

**BID DOCUMENTS**  
**FOR**  
**CONSTRUCTION MATERIALS FOR**  
**LAS PALMAS MOBILE ESTATES**  
**SUBIVISION WATERLINE UPGRADE**

**CAMERON COUNTY BID #160901**

**PREPARED FOR**

**EL JARDIN WATER SUPPLY CORPORATION**

**PREPARED BY**



**GONZALEZ**  
**ENGINEERING & SURVEYING, INC.**  
153 E. PRICE ROAD, BROWNSVILLE, TX. 78621  
PHONE: (956) 546-5515 FAX: (956) 546-2804





**CAMERON COUNTY  
PURCHASING DEPARTMENT  
INVITATION TO BID**

**BID NUMBER: 160901**

**BID TITLE: LAS PALMAS MOBILE ESTATES SUBIVISION WATERLINE UPGRADE**

**DATE DUE: OCTOBER 18, 2016**

**DUE NO LATER THAN 11:00 A.M.**

Bids/ RFP's / RFQ's will be opened at the Cameron County Courthouse, 1100 East Monroe Street, Brownsville, Texas in the Purchasing Department – 3<sup>rd</sup> Floor – Room # 345 at 11:01 a.m. (as per Purchasing Dept. time clock) on deadline due date.

Bids received later than the date and time above will not be considered.

Please return bid ORIGINAL ONE (1) in sealed envelope. Be sure that return envelope shows the Bid Number, Description and is marked "SEALED BID".

RETURN BID TO:

by U.S. mail or delivered to the office of Purchasing Dept., **County Courthouse (Dancy Bldg.)  
1100 E. Monroe St, 3<sup>rd</sup> Floor, Room 345, Brownsville, Texas 78520.**

For additional information or to request addendum contact: **Gonzalez Engineering & Surveying Inc. at (956) 546-5515 or sam@gonzalezengineering.com.**

**You must sign below in INK; failure to sign WILL disqualify the offer. All prices must be typewritten or written in ink.**

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

Company Address: \_\_\_\_\_

City, State, Zip Code: \_\_\_\_\_

Historically Underutilized Business (State of Texas) Certification VID Number: \_\_\_\_\_

Telephone No. \_\_\_\_\_ Fax No. \_\_\_\_\_ e-mail \_\_\_\_\_

Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_

How did you find out about this Bid? \_\_\_\_\_ (ex: Newspaper, Web, Mail)

**Is Bidder's principal place of Business within Cameron County? Yes - No**

**If yes what City:** \_\_\_\_\_

(Your signature attests to your offer to provide the goods and/or services in this bid according to the published provision of this bid. When an award letter is issued, this Bid becomes the contract. If a Bid required specific Contract is to be utilized in addition to this Bid, this signed Bid will become part of that contract. When an additional Contract is required a Bid award does not constitute a contract award and Bid / Contract is not valid until contract is awarded by Commissioners Court (when applicable) signed by County Judge) and Purchase Order is issued.

## **CHECK LIST**

Items checked below represent components which comprise this bid/proposal package. If the item **IS NOT** checked, it is **NOT APPLICABLE** to this bid/proposal. Offerors are asked to review the package to be sure that all applicable parts are included. If any portion of the package is missing, notify the Purchasing Department immediately. It is the Offeror's responsibility to be familiar with all the Requirements and Specifications. Be sure you understand the following before you return your bid packet.

- Cover Sheet**  
Your company name, address and your signature (**IN INK**) should appear on this page.
- Instructions to Bidders**  
You should be familiar with all of the Instructions to Bidders.
- Special Requirements**  
This section provides information you must know in order to make an offer properly.
- Specifications / Scope of Work**  
This section contains the detailed description of the product/service sought by the County.

### **Attachments**

- Attachments A, B, C, D, E, F, G, H**  
Be sure to complete these forms and return with packet.

### **Other - Final Reminders To double check before submitting BID/RFP/RFQ**

- Is your bid sealed with bid #, title, Bidder Name, & return address, on outside?
- Did you complete, sign and submit page 1?
- Did you complete and submit attachments A,B,C,D,E , F, G, H ?
- Did you provide the number of copies as required on the cover page?
- Did you visit our website for any addendums?  
[http://www.co.cameron.tx.us/administration/purchasing\\_department/bids\\_rfp\(q\)\\_and\\_addms\\_and\\_tabs.php](http://www.co.cameron.tx.us/administration/purchasing_department/bids_rfp(q)_and_addms_and_tabs.php)

If not interested in Bidding please let us know why e-mail to: [Purchasing@co.cameron.tx.us](mailto:Purchasing@co.cameron.tx.us)

## INSTRUCTIONS FOR SUBMITTING BIDS

These General Instructions apply to all offers made to Cameron County, Texas (herein after referred to as "County") by all prospective vendors (herein after referred to as "Bidder") on behalf of Solicitations including, but not limited to, Invitations to Bid.

Carefully read all instructions, requirements and specifications. Fill out all forms properly and completely. Submit your bid with all appropriate supplements and/or samples. Prior to returning your sealed bid response / submittal, all Addendums - if issued - should be reviewed and downloaded by entering the County Purchasing web [http://www.co.cameron.tx.us/administration/purchasing\\_department/bids\\_rfp\(q\)\\_and\\_addms\\_and\\_tabs.php](http://www.co.cameron.tx.us/administration/purchasing_department/bids_rfp(q)_and_addms_and_tabs.php) Addendums Column (updated Addendums). These Addendums must be signed and returned with your bid in order to avoid disqualification. All Tabulations can also be viewed and downloaded at this site. Annual Bid award information can be accessed at:

[http://www.co.cameron.tx.us/administration/purchasing\\_department/bids\\_rfp\(q\)\\_and\\_addms\\_and\\_tabs.php](http://www.co.cameron.tx.us/administration/purchasing_department/bids_rfp(q)_and_addms_and_tabs.php)

Review this document in its entirety. Be sure your Bid is complete, and double check your Bid for accuracy.

Cameron County is an Equal Employment Opportunity Employer.

**GOVERNING FORMS: In the event of any conflict between the terms and provisions of these requirements and the specifications, the specifications shall govern. In the event of any conflict of interpretation of any part of this overall document, Cameron County's interpretation shall govern. Where substitutions are used, they must be of equivalent value or service, and specified by the bidder as such, in the columns to the right on the "Minimum Specifications' Forms". The County's specifications may be exceeded and should be noted by the Vendor as such. Any bid NOT MEETING the Minimum Requirements specified will be rejected.**

**GOVERNING LAW: This invitation to bid is governed by the competitive bidding requirements of the County Purchasing Act, Texas Local Government Code, §262.021 et seq., as amended. Bidders shall comply with all applicable federal, state and local laws and regulations. Bidders are further advised that these requirements shall be fully governed by the laws of the State of Texas and that Cameron County may request and rely on advice, decisions and opinions of the Attorney General of Texas and the County Attorney concerning any portion of these requirements.**

Questions requiring only clarification of instructions or specifications will be handled verbally. If any questions results in a change or addition to this Bid, the Change(s) and addition(s) will be forwarded to all vendors involved (as quickly as possible) in the form of a written addendum only. Verbal changes to Bids must be backed-up by written addendum or written Q/A clarifications which would be posted on County Purchasing Web site. Without written Addendum or written Q / A clarification, verbal changes to Bids will not apply.

Sign the Vendor's Affidavit Notice, complete answers to Attachments A,B, C, D, E , F , G, H and return all with your Bid.

### **CONFLICT OF INTEREST QUESTIONNAIRE:**

#### **For vendor or other person doing business with local governmental entity**

This questionnaire must be filed in accordance with chapter 176 of the Local Government Code by a person doing business with the governmental entity.

**By law this questionnaire must be filed with the records administrator (County Clerk's Office) of the local government not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed.** See Section 176.006, Local Government Code.

A person commits an offense if the person violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than September 1 of the year for which an activity described in Section 176.006(a), Local Government Code, is pending and not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.

Please review this entire document, if for any reason there is any information to disclose, relative to any questions in this Conflict of Interest form, you must file with County Clerk's Office subject to above instructions.

**can be downloaded at the following web site:**

<http://www.co.cameron.tx.us/purchasing/docs/conflictinterest.pdf>

### **DISCLOSURE OF INTERESTS:**

This questionnaire must be filed with the records administrator (County Clerk's Office) of the local government and no later than the 7<sup>th</sup> business day after the person becomes aware of facts that require this statement to be filed. Cameron County, Texas requires all persons or firms seeking to do business with the County to **provide the following information if the person becomes aware of facts that require this statement to be filed.** Every question must be answered. If the question is not applicable, answer with "N/A."

Please review this entire document, if for any reason there is any information to disclose, relative to any questions in this disclosure of interest form, you must file with County Clerk's Office subject to above instructions.

**can be downloaded at the following web site:**

<http://www.co.cameron.tx.us/purchasing/docs/DisclosureofInterest.pdf>

### **TEXAS ETHICS COMMISSION FORM 1295**

All Bids prior to award or award of Contract by Commissioner's Court will require that the Texas Ethics Commission (TEC) Form 1295 Electronic (on line) Vendor filing procedure be completed by Vendor.

All Vendors being recommended to Commissioners Court for award or renewal of award on Agenda must register and obtain a TEC Certification for the specific award. This Certification Form 1295 must be electronically submitted, printed and notarized. Notarized form must be emailed or delivered to County Purchasing Department making the request for form. This process must be completed prior to Commissioners Court Agenda for approval consideration of Bid award. There is no charge for this TEC online process.

Texas Ethics Commission (TEC) Form 1295 must be completed (by firm - on line "New Form 1295 Certificate of Interested Parties Electronic Filing Application" Site at:

[https://www.ethics.state.tx.us/whatsnew/elf\\_info\\_form1295.htm](https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm) )

If any Vendors have questions as to TEC Form 1295 visit the County Purchasing Web site left column tab "Vendor – TEC Form 1295" for more information. TEC Web site links can be found at this location including Question / Answers and Video instructions.

tab Link:

[http://www.co.cameron.tx.us/administration/purchasing\\_department/index.php](http://www.co.cameron.tx.us/administration/purchasing_department/index.php)

BIDDER SHALL SUBMIT BID ON THE FORM PROVIDED, SIGN THE VENDOR AFFIDAVIT, AND RETURN ENTIRE BID PACKET. In the event of inclement weather and County Offices are officially closed on a bid deadline day, bids will be received until 2:00 p.m. of the next business day, for opening at upcoming Commissioner's Court meeting.

BIDS SUBMITTED AFTER THE SUBMISSION DEADLINE SHALL BE RETURNED UNOPENED AND WILL BE CONSIDERED VOID AND UNACCEPTABLE.

BIDDERS MAY ATTEND PUBLICLY HELD COMM COURT MEETING FOR AWARD OF THIS SOLICITATION. All responding bidders are welcome to attend the publicly held Commissioners Court meeting relative to the outcome / award of this solicitation. Court Meeting agenda date and times may be obtained at the following web site: <http://www.co.cameron.tx.us/judge/agenda.htm>

SUCCESSFUL VENDOR WILL BE NOTIFIED BY MAIL. All responding vendors will receive written notification regarding the outcome of the award.

OPEN RECORDS ACCESS TO ALL INFORMATION SUBMITTED. All information included will be open to the public, other bidders, media as per the Open Records Act and not be confidential in nature. If you deem any information as confidential, it should not be made part of your bid package.

### **PLEASE NOTE CAREFULLY**

THIS IS THE ONLY APPROVED INSTRUCTION FOR USE ON YOUR BID. ITEMS BELOW APPLY TO AND BECOME A PART OF TERMS AND CONDITIONS OF BID. ANY EXCEPTIONS THERETO MUST BE IN WRITING.

1. Each bid shall be placed in a separate envelope completely and properly identified with the name and number of the bid. Bids must be in the Purchasing Department BEFORE the hour and date specified.
2. Bids MUST give full firm name and address of the bidder. Failure to manually sign bid will disqualify it. Person signing bid should show TITLE or AUTHORITY TO BIND THE FIRM IN A CONTRACT.
3. Bids CANNOT be altered or amended after deadline time. Any alterations made before deadline time must be initiated by bidder or his authorized agent. No bid can be withdrawn after opening time without approval by the Commissioners Court based on a written acceptable reason.
4. The County is exempt from State Sales Tax and Federal Excise Tax. DO NOT INCLUDE TAX IN BID. Cameron County claims exemption from all sales and/or use taxes under Texas Tax Code §151.309, as amended. Texas Limited Sales Tax Exemption Certificates will be furnished upon written request to the Cameron County Purchasing Agent.
5. Any Catalog, brand name or manufacturer's reference used in a bid invitation is descriptive-NOT restrictive-it is to indicate type and quality desired. Bids on brand of like nature and quality will be considered. If bid is based on other than reference specifications, proposal must show manufacturer, brand or trade name, lot number, etc., of article offered. If other than brand(s) specified is offered, illustrations and complete descriptions should be made part of the bid. If bidder takes no exception to specifications or reference data, he will be required to furnish brand names, numbers, etc. as specified.
6. Samples, when requested, must be furnished free of expense to the County. If not destroyed in examination, they will be returned to the bidder on request, at his expense. Each sample should be marked with bidder's name, address, and County bid number. DO NOT ENCLOSE OR ATTACH SAMPLE TO BID. County user Dept(s) reserves the right to make the final determination as to equivalents.
7. Written and verbal inquires pertaining to bids must give Bid Number and Company.
8. NO substitutions, changes or cancellations permitted without written approval of Purchasing Agent.
9. The County reserves the right to accept or reject all or any part of any bid, waiver minor technicalities. The County of Cameron reserves the right to award by item category or by total bid. Prices should be itemized. County also reserves the right to award either with or without trade-in, if applicable. Cameron County retains the option to re-bid at any time if in its best interest and is not automatically bound to renewal or re-bid. . The County reserves the right to hold all Bids for 60 days from the due date of receipt without actions. The County reserves the right to add additional County Departments (at a later time during this bid award) as the need arises. The County also reserves the right to consider CO-OP Interlocal Agreements / pricing if determined to be more advantageous to the County.
10. Bid unit price on quantity specified – extend and show total. In case or errors in extension, UNIT prices shall govern. . If both alphabetic and numeric (unit prices) are required and a discrepancy is found between both on the same line item whichever unit price confirms the line total will govern. If neither confirms then the

alphabetic price will govern. If there is no line total requested then the alphabetic unit price shall govern. If combined / sum of line totals do not match the Bid total then the Bid total will be corrected to reflect the sum of the line totals. If there is a discrepancy between the alphabetic and numeric Base Bid Total / Total Bid amount, the alphabetic Base Bid Total / Total Bid will take precedence. Bids subject to unlimited price increase will not be considered, but limited to Preventive Maintenance Annual Local Labor Union Wage Rate adjustments. ALL PRICING WILL REMAIN FIRM UNLESS THIS BID ALLOWS FOR OPEN MARET PRICE INCREASES (AS SO SPECIFIED WITHIN) . When inserting number of days or percentage % in Bid (ex: number of days to deliver or install or complete work, etc or percentage over vendor's cost or percentage discount off list price) avoid using a range (ex: 30-90 days or 15% to 20 % cost plus) but use only only one number for number of days or percentage. If a range is used the County will consider the higher number or worst case scenario from the County's standpoint in making bid comparisons / tabulations.

