencing the mowing cycle.

20. Provide all labor, equipment, and supplies for the above mentioned services. Engineer to direct contractor on selective tree cutting.

21. The successful contractor shall be required to pay all appropriate landfill fees for the disposal of waste collected.

- NOTE:
22. Tree clippings mulch remaining should be utilized on site.

23. Coordinate with engineer before commencing work.



## **DIVISION D**

## **SECTION 402**

### **CLEARING AND GRUBBING**

#### **D 402.01 DESCRIPTION**

"Clearing and Grubbing" shall consist of the removal and disposal of trees, stumps, brush roots, vegetation, logs, rubbish, and other objectionable matter. Full compliance with NPDES (National Pollution Discharge Elimination System) permitting & Drainage Standard shall be maintained.

#### **D 402.02 CONSTRUCTION METHODS**

The right-of-way shall be cleared of stumps, brush, logs, rubbish, trees, and shrubs, except such trees and shrubs and certain areas designated by the Engineer for preservation. Those trees, shrubs, and other landscape features specifically designed by the Engineer for preservation shall be carefully protected from abuse, marring, or damage during construction operations. Continual parking and/or servicing of equipment under the branches of trees designated for preservation will not be permitted. Trees and shrubs designated for preservation that must be pruned shall be trimmed as directed and all exposed cuts over two (2) inches in diameter shall be treated with an approved material.

Areas required for embankment construction, for roadway, channel and structural excavation, and for borrow sites and material sources shall be cleared and grubbed. On areas required for roadway, channel, or structural excavation, all stumps, roots, etc., (except for designated trees and brush) shall be removed to a depth of at least two (2) feet below the existing ground surface. All holes remaining after clearing and grubbing shall be backfilled and tamped as directed by the Engineer and the entire area bladed to prevent ponding of water and to provide drainage, except, in areas to be immediately excavated, the Engineer may direct that the holes not be backfilled. When permitted by the plans, trees and stumps may be cut off as close to natural ground as practicable on areas which are to be covered by at least three (3) feet of embankment. On areas required for borrow sites and material sources, stumps, roots, etc., (except for designated trees and brush) shall be removed to the complete extent necessary to prevent such objectionable matter becoming mixed with the material to be used in construction.

All cleared and grubbed material shall be disposed of in a manner satisfactory to the Engineer. Unless otherwise provided, all merchantable timber removed as required above shall become the property of the Contractor.

#### **D 402.03 MEASUREMENT**

Payment will be made for this item as clearing and grubbing and the Contractor shall investigate the conditions as they exist in the field.

#### **D 402.4 PAYMENT**

Price shall be full compensation for placing removing, loading and disposing all materials, manipulation, labor, tools, equipment, dumping fees and details necessary to complete the work.

## **SECTION 416**

### **EXPANSION JOINT MATERIALS**

#### **D 416.01 DESCRIPTION**

This item shall govern for furnishing and placing of all expansion joint material as herein specified in the various items of these specifications or as shown on the plans or as directed by the Engineer.

#### **D 416.02 MATERIAL**

The material used for expansion joints shall conform to either of the following:

- 1) Preformed Bituminous Fiber Material shall be formed from cane or other suitable fibers of a cellular nature securely bound together and uniformly impregnated with a suitable asphaltic binder and shall meet the requirements of the Standard Specifications for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction, ASTM Designation D-1751.
- 2) Boards for expansion joints shall be obtained from Redwood or Cypress timber and shall be sound heartwood, free from sapwood, knots, clustered birds-eye, checks, and splits. Occasional sound or hollow birds-eye when not in clusters will be permitted provided the board is free from any other defects that will impair its usefulness as a joint filler.
- 3) Provide a semi-rigid, closed-cell polypropylene foam, preformed joint filler that fully complies with ASTM D8139. NOMAFLEX® by Nomaco, Inc.
  - Manufacturers: Nomaco, Inc.  
501 Innovative Way  
Zebulon, NC 27597  
Phone (877) 291-1157      Fax (919) 269-7639  
Website [www.nomaco.com/product/nomaflex](http://www.nomaco.com/product/nomaflex)

#### **D 416.03 CONSTRUCTION METHODS**

All materials used shall extend the full depth of the concrete and shall be perpendicular to the exposed face. All joints shall be shaped to conform to the contour of the finished section in which they are installed. All material shall be a minimum of one-half (1/2") inch thick.

#### **D 416.04 MEASUREMENT**

Expansion Joint Materials will not be measured for payment.

#### **D 416.05 PAYMENT**

No direct payment will be made for Expansion Joint Materials. All material supplied and installed as specified herein shall be considered subsidiary work to the various items of these specifications calling for Expansion Joint Materials.

## **SECTION 606 NPDES REQUIREMENTS**

### **D 606.01 GENERAL**

This section describes the required documentation to be prepared and signed by the Contractor before conducting construction operations, in accordance with the terms and conditions of the National Pollutant Discharge Elimination System (NPDES) Permit, as stated in the Federal Register Vol. 57 No. 175, issued by the Environmental Protection Agency on September 2, 1992.

The Contractor shall be responsible for implementation, maintenance, and inspection of storm water pollution prevention control measures including, but not limited to, erosion and sediment controls, storm water management plans, waste collection and disposal, off-site vehicle tracking, and other practices shown on the drawings or specified elsewhere in this or other specifications.

The Contractor shall review implementation of the Storm Water Pollution Prevention Plan (SWPPP) in a meeting with the District Engineer prior to start construction.

### **D 606.02 UNIT PRICES**

Unless indicated in the Unit Price schedule as a pay item, no separate payment will be made for work performed under this section. Include cost of work performed under this section in pay items of which this work is a component.

