



**SAN JACINTO RIVER AUTHORITY  
PURCHASING DEPARTMENT  
1577 Damsite Road  
Conroe, TX 77304  
Attn: Steve Gibson  
(936) 588-7128  
sgibson@sjra.net**

**REQUEST FOR BID  
RFB #12-002**

**Landscape Improvements at Surface Water Facility North Buffer  
(SJRA Contract #12-001)**

**DATE ISSUED: 10/28/2011**

**BIDS DUE PRIOR TO 2:00 PM, 11/04/2011**

### **Disclosure Requirements**

Chapter 176 of the Texas Local Government Code mandates the public disclosure of certain information concerning persons doing business or seeking to do business with the San Jacinto River Authority, including affiliations and business and financial relationships such persons may have with San Jacinto River Authority officers. An explanation of the requirements of Chapter 176, applicable forms and a complete text of the new law are available at: <http://www.sjra.net>. If you are unable to obtain such information online, please contact the San Jacinto River Authority Purchasing Department, 1577 Damsite Road, Conroe, Texas 77304 or call (936) 588-7111.

**BY DOING BUSINESS OR SEEKING TO DO BUSINESS WITH THE SAN JACINTO RIVER AUTHORITY, YOU ACKNOWLEDGE THAT YOU HAVE BEEN NOTIFIED OF THE REQUIREMENTS OF CHAPTER 176 OF THE TEXAS LOCAL GOVERNMENT CODE AND THAT YOU ARE SOLELY RESPONSIBLE FOR COMPLYING WITH THEM.**

### **Contents**

Section 1	Bid Form
Section 2	Miscellaneous Services Agreement
Section 3	Plans and Specifications



Section 1

Bid Form

## **BID FORM**

### **This Bid is submitted to:**

Steve Gibson  
GRP Division Buyer  
San Jacinto River Authority  
1577 Dam Site Road  
Conroe, TX 77304

**ATTN: RFB # 12-002**

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Contract Documents to perform all Work as specified or indicated in Contract Documents for the Contract Price indicated in this Bid or as modified by Written Amendment. Bidder agrees to complete the Work within the Contract Price and within the Contract Times established in the Agreement or as modified by Written Amendment and comply with the all other terms and conditions of the Contract Documents.

### **Bidder's Acknowledgments**

The Bid will remain subject to acceptance for 60 calendar days after the opening of Bids. Bidder accepts the provisions of the Agreement as to liquidated damages in the event of its failure to complete Work in accordance with the schedule set forth in the Agreement.

### **Bidder's Representations**

In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

- A. Bidder has examined and carefully studied the Contract Documents and the other related data identified in the Contract Documents.
- B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and the furnishing o Goods and Special Services.
- D. Bidder has obtained and carefully studied all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions including surface, subsurface and Underground Facilities at or contiguous to the Site which may affect cost, progress, or performance of the

Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents to be employed by Bidder, and safety precautions and programs incident thereto and accepts the consequences for not doing so.

- E. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the Contract Price proposed, within the Contract Times proposed and in accordance with the terms and conditions of the Contract Documents.
- F. Bidder is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.
- G. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.
- H. Bidder has given OWNER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Contract Documents, and the written resolution thereof by OWNER is acceptable to Bidder.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- J. Bidder will submit written evidence of its authority to do business in the state where the Project is located not later than the date of its execution of the Agreement.
- K. Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from making an offer; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

### **Basis of Bid**

Bidder will complete the Work in accordance with the Contract Documents for the Prices shown in the section Bidder's Bid, of this Bid Form.

- A. Bidder acknowledges that the estimated quantities are not guaranteed, and final payment for all Unit Price items will be based on actual quantities provided, measured as provided in the Contract Documents.
- B. Unit Price and figures column will be used to compute the actual bid price.

### **Time of Completion**

The Work will be will be substantially complete with 65 calendar days from the Notice to Proceed. Final Completion will be complete within 15 calendar days of receipt of the final punchlist items.

### **Attachments to This Bid**

The following documents are attached to and made a condition of this Bid:

- A. Bidder's Bid (Fill out and attach Bid Form below).

### **Venue**

Bidder agrees that venue shall be exclusively in Montgomery County, Texas for any legal action.

### **Payment Bonds**

In the event of award of a Contract to the undersigned, the undersigned will furnish a Payment Bond for the full amount of the Contract to secure proper compliance with the terms and provisions of the Contract, to insure and guarantee the work until final completion and acceptance, and to guarantee payment of all lawful claims for labor performed and materials furnished in fulfillment of the Contract.

### **Bidder's Bid**

The undersigned hereby proposes and agrees to perform all work of whatever nature required, in strict accordance with the Plans and Specifications, for the following sum of prices.





## BID CERTIFICATION

The undersigned affirms that they are duly authorized to execute this contract, that this bid has not been prepared in collusion with any other bidder, and that the contents of this bid have not been communicated to any other bidder prior to the official opening of this bid. Additionally, the undersigned affirms that the firm is willing to sign the attached SJRA Contract (if applicable).

Signed By: \_\_\_\_\_ Title: \_\_\_\_\_

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

Phone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

Email: \_\_\_\_\_

Bid Address: \_\_\_\_\_  
P.O. Box or Street                      City                      State                      Zip

Order Address: \_\_\_\_\_  
P.O. Box or Street                      City                      State                      Zip

Remit Address: \_\_\_\_\_  
P.O. Box or Street                      City                      State                      Zip

Federal Tax ID No.: \_\_\_\_\_

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

Corporate Seal (if applicable)

END OF DOCUMENT



## Section 2

### Miscellaneous Services Agreement



## AGREEMENT

**Project:** \_\_\_\_\_ Landscape Improvements at SWF North Buffer Zone

**Project Location:** \_\_\_\_\_ Lake Conroe Dam, Conroe, TX 77304

### THE PARTIES

**The SJRA:** The SAN JACINTO RIVER AUTHORITY

- |                                  |   |
|----------------------------------|---|
| <input type="radio"/>            | General and Administration Division - PO Box 329, Conroe, TX 77305 936-588-1111 |
| <input checked="" type="radio"/> | GRP Division - PO Box 329, Conroe, TX 77305 936-588-1111                        |
| <input type="radio"/>            | Lake Conroe Division - PO Box 329, Conroe, TX 77305 936-588-1111                |
| <input type="radio"/>            | Highlands Division – PO Box 861, Highlands, TX 77562 281-843-3300               |
| <input type="radio"/>            | Woodlands Division – PO Box 7537, The Woodlands, TX 77387 281-362-4385          |

(Contact Person / Phone/ e-mail) \_\_\_\_\_

and

**Contractor:** \_\_\_\_\_

(Address for Written Notice) \_\_\_\_\_

(Contact Person / Phone/email) \_\_\_\_\_

FOR THE MUTUAL PROMISES SET OUT HEREIN THE PARTIES AGREE AS FOLLOWS:

### ARTICLE 1 WORK OF THE CONTRACT

1.1 Contractor shall perform the Work in accordance with the terms of this Agreement and the attached Contract Documents, if any. The Work is generally described as follows:

Landscape Improvements at the North Buffer Zone, as described in Plans and Specifications (see attached)

### ARTICLE 2 CONTRACT TIME

2.1 Contractor shall achieve Date of Substantial Completion within 65 calendar days after the EFFECTIVE DATE of this Agreement, subject to adjustments of the Contract Time executed in writing and agreed to by the Parties.

2.2 The Parties recognize that time is of the essence for this Agreement and that the SJRA will suffer financial loss if the Work is not completed within the Contract Time. The Parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding actual loss suffered by the SJRA if the Work is not completed on time. Accordingly, instead of requiring any such proof, the Parties agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay the SJRA \$200.00 for each day beyond the Contract Time.

### ARTICLE 3 CONTRACT PRICE

3.1 The SJRA will pay Contractor in current funds for Contractor's completion of the Work, the Contract Price of \$ \_\_\_\_\_.