11. This is a bid inquiry only and implies no obligation on the part of Cameron County.
12. Acceptance of and final payment for the item will be contingent upon satisfactory performance of the product received by Cameron County.
13. Partial bids will not be accepted unless awarded by complete category or line item. **To be awarded by Total Bid.**
14. It is expected that the bidder will meet all state and federal safety standards and laws in effect on the date of the bid for the item(s) being specified, and the particular use for which they are meant.
15. It is the responsibility of the bidder to ask any and all questions the bidder feels to be pertinent to the bid. Cameron County shall not be required to attempt to anticipate such questions for bidders or. Cameron County will endeavor to respond promptly to all questions asked.

**PURCHASE ORDER AND DELIVERY:** The successful Bidder shall not deliver products or provide services without a Cameron County Purchase Order, signed by an authorized agent of the Cameron County Purchasing Department. The fastest, most reasonable delivery time shall be indicated by the Bidder in the proper place on the Pricing/Delivery Information form. Any special information concerning delivery should also be included, on a separate sheet, if necessary. All items shall be shipped **F.O.B. INSIDE DELIVERY** unless otherwise stated in the specifications.

This shall be understood to include bringing merchandise to the appropriate room or place designated by the using department. Every tender or delivery of goods must fully comply with all provisions of these requirements and the specifications including time, delivery and quality. Nonconformance shall constitute a breach which must be rectified prior to expiration of the time for performance. Failure to rectify within the performance period will be considered cause to reject future deliveries and cancellation of the contract by Cameron County without prejudice to other remedies provided by law. **Where delivery times are critical, Cameron County reserves the right to award accordingly.**

**NO PLACEMENT OF DEFECTIVE TENDER:** Every tender or delivery of goods must fully comply with all provisions of this contract as to time of delivery, quality and the like. If a tender is made which does not fully conform, this shall constitute a breach and Seller shall not have the right to substitute a conforming tender provided, where the time for performance has not yet expired, the Seller may seasonably notify Buyer of their intention to cure and may then make a conforming tender within the contract time but not afterward.

**PLACE OF DELIVERY:** The place of delivery shall be that set forth on the purchase order. Any change thereto shall be effected by modification as provided for in clause 20, "Modifications", hereof. The terms of this agreement are "no arrival, no sale".

**DELIVERY TERMS AND TRANSPORTATION CHARGES:** Bid must show number of days required to place material in receiving agency's designated location under normal conditions. Failure to state delivery time obligates bidder to complete delivery in 14 calendar days. A five day difference in delivery promise may break a tie. Unrealistically short or long delivery promises may cause bid to be disregarded. Consistent failure to meet delivery promises without valid reason may cause removal from bidder list.

An accurate delivery date must be quoted on the "Bid Form". When there are various items, a delivery date must be included with each item quoted. Freight and shipping charges to Cameron County must be included in the bid price. Final location will be supplied to the vendor on award of bid, F.O.B. destination. Delivery locations will be: Various County Building locations. Delivery days after receipt of order (ARO). Specify all (various) dates by categories or item if different \_\_\_\_\_.

If delay is foreseen, contractor shall give written notice to Director of Purchasing. The County has the right to extend delivery date if reasons appear valid. Contractor must keep County advised at all times of status of order. Default in promised delivery (without accepted reasons) or failure to meet specifications, authorized the County to purchase supplies elsewhere and charge full increase in cost and handling to defaulting contractor.

Delivery shall be made during normal working hours only, 8:00 a.m. to 5:00 p.m. unless otherwise noted in bid.

**VARIATION IN QUANTITY:** The County assumes no liability for commodities produced, processed or shipped in excess of the amount specified herein.

**SELLER TO PACKAGE GOODS:** Seller will package goods in accordance with good commercial practice. Each shipping container shall be clearly and permanently packed as follows: (a) Seller's name and address; (b) Consignee's name, address and purchase order or purchase release number and the supply agreement number if applicable; (c) Container number and total number of containers, e.g. box 1 of 4 boxes; and (d) the number of the container bearing the packing slip. Seller shall bear cost of packaging unless otherwise provided. Goods shall be suitably packed to secure lowest transportation costs and to conform with requirements of common carriers and any applicable specifications. Buyer's count or weight shall be final and conclusive on shipments not accompanied by packing lists.

**SHIPMENT UNDER RESERVATION PROHIBITED:** Seller is not authorized to ship the goods under reservation, and no tender of a bill of lading will operate as a tender of goods.

**TITLE AND RISK OF LOSS:** The title and risk of loss of the goods shall not pass to Buyer until Buyer actually receives and takes possession of the goods at the point or points of delivery.

**INSPECTION:** Upon receiving item(s), they will be inspected for compliance with the Bid Specifications. If the item(s) do not pass inspection, the vendor will be required to pick up the rejected item(s) at the delivery point, provide the necessary replacement, and return the item(s) to the original point of delivery.

All items proposed shall be new, in first class condition, including containers suitable for shipment and storage (Cameron County prefers recycled packaging whenever possible), unless otherwise indicated in bid. Verbal agreements to the contrary will not be recognized. All materials and services shall be subject to Purchaser's approval. Unsatisfactory material will be returned at Seller's expense.

Cameron County reserves the right to inspect any item(s) or service location for compliance with specifications and requirements and needs of the using department. If a Bidder cannot furnish a sample of a bid item, where applicable, for review, or fails to satisfactorily show an ability to perform, the County can reject the bid as inadequate.

**TESTING:** Cameron County reserves the right to test equipment, supplies, material and goods bid for quality, compliance with specifications and ability to meet the needs of the user. Demonstration units must be available for review. Should the goods or services fail to meet requirements and/or be unavailable for evaluation, the bid is subject to rejection.

**SPECIAL TOOLS AND TEST EQUIPMENT:** If the price stated on the face hereof includes the cost of any special tooling or special test equipment fabricated or required by Seller for the purpose of filling this order, such special tooling equipment and any process sheets related thereto shall become the property of the Buyer and to the extent feasible shall be identified by the Seller as such.

**INVOICES AND PAYMENTS:** (a) The vendor shall submit separate invoices, in duplicate, on each purchase order after each delivery. Invoices shall indicate the purchase order number, shall be itemized and transportation charges, if any, shall be listed separately. A copy of the bill of lading and the freight weigh bill when applicable, should be

attached to the invoice. Mail to: Cameron County, ATTN: Auditor's Office, 1100 East Monroe St., Brownsville, Texas 78520. Payment shall not be due until the above instruments are submitted after delivery or services rendered. Our Vendors must keep the Auditor advised of any changes in your remittance addresses. (b) County's only obligation to pay Vendor is to pay from funds budgeted and available for the purpose of the purchase. Lack of funds shall render this contract null and void to the extent funds are not available and any delivered but unpaid for goods will be returned to Vendor by the County. (c) Do not include Federal Excise, State or City Sales Tax. County shall furnish tax exemption certificate if required.

Any invoice, which cannot be verified by the contract price and/or is otherwise incorrect, will be returned to the Vendor for correction. Under term contracts, when multiple deliveries and/or services are required, the Vendor may invoice following each delivery and the County will pay on invoice. Contracts providing for a monthly charge will be billed and paid on a monthly basis only. Prior to any and all payments made for good and/or services provided under this contract, the Vendor should provide his Taxpayer Identification Number or social security number as applicable. This information must be on file with the Cameron County Auditor's office. Failure to provide this information may result in a delay in payment and/or back-up withholding as required by the Internal Revenue Services.

Vendor shall submit seven (7) copies of an itemized invoice showing BID number and purchase order number to:

**CAMERON COUNTY AUDITOR  
ACCOUNTS PAYABLE  
1100 EAST MONROE ST.,  
BROWNSVILLE, TEXAS 78520**

Please note that any payment due under this bid award will be applied towards any debt, including but not limited to delinquent taxes that is owed to Cameron County.

**PAYMENT DISCOUNT:** Indicate the payment discount (s) available depending on the when invoices are paid. For example, 1/30 means a 1% discount if paid within 30 days, 2/15 means a 2% discount if paid within 15 days, etc.

Payment in full will be made within thirty (30) days of delivery, inspection, and receipt of invoice.

All costs quotations must include all the various features needed to satisfy the requirements. Note: No amounts will be paid for the items in this BID in excess of the amounts quoted.

**VENDOR REFERENCES**

Please list three (3) references of current customers who can verify the quality of service your company provides. The County prefers customers of similar size and scope of work to this bid.  
***THIS FORM MUST BE RETURNED WITH YOUR BID.***

**REFERENCE ONE**

Government/Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Person and Title: \_\_\_\_\_

Phone: \_\_\_\_\_ e-mail address: \_\_\_\_\_

Contract Period: \_\_\_\_\_ Scope of Work \_\_\_\_\_

**REFERENCE TWO**

Government/Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Person and Title: \_\_\_\_\_

Phone: \_\_\_\_\_ e-mail address: \_\_\_\_\_

Contract Period: \_\_\_\_\_ Scope of Work \_\_\_\_\_

**REFERENCE THREE**

Government/Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Person and Title: \_\_\_\_\_

Phone: \_\_\_\_\_ e-mail address: \_\_\_\_\_

Contract Period: \_\_\_\_\_ Scope of Work \_\_\_\_\_

**AFFIDAVIT**

The undersigned certifies that the bid prices contained in this bid have been carefully checked and are submitted as correct and final and if bid is accepted (within 90 days unless otherwise noted by vendor), agrees to furnish any and/or all items upon which prices are offered, at the price(s) and upon the conditions contained in the Specifications.

STATE OF TEXAS  
COUNTY OF CAMERON

**BEFORE ME**, the undersigned authority, A Notary Public in and for the State of Texas, on this day personally appeared

\_\_\_\_\_  
who, after having first been duly sworn, upon oath did depose and say;  
That the foregoing bid submitted by \_\_\_\_\_

\_\_\_\_\_  
hereinafter called "Bidder" is the duly authorized agent of said company and that the person signing said proposal has been duly authorized to execute the same. Bidder 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. The bidder is not a member of any trust, pool, or combination to control the price of products or services bid on, or to influence any person to bid or not to bid thereon. I further affirm that the bidder has not given, offered to give, nor intends to give, at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discounts, trip, favor, or service to a public servant in connection with the submitted Bid. 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.

Name and Address of Bidder:

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

Telephone number \_\_\_\_\_  
Fax number \_\_\_\_\_

\_\_\_\_\_  
Signature  
Name: \_\_\_\_\_

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

SWORN TO AND SUBSCRIBE BEFORE ME THIS \_\_\_\_\_ day of \_\_\_\_\_,  
20\_\_\_\_\_.

\_\_\_\_\_  
Notary Public in and for the State of Texas

***THIS FORM MUST BE RETURNED WITH YOUR BID***

**RESIDENCE CERTIFICATION**

Pursuant to Texas Government Code §2252.001 *et seq.*, as amended, Cameron County requests Residence Certification. §2252.001 *et seq.* of the Government Code provides some restrictions on the awarding of governmental contracts; pertinent provisions of §2252.001 are stated below:

“Nonresident bidder” refers to a person who is not a resident.

“Resident bidder” refers to a person whose principal place of business is in this state, including a contractor whose ultimate parent company or majority owner has its principal place of business in this state.

I certify that \_\_\_\_\_ is a Resident  
(Company Name)

Bidder of Texas as defined in Government Code §2252.001.

I certify that \_\_\_\_\_ is a Nonresident  
(Company Name)

Bidder as defined in Government Code §2252.001 and our principal place of business is  
\_\_\_\_\_  
(City and State)

***THIS FORM MUST BE RETURNED WITH YOUR BID***

CAMERON COUNTY EXPRESSLY REQUESTS THAT BIDDERS / PROPOSERS NOT DISCUSS THIS ENGAGEMENT OR THIS BIDDER'S / PROPOSER'S PLANS, EXPERIENCE OR CREDENTIALS WITH OTHER BIDDERS / PROPOSERS OR ANY MEMBER OF COMMISSIONERS' COURT, ANY COUNTY OFFICIAL, OR ANY EVALUATION COMMITTEE MEMBER APPOINTED BY COMMISSIONERS COURT. EXCLUDED ARE PRE-BID OR PRE-PROPOSAL CONFERENCES, EVALUATION COMMITTEE SCHEDULED VENDOR PRESENTATIONS OR VENDOR INTERVIEWS, OR EVALUATION COMMITTEE SCHEDULED EQUIPMENT OR SERVICES DEMONSTRATIONS. YOU MAY CONTACT THE PURCHASING AGENT /PURCHASING DEPARTMENT AT ANY TIME.

FROM BID OPENING DATE THROUGH COMMISSIONERS COURT MEETING FOR SELECTION, VENDORS SHALL NOT APPROACH THE COUNTY JUDGE OR COMMISSIONERS TO DISCUSS MATTERS PERTAINING TO THIS BID.

- 01. Has any individual with the firm submitting this Proposal/Bid/Response made any contact with any member of Commissioners Court, any County Official, or an Evaluation Committee member concerning this Invitation to Bid/RFP/RFQ, other than questions to the Assistant County Auditor/Purchasing Officer?