### **D 606.03 REFERENCES**

*ASTM D3786*- Standard Test Method for Hydraulic Bursting Strength for Knitted Goods and Non-woven Fabrics

*ASTM D4632*- Standard Test Method for Grab Breaking Load and Elongation of Geotextiles

## **EXECUTION**

### **D 606.04 NOTICE OF INTENT**

The Contractor shall fill out, sign, and date the Contractor's Notice of Intent (NOI). The signed copy of the Contractor's NOI shall be returned to the District. The District will complete the Owner's Notice of Intent and will submit both notices to the EPA. Submission of the NOI is required by both the District and the Contractor before construction operations start.

### **D 606.05 CERTIFICATION REQUIREMENTS**

Submit name, address, and telephone number of persons or firms responsible for maintenance and inspection of erosion and sediment control measures and all Subcontractors.

### **D 606.06 RETENTION OF RECORDS**

- (a) The Contractor shall keep a copy of the Storm Water Pollution Prevention plan at the construction site or at the Contractor's office from the date it became effective to the date of project completion.
- (b) At the project closeout, the Contractor shall submit to the City all NPDES forms and certifications, as well as a copy of the SWPPP. Stormwater pollution prevention records and data will be retained by District for a period of three (3) years from the date of project completion.

**D 606.07 REQUIRED NOTICES**

The following notices shall be posted from the date that this SWPPP goes into effect until the date of final site stabilization:

- 1) Copies of the Notices of Intent submitted by the District and Contractor and a brief project description shall be posted at the construction site or at Contractor's office in a prominent place for the public viewing.
- 2) Notice to drivers of equipment and vehicles, instruction them to stop, check, and clean tires of debris and mud before driving onto traffic lanes. Post such notices at every stabilized construction exit area.
- 3) In an easily visible location on site, post a notice of waste disposal procedures.
- 4) Notice of hazardous material handling and emergency procedures shall be posted with the NOI on site. Keep copies of Material Safety Data Sheets at a location on site that is known to all personnel.
- 5) Keep a copy of each signed certification at the construction site or at Contractor's office.

## SECTION 812

### DEFINITIONS

Whenever used in these GENERAL CONDITIONS or in the other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

**Addenda-** Written or graphic instruments issued by ENGINEER prior to the receipt of bids which clarify, correct, or change the Bidding Requirements or the Contract Documents.

**Agreement-** The written contract between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

**Application for Payment-** A request from CONTRACTOR for a progress or final payment on the form accepted by ENGINEER and which is accompanied by such supporting documentation as is required by the Contract Documents.

**Asbestos-** Any material that contains more than one percent (1%) asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

**Bid-** The offer or proposal of the BIDDER submitted on the prescribed form setting forth the required information, including prices for the Work to be performed.

**Bidder-** An individual, partnership, limited liability company, corporation, or joint venture submitting a bid for a proposed Contract.

**Bidding Documents-** The advertisement or Invitation to Bid, Instructions to Bidders, the Bid form, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

**Bidding Requirements-** The information requested by and conditions for bidding set forth in the advertisement or Invitation to Bid, Instructions to Bidders, and the Bid form.

**Bonds-** Performance and Payment bonds and other instruments of security.

**Change Order-** A document prepared by ENGINEER, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion, or revision in the Work, or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

**Contract Documents-** The Agreement, Addenda (which pertain to the Contract Documents), Contractor's Bid (including documentation accompanying the BID and any post-bid documentation accompanying the BID and any post-bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these GENERAL CONDITIONS, the Supplementary Conditions, the Specifications, and the PLANS, as the same are more specifically identified in the Agreement, together with

all Written Amendments, Change Orders, Work Change Directives, Field Orders, and ENGINEER's written interpretations and clarifications, issued pursuant to Paragraph 3.3, on or after the Effective Date of the Agreement. Shop Drawing submittals approved pursuant to Paragraphs 6.17.4 and 6.17.5 and the reports and drawings referred to in Paragraphs 4.2.1 and 4.2.2 are not Contract Documents.

**Contract Price-** The amount agreed to by OWNER and CONTRACTOR for completion of the Work, in accordance with the Contract Documents, as stated in Article 4 of the Agreement (subject to the provisions of Paragraph 11.3.1 in the case of Unit Price Work), and as adjusted by any Change Orders.

**Contract Times-** The numbers of days or the dates stated in the Agreement: (i) to achieve Substantial Completion, and (ii) to complete the Work so that it is ready for final payment as evidenced by ENGINEER's written recommendation of final payment in accordance with Paragraph 14.9.1.

**Contractor-** The person, firm, or corporation with whom OWNER has entered into the Agreement.

**Defective-** An adjective which, when modifying the word Work, refers to Work that is unsatisfactory, faulty, or deficient, in that it does not conform to, or has not been performed in accordance with, the Contract Documents, or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with Paragraph 14.5.1 or 14.6).

**Effective Date of the Agreement-** The date indicated in the Agreement on which it becomes effective; but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

**Engineer-** The licensed person, firm, or corporation authorized by the District or the owner to act on their behalf.

**Engineer's Subconsultant-** A licensed person, firm, or corporation having a contract with ENGINEER to furnish services as ENGINEER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

**Field Order-** A written order issued by ENGINEER which orders minor changes in the Work in accordance with Paragraph 9.5 but which does not involve a change in the Contract Price or the Contract Times.