### ARTICLE 4 PAYMENT PROCEDURES

4.1 Contractor shall submit invoices for payments due. The SJRA will make payments in compliance with the Texas "prompt payment law" which states that payments for goods and services are due 45 days after the goods are provided, the services completed, or a correct invoice is received, whichever is later. (Ref Chapter 2251 of Texas Gov. Code).

4.2 Final payment, constituting the entire unpaid balance of the Contract Price, will be made by the SJRA to Contractor upon final completion and acceptance of the Work by the SJRA.

## ARTICLE 5 CONTRACTOR REPRESENTATIONS

5.1 Contractor represents:

5.1.1 Contractor has examined and carefully studied the Contract Documents and other related data identified in Bid Documents.

5.1.2 Contractor has visited the site and become familiar with and is satisfied as to general, local, and site conditions that may affect cost, progress, and performance of the Work.

5.1.3 Contractor is familiar with and is satisfied as to all federal, state, and local laws and regulations that may affect cost, progress, and performance of the Work.

5.1.4 Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in Contract Documents and (2) reports and drawings of a hazardous environmental condition, if any, at the site which has been identified in Contract Documents.

5.1.5 Contractor has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including applying specific means, methods, techniques, sequences, and procedures of construction, if any, expressly required by the Contract to be employed by Contractor, and safety precautions and programs incident thereto.

5.1.6 Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for performance of the Work at Contract Price, within Contract Time, and in accordance with the Contract.

5.1.7 Contractor is aware of general nature of work to be performed by the SJRA and others at the site that relates to the Work as indicated in Contract Documents.

5.1.8 Contractor has correlated information known to Contractor, information and observations obtained from visits to the site, reports and drawings identified in the Contract, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract.

5.1.9 Contractor has given the SJRA written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract, and the written resolution thereof by the SJRA is acceptable to Contractor.

5.1.10 Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

## ARTICLE 6 INDEMNIFICATION; MISCELLANEOUS PROVISIONS

6.1 **Indemnification.**

6.1.1 To the fullest extent permitted by laws and regulations, Contractor shall indemnify and hold harmless the SJRA and its officers, directors, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting there from but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

6.1.2 In any and all claims against the SJRA or any of its officers, directors, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under this article shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

6.2 **Assignment of Contract.** No assignment of any rights under or interests in this Agreement will be binding on another party hereto without the written consent of the party sought to be bound, and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

6.3 **Successors and Assigns.** The SJRA and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

6.4 **Termination of Contract.** SJRA may terminate this Contract at any time upon **five (5) calendar** days written notice. Upon the Contractor's receipt of such notice, the Contractor shall cease work immediately. The Service Provider shall be compensated for the services satisfactorily performed prior to the termination date.

**ARTICLE 7  
ENUMERATION OF CONTRACT DOCUMENTS**

7.1 In addition to this Agreement, the following Contract Documents are incorporated into this Agreement:

- | <u>Document Title</u>  |  |
|--|--|
| [ X ] Bid Form or Quote  |  |
| [ ] Bid Bond   |  |
| [ ] Performance Bond   |  |
| [ X ] Statutory Payment Bond (see Attachment A for Form)           |  |
| [ X ] Certificate of Insurance (see Attachment B for Requirements) |  |
| [ X ] Evidence of Workers Compensation coverage                    |  |
| [ ] General Conditions   |  |
| [ ] Supplementary Conditions                                       |  |
| [ X ] Specifications   |  |
| [ X ] Drawings   |  |
| [ X ] Affidavit of All Bills Paid (see Attachment C for Form)      |  |

7.2 The Contract Documents may only be amended, modified, or supplemented in writing agreed to by the Parties.

7.3 This Contract has been made under and shall be governed by the laws of the State of Texas. The parties agree that performance and all matters related thereto shall be in Montgomery County, Texas.

7.4 This Contract represents the entire and integrated agreement between SJRA and the Contractor and supercedes all prior negotiations, representations, or agreements, either written or oral. This Contract may only be amended by written instrument approved and executed by the parties.

7.5 To the extent there are any conflicts between the terms and provisions of this Agreement and the Contract Documents, this Agreement shall control.

**ARTICLE 8  
SIGNATURES**

8.1 This Agreement is executed in two original copies and is effective as of the date of signature by the General Manager or his designee.

**CONTRACTOR:**

(If Joint Venture)

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_  
Tax Identification Number: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_  
Tax Identification Number: \_\_\_\_\_

**SAN JACINTO RIVER AUTHORITY**

APPROVED:

By: \_\_\_\_\_  
SJRA Authorized Signature

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

Date: \_\_\_\_\_  
(Effective Date of Contract)

END OF DOCUMENT

**Attachment A**

**TEXAS STATUTORY PAYMENT BOND**

PROJECT NAME: Landscape Improvements at North Buffer Zone  
SJRA CONTRACT #: 12-001

THE STATE OF TEXAS           §

KNOW ALL MEN BY THESE PRESENTS:

THE COUNTY OF MONTGOMERY   §

THAT WE, \_\_\_\_\_, as Principal, hereinafter called  
"Principal" and

the other subscriber hereto \_\_\_\_\_, a corporation  
organized and

existing under the laws of the State of \_\_\_\_\_, licensed to do business in the State of Texas  
and  
admitted to write bonds, as Surety, hereinafter called "Surety", do hereby acknowledge ourselves to be held and  
firmly bound to the San Jacinto River Authority, a political subdivision of the State of Texas, in the sum of

\_\_\_\_\_ and \_\_\_/100  
Dollars

(\$ \_\_\_\_\_) for payment whereof, the said Principal and Surety bind themselves, and their heirs,  
administrators, executors, successors and assigns jointly and severally.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:

WHEREAS, Principal has entered into a certain Contract with the San Jacinto River Authority, dated the  
\_\_\_\_\_ day of \_\_\_\_\_, 201\_\_\_\_, for \_\_\_\_\_

\_\_\_\_\_, which  
Contract and the Contract Documents therein referred to and adopted by SJRA and/or its representatives, all of  
which are hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, the condition of this obligation is such that if Principal shall pay all claimants  
supplying labor and material to him or a subcontractor in the prosecution of the work provided for in said Contract,  
then, this obligation shall be null and void; otherwise to remain in full force and effect.

It is further expressly agreed by Surety that the San Jacinto River Authority or its representatives are at liberty at  
any time, without notice to the Surety, to make any change in the Contract Documents and in the Work to be done  
thereunder, as provided in the Contract, and in the terms and conditions thereof, or to make any change in,  
addition to, or deduction from the work to be done thereunder; and that such changes, if made, shall not in any  
way vitiate the obligation in this bond and undertaking or release the Surety therefrom.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Chapter 2253 of the  
Texas Government Code and all liabilities on this bond shall be determined in accordance with the provisions,  
conditions and limitations of said Code to the same extent as if it were copied at length herein.

IN WITNESS THEREOF, the said Principal and Surety have signed and sealed this instrument on the respective dates written below their signatures.