---

---

---

---

- 02. Has any individual with the firm submitting this Proposal/Bid/Response made any contact with any other Bidder or Proposer concerning this Invitation to Bid/RFP/RFQ?

---

---

---

\_\_\_\_\_  
Signature of person submitting this Bid

\_\_\_\_\_  
Date

***THIS FORM MUST BE RETURNED WITH YOUR BID***

ORDER NO. 2007O2005

THE STATE OF TEXAS       §  
  §  
COUNTY OF CAMERON       §

**ORDER ADOPTING CONTRACTING RULES  
FOR PERSONS INDEBTED TO COUNTY**

WHEREAS, pursuant to V.T.C.A., Local Government Code, Section 262.0276, a commissioners court is authorized to adopt rules permitting a county to refuse to enter into a contract or other transaction with a person indebted to the county;

WHEREAS, the Commissioners Court of Cameron County finds it is in the best interest of Cameron County to adopt such rules;

NOW THEREFORE, BE IT ORDERED by the Commissioners Court of Cameron County, that the following rules be adopted regarding Cameron County and persons interested in doing business with Cameron County:

1. Cameron County may refuse to enter into a contract or other transaction with a person with a past due debt to Cameron County, including delinquent ad valorem taxes, even if the person is the lowest bidder or successful proposer; and
2. **For purposes of this Order, a debt is past due if it is not received in the County Treasurer’s Office by the due date in a written agreement or notice, and ad valorem taxes are past due if not received in the County Tax Assessor/Collector’s Office by February 1<sup>st</sup> following the January 1<sup>st</sup> on which the ad valorem taxes are due.**
3. For purposes of this Order, a person includes an individual, sole proprietorship, corporation, nonprofit corporation, partnership, joint venture, limited liability company, and any other entity that proposes or otherwise seeks to enter into a contract or other transaction with Cameron County requiring approval by the Commissioners Court.

**ADOPTED this 13 day of March, 2007.**

01. Is the person or the firm submitting this Bid current with all local and State taxes?

\_\_\_\_\_

\_\_\_\_\_  
Signature of person submitting this Bid

\_\_\_\_\_  
Date

***THIS FORM MUST BE RETURNED WITH YOUR BID***

**Certification**

**Regarding Debarment, Suspension Ineligibility**

As is required by the Federal Regulations Implementing Executive Order 12549, Debarment and Suspension, 45 CFR Part 76, Government-wide Debarment and Suspension, in the applicant certifies, to the best of his or her knowledge and belief, that both it and its principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency;
- b. Have not within a three-year period preceding this bid/proposal and/or application been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or contract under a public transaction, violation of federal or state antitrust statutes or commission of embezzlement, theft, theory, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- c. Are not presently indicted for or otherwise criminally or civilly charged by a government entity with commission of any of the offenses enumerated herein; and
- d. Have not within a three-year period preceding this bid/proposal and/or application had one or more public transactions terminated of cause or default.

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

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

Telephone Number: \_\_\_\_\_

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

If the Bidder / Proposer is unable to certify to all of the statements in this Certification, such Bidder / Proposer should attach an explanation to this Bid / Proposal.

***THIS FORM MUST BE RETURNED WITH YOUR BID***

**CONFLICT OF INTEREST QUESTIONNAIRE****FORM CIQ****For vendor doing business with local governmental entity**

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

**OFFICE USE ONLY**

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001 (1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

Date Received

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

**1 Name of vendor who has a business relationship with local governmental entity.****2.  Check this box if you are filing an update to a previously filed questionnaire.**

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

**3.  Name of local government officer about whom the information in this section is being disclosed.**

Name of Officer

This section (item 3 including subparts A, B, C, & D) must be completed for each officer with whom the vendor has an employment or other business relationship as defined by Section 176.001 (1-a), Local Government Code. Attach additional pages to this Form CIQ as necessary.

A Is the local government officer named in this section receiving or likely to receive taxable income, other than investment income from the vendor?

Yes       No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer named in this section AND the taxable income is not received from the local governmental entity?

Yes       No

C. Is the filer of this questionnaire employed by a corporation or other business entity with respect to which the local government officer services as an officer of director, or holds an ownership interest of one percent or more?

Yes       No

D. Describe each employment or business and family relationship with the local government officer named in this section.

**4.** 

Signature of vendor doing business with the governmental entity

Date

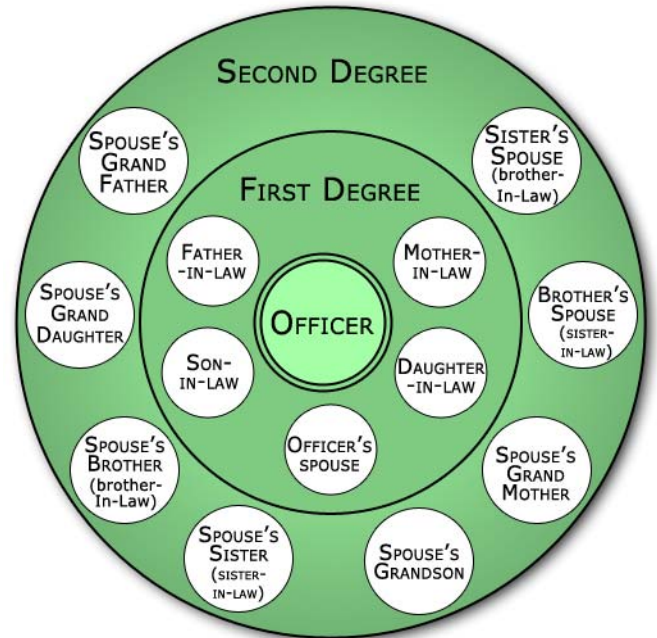
Adopted 8/7/2015

## NEPOTISM CHART

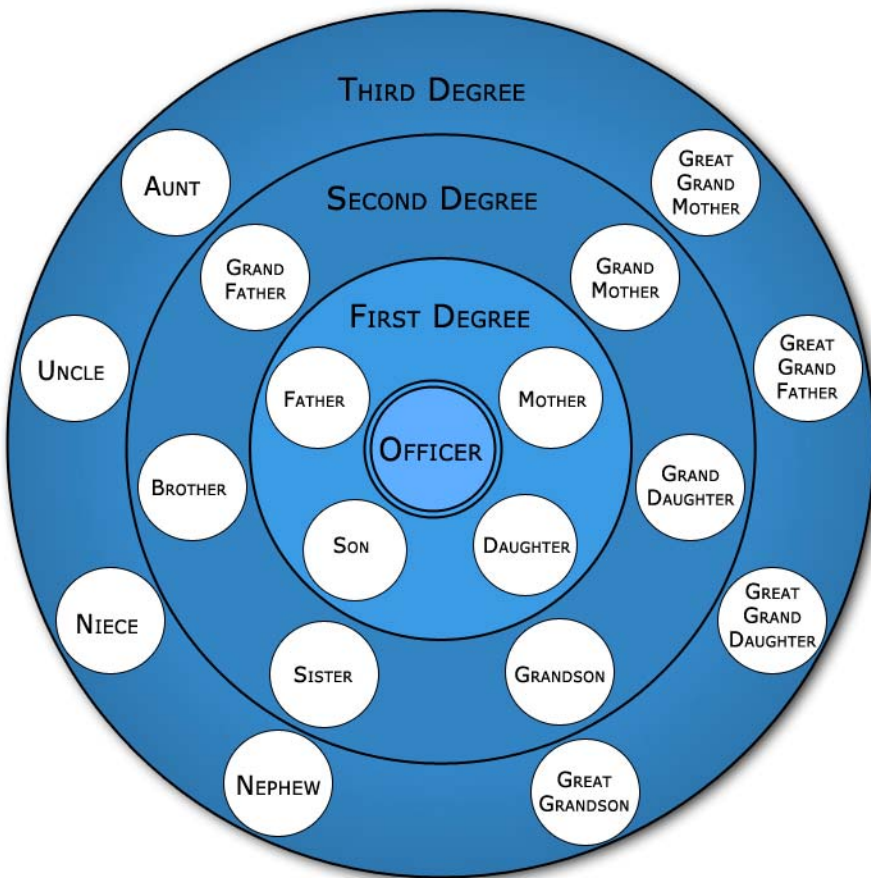
The chart below shows

- **Affinity Kinship** (relationship by marriage)
- **Consanguinity Kinship** (relationship by blood) for purposes of interpreting nepotism as defined in VTCA Government Code, Chapter 573, §§573.021 - .025

### AFFINITY KINSHIP Relationship by Marriage



### CONSANGUINITY KINSHIP Relationship by Blood



**DISCLOSURE OF INTERESTS**

**MUST BE FILLED OUT AND SUBMITTED WITH THE BID/RFP/RFQ**  
**IF DISCLOSING: BIDDER / PROPOSER MUST ALSO FILE WITH THE COUNTY CLERK'S OFFICE**  
**THE PURCHASING DEPT. WILL NOT BE FILING ON THE BIDDER'S BEHALF**

Cameron County, Texas requires all persons or firms seeking to do business with the County to provide the following information. Every question must be answered. If the question is not applicable, answer with "N/A." By law this questionnaire must be filed with the records administrator (County Clerk's Office) of the local government.

Date \_\_\_\_\_

FIRM NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

\_\_\_\_\_

FIRM is: 1. Corporation ( )      2. Partnership ( )      3. Sole Owner ( )  
4. Association ( ) 5. Other ( ) \_\_\_\_\_

**DISCLOSURE QUESTIONS**

If additional space is necessary, please use the reverse side of this page or attach separate sheet.

1. State the names of each "employee, elected official, or member of Commissioners Court" of Cameron County having Substantial Interest in Business Entity **Local Govt. Code 171.002**

**DISCLOSURE OF INTERESTS (CONTINUED)**

- a) For purpose of this chapter, a person has a substantial interest in a business entity if :
  - (1) the person owns 10 percent or more of the voting stock or shares of the business entity or owns either 10 percent or more or \$15,000 or more of the fair market value of the business entity; or
  - (2) funds received by the person from the business entity exceeds 10 percent of the person’s gross income for the previous year.
- b) A person has a substantial interest in real property if the interest is an equitable or legal ownership with a fair market value of \$2,500 or more.
- c) A local public official is considered to have a substantial interest under this section if a person related to the official in the first degree by consanguinity or affinity, as determined under Chapter 573, Government Code, has a substantial interest under this section.

Name	Title	Department

**CERTIFICATE**

I certify that all information provided is true and correct as of the date of this statement, that I have not knowingly withheld disclosure of any information requested; and that supplemental statements will be promptly submitted to the Cameron County as changes occur.

Certifying Person: \_\_\_\_\_ Title: \_\_\_\_\_  
 (Type or Print)

Signature of Certifying Person: \_\_\_\_\_ Date: \_\_\_\_\_

## **GENERAL TERMS & CONDITIONS ( Requests for Bids (RFB))**

**ADDENDA:** If RFB specifications, terms or conditions are revised, the Cameron County Purchasing Department will issue an addendum addressing the nature of the changes and notify interested potential bidders. Bidders must acknowledge receipt and consideration of any such changes by signing the addendum and including it in the package containing the Bidder's submittal.

**ADVERTISING:** Unless otherwise required by law, bidders responding to County RFBs shall not publish and shall keep confidential their intentions and actions respecting any response to the RFB.

**AWARD:** Cameron County may hold RFB responses for a period of sixty (60) days. Cameron County reserves the right to reject any or all responses to RFBs. Cameron County reserves the right to award a contract, if any, based on the bidder's response when compared to the EVALUATION CRITERIA (AS STATED IN THE RFB) and, in accordance with the laws of the State of Texas, reserves the right to waive any formality or irregularity, to make awards to more than one bidder. Commissioners Court reserves the right to determine the method and procedures for the final award of the bid at any time they may choose, regardless of the Point System used by the Evaluation Committee.

**BONDS:** If the contract that may be entered into with the County will likely require a performance guarantee or bond, the Purchasing Department will attach a separate page to the RFB explaining those requirements.

**CANCELLATION AND TERMINATION:** In any contract resulting from the RFB, the County shall have the right to cancel all or any part of the undelivered portion of the contract if (1) Bidder breaches any of the terms hereof, including, but not limited to, applicable warranties, and/or the (2) Bidder becomes insolvent or files for bankruptcy. Such right of cancellation is in addition to, and not in lieu of, any other remedies which the County may have in law or equity. Cancellation of work hereunder shall be effected by the delivery of a "Notice of Cancellation of Undelivered Work" specifying the extent to which performance of work, including all goods and services, under the contract is cancelled and the date upon which such cancellation becomes effective.

The performance of work under any resulting contract may be terminated in whole, or in part, by the County in accordance with this provision. The County shall have the right to terminate all or any part of the contract if (1) the Bidder breaches any of the terms hereof, including, but not limited to, applicable warranties, and/or (2) Bidder becomes insolvent or files for bankruptcy. Such right of termination is in addition to, and not in lieu of, any other remedies which the County may have in law or equity. Termination of work hereunder shall be effected by the delivery of a "Notice of Termination" specifying the extent to which performance of work, including all goods and services, under the contract is terminated and the date upon which such termination becomes effective.

**CHANGE ORDERS:** No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All change orders to the contract will be made in writing by mutual consent of the Bidder and the County.

**CONTRACT RENEWALS:** Contract Renewals must receive Commissioners Court approval. For contract renewal status and information, please contact Elisa Cisneros at 956-982-5405 e-mail: Elisa.Cisneros2@co.cameron.tx.us Cameron County Purchasing Dept. or Dylbia Jeffries 956-550-1340 djefferies@co.cameron.tx.us at the Cameron County Civil Legal Division. Any price escalations are limited to those stated by the original contract terms. All contracts with a one (1) year renewal option require that the Bidder must notify Cameron County of any anticipated price increases in writing at least three months (90 calendar days) prior to the annual renewal award date unless otherwise specified within the specific provisions of the contract up for renewal. This allows the County sufficient time to find an alternative vendor, if possible. If Bidder fails to notify the County within time noted it shall be assumed that there will be no price increase for the following year's award period if renewed. This procedure does not apply to any contract which allows for Open Market Price increases or Cost allowance increases.