**General Requirements-** Sections of Division A, B, and C of the Specifications.

**Hazardous Waste-** The term Hazardous Waste shall mean (i) any hazardous materials, hazardous wastes, hazardous substances, and toxic substances as those or similar terms are

defined under any Environmental Laws; (ii) any Asbestos or any material which contains any hydrated mineral silicate, including chrysolite, amosite, crocidolite, tremolite, anthophyllite, and/or actinolite, whether friable or non-friable; (iii) any PCBs or PCB-containing materials, or fluids; (iv) radon; (v) any other hazardous, radioactive, toxic, or noxious substance, material, pollutant, or solid, liquid, or gaseous waste; (vi) any pollutant or contaminant (including petroleum, petroleum hydrocarbon, petroleum products, crude oil, and any fractions thereof; any oil or gas exploration or production waste, and natural gas, synthetic gas, and any mixtures thereof) that in its condition, concentration, or area of release could have a significant effect on human health, the environment, or natural resources; (vii) any substance that, whether by its nature or its use, is subject to regulation under any Environmental Law or, with respect to which any Environmental Law or Governmental Authority, requires environmental investigation, monitoring, or remediation; (viii) any Radioactive Material; and (ix) any underground storage tanks, as defined in 42 U.S.C. Section 699(1)(A)(I) (including those defined by Section 9001[1] of the 1984 Hazardous and Solid Waste Amendments to the Resource Conservation Act, 42 U.S.C. Section 6901 et seq.; the Texas Water Code Annotated Section 26.344; and Title 30 of the Texas Administrative Code Sections 334.3 and 334.4), whether empty, filled, or partially filled with any substance.

**Laws and / or Regulations-** Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction over the Work, the Project, and/or the CONTRACTOR's performance of the Work.

**Liens-** Liens, charges, security interests, or encumbrances upon real property or personal property.

**Milestone-** A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

**Notice of Award-** The written notice by OWNER to the apparent Successful Bidder stating that, upon compliance by the apparent Successful Bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

**Notice to Proceed-** A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR's obligation under the Contract Documents.

**Or Equal Clause-** Whenever a material or article required is specified or shown on the plans by using the name of the proprietary product, or of a particular manufacturer or vendor, any material or article which will perform adequately the duties imposed by the general design will be considered equal and satisfactory, provided the material or article so proposed is of equal substance and function, and only after written approval by the District Engineer.

**Owner-** The public body or authority, corporation, association, firm, or person which is a party to the Agreement and for whom the Work is to be provided.



**Partial Utilization-** Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work in accordance with Paragraph 14.6.

**PCBs-** Polychlorinated biphenyls.

**Petroleum-** Petroleum, including crude oil or any fraction thereof, which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Wastes and crude oils.

**Plans-** The PLANS which show the scope, extent, and character of the Work to be furnished and performed by CONTRACTOR and which have been prepared or approved by ENGINEER and are referred to in the Contract Documents. Shop drawings are not Drawings as so defined.

**Project-** The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

**Radioactive Material-** Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

**Resident Project Representative-** The authorized representative of the OWNER who may be assigned to the site or any part thereof.

**Right of Way-** A general term denoting land or property devoted to transportation purposes.

**Samples-** Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

**Shop Drawings-** All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

**Specifications-** Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

**Subcontractor-** An individual, firm, or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site. Excluding a material supplier, truck owner-operator, wholly owned subsidiary, specialty-type businesses such as security companies and rental companies.

**Subsidiary-** Materials, labor, or other elements that because of their nature or quantity have not been identified as a separate item and are included within the items on which they necessarily depend.

**Substantial Completion-** The Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER as evidenced by ENGINEER' s definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended or, if no such certificate is issued, when the Work is complete and ready for final payment as evidenced by ENGINEER's written recommendation of final payment in accordance with Paragraph 14.9. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

**Supplementary Conditions-** The part of the Contract Documents which amends or supplements these GENERAL CONDITIONS.

**Supplier-** A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated into the Work by CONTRACTOR or any Subcontractor.

**Traffic Lane-** The strip of roadway intended to accommodate the forward movement of a single line of vehicles.

**Underground Facilities-** All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities which have been installed underground.

**Unit Price Work-** Work to be paid for on the basis of unit prices.

**Work-** The entire completed construction or the various separately identifiable parts thereof required to be furnished by the CONTRACTOR under the Contract Documents. Work includes and is the result of the CONTRACTOR performing or furnishing all labor, furnishing and incorporating all materials and equipment into the construction, performing or furnishing all services, and furnishing all documents, all as required by the Contract Documents.

**Work Change Directive-** A written directive to CONTRACTOR, issued on or after the Effective date of the Agreement and signed by OWNER and prepared by ENGINEER, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed, as provided in Paragraph 4.2 or 4.3, or to emergencies under Paragraph 6.15. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change directed or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times as provided in Paragraph 10.1.2.

**Written Amendment-** A written amendment of the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical, rather than strictly construction-related aspects of the Contract Documents.

## Item 712

# Cleaning and Sealing Joints and Cracks (Asphalt Concrete)



### 1. DESCRIPTION

Clean and seal joints and cracks in asphalt concrete roadway surfaces.

### 2. MATERIALS

Furnish materials unless otherwise shown on the plans. Furnish sealant materials as shown on the plans in accordance with Item 300, "Asphalts, Oils, and Emulsions." Furnish fine aggregate in accordance with Section 340.2.1.3., "Fine Aggregate."

### 3. EQUIPMENT

Furnish equipment, tools, and machinery for proper execution of the work.

- 3.1. **Hot-Applied Sealants.** Heat in a double-jacketed heater using a heat transfer oil so no direct flame comes in contact with the shell of the vessel containing the sealing compound. Provide a heater capable of circulating and agitating the sealant during the heating process to achieve a uniform temperature rise and maintain the desired temperature. Provide gauges to monitor the temperature of the vessel contents and avoid overheating the material. Provide a heater equipped with a gear-driven asphalt pump with adequate pressure to dispense the sealant.
- 3.2. **Cold-Applied Sealants.** Provide equipment with adequate pressure to dispense the sealant in a continuous flow.