ATTEST, SEAL: (if a corporation)  
WITNESS: (if not a corporation)

By: \_\_\_\_\_  
Name:  
Title:  
Date:

\_\_\_\_\_  
(Name of Contractor)

By: \_\_\_\_\_  
Name:  
Title:  
Date:

\_\_\_\_\_  
(Full Name of Surety)

\_\_\_\_\_  
(Address of Surety for Notice)

ATTEST/WITNESS (SEAL)

By: \_\_\_\_\_  
Name:  
Title:  
Date:

By: \_\_\_\_\_  
Name:  
Title:  
Date:

THE FOREGOING BOND  
IS ACCEPTED ON BEHALF OF THE  
SAN JACINTO RIVER AUTHORITY,  
TEXAS

**Attachment B**

**Insurance Requirements**

<b><u>Kinds of Insurance:</u></b>	<b><u>Limits of Liability*:</u></b>
A. Workers' Compensation Texas Operations Employer's Liability	Statutory  Bodily Injury by Accident \$500,000 Each Accident Bodily Injury by Disease \$500,000 Each Employee Bodily Injury by Disease \$500,000 Policy Limit
B. Commercial General Liability Including but not limited to: 1. premises/operations 2. products and completed operations 3. personal injury liability with employment exclusion deleted 4. contractual, owned, non-owned, and hired vehicles or mobile equipment	\$1,000,000 General Aggregate Products/Completed Operations Aggregate: Included \$500,000 Each Occurrence
C. Business Automobile Liability Including all Owned, Hired, and Non-owned Automobiles	\$500,000 Combined Single Limit Per Occurrence

\* Aggregate limits are per 12-month policy period unless otherwise indicated; defense costs shall be excluded from limits of liability of each policy.

All required insurance shall be maintained with responsible insurance carriers acceptable to SJRA and lawfully authorized to issue insurance of the types and amounts set forth in this EXHIBIT "A" to the Supplemental Conditions. Carriers should have a Best's Financial Strength Rating of at least "A-" and a Best's Financial Size Category of Class VI or better, according to the most current edition of Best's Key Rating Guide, Property-Casualty United States or be of sufficient size and financial strength as adjudged by SJRA to meet the financial obligations evidenced in the certificate of insurance.

All policies of insurance and certificates issued for this Agreement shall name the San Jacinto River Authority (SJRA) and its board, directors, officers, agents, and employees as additional insureds by endorsement for and to the extent of liabilities assumed under this Agreement.

All certificates shall be in a form reasonably acceptable to the SJRA; see EXHIBIT "A" for an example form.



**Attachment C**

**AFFIDAVIT OF BILLS PAID**

STATE OF TEXAS

COUNTY OF \_\_\_\_\_

BEFORE ME, the undersigned authority, on this day personally appeared \_\_\_\_\_ party to that certain Contract entered into on the \_\_\_\_\_ day of \_\_\_\_\_, 2010, between **San Jacinto River Authority (Owner)** and \_\_\_\_\_ **(Contractor)** for the erection, construction, and completion of certain improvements and/or additions upon the following described premises, to wit:

Said party being by me duly sworn states upon oath that the said improvements have been erected and completed in full compliance with the above referred to Contract and the agreed plans and specifications therefore.

Deponent further states that he has paid all bills and claims for materials furnished and labor performed on said Contract and that there are no outstanding unpaid bills or legal claims for labor performed or materials furnished upon said job.

This affidavit is being made by the undersigned realizing that it is in reliance upon the truthfulness of the statements contained therein that final and full settlement of the balance due on said Contract is being made, and in consideration of the disbursement of funds San Jacinto River Authority, deponent expressly waives and releases all liens, claims and rights to assert a lien on said premises and agrees to indemnify and hold San Jacinto River Authority safe and harmless from and against all losses, damages, costs and expenses of any character whatsoever specifically including court costs, bonding fees and attorney fees, arising out of or in any way relating to claims for unpaid labor or material used or associated with construction of improvements on the above-described premises.

\_\_\_\_\_  
\_\_\_\_\_

By: \_\_\_\_\_

Subscribed and sworn to before me, the undersigned authority, on this the \_\_\_\_\_ day of \_\_\_\_\_, 2010.

\_\_\_\_\_  
Notary public in and for \_\_\_\_\_ County



## Section 3

### Plans and Specifications

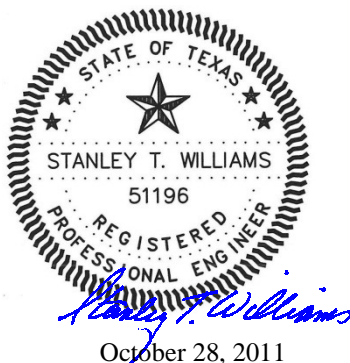


**SAN JACINTO RIVER AUTHORITY  
GRP DIVISION  
SURFACE WATER FACILITY  
1577 Dam Site Road  
Conroe, TX 77304**

**TECHNICAL SPECIFICATIONS, AND DRAWINGS**

for

**LANDSCAPE IMPROVEMENTS AT THE NORTH  
BUFFER ZONE  
(SJRA Contract #12-001)**



October 28, 2011

1 2011/09/17

2 **SECTION 01 33 00**  
3 **SUBMITTALS**

4 **PART 1 - GENERAL**

5 **1.1 SUMMARY**

- 6 A. Section Includes:
- 7 1. Mechanics and administration of the submittal process for:
- 8 a. Product technical data.
- 9 b. Contract closeout information.
- 10 c. Miscellaneous submittals.
- 11 B. Related Sections include but are not necessarily limited to:
- 12 1. Sections in Divisions 2 through 48 identifying required submittals.

13 **1.2 DEFINITIONS**

- 14 A. Miscellaneous Submittals:
- 15 1. Submittals other than Shop Drawings.
- 16 2. Representative types of miscellaneous submittal items include but are not limited to:
- 17 a. Product technical data.
- 18 b. Digital photographs.
- 19 c. Construction schedule.
- 20 d. Manufacturer's installation certification letters.
- 21 e. Plant Establishment Plan.
- 22 f. Warranties.

23 **1.3 PREPARATION OF SUBMITTALS**

- 24 A. General:
- 25 1. All submittals and all pages of all copies of a submittal shall be completely legible.
- 26 2. Submittals which, in the Engineer's sole opinion, are illegible will be returned without
- 27 review.
- 28 B. Miscellaneous Submittals:
- 29 1. Prepare in the format and detail specified in Specification requiring the miscellaneous
- 30 submittal.

31 **1.4 TRANSMITTAL OF SUBMITTALS**

- 32 A. Miscellaneous Submittals:
- 33 1. Transmit under Contractor's standard letter of transmittal or letterhead.
- 34 2. Submit in triplicate or as specified in individual Specification Section.
- 35 3. Transmit to:
- 36

HDR  
4401 West Gate Blvd, Suite 400  
Austin, TX 78745  
Attn: Mr. Stan Williams

- 37 B. Electronic submittals will be accepted.

38 **1.5 ENGINEER'S REVIEW ACTION**

- 39 A. Shop Drawings and Samples:

1. Items within transmittals will be reviewed for overall design intent and will receive one of the following actions:
  - a. A - FURNISH AS SUBMITTED.
  - b. B - FURNISH AS NOTED (BY ENGINEER).
  - c. C - REVISE AND RESUBMIT.
  - d. D - REJECTED.
  - e. E - ENGINEER'S REVIEW NOT REQUIRED.
2. Submittals received will be initially reviewed to ascertain inclusion of Contractor's approval stamp.
  - a. Submittals not stamped by the Contractor or stamped with a stamp containing language other than that specified herein will not be reviewed for technical content and will be returned without any action.
3. In relying on the representation on the Contractor's review and approval stamp, Owner and Engineer reserve the right to review and process poorly organized and poorly described submittals as follows:
  - a. Submittals transmitted with a description identifying a single item and found to contain multiple independent items:
    - 1) Review and approval will be limited to the single item described on the transmittal letter.
    - 2) Other items identified in the submittal will:
      - a) Not be logged as received by the Engineer.
      - b) Be removed from the submittal package and returned without review and comment to the Contractor for coordination, description and stamping.
      - c) Be submitted by the Contractor as a new series number, not as a re-submittal number.
  - b. Engineer, at Engineer's discretion, may revise the transmittal letter item list and descriptions, and conduct review.
    - 1) Unless Contractor notifies Engineer in writing that the Engineer's revision of the transmittal letter item list and descriptions was in error, Contractor's review and approval stamp will be deemed to have applied to the entire contents of the submittal package.
4. Submittals returned with Action "A" or "B" are considered ready for installation.
  - a. If for any reason a submittal that has an "A" or "B" Action is resubmitted, it must be accompanied by a letter defining the changes that have been made and the reason for the resubmittal.
  - b. Destroy or conspicuously mark "SUPERSEDED" all documents having previously received "A" or "B" Action that are superseded by a resubmittal.
5. Submittals with Action "A" or "B" combined with Action "C" (Revise and Resubmit) or "D" (Rejected) will be individually analyzed giving consideration as follows:
  - a. The portion of the submittal given "C" or "D" will not be distributed (unless previously agreed to otherwise at the Preconstruction Conference).
    - 1) One (1) copy or the one (1) transparency of the "C" or "D" Drawings will be marked up and returned to the Contractor.
      - a) Correct and resubmit items so marked.
  - b. Items marked "A" or "B" will be fully distributed.
  - c. If a portion of the items or system proposed are acceptable, however, the major part of the individual Drawings or documents are incomplete or require revision, the entire submittal may be given "C" or "D" Action.
    - 1) This is at the sole discretion of the Engineer.
    - 2) In this case, some Drawings may contain relatively few or no comments or the statement, "Resubmit to maintain a complete package."
    - 3) Distribution to the Owner and field will not be made (unless previously agreed to otherwise).
6. Failure to include any specific information specified under the submittal paragraphs of the Specifications will result in the submittal being returned to the Contractor with "C" or "D" Action.