**DISCRIMINATION:** In order to encourage fair employment practices, the Bidder agrees as follows: 1.) Bidder will not discriminate against any employee or applicant for employment because of race, sex, color, age, religion, handicap, or national origin; 2) in all solicitations or advertisements for employees, the Bidder will state that all qualified applicants will receive consideration without regard to race, color, sex, age, religion, handicap or national origin; 3) the Bidder will furnish such relevant information and reports as requested by the County for the purpose of determining compliance with these regulations; and 4) failure of the Bidder to comply with these laws will be deemed a breach of contract and it may be cancelled, terminated or suspended in a whole or in part as a result thereof.

**DISQUALIFICATION OF BIDDER:** Upon submitting a response to this RFB, Bidder certifies that the Bidder has not violated the antitrust laws of this state codified in Texas Business and Commerce Code 15.01, *et seq.*, as amended, or the federal antitrust laws, and has not communicated directly or indirectly its RFB considerations, plan or response to any competitor or any other person engaged in such line of business. Any and all responses may be rejected if the County believes that collusion exists among the Bidders. If multiples are submitted by a Bidder and, after all responses to the RFBs are opened one or more of the responses are withdrawn the result will be that all of the responses submitted by that Bidder will be withdrawn; however, nothing herein prohibits a Bidder from submitting multiples for different products or services.

**EVALUATION:** All responses will be evaluated in accordance with law and reviewed to assure they are in the best interest of Cameron County. Evaluations shall be based on criteria bearing on price, and performance of the items or services in the user environment. Any specific criteria section or sections identified elsewhere in the RFB response may be evaluated by one or more evaluators once the basis and details of this process have been approved by the Purchasing Officer and acknowledged by the Evaluation Committee. Detailed information pertaining to this selective evaluation process is available to Bidders and the Commissioners Court upon request. Evaluation sheets and any summary of all responses are subject to review by the Cameron County Purchasing Department and Evaluation Committee's recommendation to Cameron County Commissioners Court. Compliance with all RFB requirements, delivery terms and needs of the using department are considerations in evaluating responses. Pricing is NOT the only criterion for making a recommendation (see criteria and relative importance of price and other evaluation factors, if any, specified elsewhere in this RFB). The Cameron County Purchasing Department reserves the right to contact any Bidder, at any time, to clarify, verify or request information with regard to that Bidder's response.

**PROTEST PROCEDURES:** Procedure - This protest procedure is available to Bidders responding to this RFB and requesting a debriefing conference.

Debriefing Conference – A debriefing conference must be requested in writing to the Purchasing Department within five (5) business days from the date of the RFB award by the Cameron County Commissioners' Court. Debriefing questions must be submitted in writing to the Purchasing Department no later than two (2) business days before the scheduled date for the Debriefing Conference. These questions will be answered at the debriefing conference. Follow-up questions must be submitted (in writing) no later than one (1) business day after the date of the Debriefing Conference and answered no later than two (2) business days after the date of the Debriefing Conference. Follow-up answers will be sent via e-mail or fax (if e-mail not available). For RFBs, Bidders are given the opportunity to ask questions of the Evaluation Committee relative to their responses and the Committee's scores.

Protests are made: 1. To the Purchasing Department after the debriefing conference. Bidder protests shall be received, in writing, by the Purchasing Department within five (5) business days after the debriefing conference. 2. To the Protest Committee, only after the protest to the Purchasing Department was not satisfactorily resolved. Protests to the Protest Committee shall be made within five (5) business days after the Bidder has received notification from the County Purchasing Department of its decision.

Grounds for protest:

1. Errors were made in computing the score.
2. The County failed to follow procedures established in the RFB, the Purchasing policy on acquisitions or applicable state or federal laws or regulations.
3. Bias, discrimination or conflict of interest on the part of an evaluator. Protests not based on these criteria shall not be considered.

Format and Content - Protesting Bidders shall include, in their written protest to the Cameron County Purchasing Department, all facts and arguments upon which they rely. Bidders shall, at a minimum, provide:

1. Information about the protesting Bidder; name of firm, mailing address, phone number and name of individual responsible for submission of the protest.
2. Information about the acquisition and the acquisition method.
3. Specific and complete statement of the County's action(s) being protested. 4. Specific reference to the grounds for the protest.
4. Description of the relief or corrective action requested.
- 5.. For protests to the Protest Committee, a copy of the Purchasing Department's written decision on the protest.

Review Process:

1. Upon receipt of a Bidder's protest, the Purchasing Department shall postpone further steps in the acquisition process until the Bidder protest has been resolved.
2. The Department's internal protest review procedures consist of the following:
  - a) The Purchasing Department shall perform an objective review of the protest by individuals not involved in the acquisition protested. The review shall be based on the written protest material submitted by the Bidder.
  - b) A written decision will be delivered to the Bidder within five business days after receipt of the protest, unless more time is needed. The protesting Bidder shall be notified if additional time is necessary.

Final Determination:

The final determination shall:

1. Find the protest lacking in merit and uphold the agency's action; or
2. Find only technical or harmless errors in the agency's acquisition process, determine the agency to be in substantial compliance, and reject the protest; or 3. Find merit in the protest and provide the agency options which may include recommendations to a) correct its errors and reevaluate all RFBs, and/or b) reissue the Bidder solicitation document; or c) make other findings and determine other courses of action as appropriate.

Protest Committee Review Process:

Protests to the Protest Committee may be made only for Protest Committee approved acquisitions, and only after review by County Purchasing Department. Protests of the decisions of County Purchasing Department shall be made by letter to the Protest Committee, who may establish procedures to resolve the protest. Protests shall be received by the Protest

Committee within five business days after the decision of Purchasing Department in order to be considered. The Committee's decision is final, with no further administrative appeal available.

**FISCAL FUNDING:** A multi-year lease or lease/purchase arrangement (if requested by the Special Requirements/Instructions), or any contract continuing as a result of an extension option, must include a "fiscal funding out" clause. If, for any reason, funds are not appropriated to continue the lease or contract, said lease or contract shall become null and void on the last day of the current appropriation of funds. After expiration of the lease, leased equipment shall be removed by the Bidder from the using department without penalty of any kind or form to Cameron County. All charges and physical activity related to delivery, installation, removal and redelivery shall be the responsibility of the Bidder.

**GRATUITIES AND PROHIBITION AGAINST PERSONAL INTEREST IN CONTRACTS:** Any elected or appointed official who has any substantial interest, either direct or indirect, in any business entity seeking to contract with the County, shall, before any vote or decision on any matter involving the business entity, file an affidavit stating the nature and extent of interest and shall abstain from any participation in the matter. This is not required if the vote or decision will not have any special effect on the entity other than its effect on the public. However, if a majority of the governing body is also required to file, and do file similar affidavits, then the member is not required to abstain from further participation. Attached and included in this RFB is a disclosure of all of this Company's business or pecuniary financial relationships with officers or employees of Cameron County or County entities (if any such relationships exist) which must be filled out, attached and included with the RFB response. The County may, by written notice to the Bidder, cancel this contract without liability to Bidder if it is determined by County that gratuities, in the form of entertainment, gifts, or otherwise, were offered or given by the Bidder, or any agent, or representative of the Bidder, to any officer or employee of Cameron County with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending or the making or any determinations with respect to the performance of such a contract. In the event this contract is cancelled by County pursuant to this provision, County shall be entitled, in addition to any other rights and remedies, to recover or withhold the amount of the costs incurred by Bidder in providing such gratuities. Consistent and continued RFB responses that end in a tie could cause rejection of any RFB response by the County and/or investigation for Anti-Trust violations. Bidder guarantees that he has not retained a person to solicit or secure any contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except for retention of bona fide employees or bona fide established commercial selling agencies maintained by the Bidder for the purpose of securing business.

**HISTORICALLY UNDERUTILIZED BUSINESS (HUB) CERTIFICATION:** If Bidder is a Certified Historically Underutilized Business (HUB), please include a copy of your HUB Certificate with your —RFB response. This information will assist Cameron County in the percentage tracking of HUB utilization.

**LOCAL BIDDER'S PRINCIPAL PLACE OF BUSINESS - 3% PREFERENCE:** (consideration of location) This local preference consideration is allowable for Equipment and Supplies but not allowed for Services and/or Construction related requests. The County Commissioner's Court may award to the lowest Bidder or the Bidder whose principal place of business is within Cameron County if the Commissioner's Court determines, in writing, that the local Bidder offers the County the best combination of contract price and additional economic development opportunities for Cameron County created by the contract award, including the employment of residents of Cameron County and increased tax revenues to Cameron County. This option exists only within 3% of the lowest price. In order to provide the County Commissioners Court adequate information in considering this option, the Bidder should submit with each bid response the following information for Commissioners Court's review with all information requested complete with detailed, current and quantifiable numeric data:

1. Where is your principal place of business (Business Headquarters) City, County, State, Signature of Bidder, Title, Date? Along with this information, submit information with responses to the following questions:

- a.) Why and how Bidder believes that the local Bidder offers the County additional economic development opportunities for Cameron County created by the contract award?
- b.) How will award to local Bidder benefit the employment of residents of Cameron County?
- c.) How many employees does Bidder employ within Cameron County and how many employees are affected financially by award/purchase?
- d.) How will award to local Bidder increase tax revenues to Cameron County?

This information should be provided and updated with each bid response submitted to the County. If Bidder is local and within 3% of the lowest bid price, this information will be submitted to Commissioner's Court along with tabulation sheet. There has been no mandatory requirement or Policy established by Commissioners Court which requires submitting answers to these questions or attending Commissioners Court meetings for the awarding of RFBs relative to the 3% local preference, however individual Commissioners may or may not have preferences (relative to these issues) when making their decision. This paragraph will be revised upon policy change made by Commissioners Court.

**INSURANCE:** The Bidder shall secure and maintain, throughout the duration of the Contract, insurance of such types and in such amounts as may be necessary to protect the Bidder and the interests of the County against all hazards or risks of loss as hereinafter specified. The form and limits of such insurance, together with the insurer, shall be acceptable to the County. It shall be the responsibility of the Bidder to maintain adequate insurance coverage at all times. Failure of the Bidder to maintain adequate coverage shall not relieve the Bidder of any contractual responsibility or obligation.

**MAINTENANCE:** Maintenance required for equipment requested in RFBs should be available in Cameron County by a manufacturer authorized maintenance facility. Costs for this service shall be shown on the Pricing/Delivery Information form. If Cameron County opts to include maintenance, it shall be so stated in the purchase order and said cost will be included. Service will commence only upon expiration of applicable warranties and should be priced accordingly.

**MATERIAL SAFETY DATA SHEETS:** Under the "Hazardous Communication Act", commonly known as the "Texas Right To Know Act", a Bidder must provide to the County with each delivery, material safety data sheets which are applicable to hazardous substances defined in the Act. Failure of the Bidder to furnish this documentation will be cause to reject any bid applying thereto.

**NAME BRANDS:** Specifications may reference name brands and model numbers. It is not the intent of Cameron County to restrict responses to RFBs in such cases, but to establish a desired quality level of merchandise or to meet a pre-established standard common to similar existing items. Bidders may offer items of equal stature and standard, but the burden of proof of such stature and standard rests with Bidders. Cameron County shall act as sole judge in determining equality and acceptability of products offered.

**PRICING:** Prices for all goods and/or services shall be firm for the duration of the contract and shall be stated on the Pricing/Delivery Information form. Prices shall be all inclusive: No price changes, additions, or subsequent qualifications will be honored during the term of the contract. All prices must be written in ink or typewritten. Pricing on all transportation, freight, drayage and other charges are to be prepaid by the Bidder and included in the price. If there are any additional charges of any kind, other than those mentioned above, specified or unspecified, Bidder **MUST** indicate the items required and attendant costs or forfeit the right to payment for such items. Where unit pricing and extended pricing differ, unit pricing prevails.

**RECYCLED MATERIALS:** Cameron County encourages the use of products made of recycled materials and shall give preference in purchasing to products made of recycled materials if the products meet applicable specifications as to quantity and quality. County will be the sole judge in determining product preference application.

**SCANNED RE-TYPED RESPONSE:** If in its RFB response, Bidder either electronically scans, re-types, or in some way reproduces the County's published RFB package, then in event of any conflict between the terms and provisions of the County's published RFB specifications, or any portion thereof, and the terms and provisions of the — RFB response made by Bidder, the County's RFB specifications as published shall control. Furthermore, if an alteration of any kind to the County's published RFB specifications is only discovered after the contract is executed and is or is not being performed, the contract is subject to immediate cancellation.

**SILENCE OF SPECIFICATIONS:** The apparent silence of specifications as to any detail, or the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practices are to prevail and that only material and workmanship of the finest quality are to be used. All interpretations of specifications shall be made on the basis of this statement. The items furnished under this contract shall be new, unused of the latest product in production to commercial trade and shall be of the highest quality as to materials used and workmanship. The manufacturer furnishing these items shall be experienced in design and construction of such items and shall be an established supplier of the item needed in the RFB. Substitute items will not be accepted unless approved (in advance).

**SUPPLEMENTAL MATERIALS:** Bidders are responsible for including all pertinent product data in the returned RFB package. Literature, brochures, data sheets, specification information, completed forms requested as part of the RFB package and any other facts which may affect the evaluation and subsequent contract award should be included. Materials such as legal documents and contractual agreements, which the Bidder wishes to include as a condition of an RFB response, must also be in the returned in the RFB response package. Failure to include all necessary and proper supplemental materials may be cause to reject the Bidder's entire RFB.

**TITLE TRANSFER:** Title and Risk of Loss of goods shall not pass to Cameron County until Cameron County actually receives and takes possession of the goods at the point or points of delivery. Receiving times may vary with the using department. Generally, deliveries may be made between 8:30 a.m. and 4:00 p.m., Monday through Friday. Bidders are advised to consult the using department for instructions. The place of delivery shall be shown under the "Special Requirements/Instructions" section of this RFB package and/or on the Purchase Order as a "Deliver To:" with the address.

**USAGE REPORTS:** Cameron County reserves the right to request, and receive at no additional cost up to two (2) times during the contract period, a usage report detailing the products and/or services furnished to date under a contract resulting from this RFB. The reports must be furnished no later than five (5) working days after written request and itemize all purchases to date by Cameron County department with a description, of each item purchased, including the manufacturer, quantity of each item purchased, the per unit and extended price of each item purchased, and the total amount and price of all items purchased.