### 4. WORK METHODS

Apply material when the air or pavement temperature is within the manufacturer's recommendations or as approved. Clean and seal joints and cracks that are 1/16 in. or greater in width. Fill cracks with dry sand for cracks greater than 1/2 in. or as shown on the plans. Rout joints and cracks to the configuration shown on the plans when required. Clean joints and cracks with air blast cleaning or other acceptable methods to a depth at least twice the joint or crack width. Joints and cracks must be free of moisture before sealing. Dispose of materials removed as directed or approved. Apply sealing material with a pressure nozzle. Completely fill cracks and joints. Squeegee material to no more than 3 in. wide and 1/8 in. above the pavement surface. Prevent tracking with an application of fine aggregate as directed.

### 5. MEASUREMENT

This Item will be measured by the foot, gallon, pound, or lane mile. Shoulders wider than 6 ft. are considered additional lanes.

### 6. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Joint and Crack Sealing" of the sealant material specified and "Joint and Crack Routing and Sealing" of the sealant material specified. This price is full

compensation for routing, cleaning, and sealing joints and cracks; furnishing and placing materials; and equipment, labor, tools, and incidentals.

If measurement is by the lane mile, shoulders 6 ft. or narrower will not be paid for directly but will be subsidiary to work on the adjacent travel lane.

## Item 713

# Cleaning and Sealing Joints and Cracks (Concrete Pavement)



### 1. DESCRIPTION

Clean and seal joints and cracks in concrete pavement.

### 2. MATERIALS

Furnish sealant, boards, and backer rods in accordance with [DMS-6310](#), "Joint Sealants and Fillers." The sealant must be type 4, 5, 7, or 8 unless otherwise shown on the plans and specifications. Furnish primer when required by the sealant manufacturer.

### 3. EQUIPMENT

Use equipment that meets the sealant manufacturer's recommendations. Furnish equipment capable of placing the sealant, backer rods, and boards as detailed on the plans. Furnish equipment capable of removing all foreign material from the concrete joint or the grooved crack. The following equipment is recommended to meet cleaning and sealing requirements:

- Power Concrete Saw,
- Sandblasting Equipment,
- Power Router,
- High Pressure Air, and
- Sealant Dispenser.

### 4. WORK METHODS

Use dimensions shown for joint details in standard drawing *Concrete Paving Details, Joint Seals*, unless other dimensions are shown on the plans. Make a groove, follow the cracks to be sealed, and rout the groove approximately 1/2 in. deep × 5/8 in. wide, unless otherwise directed or shown on the plans. The Engineer will select joints and cracks to be cleaned and sealed.

Remove all foreign material from the joint or groove reservoir. Clean the joint by sandblasting or other approved methods. If directed, saw joint sides to remove embedded foreign material in the concrete that sandblasting will not remove. Do not place sealant when the concrete pavement is below 55°F or above 90°F. Do not place sealant in a wet or damp joint or groove. Use approved drying method if joints or grooves are sealed within 24 hours of rain. Apply primer when required by the sealant manufacturer. Blow out joint or groove with high pressure air or other approved methods before placing sealant. Remove and replace sealant when placed flush with or above the pavement surface. The different types of joints and cracks are described in Table 1.

**Table 1**  
**Types of Joints and Cracks Requirements**

<b>Joint or Crack Type</b>	<b>Requirement</b>
Transverse Contraction Joints	Backer rods and sealants
Longitudinal Contraction Joint	Sealant
Longitudinal Construction Joint	Sealant
Expansion Joints	Boards, backer rods, and sealant
Cracks in Jointed Concrete Pavement	Sealant

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**5. MEASUREMENT**

Joint cleaning and sealing will be measured by the foot of joint cleaned and sealed. Crack cleaning and sealing will be measured by the foot of crack cleaned and sealed.

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**6. PAYMENT**

The work performed and materials furnished in accordance with this Item and measured in accordance with "Measurement" will be paid for at the unit price bid for "Joint Sealing and Cleaning" of the type specified, or "Crack Cleaning and Sealing."

# Item 734

## Litter Removal



### 1. DESCRIPTION

Remove and dispose of litter, including objects not part of the highway facility, such as trash, garbage, scrap metal, paper, wood, plastic, glass products, animal remains, rubber products, tires, auto parts, furniture, mattresses, household appliances, and large bulky items.

### 2. MATERIALS

Furnish bags and containers.

### 3. EQUIPMENT

Provide equipment and tools. Provide highly visible omni-directional amber flashing warning lights on work vehicles. Provide equipment that prevents the accumulated debris from being strewn along the roadway during transport.

### 4. WORK METHODS

Remove bagged litter on the same day it is collected. Notify the Department for removal of dead animals larger than 150 lb. or hazardous materials. Dispose of litter off the right of way in accordance with federal, state, and local regulations. Perform litter removal and disposal according to the following types.

- 4.1. **Litter.** Remove and dispose of litter from the right of way, including shoulders but excluding the traveled lanes and shoulders next to barriers, to the limits shown on the plans.
- 4.2. **Spot Litter.** Work requests are made on a callout basis. Begin removing litter within 3 hr. of notification, unless otherwise shown on the plans.

### 5. MEASUREMENT

This Item will be measured as follows:

- 5.1. **Litter.** By the cycle or acre.
- 5.2. **Spot Litter.** By the acre. The minimum quantity per callout is 3 acres, unless otherwise shown on the plans.

### 6. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit prices bid for "Litter Removal" or "Litter Removal (Spot)." This price is full compensation for collecting, hauling, and disposing of litter; and for equipment, labor, materials, tools, and incidentals.

# Item 735

## Debris Removal



### 1. DESCRIPTION

Remove and dispose of debris discarded or deposited on or adjacent to the pavement. Debris includes all objects not part of the highway facility, such as dead animals, tires, tire fragments, wood, furniture, mattresses, household appliances, and scrap metal.