EXHIBIT A

Shop Drawing Transmittal  
 No. \_\_\_\_\_ - \_\_\_\_\_  
 (Spec Section) (Series)

Project Name:		Date Received:			
Project Owner:		Checked By:			
Contractor:	HDR Engineering, Inc.	Log Page:			
Address:	Address:	HDR No.:			
		Spec Section:			
		Drawing/Detail No.:			
Attn:	Attn:	1st. Sub	ReSub.		
Date Transmitted:	Previous Transmittal Date:				
Item No.	No. Copies	Description	Manufacturer	Mfr/Vendor Dwg or Data No.	Action Taken*
Remarks:					
* The Action designated above is in accordance with the following legend:					

- |  |  |
|--|--|
| <p>A - Furnish as Submitted</p> <p>B - Furnish as Noted</p> <p>C - Revise and Submit</p> <ol style="list-style-type: none"> <li>1. Not enough information for review.</li> <li>2. No reproducibles submitted.</li> <li>3. Copies illegible.</li> <li>4. Not enough copies submitted.</li> <li>5. Wrong sequence number.</li> <li>6. Wrong resubmittal number.</li> <li>7. Wrong spec. section.</li> <li>8. Wrong form used.</li> <li>9. See comments.</li> </ol> | <p>D - Rejected</p> <p>E - Engineer's review not required</p> <ol style="list-style-type: none"> <li>1. Submittal not required.</li> <li>2. Supplemental Information. Submittal retained for informational purposes only.</li> <li>3. Information reviewed and approved on prior submittal.</li> <li>4. See comments.</li> </ol> |
|--|--|

Comments:

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	By		Date
Distribution: Contractor	File	Field	Owner
			Other

(Jun 1990; Revised Jun 1997; Revised Oct 2001, Revised Nov 2007)  
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EXHIBIT B

O&M Manual Transmittal  
No. \_\_\_\_\_ - \_\_\_\_\_  
(Spec Section) (Series)

Project Name: \_\_\_\_\_ Date Received: \_\_\_\_\_

Project Owner: \_\_\_\_\_ Checked By: \_\_\_\_\_

Contractor: \_\_\_\_\_ Owner: \_\_\_\_\_ Log Page: \_\_\_\_\_

Address: \_\_\_\_\_ Address: \_\_\_\_\_ HDR No.: \_\_\_\_\_

Attn: \_\_\_\_\_ Attn: \_\_\_\_\_  
1st. Sub. \_\_\_\_\_ ReSub. \_\_\_\_\_

Date Transmitted: \_\_\_\_\_ Previous Transmittal Date: \_\_\_\_\_

No. Copies	Description of Item	Manufacturer	Dwg. or Data No.	Action Taken*

Remarks: \_\_\_\_\_

To: \_\_\_\_\_ From: \_\_\_\_\_  
*HDR Engineering, Inc.*  
 Date: \_\_\_\_\_

- \* The Action designated above is in accordance with the following legend:
- |   |   |
|---|---|
| <p>A - Acceptable, provide number of paper copies and compact disks specified.</p> <p>B - Furnish as Noted - Not Used</p> <p>C - Revise and Resubmit<br/>         This Operation and Maintenance Manual Submittal is deficient in the following area:</p> <ol style="list-style-type: none"> <li>1. Equipment Records.</li> <li>2. Functional description.</li> <li>3. Assembly, disassembly, installation, alignment, adjustment &amp; checkout instructions.</li> <li>4. Operating instructions.</li> </ol> | <ol style="list-style-type: none"> <li>5. Lubrication &amp; maintenance instructions.</li> <li>6. Troubleshooting guide.</li> <li>7. Parts list and ordering instructions.</li> <li>8. Organization (binder, binder titles, index &amp; tabbing).</li> <li>9. Wiring diagrams &amp; schematics specific to installation.</li> <li>10. Outline, cross section &amp; assembly diagrams.</li> <li>11. Test data &amp; performance curves.</li> <li>12. Tag or equipment identification numbers.</li> <li>13. Inclusion of all components &amp; subcomponents.</li> <li>14. Other - see comments.</li> </ol> <p>D - Rejected - Not Used</p> |
|---|---|

Comments: \_\_\_\_\_

	By _____	Date _____	
Distribution: Contractor	File	Field	Owner Other

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1 2011/09/17

2 **SECTION 31 10 00**  
3 **SITE CLEARING**

4 **PART 1 - GENERAL**

5 **1.1 SUMMARY**

- 6 A. Section Includes:  
7 1. Site clearing, tree protection, stripping topsoil and demolition.  
8 B. Related Sections include but are not necessarily limited to:  
9 1. Section 31 23 00- Earthwork.  
10 2. Section 32 91 05 - Topsoiling and Finished Grading.

11 **PART 2 - PRODUCTS - (NOT APPLICABLE TO THIS SECTION)**

12 **PART 3 - EXECUTION**

13 **3.1 PREPARATION**

- 14 A. Protect existing trees and other vegetation to prevent damage.  
15 1. Do not smother trees by stockpiling construction materials or excavated materials within  
16 drip line.  
17 2. Avoid foot or vehicular traffic or parking of vehicles within drip line.  
18 3. Provide temporary protection as required.  
19 B. Repair or replace trees and vegetation damaged by construction operations.  
20 1. Repair to be performed by a qualified tree surgeon.  
21 2. Remove trees which cannot be repaired and restored to full-growth status.  
22 3. Replace with new trees of minimum 4 IN caliper.

23 **3.2 SITE CLEARING**

- 24 A. Topsoil Removal:  
25 1. Strip topsoil to depths encountered.  
26 a. Remove heavy growths of grass before stripping.  
27 b. Stop topsoil stripping sufficient distance from such trees to prevent damage to main  
28 root system.  
29 c. Separate from underlying subsoil or objectionable material.  
30 2. Stockpile topsoil where directed by Owner.  
31 a. Construct storage piles to freely drain surface water.  
32 b. Seed or cover storage piles to prevent erosion.  
33 3. Do not strip topsoil in wooded areas where no change in grade occurs.  
34 4. Borrow topsoil: Reasonably free of subsoil, objects over 2 IN DIA, weeds and roots.  
35 B. Clearing and Grubbing:  
36 1. Clear from within limits of construction all trees not marked to remain.  
37 a. Include shrubs, brush, downed timber, rotten wood, heavy growth of grass and weeds,  
38 vines, rubbish, structures and debris.  
39 2. Grub (remove) from within limits of construction all stumps, roots, root mats, logs and  
40 debris encountered.  
41 C. Disposal of Waste Materials:

- 1 1. Do not burn combustible materials on site.
- 2 2. Remove all waste materials from site.
- 3 3. Do not bury organic matter on site.