**WARRANTY PRICE:** (a) The price to be paid by the County shall be that contained in Bidder's response to the RFB which Bidder warrants to be no higher than Bidder's current prices on orders by others for products of the kind and specification covered by this agreement for similar quantities under similar or like conditions and methods of purchase. In the event Bidder breaches this warranty, the prices of the items shall be reduced to the Bidder's current prices on orders by others, or in the alternative, County may cancel this contract without liability to Bidder for breach or Bidder's actual expense.

(b) The Bidder warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for commission, percentage, brokerage, or contingent fee excepting bona fide

employees of bona fide established commercial or selling agencies maintained by the Bidder for the purpose of securing business. For breach or violation of this warranty, the County shall have the right in addition to any other right or rights to cancel this contract without liability and to deduct from the contract price, or otherwise recover the full amount of such commission, percentage, brokerage or contingent fee.

Bidders shall furnish all data pertinent to warranties or guarantees which may apply to items in the RFB.

Bidders may not limit or exclude any implied warranties.

Bidder warrants that products sold and services provided to the County shall conform to the highest commercial and/or professional standards in the industry and laws established by the U.S. Department of Labor, U.S. Department of Homeland Security, Occupational Safety and Health Administration and O.S.H.A. Act of 1970. In the event any product does not conform to OSHA Standards, where applicable, Cameron County may return the product for correction or replacement at the Bidder's expense. If Bidder fails to make the appropriate correction within a reasonable time, Cameron County may correct at the Bidder's expense.

**WARRANTY ITEMS/PRODUCTS:** Bidder warrants that products sold and services provided to the County shall conform to the highest commercial and/or professional standards in the industry and laws established by the U.S. Department of Labor, U.S. Department of Homeland Security, Occupational Safety and Health Administration and O.S.H.A. Act of 1970. In the event product does not conform to OSHA Standards, where applicable, Cameron County may return the product for correction or replacement at the Bidder's expense. If Bidder fails to make the appropriate correction within a reasonable time, Cameron County may correct at the Bidder's expense.

Bidder shall not limit or exclude any implied warranties and any attempt to do so shall render this contract voidable at the option of the County.

Bidder warrants that the goods furnished will conform to the specifications, drawings and descriptions listed in the RFB invitation and to the sample(s) furnished by Bidder, if any. In the event of a conflict between the specifications, drawings and descriptions, the specifications shall govern. All items must be new, in first class condition, unless otherwise specified. The design, strength, and quality of materials must conform to the highest standards of manufacturing practice.

Items supplied under this contract shall be subject to the County's approval. Successful Bidder shall warrant that all items/services shall conform to the proposed specifications and/or all warranties as stated in the Uniform Commercial Code and be free from all defects in material, workmanship and title. Any items found defective or not meeting specifications shall be picked up and promptly replaced by the successful Bidder at no expense to the County.

**SAFETY WARRANTY:** As noted above, Bidder warrants that the products sold to County shall conform to the standards promulgated by the U.S. Department of Labor under the Occupational Safety and Health Act of 1970. In the event the product does not conform to OSHA standards, County may return the product for correction or replacement at the Bidder's expense. In the event Bidder fails to make the appropriate correction within a reasonable time, correction made by County will be at Bidder's expense. Have you attached the required warranty information to the RFB (if applicable)? "Yes" or "No"

#### **APPLICABLE LAW**

To the extent it is applicable, this agreement shall be governed by the Uniform Commercial Code. Wherever the term "Uniform Commercial Code" is used, it shall be construed as meaning "the Uniform Commercial Code" as adopted in the State of Texas as effective and in force on the date of this agreement. Otherwise, Texas state and federal law shall apply.

**ASSIGNMENT DELEGATION:** No right, obligation or interest in this contract shall be assigned or delegated to another by Bidder without the written permission of the County. Any attempted assignment or delegation by Bidder shall be wholly void and totally ineffective for all purposes unless made in conformity with this paragraph.

**CONTRACT OBLIGATION:** Cameron County Commissioners Court must award any resulting contract and the County Judge or other person authorized by the Cameron County Commissioners Court must sign the contract before it becomes binding on Cameron County or the Bidder. Department Heads are NOT authorized to sign agreements for Cameron County. Binding agreements shall remain in effect until all products and/or services covered by this RFB have been delivered and accepted and all contract requirements have been satisfied

**ERRORS AND OMISSIONS:** Errors and Omissions in the RFB or any provision herein described will not be construed as to relieve the Bidder of any responsibility or obligation requisite to the complete and satisfactory implementation, operation, and support of all obligations under any resulting contract.

**FORCE MAJEURE:** If, by reason of Force Majeure, either party hereto shall be rendered unable wholly, or in part, to carry out its obligations under this RFB and any resulting contract, then such party shall give notice and full particulars of Force Majeure in writing to the other party within a reasonable time after occurrence of the event or cause relied upon, and the obligation of the party giving such notice, so far as it is affected by such Force Majeure, shall be suspended during the continuance of the inability then claimed, except as hereinafter provided, but for no longer period, and such party shall endeavor to remove or overcome such inability with all reasonable dispatch. The term "Force Majeure" as employed herein, shall mean acts of God, strikes, lockouts, or other industrial disturbances, act of public enemy, orders of any kind of government of the United States or the State of Texas or any civil or military authority, insurrections, riots, epidemics, landslides, lightening, earthquakes, fires, hurricanes, storms, floods, washouts, droughts, arrests, restraint of government and people, civil disturbances, explosions, breakage or accidents to machinery, pipelines or canals, or other causes not reasonably within the control of the party claiming such inability. It is understood and agreed that the settlement of strikes and lockouts shall be entirely with the discretion of the party having the difficulty, and that the above requirement that any Force Majeure shall be remedied with all reasonable dispatch shall not require the settlement of strikes and lockouts by acceding to the demands of the opposing party or parties when such settlement is unfavorable in the judgment of the party having the difficulty.

**HOLD HARMLESS AGREEMENT:** The successful Bidder, shall indemnify and hold Cameron County harmless from all claims for personal injury, death and/or property damage resulting directly or indirectly from Bidder's performance. Bidder shall procure and maintain, with respect to the subject matter of this RFB, appropriate insurance coverage including, as a minimum, public liability and property damage with adequate limits to cover Bidder's liability as may arise directly or indirectly from work performed and goods or services sold and under the terms of this RFB. Certification of such coverage must be provided to the County upon request.

**INFRINGEMENTS:** There will be no warranty by County against infringements. As part of this contract for sales, Bidder agrees to ascertain whether goods manufactured in accordance with the specifications attached to this agreement will give rise to the rightful claim of any third person by way of infringement or the like. County makes no warranty that the production of goods according to the specification will not give rise to such a claim, and in no event shall County be liable to Bidder for indemnification in the event Bidder gets sued on the grounds of infringement or the like. If Bidder is of the opinion that an infringement or the like will result, Bidder shall notify County to that effect in writing within two (2) weeks after the signing of this agreement. If County does not receive notice and is subsequently held liable for the infringement or the like, Bidder will hold County harmless. If Bidder in good faith ascertains that production of the goods in accordance with the specifications will result in infringement or the like, this contract shall be null and void, except that County will pay Bidder the reasonable cost of Bidder's search as to infringement. The Bidder agrees to protect the County from claims involving infringement of patents or copyrights.

**INTERPRETATION PAROLE EVIDENCE:** Unless a separate contract or addendum hereof is prepared and entered into following the award of this RFB to a successful bidder, this writing is intended by the parties as a final expression of the terms of this RFB and the general terms of any resulting contract. No course of prior dealings between the parties and no usage of the trade shall be relevant to supplement or explain any term. Acceptance or acquiescence in a course of performance rendered under this RFB and any resulting contract shall not be relevant to determine meaning even though the accepting or acquiescing party has knowledge of the performance and opportunity for objection. Whenever a term defined by the Uniform Commercial Code is used in this agreement, the definition contained in the Code is to control, if applicable.

**LATE RESPONSES:** RFB responses must be received by the County before the hour and date specified. Responses received after the time and date specified will be disqualified and may be returned to sender. The County is not responsible for lateness or non-delivery of mail, delivered to wrong office, carrier, etc.

**MODIFICATIONS:** This contract can be modified or rescinded only by a writing signed by both of the parties or their duly authorized agents.

**O.S.H.A.:** Bidder must meet all Federal and State OSHA requirements.

**REMEDIES:** The successful Bidder and County agree that both parties have all rights, duties, defenses and remedies available under law.

**RIGHT TO ASSURANCE:** During the RFB process and any resulting contract, whenever a Bidder or the County in good faith has reason to question the other's intent to perform, demand may be made that the other party give written assurance of intent. In the event that a demand is made and no assurance is given within five (5) days, such failure may be treated as an anticipatory repudiation of the RFB and any resulting contract.

**SEVERABILITY:** If any section, subsection, paragraph, sentence, clause, phrase or word of these requirements or the specifications shall be held invalid, such holding shall not affect the remaining portions of these requirements and the specifications and it is hereby declared that such remaining portions would have been included in these requirements and the specifications as though the invalid portion had been omitted.

**VENUE:** Both parties agree that venue for any litigation arising from this contract shall lie in Cameron County, Texas.

**BIDDER SHALL CONFIRM ACCEPTANCE OF RFB TERMS:** The Bidder shall specifically state acceptance of these terms and conditions as a basis for providing the County with a response to this RFB.

**THESE TERMS INCORPORATED:** These General Terms and Conditions shall be incorporated in the response to the RFB and any resulting contract. The Bidder shall specifically state acceptance of these terms and conditions as a basis for providing the County with a response to this RFB.

**OTHER TERMS:** The Bidder shall state any exceptions desired to these terms and conditions and may suggest alternate wording that addresses the intent of the term or condition. The County may accept or reject any suggestions in accordance with law.



**CAMERON COUNTY  
INVITATION FOR BIDS  
CONSTRUCTION MATERIALS FOR  
LAS PALMAS MOBILE ESTATES SUBDIVISION WATERLINE UPGRADE  
BID # 160901 TDA Contract No. 7215060**

The County of Cameron will receive bids for TDA CONTRACT NO. **7215060**. Construction Materials for the Las Palmas Mobile Estates Subdivision Waterline Upgrade. Bids must be received in the County Purchasing Department no later than **October 18, 2016 at 11:00 a.m.** (As per Purchasing Dept. time clock). Bids must be addressed and sent to the Cameron County Purchasing Department at County Courthouse (Dancy Building), 1100 East Monroe Street, Suite 345, Brownsville, TX. 78520. Bids will be opened in the Purchasing Department - 3rd Floor, Room # 345 at 11:01 a.m. on deadline date. Bids must include one (1) original of the Bid. Bids enveloped must be titled / referenced: **ATT: Purchasing Dept. Sealed Bid #160901**. Las Palmas Mobile Estates Subdivision Waterline Upgrade.

Bids are invited for several MATERIALS ONLY ITEMS and MATERIALS AND LABOR ITEMS, quantities as follows:

MATERIALS ITEM DESCRIPTIONS		Units	
1	6" DR25 PVC CL 165 Water Line	4990	L.F.
2	8" X 6" Wye Fitting M.J. With Stargrip M.J. Restraint or Approved Equal	1	EA.
3	6" X 6" Tee Fitting M.J. With Stargrip M.J. Restraint or Approved Equal	3	EA.
4	6" X 6" Wye Fitting M.J. With Stargrip M.J. Restraint or Approved Equal	1	EA.
5	6" X 6" Cross Fitting M.J. With Stargrip M.J. Restraint or Approved Equal	2	EA.
6	6" 45 Degree Bend M.J. With Stargrip M.J. Restraint or Approved Equal	15	EA.
7	6" Gate Valve (M.J. to M.J.) with Stargrip M.J. Restraint or Approved Equal	13	EA.
8	Traffic Valve Box and Cover for 6" Gate Valve - Star Pipe Products brand Model VB-0002 or Approved Equal	13	EA.
9	Fire Hydrant with M.J. Connection - Mueller Super Centurion A-423 or Approved Equal	5	EA.
10	6" Brass Saddles - Hinged Design for 2" Tap for use on 6" DR25 PVC CL165	1	EA.
11	6" Brass Saddles - Hinged Design for 1" Tap for use on 6" DR25 PVC CL165	58	EA.
12	1" X 1" Ball Corporation Valve/Stop (for service leads)	58	EA.
13	1" Polyethylene Pipe (for service leads)	1750	L.F.
14	1" X 3/4" X 3/4" Copper "Y" Fitting (for dual service connections)	37	EA.
15	3/4" X 3/4" Curb Angle Valve/Stop ( for dual service connections)	74	EA.
16	1" X 3/4" Curb Angle Valve/Stop ( for single service connections)	21	EA.
17	2" Blow-Off Valve	1	EA.
18	Sand Bedding & Backfill for 6" Water Line	822	YD <sup>3</sup>

Bid/Contract Documents, including Drawings and Technical Specifications are on file at Gonzalez Engineering and Surveying Inc., 153 East Price Road, Brownsville, Tx. 78521. Questions regarding the proposed project or funding should be directed to the Project Engineer, Edmundo R. Gonzalez, P.E. at Phone # (956) 546 -5515 [sam@gonzalezengineering.com](mailto:sam@gonzalezengineering.com).

With a non-refundable sum of seventy-five dollars (\$75.00) each, complete sets of the bidding documents for the project may be obtained Gonzalez Engineering and Surveying Inc., 153 East Price Road, Brownsville, Tx. 78521. Checks or Money orders for the bid documents are to be made out to Gonzalez Engineering and Surveying Inc.

A bid bond in the amount of 5% of the bid issued by an acceptable Surety shall be submitted with each bid. A certified check or bank draft payable to Cameron County or negotiable U.S. Government Bonds (as par value) may be submitted in lieu of the Bid Bond.

Cameron County reserves the right to reject any or all bids or to waive any informality in the bidding.