### 2. EQUIPMENT

Provide highly visible omni-directional flashing warning lights on work vehicles. Provide equipment that prevents the accumulated debris from being strewn along the roadway during transport.

### 3. WORK METHODS

Remove debris at locations shown on the plans. Notify the Department for removal of hazardous materials. Dispose of debris off the right of way in accordance with applicable federal, state, and local regulations.

3.1. **Center Medians and Mainlanes.** Remove and dispose of debris from the main travel lanes, paved medians, paved shoulders, and an additional 5 ft. adjacent to the pavement, unless otherwise shown on the plans.

3.2. **Frontage Roads.** Remove and dispose of debris from frontage roads, shoulders, U-turn lanes, and intersecting streets to the right of way, including turn lanes, underpasses and overpasses, and an additional 5 ft. adjacent to the pavement, unless otherwise shown on the plans.

3.3. **Entrance and Exit Ramps.** Remove and dispose of debris from ramps, shoulders, and an additional 5 ft. adjacent to the pavement, unless otherwise shown on the plans.

3.4. **High Occupancy Vehicle (HOV) Lane.** Remove and dispose of debris from HOV lanes including HOV ramps. The HOV lanes are defined as:

3.4.1. **Barrier-Separated Contraflow Lane.** Barrier-separated contraflow lane(s) is defined as a lane enclosed by two physical barriers.

3.4.2. **Buffer-Separated Concurrent Flow Lane.** Buffer-separated concurrent flow lane is separated from general purpose lanes by a striped buffer zone and is defined as the left or inner most lane identified by signing and diamond symbols on the pavement.

3.5. **Direct Connector Ramp Debris Removal.** Remove and dispose of debris from the shoulders and paved gutters of direct connector ramp.

3.6. **Spot Debris Removal.** Work requests are made on a callout basis. Remove and dispose of debris as directed. Begin removing debris within 3 hr. of notification, unless otherwise shown on the plans.

### 4. MEASUREMENT

This Item will be measured as follows:



- 4.1. **Center Medians and Mainlanes, Frontage Roads, and Entrance and Exit Ramps.** By the cycle or right of way centerline mile. A right of way centerline mile is defined as the distance from beginning reference marker location to ending reference marker location, regardless of the number of roadbeds.
- 4.2. **HOV Lane Debris Removal.** By the cycle or HOV lane centerline miles. HOV lane centerline mile is defined as the distance measured along each HOV lane regardless of the number of lanes.
- 4.3. **Direct Connector Ramp Debris Removal.** By the cycle or direct connector ramp centerline mile. A direct connector centerline mile is defined as the distance measured along each direct connector regardless of the number of lanes.
- 4.4. **Spot Debris Removal.** By the roadbed mile. The minimum quantity per callout is 1 roadbed mile, unless otherwise shown on the plans.

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## 5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit prices bid for "Debris Removal" of the type and cycle location specified. This price is full compensation for collecting, hauling and disposing of debris, and for equipment, labor, materials, tools, and incidentals. Traffic control will not be paid for directly but will be subsidiary to this Item, unless otherwise shown on the plans.

Debris removal in buffer-separated concurrent flow lanes is considered subsidiary to debris removal in center medians and mainlanes, unless otherwise shown on the plans.

Debris removal required for work orders issued under Item 734, "Litter Removal," or Item 738, "Cleaning and Sweeping Highways," will be subsidiary to that Item unless otherwise shown on the plans.

# Item 752

## Tree and Brush Removal



### 1. DESCRIPTION

Remove and dispose of trees, brush, shrubs, and vines. Trim trees and shrubs. Remove stumps.

### 2. MATERIALS

Furnish commercially available pruning paint.

### 3. EQUIPMENT

Provide equipment necessary to complete the work.

### 4. WORK METHODS

Perform tree and brush removal and trimming from right of way line to right of way line or other widths and locations shown on the plans. Ensure trees, shrubs, and other landscape features that are to remain are not damaged. Dispose of debris within 48 hr. of cutting, off the right of way, in accordance with federal, state, and local regulations unless otherwise approved. When approved, chip debris and spread in a thin layer on the right of way.

- 4.1. **Tree Removal.** Remove trees of various diameters as shown on the plans, or as directed. Remove tree stumps to at least 12 in. below the surrounding terrain unless otherwise shown on the plans, or as directed. Backfill holes with acceptable material and compact flush with surrounding area.

- 4.2. **Tree Trimming.** Remove dead tree limbs. Remove tree limbs to the limits shown on the plans. Prune trees in accordance with Class IV National Arborist Association Pruning Standards for shade trees. Make cuts as close as possible to the trunk or parent limb without cutting into the branch collar or leaving a protruding stub. Remove suckers to the height of the lowest main branch.

When removing limbs 2 in. in diameter or larger:

- Undercut 1/3 way through the limb 8 to 12 in. from the main stem.
- Remove limb 4 to 6 in. outside the first cut.
- Remove stub with an even flush cut so that a trace (collar) protrudes approximately 1/2 in.
- Do not allow limb to fall free if it can damage other limbs or items.
- Treat exposed cuts on oak trees with wound dressing within 20 min. of the cut.

Disinfect tools with 70% methyl alcohol, benzalkonium chloride, chlorine solution, or other approved disinfectant when trimming oak trees and when shown on the plans before cutting, and sterilize/sanitize again before cutting another tree. Avoid pruning between February 15 and June 15, the period for maximum insect and fungal activity.

- 4.3. **Brush Removal.** Remove brush including, but not limited to, bushes, small trees, and vines growing within the right of way by cutting parallel to and within 1 in. of the ground and to the limits shown on the plans. Remove brush from under bridges, around culverts, and in channels to the limits shown on the plans.

- 4.4. **Channel Work.** Trim trees and remove brush to the limits shown on the plans, including areas under bridges.