4 **3.3 ACCEPTANCE**

- 5 A. Upon completion of the site clearing, obtain Owner's acceptance of the extent of clearing, depth
- 6 of stripping and rough grade.

7 **END OF SECTION**

1 2011/09/17

2 **SECTION 31 23 00**  
3 **EARTHWORK**

4 **PART 1 - GENERAL**

5 **1.1 SUMMARY**

6 A. Section Includes:

7 1. Earthwork.

8 B. Related Sections include but are not necessarily limited to:

9 1. Section 32 91 05- Topsoiling and Finished Grading

10 **1.2 QUALITY ASSURANCE**

11 A. Referenced Standards:

12 1. ASTM International (ASTM):

13 a. D698, Test Method for Laboratory Compaction Characteristics of Soil Using Standard  
14 Effort (12,400 ft-lbf/ft<sup>3</sup>).

15 **PART 2 - PRODUCTS**

16 **2.1 MATERIALS**

17 A. Topsoil:

18 1. Select native material stripped from areas prior to excavation and protected for reuse.

19 2. Topsoil shall be clean soil free from roots, rocks, debris, trash, organic matter, frozen  
20 materials, or other deleterious or objectionable materials.

21 3. Topsoil material shall be acceptable to Engineer.

22 **PART 3 - EXECUTION**

23 **3.1 PROTECTION**

24 A. Protect existing surface and subsurface features on-site and adjacent to site as follows:

25 1. Provide barricades, coverings, or other types of protection necessary to prevent damage to  
26 existing items indicated to remain in place.

27 2. Protect and maintain benchmarks, monuments or other established reference points and  
28 property corners. If disturbed or destroyed, replace at own expense to full satisfaction of  
29 Owner and controlling agency.

30 3. Verify location of utilities.

31 a. Take necessary precautions to protect existing utilities from damage due to any  
32 construction activity.

33 b. Repair damages to utility items at own expense.

34 c. In case of damage, notify Engineer at once so required protective measures may be  
35 taken.

36 4. Provide full access to public and private premises, fire hydrants, street crossings, sidewalks  
37 and other points as designated by Owner to prevent serious interruption of travel.

38 5. Maintain stockpiles and excavations in such a manner to prevent inconvenience or damage  
39 to structures on-site or on adjoining property.

40 6. Avoid surcharge or excavation procedures which can result in heaving, caving, or slides.

1 B. Dispose of waste materials, legally, off site. Burning, as a means of waste disposal, is not  
2 permitted.

3 **END OF SECTION**

1 2011/09/17

2

## SECTION 32 90 00

3

### SEEDING, SODDING AND LANDSCAPING

4

#### PART 1 - GENERAL

5

##### 1.1 SUMMARY

6

###### A. Section Includes:

7

###### 1. Landscape planting:

8

###### a. Soil preparation.

9

###### B. Related Sections include but are not necessarily limited to:

10

###### 1. Section 32 91 05 - Topsoiling and Finished Grading.

11

###### C. In event of conflict between quantities of plants indicated on drawings and in plant list, the drawings will govern.

12

13

##### 1.2 QUALITY ASSURANCE

14

###### A. Referenced Standards:

15

###### 1. American Nursery and Landscape Association/American National Standards Institute (ANLA/ANSI):

16

###### a. Z60.1, American Standard for Nursery Stock.

17

18

###### 2. ASTM International (ASTM):

19

###### a. D997, Drop Test for Loaded Cylindrical Containers.

20

###### b. D2028, Standard Specification for Cutback Asphalt.

21

###### c. D5276, Standard Test Method for Drop Test of Loaded Containers by Free Fall.

22

###### 3. Standard Methods of the Association of Official Agricultural Chemists.

23

###### B. Quality Control:

24

###### 1. Work performed by qualified nurseryman or landscape contractor.

25

##### 1.3 JOB CONDITIONS

26

###### A. Protect existing improvements and trees.

27

###### 1. Repair or replace damaged items.

28

###### B. Protect completed work.

29

###### C. Verify location and existence of underground utilities

30

###### 1. Protect existing utilities from damage due to construction activity.

31

###### 2. Repair damage to utility items.

32

##### 1.4 SUBMITTALS

33

###### A. Product technical data including:

34

###### 1. Acknowledgement that products submitted meet requirements of standards referenced.

35

###### 2. Manufacturer's installation instructions.

36

###### 3. Type of herbicide to be used during first growing season to contain annual weeds and application rate.

37

38

###### 4. Source and location of plants, and plant material, as per paragraphs 2.1A.1 and 3.2A.1

39

###### B. Contract Closeout Information

40

###### 1. Warranty.

41

###### 2. Maintenance data.

42

###### C. Miscellaneous Submittals:

43

###### 1. Submit digital photographs of plant materials prior to their delivery to the project site.

- 1                   2. Copies of invoices for fertilizer used on Project showing grade furnished, along with  
2                   certification of quality and warranty.

3   **1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING**

- 4           A. Furnish fertilizer uniform in composition, free flowing and suitable for application with  
5           approved equipment, delivered to site in bags or other containers, each fully labeled and bearing  
6           the name, and warranty of the producer.
- 7           B. Handle plants at all times so that roots or balls are adequately protected from breakage of balls,  
8           from sun and drying winds.
- 9           C. Plants with dried out tops or roots will be rejected.

10   **1.6 SEQUENCING AND SCHEDULING**

- 11          A. Installation Schedule:
- 12           1. Provide schedule showing when trees, shrubs, groundcovers and other plant materials are  
13           anticipated to be planted.
- 14           2. Indicate anticipated dates Owner will be required to review installation for initial acceptance  
15           and final acceptance.
- 16          B. Pre-installation Meeting:
- 17           1. Meet with Owner and other parties as necessary to discuss schedule and methods, unless  
18           otherwise indicated by Owner.

19   **1.7 WARRANTY**

- 20          A. Contractor shall furnish a written warranty of trees, shrubs, ornamental grasses and  
21          groundcovers for 12 MO after date of final acceptance, against defects including death and  
22          unsatisfactory growth.
- 23          B. Remove and replace new plants supplied, which are impaired, dead or dying during 1 YR from  
24          initial acceptance.
- 25          C. Replacement materials and methods identical to original.
- 26          D. Plants replaced under warranty will not have a second warranty, except as stated in  
27          Paragraph 1.7 E. below.
- 28          E. If fall planted material is dead or dying in the spring, replace material during that spring season.  
29          If said plants fail again during growing season, replace again in the fall. Every plant must leaf  
30          out and be in healthy condition at beginning of growing season.

31   **PART 2 - PRODUCTS**

32   **2.1 MATERIALS**

- 33          A. Plant materials:
- 34           1. Species and size indicated in the schedule on the contract drawings.
- 35           a. No substitutions without written approval of Engineer.
- 36           2. Sound, healthy, vigorous, with normal top and root systems.
- 37           3. Free from diseases, insect pests or their eggs.
- 38           4. Nursery grown stock, freshly dug.
- 39           5. No heeled-in, cold storage or collected stock.
- 40           6. Grown in the same or colder climatic zone as project location.
- 41           7. See drawings for plant list.
- 42          B. Trees:
- 43           1. Single leader, straight trunk.
- 44           2. Well branched.