Bids may be held by Cameron County for a period not to exceed (sixty) 60 days from the date of the bid opening for the purpose of reviewing the bids and investigating the bidders qualifications prior to the contract award. **All contractors/subcontractors that are debarred, suspended or otherwise excluded from or ineligible for participation on federal assistance programs may not undertake any activity in part or in full under this project.**

**Delivery of materials is expected no more than 30 days after awarded Bid.**

**CAMERON COUNTY IS AN EQUAL EMPLOYMENT OPPORTUNITY EMPLOYER  
Small and minority firms are encouraged to submit bids on this project**

(Para una explicación de este aviso en español, favor de llamar al Departamento de Desarrollo del Condado de Cameron al (956) 544-0828).

# Materials/Equipment

## *Instructions to Bidders*

### 1. Interpretations or Addenda

No oral interpretations will be made to any bidder. Each request for an interpretation shall be made in writing to (Grant Recipient or engineer) no less than seven (7) days prior to the bid opening. Each interpretation made will be in the form of an Addendum to the contract documents and will be distributed to all parties holding contract documents no less than seven (7) days prior to the bid opening. It is, however, the bidder's responsibility to make inquiry as to any addenda issued. All such addenda shall become part of the contract documents and all bidders shall be bound by such addenda.

### 2. Alternate bid items

No alternate bids or bid items will be considered unless they are specifically requested by the technical specifications.

### 3. Bids

- a) All bids must be submitted on the forms provided and are subject to all requirements of the Contract Documents, including the Drawings.
- b) All bids must be regular in every respect and no interlineation, excisions or special conditions may be made or included by the bidder.
- c) Bid documents, including the bid, and the bid bond shall be sealed in an envelope and clearly labeled with the words "Bid Documents," the project number, name of bidder and the date and time of bid opening.
- d) The Grant Recipient may consider as irregular any bid on which there is an alteration of or departure from the bid form and, at its option, may reject any irregular bid.
- e) If a contract is awarded, it will be awarded to a responsible bidder on the basis of the lowest/best bid and the selected alternate bid items, if any.

### 4. Bid Modifications Prior to Bid Opening

Any Bidder may modify its bid in writing at any time prior to the scheduled closing time for receipt of bids, provided such modification is received by the Grant Recipient prior to the bid closing time. The modification should not reveal the bid price but should provide the addition, subtractions or other modifications so that the final prices or terms will not be known by the Grant Recipient until the sealed bid is open. Likewise, any Bidder may modify a bid by submitting a supplemental bid in person prior to the scheduled closing time for receipt of bids. Such supplemental bid should mention only additions or subtractions to the original bid so as to not reveal the final prices or terms to the Grant Recipient until the sealed bid is open.

### 5. Bid Bond

A bid bond in the amount of 5% of the bid issued by an acceptable surety is required with each bid for contracts that exceed \$100,000. A certified check or bank draft payable to the Grant Recipient or negotiable U.S. Government Bonds (as par value) may be submitted in lieu of the Bid Bond.

### 6. Corrections

Erasures or other corrections in the bid must be noted over the signature of the bidder.

### 7. Time for Receiving Bids

Bids received prior to the advertised hour of opening shall be kept securely sealed. The officer appointed to open the bids shall decide when the specified time has arrived and no bid received thereafter will be considered.

8. Opening of Bids

The Grant Recipient shall, at the time and place fixed for the opening of bids, publicly open and read aloud each bid, irrespective of any irregularities therein.

9. Withdrawal of Bids

Bidder may withdraw the Bid before the time fixed for the opening of Bids by communicating its purpose in writing to the Grant Recipient. Upon receipt of such notice, the unopened Bid will be returned to the Bidder. The bid guaranty of any bidder withdrawing his bid in accordance with the above will be returned promptly.

10. Award of Contract/Rejection of Bids

The contract will be awarded to the responsive, responsible Bidder submitting the lowest/best bid. The bidder selected will be notified at the earliest possible date. The Grant Recipient reserves the right to reject any or all bids where such rejection is in its interest.

11. Execution of Agreement

The failure of the successful bidder to execute the agreement and supply the required bonds thirty (30) days from the date of the notice of award, or within such extended period as the Grant Recipient may grant shall constitute a default and the Grant Recipient may, at its option either award the contract to the next lowest responsible bidder, or re-advertise for bids. In either case, the Grant Recipient may charge against the bidder the difference between the amount of the bid, and the amount for which a contract is subsequently executed irrespective of whether this difference exceeds the amount of the bid bond. If a more favorable bid is received through re-advertisement, the defaulting bidder shall have no claim against the Grant Recipient for a refund.

12. Equal Employment Opportunity

Bidder is required to ensure that employees and applicants for employment are not discriminated against because of race, color, religion, sex, sexual identity, gender identity, or national origin, and must comply with other civil rights requirements.

# BID PROPOSAL

The undersigned, having examined the Plans, Specifications, Instructions to Bidders, and other proposed Contract Documents, and having visited the site and examined the conditions affecting the work, hereby proposed to do all the work and to furnish all necessary superintendence, labor, machinery, equipment, tools, materials and complete all the work upon which he binds, all as required by said Contract Documents, and binds himself, upon acceptance to the form prescribed by the Owner, for performing and completing the said work within the time stated, and maintaining the same during construction, or as otherwise required by the detailed specifications, for the following stated amount, to wit:

## CAMERON COUNTY

### MATERIALS FOR LAS PALMAS MOBILE ESTATES SUBDIVISION WATERLINE UPGRADE

Place: \_\_\_\_\_

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

Proposal of \_\_\_\_\_,

a corporation organized and existing under the laws of the State of \_\_\_\_\_.

**or** a Partnership or Individual doing business as \_\_\_\_\_.

# BID FORM

	Description	Units		Unit Price	Total Price
1	6" DR25 PVC CL 165 Water Line	4990	L.F.	_____ _____ _____ Dollars \$ _____	\$ _____
2	8" X 6" Wye Fitting M.J. With Stargrip M.J. Restraint or Approved Equal	1	EA.	_____ _____ _____ Dollars \$ _____	\$ _____
3	6" X 6" Tee Fitting M.J. With Stargrip M.J. Restraint or Approved Equal	3	EA.	_____ _____ _____ Dollars \$ _____	\$ _____
4	6" X 6" Wye Fitting M.J. With Stargrip M.J. Restraint or Approved Equal	1	EA.	_____ _____ _____ Dollars \$ _____	\$ _____
5	6" X 6" Cross Fitting M.J. With Stargrip M.J. Restraint or Approved Equal	2	EA.	_____ _____ _____ Dollars \$ _____	\$ _____
6	6" 45 Degree Bend M.J. With Stargrip M.J. Restraint or Approved Equal	15	EA.	_____ _____ _____ Dollars \$ _____	\$ _____
7	6" Gate Valve (M.J. to M.J.) with Stargrip M.J. Restraint or Approved Equal	13	EA.	_____ _____ _____ Dollars \$ _____	\$ _____
8	Traffic Valve Box and Cover for 6" Gate Valve - Star Pipe Products brand Model VB-0002 or Approved Equal	13	EA.	_____ _____ _____ Dollars \$ _____	\$ _____
9	Fire Hydrant with M.J. Connection - Mueller Super Centurion A-423 or Approved Equal	5	EA.	_____ _____ _____ Dollars \$ _____	\$ _____
10	6" Brass Saddles - Hinged Design for 2" Tap for use on 6" DR25 PVC CL165	1	EA.	_____ _____ _____ Dollars \$ _____	\$ _____
11	6" Brass Saddles - Hinged Design for 1" Tap for use on 6" DR25 PVC CL165	58	EA.	_____ _____ _____ Dollars \$ _____	\$ _____

12	1" X 1" Ball Corporation Valve/Stop (for service leads)	58	EA.	_____ _____ _____ _____ Dollars \$ _____	\$ _____
13	1" Polyethylene Pipe (for service leads)	1750	L.F.	_____ _____ _____ _____ Dollars \$ _____	\$ _____
14	1" X 3/4" X 3/4" Copper "Y" Fitting (for dual service connections)	37	EA.	_____ _____ _____ _____ Dollars \$ _____	\$ _____
15	3/4" X 3/4" Curb Angle Valve/Stop ( for dual service connections)	74	EA.	_____ _____ _____ _____ Dollars \$ _____	\$ _____
16	1" X 3/4" Curb Angle Valve/Stop ( for single service connections)	21	EA.	_____ _____ _____ _____ Dollars \$ _____	\$ _____
17	2" Blow-Off Valve	1	EA.	_____ _____ _____ _____ Dollars \$ _____	\$ _____
18	Sand Bedding & Backfill for 6" Water Line	822	YD <sup>3</sup>	_____ _____ _____ _____ Dollars \$ _____	\$ _____

**TOTAL \$ \_\_\_\_\_**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
**DOLLARS**

**LIST OF SUBCONTRACTORS**

County's Project Name:

To: Cameron County

The undersigned submit the following names of subcontractors to be used in performing the Contract. Each subcontractor is required to submit a standard AIA Qualification Statement clearly indicating prior historical restoration project experience and references.

**SUBCONTRACTORS**

- 1. Site Work and Paving \_\_\_\_\_
- 2. Concrete \_\_\_\_\_
- 3. Plumbing \_\_\_\_\_
- 4. Electrical \_\_\_\_\_
- 5. Landscaping \_\_\_\_\_

All Qualification Statements will be reviewed by the Project Engineer, who will make appropriate recommendations to the Owner.

**THIS FORM MUST BE RETURNED WITH YOUR BID**

## ADDENDUM ACKNOWLEDGEMENT

Receipt of the following addenda is acknowledged (addenda number):

---

Addendum No. 1 \_\_\_\_\_

Addendum No. 2 \_\_\_\_\_

Addendum No. 3 \_\_\_\_\_

Addendum No. 4 \_\_\_\_\_

Addendum No. 5 \_\_\_\_\_

Addendum No. 6 \_\_\_\_\_

Respectfully Submitted:

Name: \_\_\_\_\_

By: \_\_\_\_\_  
(Signature)

Address: \_\_\_\_\_  
(P.O. Box) (Street)

\_\_\_\_\_  
(City) (State) (Zip)

Telephone: \_\_\_\_\_  
(Area Code)

**NOTE:** Do not detach bid from other papers. Fill in with ink and submit complete with attached papers.

**CONTRACTOR'S LOCAL OPPORTUNITY PLAN**

(name of company) agrees to implement the following specific affirmative action steps directed at increasing the utilization of lower income residents and businesses within the (City/County) of \_\_\_\_\_.

- A. To ascertain from the City/County's CDBG program official the exact boundaries of the project area and where advantageous, seek the assistance of local officials in preparing and implementing the affirmative action plan.
- B. To attempt to recruit from within the city the necessary number of lower income residents through: local advertising media, signs placed at the proposed site for the project, and community organizations and public or private institutions operating within and servicing the project area such as Service Employment and Redevelopment (SER), Opportunities Industrialization Center (OIC), Urban League, Concentrated Employment Program, Hometown Plan, or the U.S. Employment Service.
- C. To maintain a list of all lower income residents who have applied either on their own or on referral from any source, and to employ such persons, if otherwise eligible and if a vacancy exists.
- D. To insert this plan in all bid documents and to require all bidders on subcontracts to submit an affirmative action plan including utilization goals and the specific steps planned to accomplish these goals.
- E. To ensure that subcontracts (greater than \$10,000), which are typically let on a negotiated rather than a bid basis in areas other than the covered project area, are also let on a negotiated basis, whenever feasible, in a covered project area.
- F. To formally contact unions, subcontractors, and trade associations to secure their cooperation in this effort.
- G. To ensure that all appropriate project area business concerns are notified of pending sub-contractual opportunities.
- H. To maintain records, including copies of correspondence, memoranda, etc., which document that all of the above affirmative action steps have been taken.
- I. To appoint or recruit an executive official of the company or agency as Equal Opportunity Officer to coordinate the implementation of this plan.
- J. To maintain records concerning the amount and number of contracts, subcontracts, and purchases which contribute to objectives.
- K. To maintain records of all projected work force needs for all phases of the project by occupation, trade, skill level, and number of positions and to update these projections based on the extent to which hiring meets these Local Opportunity objectives.

As officers and representatives of (name of company), we the undersigned have read and fully agree to this Plan, and become a party to the full implementation of the program and its provisions.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

**SECTION 504 CERTIFICATION**

**POLICY OF NONDISCRIMINATION ON THE BASIS  
OF DISABILITY**

The \_\_\_\_\_ (Bidder Name) \_\_\_\_\_ does not discriminate on the basis of disability status in the admission or access to, or treatment or employment in, its federally assisted programs or activities.

(Name) \_\_\_\_\_

(Address) \_\_\_\_\_

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

Telephone Number ( ) \_\_\_\_\_ - \_\_\_\_\_ Voice  
( ) \_\_\_\_\_ - \_\_\_\_\_ TDD

has been designated to coordinate compliance with the nondiscrimination requirements contained in the Department of Housing and Urban Development's (HUD) regulations implementing Section 504 (24 CFR Part 8. dated June 2, 1988).

***THIS FORM MUST BE RETURNED WITH YOUR BID***

**NONCOLLUSION AFFIDAVIT OF PRIME BIDDER**

State of Texas )

County of \_\_\_\_\_)

\_\_\_\_\_, being first duly sworn, deposes and says that:

(1) He/She is \_\_\_\_\_ of \_\_\_\_\_, the Bidder that has submitted the attached Bid;

(2) He/She is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

(3) Such Bid is genuine and is not a collusive or sham Bid;

(4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with another Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix an overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the \_\_\_\_\_ (Local Public Agency) or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) \_\_\_\_\_

\_\_\_\_\_  
Title

Subscribed and sworn to me this \_\_\_\_\_ day of \_\_\_\_\_.