- 4.5. **Stump Removal.** Remove tree stumps at least 12 in. below the surrounding terrain unless otherwise shown on the plans, or as directed. Backfill holes with acceptable material and compact flush with surrounding area.

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## 5. MEASUREMENT

This Item will be measured as follows:

- 5.1. **Tree Removal.** By each tree of the diameter specified. The diameter will be measured 3 ft. above the ground. Trees less than 4 in. in diameter are considered brush. Trees with multiple trunks at the point of measurement will be measured separately and paid for according to the specified diameter. Removal of the stump is subsidiary to Tree Removal.
- 5.2. **Tree Trimming and Brush Removal.** By the centerline mile of the dimension specified. "Centerline mile" is defined as the continuous measurement along the center of the right of way.
- 5.3. **Tree Trimming and Brush Removal for Channels.** By the acre.
- 5.4. **Stump Removal.** By each stump removed. This item is for stumps where others previously removed the tree.

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## 6. PAYMENT

The work performed in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Tree Removal" of the diameter specified, "Tree Trimming" of the dimension specified, "Brush Removal," "Tree Trimming and Brush Removal," and "Stump Removal." This price is full compensation for removal, trimming, disposal, equipment, traffic control, labor, and incidentals.

When not shown on the plans as a separate pay item, payment for tree trimming and brush removal in channels will be included in payment by the centerline mile. When shown on the plans as a separate pay item, tree trimming and brush removal in channels will be paid for at the unit price bid for "Tree Trimming and Brush Removal (Channels)."

The limits shown on the plans are the limits for pay purposes unless otherwise modified in accordance with Article 4.4., "Changes in the Work."

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**DMS-6310****Joint Sealants and Fillers***Effective Date: July 2017*

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**1. DESCRIPTION**

This Specification establishes the requirements for the various types of joint sealants, backing materials, and joint fillers suitable for use in pavements structures.

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**2. UNITS OF MEASUREMENTS**

The values given in parentheses (if provided) are not standard and may not be exact mathematical conversions. Use each system of units separately. Combining values from the two systems may result in nonconformance with the standard.

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**3. MATERIAL PRODUCER LIST**

The Materials and Pavements Section of the Construction Division (CST/M&P) maintains the Material Producer List (MPL) of all materials conforming to the requirements of this Specification. Materials appearing on the MPL, entitled "[Joint Sealers](#)," require no further sampling and testing before use, unless deemed necessary by the Project Engineer or CST/M&P.

Please note that there is no MPL for Class 9 and 10 joint sealers; backing materials; or joint fillers.

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**4. BIDDERS' AND SUPPLIERS' REQUIREMENTS**

The Department will only purchase or allow on projects those products listed by producer and product code or designation shown on the MPL.

Use of pre-qualified product does not relieve the Contractor of the responsibility to provide product that meets this Specification. The Department may inspect or test material at any time and reject any material that does not meet the specifications.

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**5. NATIONAL TRANSPORTATION PRODUCT EVALUATION PROGRAM (NTPEP)**

When a Class 3, 4, 5, 7, or 8 sealant submitted to CST/M&P is listed on the most recent NTPEP field evaluation report with an overall sealant condition rating of 2 or less, some NTPEP test results may be used in lieu of Department testing. Specifically:

- NTPEP flow test results may be used for Class 3 sealants;
- NTPEP tack-free time, resilience, cone penetration at 77°F (25°C), and non-immersed bond test results at -20°F (-29°C) may be used for any class; and
- NTPEP test results for tensile strength at 150% elongation may be used in lieu of Department tensile strength and 24-hr. extension test, but only if all NTPEP bond test results show no loss of adhesion.

CST/M&P will perform tests required by this Specification that are not performed by NTPEP. CST/M&P test results that do not meet the requirements of this Specification will constitute failure of the material—even if the test was also performed by NTPEP with passing results.

## 6. JOINT SEALANTS

This Specification defines the following types.

- Class 1—two-component polyurethane, rapid curing, self-leveling
- Class 2—two-component synthetic polymer, self-leveling
- Class 3—hot-poured rubber
- Class 4—low-modulus silicone, nonsag
- Class 5—low-modulus silicone or polyurethane, self-leveling
- Class 6—preformed seals
- Class 7—low-modulus silicone, rapid curing, self-leveling
- Class 8—low-modulus silicone or polyurethane, self-leveling, concrete only
- Class 9—polymer-modified asphalt emulsion
- Class 10—polymer-modified asphalt emulsion, nonsag

Table 1 summarizes the materials and application requirements of the various classes.

**Table 1**  
**Joint Sealant Applicability**

Features	Classes									
	1	2	3	4	5	6	7	8	9	
Material	Polyurethane	Synthetic Polymer	Asphalt	Silicone	Silicone or Polyurethane	Solid	Silicone	Silicone or Polyurethane	Asphalt Emulsion	
1- or 2-component	2 <sup>1</sup>	2 <sup>1</sup>	1	1	1	1	2 <sup>1</sup>	1	1	1
Self-Leveling or Nonsag	SL	SL	N/A	NS	SL	N/A	SL	SL	SL	NS
Primer Required	Yes	No	No	No	No	No	Yes	No	No	No
Backer Rod Required	Yes	No	No	Yes	Yes <sup>3</sup>	No	Yes	Yes <sup>3</sup>	No	No
Joint Type <sup>2</sup>	H	ACS	AC	ACS	AC	CS	CSH	C	AC	AC

1. These materials must cure by chemical reaction and not by evaporation of solvent or fluxing of harder particles.
2. Joint Types: A = asphalt-to-concrete; C = concrete-to-concrete; S = steel or armored; H = header-type. Use with joint types other than the ones listed only after evaluating the sealant for the proposed application.
3. Unless otherwise shown on the plans.