- 1           3. Symmetrical growth.
- 2           C. Container grown plants (CG):
- 3           1. Roots well established in soil, but not root bound.
- 4           2. Grown in container for at least one growing season.
- 5           D. Planting soil:
- 6           1. Original fertile, friable surface soil typical of area, capable of supporting native plant
- 7           growth, reasonable free of subsoil, clay, weeds, roots, and stones larger than 1 IN.
- 8           2. Amend soil, if needed, with sand and/or peat moss.
- 9           E. Organic Mulch: Double shredded hardwood chips of approved commercial grade.
- 10          F. Peat moss: Finely shredded sphagnum or fibrous peat moss of an approved commercial grade;
- 11          free from woody substances.
- 12          G. Sand: Clean and free of toxic materials, ASTM C33.
- 13          H. Herbicide: Pre-emergent/Post-emergent: Commercial grade conforming to State and Federal
- 14          regulations.
- 15          I. Tree wrap:
- 16          1. 2 ply asphalt laminated Kraft crepe paper in strips, or burlap in strips.
- 17          2. Secure to tree with good quality 6 ply cotton twine or binder twine.
- 18          J. Tree stakes:
- 19          1. 2 IN caliper and below - 2 x 2 x 48 IN wood stakes.
- 20          2. Above 2 IN caliper – 3 IN DIA x 10 FT, straight, close-grained, lodge pole pine, pointed at
- 21          one end. Stakes shall be pointed prior to preservative pressure-treatment with copper
- 22          naphthanate that shall penetrate stake surfaces to a minimum depth of 1/4 IN.
- 23          K. Staking wire: 12 GA galvanized soft steel wire.
- 24          L. Staking Straps:
- 25          1. Straps are to be wide, belt like straps to prevent rubbing.
- 26          2. Do not use wire or rubber hose.
- 27          M. Antidesiccant: Emulsion that will provide a film over plant surfaces permeable enough to
- 28          permit transpiration.
- 29          N. Asphalt Binder: Emulsified asphalt per State specifications.
- 30          O. Water:
- 31          1. Water free from substances harmful to plant growth.
- 32          2. Provide water from source approved prior to use.
- 33          3. Provide equipment necessary to transport water from source to required locations.
- 34          P. Fertilizer:
- 35          1. Commercial, all organic, all natural biological fertilizer meeting applicable requirements of
- 36          State and Federal law.
- 37          2. Granular, uniform in composition, free-flowing, and suitable for application with approved
- 38          equipment
- 39          3. Slow release type such as Osmocote or Nutricote is recommended.
- 40          4. Broadcast fertilizer at the rate of 40 LBS fertilizer per 1000 SQ FT and mix to 4 to 6 IN
- 41          depth into planting soil.
- 42          5. Cyanic compound or hydrated lime not permitted in mixed fertilizers.

43           **PART 3 - EXECUTION**

44           **3.1 SOIL PREPARATION**

- 45           A. General:

- 1 1. Limit preparation to areas which will be planted soon after.
- 2 2. Provide facilities to protect and safeguard all persons on or about premises.
- 3 3. Protect existing trees designated to remain.
- 4 4. Verify location and existence of all underground utilities.
  - 5 a. Take necessary precaution to protect existing utilities from damage due to construction
  - 6 activity.
  - 7 b. Repair all damages to utility items at sole expense.
- 8 5. Provide facilities such as protective fences and/or watchmen to protect work from
- 9 vandalism.
- 10 a. Contractor to be responsible for vandalism until acceptance of work in whole or in part.
- 11 B. Preparation for Plant Materials:
- 12 1. Immediately heel-in or plant bare root material.

### 13 **3.2 PLANTING TREES, SHRUBS, AND GROUNDCOVERS:**

- 14 A. Notification:
  - 15 1. Notify Engineer of source of plants and plant materials at least 30 days prior to planting to
  - 16 permit Engineer's inspection of source qualifications.
- 17 B. Preparation:
  - 18 1. Handle plants so that roots or balls are adequately protected from breakage of balls, from
  - 19 sun or drying winds.
    - 20 a. Ensure tops or roots of plants are not permitted to dry out.
  - 21 2. During transportation, protect materials from wind and sun to prevent tops and roots from
  - 22 drying out.
  - 23 3. Protect tops of plants from damage.
    - 24 a. Plants with damaged tops will be rejected.
  - 25 4. Do not prune trees and shrubs at nursery.
- 26 C. Planting Procedure:
  - 27 1. Indicate locations of plants for approval by Engineer before excavating plant locations.
  - 28 2. In event underground construction, utilities, obstructions, or rock are encountered in
  - 29 excavation of plantings, secure alternate locations from Engineer.
    - 30 a. Make said changes without additional compensation.
  - 31 3. Excavate pits and beds as necessary and in accordance with ANLA/ANSI Z60.1.
    - 32 a. Loosen bottom of pits prior to planting.
    - 33 b. Excavation is unclassified, excavate all materials without additional cost.
  - 34 4. Tree and shrub pits.
    - 35 a. Wide, saucer shaped bowl.
    - 36 b. 2 to 3 times greater than the diameter of the ball
    - 37 c. Form hole to allow the root ball to sit on undisturbed soil.
    - 38 d. Place top of root mass at or slightly above existing grade (2 IN MAX).
  - 39 5. Massed planting and groundcover beds:
    - 40 a. Remove sod if required.
    - 41 b. Shrubs: Plant in individual holes of required size.
    - 42 c. Groundcover beds: Rototill existing topsoil to depth of 6 IN.
    - 43 d. Add planting soil as required.
    - 44 e. Add soil amendments as specified.
  - 45 6. Set plants straight or plumb, in locations when indicated and at such level that after
  - 46 settlement they bear same relationship to finished grade as they did in their former setting.
    - 47 a. Carefully tamp planting soil under and around base of balls to prevent voids.
    - 48 b. Remove burlap, rope and wires from top of balls.
    - 49 c. Do not remove burlap from sides and bottom of balls.
  - 50 7. Backfill plants with planting soil.
    - 51 a. Tamp to 1/2 depth of pit and thoroughly water and puddle before bringing backfill to
    - 52 proper grade.

- 1                   b. After planting has been completed, flood pit again so that backfill is thoroughly
- 2                    saturated and settled.
- 3                   8. After planting is complete, form a level saucer 3 IN high around each tree extending to limit
- 4                    of plant pit for watering purposes.
- 5                   9. Mulch plant pit after saucer has been shaped.
- 6                    a. Mulch to limits of pit and uniformly over planting beds to a depth of 3 IN.
- 7                    b. In mass plantings of shrubs, mulch entire area uniformly among shrubs to a depth of
- 8                    3 IN.
- 9                    c. If mulching is delayed and soil has dried out, water plants thoroughly before spreading
- 10                  mulch.
- 11                  10. Staking:
- 12                  a. Stake trees immediately after planting as detailed on Drawings or in accordance with
- 13                  Nursery Standards.
- 14                  b. Set stakes securely at an angle.
- 15                  c. For deciduous trees 3 IN and larger: Three stakes spaced equilaterally around tree.
- 16                  d. For deciduous trees 3 IN and smaller and evergreen trees: Two stakes spaced opposite
- 17                  sides of tree.
- 18                  e. Attach wide, belt like straps from stake to tree and secure. Do not use wire.
- 19                  f. Remove staking within one year.
- 20                  11. Wrap deciduous trees 2 IN or more in caliper by neatly overlapping wrapping material
- 21                  between ground line and second branch.
- 22                  a. Place ties at top and bottom of wrapping material and not more than 12 IN apart
- 23                  between top and bottom ties.
- 24                  12. Remove dead or damaged branches.
- 25                  a. Thin deciduous material to about two-thirds of initial branching.
- 26                  b. Remove only dead or damaged branches from evergreens.
- 27                  13. Water plants during planting operations.
- 28                  a. Water each plant a minimum of once each week until final acceptance.
- 29                  b. Apply sufficient water to moisten backfill about each plant so that moisture will extend
- 30                  into the surrounding soil.

31   **3.3 CLEAN-UP**

- 32                  A. Remove debris and waste materials, and excess earth materials.
- 33                  B. Re-sod any damaged turf areas

34   **3.4 REVIEW FOR INITIAL ACCEPTANCE**

- 35                  A. At end of each planting season, Engineer will review and record acceptability of plant material.
- 36                  B. Payment for completed work will be based only on acceptable plant materials and workmanship.