By: \_\_\_\_\_  
Notary Public

My commission expires \_\_\_\_\_

**BID BOND**

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned, as PRINCIPAL, AND \_\_\_\_\_, as SURETY are held and firmly bound unto City/County \_\_\_\_\_ hereinafter called the OWNER \_\_\_\_\_ Dollars, (\$ \_\_\_\_\_) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that Whereas the Principal has submitted the Accompanying Bid, dated \_\_\_\_\_, 2016, for \_\_\_\_\_

NOW, THEREFORE, if the Principal shall not withdraw said Bid within the period specified therein after the opening of the same, or if no period be specified, within thirty (30) days after the said opening, and shall within the period specified therefore, or if no period be specified, within then (10) days after the prescribed forms are presented to him for signature, enter into a written Contract with the Local Public Agency in accordance with the Bid as accepted, and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such contract; or in the event of the withdrawal of said Bid within the period specified, or the failure to enter into such Contract and give such bond within the time specified, if the Principal shall pay the Owner the difference between the amount specified in said Bid and the amount for which the Owner may procure the required work of supplies or both, if the latter be in excess of the former, then the above obligation shall be void and of no effect, otherwise, to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals this \_\_\_\_\_ day of 2016, the name and corporate seal of each corporate party being here to affixed and these present signed by its undersigned representative, pursuant to authority of its governing body.

\_\_\_\_\_ (SEAL)

By: \_\_\_\_\_ (SEAL)

ATTEST:

BY: \_\_\_\_\_

Seal Affix Corporate

ATTEST:

BY: \_\_\_\_\_

Affix Corporate Seal

Countersigned

BY: \_\_\_\_\_

Attorney-in-Fact, State of \_\_\_\_\_

**THIS FORM MUST BE RETURNED WITH YOUR BID**

**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, and his signature there to is genuine; and that said bond was duly  
signed, and attested to for and in behalf of said corporation by authority of this governing body.

(Corporate Seal)

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

\*Power-of-Attorney for person signing for surety company must be attached to bond.

***THIS FORM MUST BE RETURNED WITH YOUR BID***

# Materials/Equipment

## *General Contract Conditions*

### 1. Materials and Workmanship

- a) Unless otherwise specifically provided for in the Technical Specifications, all materials and articles utilized in the work shall be new and the best grade available. Where equipment, materials, or articles are referred to in the Technical Specifications as "equal to" any particular standard, the Engineer shall decide the question of equality.
- b) The successful bidder shall furnish to the Grant Recipient for approval the manufacturer's detailed specifications for all mechanical, other special equipment and all materials or articles, together with full information as to type, performance characteristics, and all other pertinent information as required.
- c) Materials specified by reference to the number or symbol of a specific standard, shall comply with requirements in the latest revision thereof and any amendment or supplement thereto in effect on the date of the Invitation for Bids, except as limited to type, class or grade, or modified in the Technical specifications shall have full force and effect as though printed therein.

### 2. Samples and Tests

- a) Approval of any materials shall be general only and shall not constitute a waiver of the Grant Recipient's right to demand full compliance with Contract requirements. After actual deliveries, the Engineer will have such check tests made as he deems necessary in each instance and may reject materials and equipment and accessories for cause, even though such materials and articles have been given general approval.
- b) Except as otherwise specifically stated in the Contract, the costs of sampling and testing will be divided as follows:
  - The Contractor shall furnish without extra cost, including packing and delivery charges, all samples required for testing purposes, except those samples taken on the project by the Engineer;
  - The Contractor shall assume all costs of re-testing materials which fail to meet contract requirements;
  - The Contractor shall assume all costs of testing materials offered in substitution for those found deficient; and
  - The Grant Recipient will pay all other expenses.

### 3. Compliance with Clean Air and Federal Water Pollution Control Acts [for contracts > \$150K]

- a) Contractor shall comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. 7401 et. seq., and the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251-1387. Violations must be reported to the awarding agency and the Regional Office of the Environmental Protection Agency (EPA).
- b) Materials shall be free of any hazardous materials, except as may be specifically provided for in the specifications.

### 4. Equal Opportunity Clause

- a) The Contractor hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR chapter 60, which is paid for in whole or in part with Community Development Block Grant funds the following equal opportunity clause:

During the performance of this contract, the contractor agrees as follows:

- (1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The Contractor will not discourage or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
- (4) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (6) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, That in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

b) The Contractor further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive order. In addition, the Contractor agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

5. Section 109 of the Housing and Community Development Act of 1974

No person in the United States shall on the ground of race, color, national origin, religion, or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title.

6. Age Discrimination Act of 1975. The Contractor shall comply with the Age Discrimination Act of 1975 which provides that no person in the United States shall on the basis of age be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

*[If this Contract is greater than \$100,000, include the following Section 3 language:]*

7. Economic Opportunities for Section 3 Residents and Section 3 Business Concerns.

a) The work to be performed under this Contract is subject to the requirements of section 3 of the Housing and Urban Development (HUD) Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

b) The parties to this Contract agree to comply with HUD's regulations in 24 CFR part 135, which implement section 3. As evidenced by their execution of this Contract, the parties to this Contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.

c) The Contractor agrees to send to each labor organization or representative of workers with which the Contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the Contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

d) The Contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The Contractor will not subcontract with any subcontractor where the Contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.

e) The Contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the Contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the Contractor's obligations under 24 CFR part 135.

f) Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this Agreement for default, and debarment or suspension from future HUD assisted contracts.

g) With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this Agreement. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

8. Liquidated Damages

Since the actual damages for any delay under this contract are impossible to determine, the Contractor and his Sureties shall be liable for and shall pay to the Grant Recipient the sum of ( \_\_\_ ) Dollars (\$ \_\_\_\_\_) as fixed, agreed and liquidated damages for each calendar day of delay from the above stipulated time for delivery.

9. Termination, Delays, and Liquidated Damages

a. Right of the City/County to Terminate Contract.

In the event that any of the provisions of this contract are violated by the Contractor, or by any subcontractors, the City/County may serve written notice upon the Contractor and the Surety of its intention to terminate the contract. The notices shall contain the reasons for such intention to terminate the contract, and unless such violation or delay shall cease and satisfactory arrangement of correction be made within ten days, the contract shall, upon the expiration of said ten (10) days, cease and terminate. In the event of any such termination, the City/County shall immediately serve notice thereof upon the Surety and the Contractor. The Surety shall have the right to take over and perform the contract. Provided, however, that if the Surety does not commence performance thereof within ten (10) days from the date of the mailing to such Surety of notice of termination, the City/County may take over the work and complete the project by bid/contract or by force account at the expense of the Contractor and his Surety shall be liable to the City/County for any excess cost incurred. In such event the City/County may take possession of and utilize in completing the work, such materials, appliances, and plant as may be on the site of the work and necessary therefore.

10. Access to Information

(a) The Comptroller General of the United States, the City / County, TDA, and the Texas State Auditor's Office, or any successor agency or representative, shall have access to any books, documents, papers and records relating to the Contractor's agreement with the City/County or the administration, construction, engineering or implementation of the TxCDBG award between TDA and City / County.

(b) Contractor shall include the substance of this clause in all subcontracts it awards.

11. Records Retention

(a) The Contractor shall retain all required records for three years after the City/County makes its final payment and all pending matters are closed.

(b) Contractor shall include the substance of this clause in all subcontracts it awards.

12. Debarment and Suspension (Executive Orders 12549 and 12689)

The Contractor certifies, by entering into this Contract, that neither it nor its principals are presently debarred, suspended, or otherwise excluded from or ineligible for participation in federally-assisted programs under Executive Orders 12549 (3 CFR Part 1986 Comp., p. 189) and 12689 (3 CFR Part 1989 Comp., p. 235). The term "principal" for purposes of this Contract is defined as an officer, director, owner, partner, key employee, or other person with primary management or supervisory responsibilities, or a person who has a critical influence on or substantive control over the operations of the Contractor. The Contractor understands that it must not make any award or permit any award (or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs under Executive Order 12549, "Debarment and Suspension."

13. Procurement of Recovered Materials

The Contractor shall comply with section 6002 of the Solid Waste Act, as amended by the Resource Conservation and Recovery Act, procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired by the preceding fiscal year exceeded \$10,000 as long as such procurement is economically feasible.

14. [For Contracts that exceed \$100,000] Anti-Lobbying

Contractor shall file the required certification: The undersigned certifies, to the best of his or her knowledge and belief, that:

(a) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(b) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(c) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

15. Remedies for noncompliance

If a non-Federal entity fails to comply with Federal statutes, regulations or the terms and conditions of a Federal award, the Federal awarding agency or pass-through entity may impose additional conditions, as described in §200.207 Specific conditions. If the Federal awarding agency or pass-through entity determines that noncompliance cannot be remedied by imposing additional conditions, the Federal awarding agency or pass-through entity may take one or more of the following actions, as appropriate in the circumstances:

(a) Temporarily withhold cash payments pending correction of the deficiency by the non-Federal entity or more severe enforcement action by the Federal awarding agency or pass-through entity.

- (b) Disallow (that is, deny both use of funds and any applicable matching credit for) all or part of the cost of the activity or action not in compliance.
- (c) Wholly or partly suspend or terminate the Federal award.
- (d) Initiate suspension or debarment proceedings as authorized under 2 CFR part 180 and Federal awarding agency regulations (or in the case of a pass-through entity, recommend such a proceeding be initiated by a Federal awarding agency).
- (e) Withhold further Federal awards for the project or program.
- (f) Take other remedies that may be legally available.

## **MATERIALS SPECIFICATIONS**

The material used in pipe work shall be furnished by the contractor, as approved by the owner to meet the requirements of the work as specified herein.

### **Water Main Pipe:**

Polyvinyl chloride pipe for waterlines 4 inch to 12 inch shall conform to or exceed ANSI / AWWA Standards "Polyvinyl Chloride (PVC) Pressure Pipe" C900, Class 165 DR-25.

### **Water Service Pipe :**

High Density Polyethylene (HDPE) water pressure pipe for potable water service leads shall conform to or exceed ASTM D3035, AWWA C901, NSF.

### **Waterline Fittings:**

Fittings for polyvinyl chloride (PVC) pipe 2 inch through 64 inch shall meet ANSI / AWWA C-153/A21.53. Waterline fittings to be Star Pipe Products brand or approved equal. All fittings shall have Star Pipe Products brand, Model "PVC Stargrip Series 4000" M.J. restraints or approved equal.

### **Casing Spacers:**

Stainless Steel casing spacers shall be required in all casing pipes and shall be manufactured by Cascade Products, Advance Products & Systems, Inc model no. SSI8 or approved equal. The casing spacers shall be affixed to the carrier pipe at a spacing of 6'8" or per the manufacturers recommendations if less than 6'8".

### **Copper Tubing for Service Lines:**

Copper tubing for water service lines shall be type "K" and shall conform to ASTM Standard "Seamless Copper Water Tube" B 88, latest revisions.

### **Valves:**

Gate valves shall conform to AWWA Standard "Resilient Seated Gate Valves, 3 inch through 12 inch" C 509, latest revision, and shall be utilized for lines 12-inch and smaller. All gate valves shall be iron body, bronze mounted, double disc parallel seats, non-rising stem, internal wedging type, with mechanical joints. Hydrostatic and leakage tests shall conform to AWWA Standard "Resilient Seated Gate Valves, 3-inch through 12-inch" C 509-80, latest revision. All valves shall have Star Pipe Products brand, Model "PVC Stargrip Series 4000" M.J. restraints or approved equal.

### **Valve-Boxes:**

Valve boxes to be Star Pipe Products brand, Model VB-002 or approved equal.

### **Fire Hydrants:**

Fire hydrants shall conform to AWWA Standard "Dry-Barrel Fire Hydrants" C502, latest revision. Hydrants shall be cast iron; fully bronze, mounted and have a working

pressure of 250 psi, with mechanical joint-end. Fire hydrants shall have a minimum main valve opening of 5-¼ inch. Fire hydrants to be Mueller Super Centurion 250 Model A-423 or approved equal.

**Brass Saddles For C900 PVC:**

Brass saddles shall conform to AWWA Standard C800.

- All brass conforms to AWWA Standard C800 (ASTM B-62 and ASTM B-584, UNS NO C83600 - 85-5-5-5)
- Style A Saddle body and strap permanently held together with silicon bronze for saddles sized 2" thru 8"
- Bolt is 5/16" slotted hex head silicon bronze for saddles sized 2" thru 8"
- UL Classified to ANSI/NSF Standard 61

Brass saddles shall be Ford Meter Box Company brand Model S91-804 or approved equal.

**Corporation Valves:**

Corporation valves shall conform to the following standards:

- All brass conforms to AWWA Standard C800 (ASTM B-62 and ASTM B-584, UNS NO C83600 - 85-5-5-5)
- Meets 300 PSI working pressure requirements of AWWA Standard C800

Corporation valves shall be Mueller brand Model P-25028 or approved equal.

**Angle Ball Meter Valves:**

Angle ball meter valves shall conform to the following standards:

- All brass conforms to AWWA Standard C800 (ASTM B-62 and ASTM B-584, UNS NO C83600 - 85-5-5-5)
- 300 PSI working pressure
- Conforms to AWWA C700 for Meter threads

Angle ball meter valves shall be Mueller brand Model P-24258 or approved equal.



## JMM HIGH DENSITY POLYETHYLENE (HDPE) PE3408/PE3608 PRODUCT SPECIFICATION

### Description:

JMM manufactures High Density Polyethylene (HDPE) water pressure pipes for municipal and industrial transmission systems. Our pressure pipe is used in many types of applications such as: potable water, sewer, drain, mining, irrigation, slip lining, and reclaimed water.

### Materials:

JMM HDPE pressure pipes are manufactured with premium, highly engineered PE3408/PE3608 resin that provides maximum performance benefits to service today's municipal and industrial water needs. The PE3408/PE3608 material conforms to ASTM D3350 with the cell classification of 345464C/E and is listed with the Plastic Pipe Institute's (PPI) TR4. It is formulated with carbon black and/or ultraviolet stabilizer for maximum protection against UV rays for added assurance.

Size	Type	DR	Standard (If Applicable)
4" – 63"	IPS / DIPS	7 – 41	ASTM F714, AWWA C906, NSF
½" – 3"	IPS	7 – 32.5	ASTM D3035, AWWA C901, NSF

### Quality Assurance:

JMM takes great pride in the quality and workmanship of all of our products. JMM quality control programs encompass three critical aspects of the manufacturing process: the incoming raw material, pipe production, and the finished goods. Incoming material is inspected and tested to ensure the material meets all applicable requirements for production. During production, the pipe will be examined and pipe samples will be collected for physical verification and testing for compliance. The finished product is subjected to further visual inspection to ensure it has met all the appropriate specifications and packaging requirements. Without exception, our pipes are constantly monitored throughout the entire manufacturing process to validate that they are in accordance with all applicable specifications. Certificates of Compliance are available upon request.