6.1. **Liquid and Semisolid Types.** Except for Class 6, each of the classes listed in Table 1 consists of a one- or two-component liquid or semisolid compound that is poured into the joint and solidifies after application.

6.1.1. **Material Properties.** Class 1 must meet ASTM C920 Type M, Grade P, Class 50. For adhesion and cohesion under cyclic movement and adhesion-in-peel tests, the substrate will be the elastomeric header material corresponding to the header-type joint system that utilizes the sealant.

Class 2 must cure sufficiently to not pick up under the wheels of traffic after a maximum of 24 hr. at an average temperature of  $77 \pm 2^\circ\text{F}$  ( $25 \pm 1^\circ\text{C}$ ), unless another time is specified. (Three hours is commonly used.)

Class 3 consists of a rubber-modified asphalt compound which, when heated to the manufacturer's recommended temperature, will melt to an appropriate consistency for pouring and then solidify when cooled to ambient temperatures.

Classes 2 and 3 must meet the requirements of Table 2.

**Table 2**  
**Synthetic and Bituminous Properties**

Material		Class 2		Class 3	
Property	Test Method	Min	Max	Min	Max
Water content, % by mass	Tex-501-C	-	5	-	-
Cone Penetration, 150 g, 5 sec., 77°F (25°C), 48 hr. cure <sup>1</sup>	ASTM D5329	-	130	-	90
Flow at 140°F (60°C), 5 hr., mm		-	-	-	3
Flow at 158°F (70°C), 5 hr., 24 hr. cure, mm		-	0	-	-
Resilience, 48 hr. cure <sup>1</sup> , %		50	-	60	-
Resilience, oven aged, 5 hr. at 158°F (70°C), %		50	-	-	-
Bond test, 0.5 in. (12.7 mm) wide, 50% extension, 3 cycles at -20°F (-29°C), 48 hr. cure	ASTM D5329 <sup>2,3</sup>	pass <sup>4</sup>		pass <sup>4</sup>	

- For Class 3, use 12-hr. cure time.
- If sealing joints other than asphalt or concrete, use test blocks of the specified material.
- Exception to ASTM D5329: For Class 2, use spacer blocks to form a specimen 2 in. long by 0.5 in. wide by 0.5 in. deep (50.8 mm long by 12.7 mm wide by 12.7 mm deep) as described in ASTM C719, Section 7.3.2.
- No evidence of cracking, separation, or other opening that is over 1/8 in. (3 mm) deep at any point in the sealer or between the sealer and the test blocks.

Classes 4 and 7 must be silicone compounds. Classes 5 and 8 may be of either silicone or polyurethane.

Classes 4, 5, 7, and 8 must meet the requirements of Table 3.

**Table 3**  
**Silicone and Polyurethane Properties**

Material		Class 4		Class 5		Class 7		Class 8	
Property	Test Method	Min	Max	Min	Max	Min	Max	Min	Max
Flow at room temperature, mm	Tex-525-C	-	5	-	-	-	-	-	-
Nonvolatile content, %		-	-	93	-	93	-	93	-
Tack-free time, minutes	ASTM C679 <sup>1</sup>	35	75	-	180	30	60	-	180
Extrusion Rate, g/min	ASTM C1183 <sup>2</sup>	90	250	-	-	-	-	-	-
<b>Tensile Strength and 24-hr. Extension Test:</b>	Tex-525-C								
• Initial cure time, days	-	3		6		2		6	
• Strength after air curing only, psi	-	10	50	3	10	4	30	4	30
• Strength after water immersion, psi	-	10	50	3	10	4	30	4	30
• Strength after oven aging, psi	-	10	50	3	10	4	30	4	30
• Strength after bond test, psi	-	10	50	3	10	4	30	4	30
• 24-hr. extension test, all specimens	-	pass		pass		pass		pass	

- Exception to ASTM C1183: Use 90 ± 5 psi (620 ± 35 kPa) pressure for the air supply.

Classes 9 and 10 must be single-component, polymer-modified emulsions composed primarily of a semisolid asphalt base, water, and an emulsifying agent and must meet the requirements of Table 4.

**Table 4**  
**Emulsion Properties**

Material		Class 9		Class 10	
Property	Test Method	Min	Max	Min	Max
Apparent viscosity, 77°F (25°C), Pa*s	ASTM D2196, Method A	30	70	150	300
Vertical slump, 77°F (25°C), mm	ASTM C639	-	-	-	3
Residue by evaporation, %	Tex-543-C	65	-	65	-
<b>Tests on Residue from Evaporation:</b>					
• Penetration, 77°F (25°C), 100 g, 5 sec.	AASHTO T 49	35	75	35	75
• Softening point, °F	AASHTO T 53	320	-	350	-
• Bond test, 0.5 in. (12.7 mm) wide, 50% extension, 3 cycles at -0°F (-17.8°C)	ASTM D5329 <sup>1</sup>	pass <sup>2</sup>		pass <sup>2</sup>	

1. If sealing joints other than asphalt or concrete, use test blocks of the specified material.
2. No evidence of cracking, separation, or other opening that is over 0.125 in. (3 mm) deep at any point in the sealer or between the sealer and the test blocks.

- 6.1.2. **Acceptance.** Accept Classes 1, 2, 3, 4, 5, 7, and 8 in accordance with Tex-538-C. The Department will list materials meeting the requirements of this Specification on the MPL.

Accept Classes 9 and 10 in accordance with Tex-500-C. Please note that there is no MPL for Classes 9 and 10.

- 6.2. **Preformed Seals.** A Class 6 seal consists of a preformed extruded elastomeric material having a multi-channelled shape. Install this type with the aid of a lubricant adhesive. The size shown on the plans is the nominal width.