37   **3.5 MAINTENANCE AND REPLACEMENT**

- 38                  A. Maintain new and transplanted materials for one year from initial acceptance
- 39                    1. Water when necessary. If planted during hot summer months, water three times a week.
- 40                    2. Remove dead or dying branches, and sprouts.
- 41                    3. Tighten, repair or replace tree stakes and wrapping.
- 42                    4. Maintain mulch depth.
- 43                    5. Weed plant beds and pits.
- 44                  B. General:
- 45                    1. Begin maintenance of planted areas immediately after each portion is planted and continue
- 46                    until final acceptance.
- 47                    2. Provide and maintain temporary piping, hoses, and watering equipment as required to
- 48                    convey water from water sources and to keep planted areas uniformly moist as required for
- 49                    proper growth.
- 50                    3. Protection of new materials:

- 1 a. Provide barricades, coverings or other types of protection necessary to prevent damage
- 2 to existing improvements indicated to remain.
- 3 1) Repair and pay for all damaged items.
- 4 4. Replace unacceptable materials with materials and methods identical to the original
- 5 Specifications unless otherwise approved by the Engineer.

6 **END OF SECTION**

7

1 2011/08/31

2

3

**SECTION 32 91 05**  
**TOPSOILING AND FINISHED GRADING**

4 **PART 1 - GENERAL**

5 **1.1 SUMMARY**

6 A. Section Includes:

7 1. Topsoiling and finished grading.

8 B. Related Sections include but are not necessarily limited to:

9 1. Section 31 10 00 - Site Clearing.

10 2. Section 31 23 00 - Earthwork.

11 3. Section 32 90 00 - Seeding, Sodding and Landscaping.

12 C. Location of Work: All areas which are disturbed in the course of the Work.

13 **1.2 SITE CONDITIONS**

14 A. Verify amount of topsoil stockpiled and determine amount of additional topsoil, if necessary to  
15 complete work.

16 **PART 2 - PRODUCTS**

17 **2.1 MATERIALS**

18 A. Topsoil:

19 1. Suitable topsoil stockpiled under section 31 10 00.

20 2. Original fertile, friable surface soil typical of area, capable of supporting native plant  
21 growth, reasonable free of subsoil, clay, weeds, roots, and stones larger than 1 IN.

22 a. Furnish additional topsoil as required.

23 **PART 3 - EXECUTION**

24 **3.1 PREPARATION**

25 A. Correct, adjust and/or repair rough graded areas.

26 1. Cut off mounds and ridges.

27 2. Fill gullies and depressions.

28 3. Perform other necessary repairs.

29 4. Bring all sub-grades to specified contours, even and properly compacted.

30 B. Loosen surface to depth of 4 IN, minimum.

31 C. Remove all stones and debris over 2 IN in any dimension.

32 **3.2 PLACING TOPSOIL**

33 A. Do not place when subgrade is wet or frozen enough to cause clodding.

34 B. Spread to compacted depth of 4 IN for all disturbed earth areas.

35 C. If topsoil stockpiled is less than amount required for work, furnish additional topsoil at no cost to  
36 Owner.

37 D. Provide finished surface free of stones, sticks, or other material 1 IN or more in any dimension.

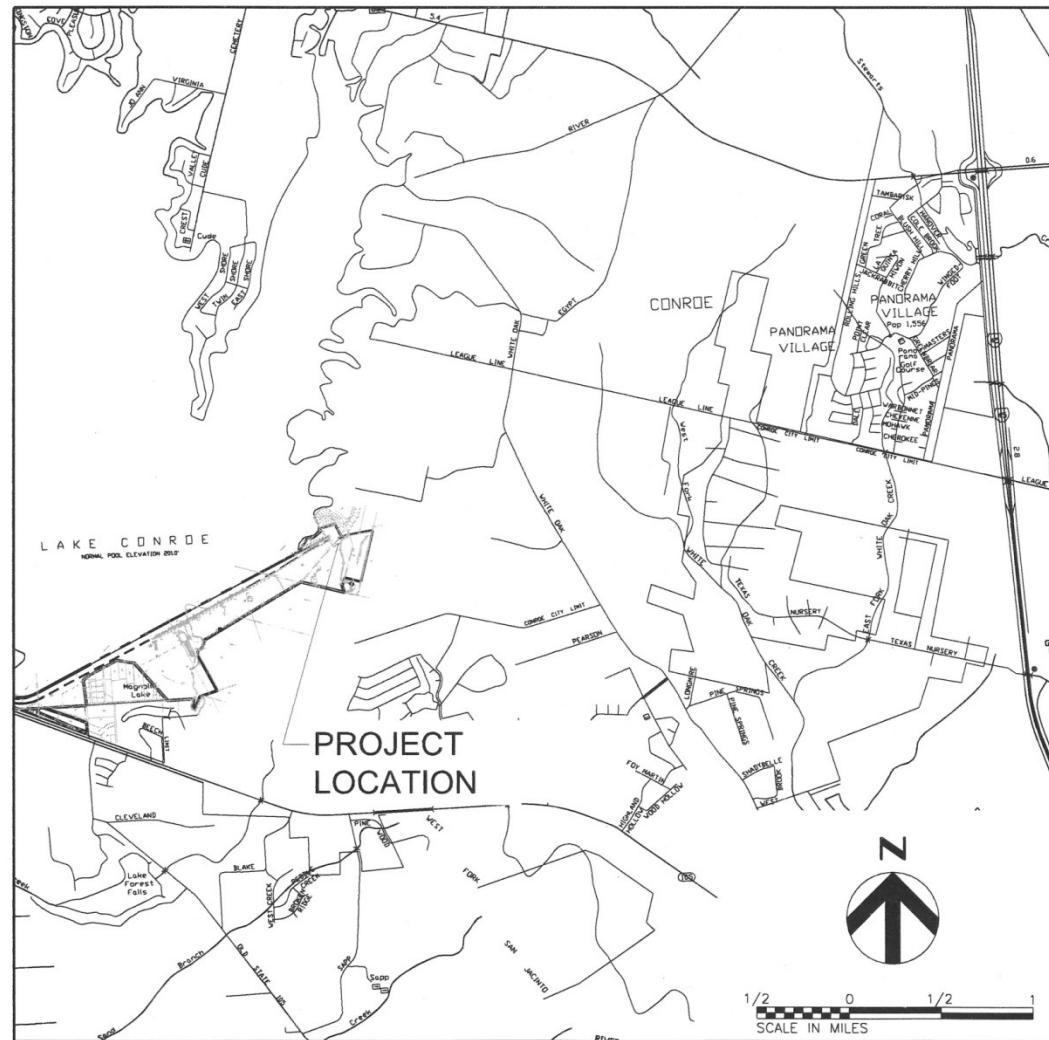
- 1 E. Provide finished surface smooth and true to required grades.
- 2 F. Restore stockpile area to condition of rest of finished work.

3

**END OF SECTION**



# SAN JACINTO RIVER AUTHORITY



Contract Drawings For

## Groundwater Reduction Program Landscape Improvements at Future Surface Water Treatment Facility

North Buffer Zone

SJRA Contract #12-001

HDR Project No.  
00000000162249

Conroe, Texas  
October 2011

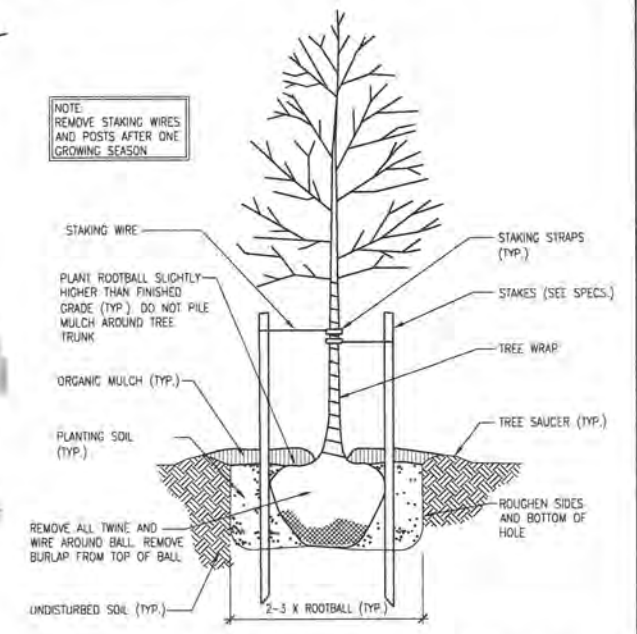
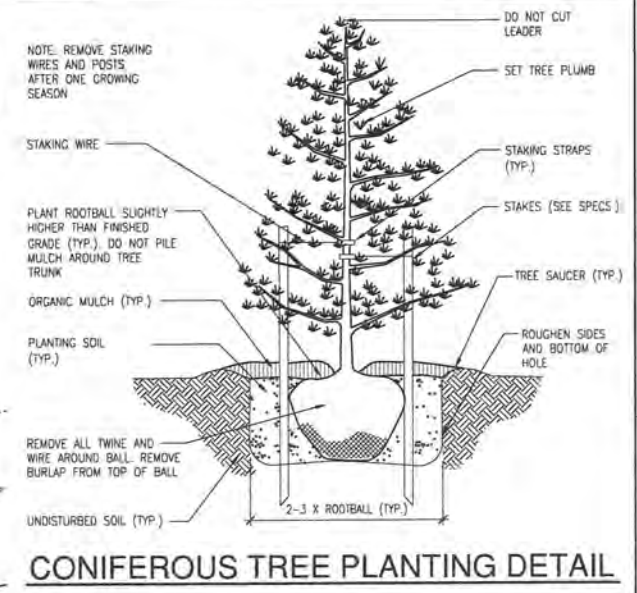
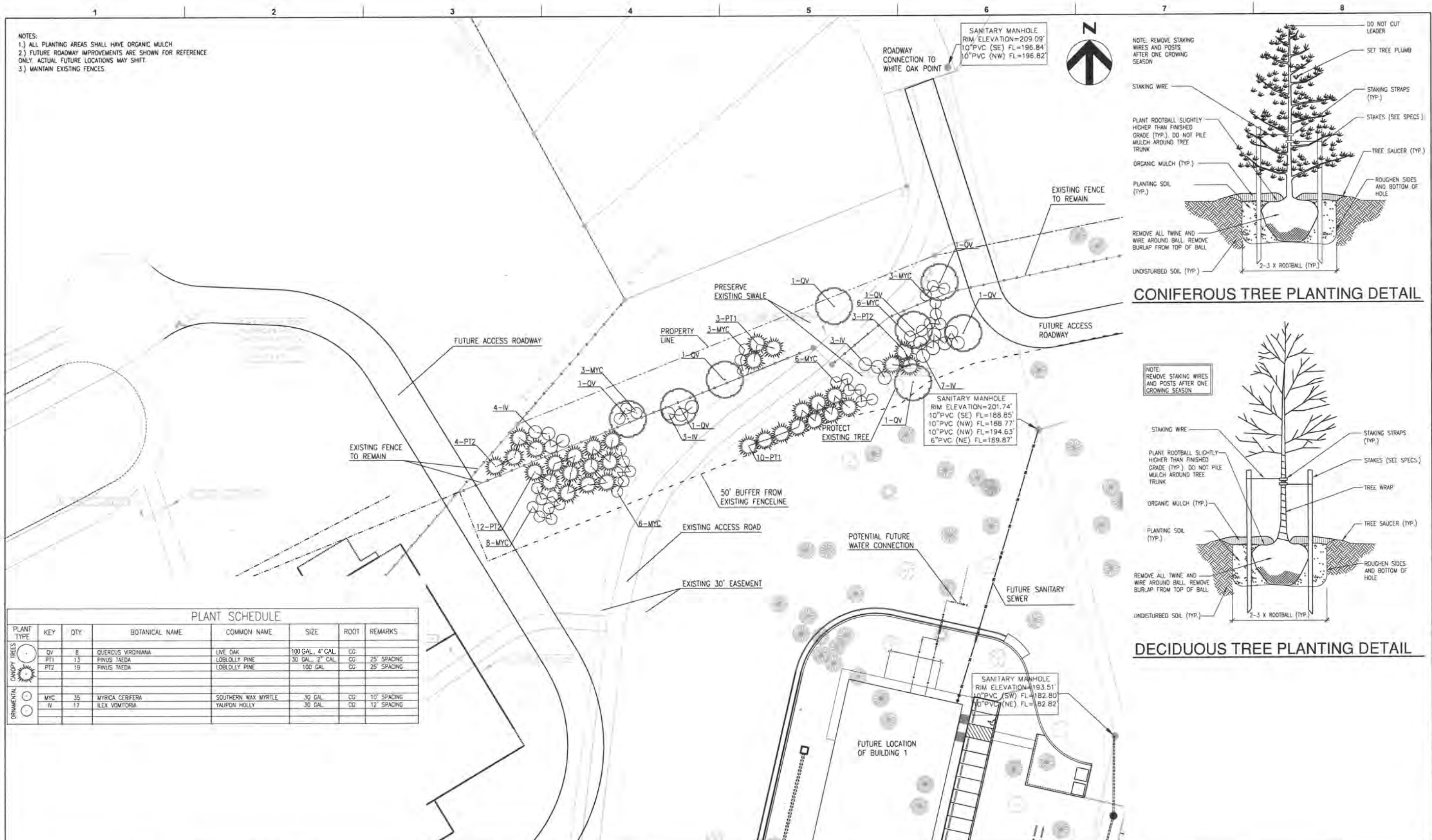
### Index of Sheets

00G-00.....Cover Sheet  
01L-01.....Site Landscape Plan

**HDR** HDR Engineering, Inc.  
Texas P.E. Firm  
Registration No. F-754



- NOTES:  
 1.) ALL PLANTING AREAS SHALL HAVE ORGANIC MULCH  
 2.) FUTURE ROADWAY IMPROVEMENTS ARE SHOWN FOR REFERENCE ONLY. ACTUAL FUTURE LOCATIONS MAY SHIFT.  
 3.) MAINTAIN EXISTING FENCES.



PLANT SCHEDULE							
PLANT TYPE	KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
CANOPY TREES	QV	8	QUERCUS VIRGINIANA	LIVE OAK	100 GAL., 4" CAL.	CG	
	PT1	13	PINUS TAEDA	LOBLOLLY PINE	30 GAL., 2" CAL.	CG	25' SPACING
	PT2	19	PINUS TAEDA	LOBLOLLY PINE	100 GAL.	CG	25' SPACING
ORNAMENTAL	MYC	35	MYRICA CERIFERA	SOUTHERN WAX MYRTLE	30 GAL.	CG	10' SPACING
	N	17	ILEX VOMITORIA	YALPON HOLLY	30 GAL.	CG	12' SPACING

 HDR Engineering, Inc. Texas P.E. Firm Registration No. F-754	PROJECT MANAGER: STANLEY T. WILLIAMS DESIGNED BY: T. HENNINGSON DRAWN BY: T. HENNINGSON CHECKED BY: STANLEY T. WILLIAMS DATE: October 2011 PROJECT NUMBER: 0000162249	 <i>Stanley T. Williams</i> 10/27/2011	 <b>SAN JACINTO RIVER AUTHORITY</b> GROUNDWATER REDUCTION PROGRAM <b>SURFACE WATER TREATMENT PLANT</b>	<b>SITE LANDSCAPE PLAN</b> 0 1" 2" SCALE: 1" = 30' FILENAME: 01L-01.dwg SHEET: 01L-01	