- 6.2.1. **Material Properties.** If the nominal width is smaller than 1.625 in. (41 mm), the material must conform to the requirements of ASTM D2628, except that the oil swell must be a maximum of 60%.

If the nominal width is 1.625 in. (41 mm) or greater, the material must conform to the requirements of ASTM D3542, with the following exceptions.

- The oil swell must be a maximum of 60%.
- The uncompressed depth must be greater than or equal to the width.

Determine compression-deflection properties using Tex-613-J rather than ASTM D575. The limits on the lateral pressure must be a minimum of 3 psi (21 kPa) at 15% compression and a maximum of 100 psi (690 kPa) at 50% compression, and the specimen must maintain complete contact with the loading plates throughout the test.

Lubricant adhesive must:

- conform to the requirements of ASTM D4070,
- be compatible with concrete, and
- be unaffected by the normal moisture in the concrete.

- 6.2.2. **Acceptance.** Accept Class 6 with nominal widths of less than 1.625 in. (41 mm) and all lubricant adhesive based on manufacturers' certification, according to the requirements of their respective specifications.

Accept Class 6 with nominal widths of 1.625 in. (41 mm) or more according to the following procedure.

The Department will list materials meeting the requirements of this Specification on the MPL.

The Department reserves the right to randomly sample and test materials.

- 6.2.2.1. **Pre-Qualification.** For each size and configuration proposed for use, submit a sample of at least 6 ft. (2 m) in length for pre-qualification well in advance of anticipated use. Submit certified test results with the sample indicating compliance with the specifications to Texas Department of Transportation, CST/M&P (CP51) 9500 North Lake Creek Parkway, Austin, TX 78717.
- 6.2.2.2. **Certification.** Provide certification to the Engineer that all materials delivered to the jobsite meet the specification requirements. The Engineer will visually inspect the material to confirm size and configuration and to identify any possible defects and may reject or submit for retesting any suspect material.
- 6.2.2.3. **Testing.** Furnish at least one seal of each size with a minimum of 3 ft. (1 m) extra length. The Engineer will remove these extra lengths and forward to CST/M&P for testing.

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## 7. BACKER RODS AND BACKING MATERIAL

Backer rods consist of cylinders of compressible material, which hold the fluid sealant in place in open joints.

- 7.1. **Material Properties.** The backer rod must not react with or bond to the sealant and must meet the requirements of the sealant manufacturer. The diameter of the backer rod must be at least 25% larger than the joint reservoir width.

Backer rods materials include closed-cell resilient foam; sponge rubber stock of vinyl, butyl, or neoprene; and polyethylene or polyurethane.

- 7.2. **Acceptance.** Accept backer rods and backing material based on certification by the supplier that the materials meet the sealant manufacturer's recommendations and on the Engineer's inspection.

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## 8. JOINT FILLERS

Supply joint fillers in the shape, size, and type shown on the plans.

- 8.1. **Material Properties.**

- 8.1.1. **Timber Boards.** Timber boards must be of redwood, southern yellow pine, or Douglas fir. Redwood must be an all heart merchantable grade or better, free from the presence of sapwood. Southern yellow pine must be a lumber grade #3 or better. Douglas fir must be utility grade. All lumber grading must be in accordance with American Lumber Standard Committee (ALSC) grading rules. All boards except redwood must be treated with a preservative in accordance with Table 5. When oven dried at 230°F (110°C) to a constant weight, the density of the board (minus treatment) must be between 20 and 35 lb./ft.<sup>3</sup> (320 and 560 kg/m<sup>3</sup>).

**Table 5**  
**Acceptable Lumber Preservative for Timber Boards**

Preservative	Minimum Retention (lb./cu. ft.)	Standard
Creosote	10	AWPA UC4A
Pentachlorophenol	0.5	AWPA UC4A
Micronized Copper Azole	0.15	AASHTO M 133

- 8.1.2. **Asphalt Boards.** These boards must meet the description, general requirements, and distortion testing requirements of ASTM D994.



- 8.1.3. **Preformed Fiber Sheets.** These sheets must meet the requirements of ASTM D1751. The requirements pertaining to bitumen content, density, and water absorption are not required for non-bituminous materials.
- 8.1.4. **Rebonded Neoprene Filler.** This filler consists of ground closed-cell neoprene particles, rebonded and molded into sheets of the required dimensions. These sheets must meet the requirements of ASTM D1752, Type I.
- 8.1.5. **Rebonded Recycled Tire Rubber.** This material consists of granular particles of rubber, made by grinding automobile and truck tires, securely bound together by a synthetic resin or plastic binder. The filler must be molded into sheets of the required dimensions and which meet the testing requirements of both ASTM D1751 and ASTM D1752, except that the requirements for asphalt content and expansion are waived. The density of the material must be at least 30 lb./ft.<sup>3</sup> (440 kg/m<sup>3</sup>).
- 8.1.6. **Polypropylene Foam.** This material is a semi-rigid, non-extruding, resilient type, closed-cell polypropylene foam, preformed joint filler with physical properties that comply with Table 6.

**Table 6**  
**Closed-Cell Polypropylene Preformed Joint Filler**

Property	Test Method	Min	Max
Expansion in boiling water, volume %	AASHTO T 42	-	1
Compression stiffness, psi	AASHTO T 42	35	50
Compression recovery, %	AASHTO T 42	80	-
Extrusion, in.	AASHTO T 42	-	0.1
Density, lb/ft <sup>3</sup>	AASHTO T 42	3.5	-
Heat resistance, %	ASTM D5249	-	1
UV weathering, cycle A, 1000 hr.	ASTM D4329	No visible change	

- 8.2. **Acceptance.** Accept all types of joint filler material based on the manufacturer's certification that it meets the stated requirements and the Engineer's inspection.

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## 9. ARCHIVED VERSIONS

Archived versions are available.