### Lengths & Bending Radius:

Standard laying lengths of HDPE pressure water pipe is 40/50 foot lengths. Pipe sizes under 6" may be coiled at continuous longer lengths upon request.

### Marking:

Our standard markings printed on JMM pipes generally consist of the JMM logo, nominal size and OD base, material code, dimension ratio, pressure class, current AWWA C906 (if applicable), ASTM F714 (if applicable), and production date (day, month, & year).



Website:

Please visit our website at [www.jmm.com](http://www.jmm.com) for more information.

Note: Information provided here is a general guideline of JMM PE products. JMM reserves the right to modify any information as necessary. For more detailed information, please contact your JMM sales representative. Always follow project specifications and adhere to local rules, codes and regulations.

### HDPE IRON PIPE SIZE (IPS) PRESSURE PIPE PE3408/PE3608

Pipe Size	Avg OD	DR 7 (265 psi)			DR 7.3 (254 psi)			DR 9 (200 psi)			DR 9.3 (200 psi)			DR 11 (160 psi)			DR 13.5 (128 psi)		
		Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft
1/2	0.840	0.120	0.59	0.12	0.115	0.60	0.11	0.093	0.64	0.10	0.090	0.65	0.09	0.076	0.68	0.08	0.062	0.71	0.07
3/4	1.050	0.150	0.73	0.19	0.144	0.75	0.18	0.117	0.80	0.15	0.113	0.81	0.15	0.095	0.85	0.12	0.078	0.88	0.10
1	1.315	0.188	0.92	0.29	0.180	0.93	0.28	0.146	1.01	0.23	0.141	1.02	0.23	0.120	1.06	0.20	0.097	1.11	0.16
2	2.375	0.339	1.66	0.95	0.325	1.69	0.91	0.264	1.82	0.77	0.255	1.83	0.74	0.216	1.92	0.64	0.176	2.00	0.53
3	3.500	0.500	2.44	2.06	0.479	2.48	1.98	0.389	2.68	1.66	0.376	2.70	1.61	0.318	2.83	1.39	0.259	2.95	1.16
4	4.500	0.643	3.14	3.40	0.616	3.19	3.28	0.500	3.44	2.75	0.484	3.47	2.67	0.409	3.63	2.30	0.333	3.79	1.91
5 3/8	5.375	0.768	3.75	4.85	0.736	3.81	4.68	0.597	4.11	3.92	0.578	4.15	3.81	0.489	4.34	3.29	0.398	4.53	2.73
5	5.563	0.795	3.88	5.20	0.762	3.95	5.02	0.618	4.25	4.20	0.598	4.29	4.08	0.506	4.49	3.52	0.412	4.69	2.92
6	6.625	0.946	4.62	7.36	0.908	4.70	7.12	0.736	5.06	5.96	0.712	5.11	5.79	0.602	5.35	4.99	0.491	5.58	4.15
7	7.125	0.976	5.06	8.23	0.976	5.06	8.23	0.792	5.45	6.89	0.766	5.50	6.70	0.648	5.75	5.78	0.528	6.01	4.80
8	8.625	1.232	6.01	12.48	1.182	6.12	12.06	0.958	6.59	10.09	0.927	6.66	9.81	0.784	6.96	8.46	0.639	7.27	7.03
10	10.750	1.536	7.49	19.40	1.473	7.63	18.74	1.194	8.22	15.68	1.156	8.30	15.24	0.977	8.68	13.14	0.796	9.06	10.92
12	12.750	1.821	8.89	27.28	1.747	9.05	26.36	1.417	9.75	22.07	1.371	9.84	21.44	1.159	10.29	18.49	0.944	10.75	15.36
14	14.000	2.000	9.76	32.90	1.918	9.93	31.78	1.556	10.70	26.61	1.505	10.81	25.85	1.273	11.30	22.30	1.037	11.80	18.52
16	16.000	2.286	11.15	42.97	2.192	11.35	41.51	1.778	12.23	34.75	1.720	12.35	33.76	1.455	12.92	29.12	1.185	13.49	24.19
18	18.000	2.571	12.55	54.37	2.466	12.77	52.53	2.000	13.76	43.97	1.935	13.90	42.73	1.636	14.53	36.84	1.333	15.17	30.61
20	20.000	2.857	13.94	67.13	2.740	14.19	64.85	2.222	15.29	54.28	2.151	15.44	52.77	1.818	16.15	45.49	1.481	16.86	37.79
24	24.000	3.429	16.73	96.68	3.288	17.03	93.39	2.667	18.35	78.18	2.581	18.53	75.98	2.182	19.37	65.52	1.778	20.23	54.44
26	26.000							2.889	19.88	91.75	2.796	20.07	89.17	2.364	20.99	76.89	1.926	21.92	63.89
28	28.000							3.111	21.40	106.40	3.011	21.62	103.42	2.545	22.60	89.15	2.074	23.60	74.09
30	30.000							3.333	22.93	122.13	3.226	23.16	118.72	2.727	24.22	102.35	2.222	25.29	85.04
32	32.000													2.909	25.83	116.46	2.370	26.98	96.76
34	34.000													3.091	27.45	131.48	2.519	28.66	109.26
36	36.000													3.273	29.06	147.41	2.667	30.35	122.49



Pipe Size	Avg OD	DR 15.5 (110 psi)			DR 17 (100 psi)			DR 19 (90 psi)			DR 21 (80 psi)			DR 26 (64 psi)			DR 32.5 (50 psi)		
		Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft
1/2	0.840	0.054	0.73	0.07	0.062	0.71	0.07	0.044	0.75	0.05	0.062	0.71	0.07	0.062	0.71	0.07	0.062	0.71	0.07
3/4	1.050	0.068	0.91	0.09	0.062	0.92	0.08	0.055	0.93	0.08	0.062	0.92	0.08	0.062	0.92	0.08	0.062	0.92	0.08
1	1.315	0.085	1.14	0.14	0.077	1.15	0.13	0.069	1.17	0.12	0.063	1.18	0.11	0.062	1.18	0.11	0.062	1.18	0.11
2	2.375	0.153	2.05	0.47	0.140	2.08	0.43	0.125	2.11	0.39	0.113	2.14	0.35	0.091	2.18	0.29	0.073	2.22	0.23
3	3.500	0.226	3.02	1.02	0.206	3.06	0.93	0.184	3.11	0.84	0.167	3.15	0.77	0.135	3.21	0.63	0.108	3.27	0.50
4	4.500	0.290	3.88	1.68	0.265	3.94	1.54	0.237	4.00	1.39	0.214	4.05	1.26	0.173	4.13	1.03	0.138	4.21	0.83
5 3/8	5.375	0.347	4.64	2.40	0.316	4.71	2.20	0.283	4.78	1.98	0.256	4.83	1.80	0.207	4.94	1.47	0.165	5.03	1.18
5	5.563	0.359	4.80	2.57	0.327	4.87	2.35	0.293	4.94	2.12	0.265	5.00	1.93	0.214	5.11	1.57	0.171	5.20	1.27
6	6.625	0.427	5.72	3.63	0.390	5.80	3.34	0.349	5.89	3.01	0.315	5.96	2.73	0.255	6.08	2.23	0.204	6.19	1.80
7	7.125	0.460	6.15	4.21	0.419	6.24	3.86	0.375	6.33	3.48	0.340	6.40	3.16	0.274	6.54	2.58	0.219	6.66	2.08
8	8.625	0.556	7.45	6.16	0.507	7.55	5.65	0.454	7.66	5.10	0.411	7.75	4.64	0.332	7.92	3.79	0.265	8.06	3.05
10	10.750	0.694	9.28	9.58	0.632	9.41	8.88	0.566	9.55	7.92	0.512	9.66	7.21	0.413	9.87	5.87	0.331	10.05	4.75
12	12.750	0.823	11.01	13.48	0.750	11.16	12.36	0.671	11.33	11.14	0.607	11.46	10.13	0.490	11.71	8.26	0.392	11.92	6.67
14	14.000	0.903	12.09	16.24	0.824	12.25	14.91	0.737	12.44	13.43	0.667	12.59	12.22	0.538	12.86	9.96	0.431	13.09	8.05
16	16.000	1.032	13.81	21.21	0.941	14.01	19.46	0.842	14.21	17.54	0.762	14.38	15.96	0.615	14.70	13.01	0.492	14.96	10.50
18	18.000	1.161	15.54	26.84	1.059	15.75	24.64	0.947	15.99	22.20	0.857	16.18	20.20	0.692	16.53	16.47	0.554	16.83	13.30
20	20.000	1.290	17.26	33.14	1.176	17.51	30.41	1.053	17.77	27.41	0.952	17.98	24.93	0.769	18.37	20.34	0.615	18.70	16.41
24	24.000	1.548	20.72	47.72	1.412	21.01	43.81	1.263	21.32	39.47	1.143	21.58	35.91	0.923	22.04	29.30	0.738	22.44	23.62
26	26.000	1.677	22.44	56.00	1.529	22.76	51.39	1.368	23.10	46.32	1.238	23.38	42.14	1.000	23.88	34.39	0.800	24.30	27.74
28	28.000	1.806	24.17	64.95	1.647	24.51	59.62	1.474	24.88	53.72	1.333	25.17	48.86	1.077	25.72	39.88	0.862	26.17	32.19
30	30.000	1.935	25.90	74.56	1.765	26.26	68.45	1.579	26.65	61.66	1.429	26.97	56.12	1.154	27.55	45.79	0.923	28.04	36.93
32	32.000	2.065	27.62	84.87	1.882	28.01	77.86	1.684	28.43	70.16	1.542	28.73	63.84	1.231	29.39	52.10	0.985	29.91	42.04
34	34.000	2.194	29.35	95.81	2.000	29.76	87.91	1.790	30.21	79.20	1.619	30.57	72.06	1.308	31.23	58.81	1.046	31.78	47.43
36	36.000	2.323	31.08	107.41	2.118	31.51	98.57	1.895	31.98	88.80	1.714	32.37	80.78	1.385	33.06	65.94	1.108	33.65	53.20

**HDPE IRON PIPE SIZE (IPS) PRESSURE PIPE PE3408/PE3608**

Pipe Size	Avg OD	DR 17 (100 psi)			DR 19 (90 psi)			DR 21 (80 psi)			DR 26 (64 psi)			DR 32.5 (50 psi)			DR 41 (40 psi)		
		Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft
36	36.000	2.118	31.510	98.57	1.895	31.983	88.80	1.714	32.366	80.78	1.385	33.064	65.94	1.108	33.651	53.20	0.878	34.139	42.4517
42	42.000	2.471	36.761	134.16	2.211	37.314	120.86	2.000	37.760	109.97	1.615	38.576	89.71	1.292	39.261	72.37	1.024	39.830	57.7632
48	48.000	2.824	42.013	175.23	2.526	42.644	157.86	2.286	43.154	143.65	1.846	44.086	117.18	1.477	44.869	94.56	1.171	45.517	75.4906
54	54.000	3.177	47.265	221.71	2.842	47.975	199.79	2.571	48.549	181.75	2.077	49.597	148.33	1.622	50.477	119.70	1.317	51.208	95.5163
63	63.000							3.000	56.640	247.42	2.423	57.863	201.88	1.938	58.891	162.84	1.537	59.742	130.0154

**HDPE DUCTILE IRON PIPE SIZE (DIPS) PRESSURE PIPE PE3408/PE3608**

J-M Manufacturing Company, Inc.  
*building essentials for a better tomorrow™*



Pipe Size	DR 7 (265 psi)				DR 9 (200 psi)			DR 11 (160 psi)			DR 13.5 (128 psi)			DR 17 (128 psi)		
	Avg OD	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft
4	4.800	0.686	3.346	3.85	0.533	3.670	3.11	0.436	3.876	2.61	0.356	4.045	2.17	0.282	4.202	1.75
6	6.900	0.946	4.894	7.96	0.767	5.274	6.43	0.627	5.571	5.39	0.511	5.817	4.48	0.406	6.039	3.62
8	9.050	1.293	6.309	13.69	1.006	6.917	11.07	0.823	7.305	9.28	0.670	7.630	7.70	0.532	7.922	6.22
10	11.100	1.586	7.738	20.59	1.233	8.486	16.65	1.009	8.961	13.95	0.822	9.357	11.59	0.653	9.716	9.37
12	13.200	1.886	9.202	29.12	1.467	10.090	23.55	1.200	10.656	19.73	0.978	11.127	16.40	0.776	11.555	13.24
14	15.300	2.186	10.666	39.12	1.700	11.696	31.64	1.391	12.351	26.51	1.133	12.898	22.02	0.900	13.392	17.80
16	17.400	2.486	12.130	50.60	1.933	13.302	40.92	1.582	14.046	34.29	1.289	14.667	28.49	1.024	15.229	23.03
18	19.500	2.786	13.594	63.55	2.167	14.906	51.39	1.773	15.741	43.07	1.444	16.439	35.77	1.147	17.068	28.91
20	21.600				2.400	16.512	63.05	1.964	17.436	52.85	1.600	18.208	43.91	1.271	18.905	35.49
24	25.800				2.867	19.722	89.96	2.345	20.829	75.38	1.911	21.749	62.64	1.518	22.582	50.63
30	32.000							2.909	25.833	115.97	2.370	26.976	96.35	1.880	28.014	77.86
36	38.300										2.837	32.286	138.04	2.253	33.524	111.55
42	44.500													2.618	38.950	150.60
48	50.800													2.988	44.465	196.23

Pipe Size	DR 19 (90 psi)				DR 21 (80 psi)			DR 26 (64 psi)			DR 32.5 (50 psi)		
	Avg OD	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft	Min Wall	Avg ID	Weight lb/ft
4	4.800	0.253	4.264	1.58	0.229	4.315	1.44	0.185	4.408	1.17	0.148	4.486	0.95
6	6.900	0.363	6.130	3.26	0.329	6.203	2.97	0.265	6.338	2.42	0.212	6.451	1.95
8	9.050	0.476	8.041	5.61	0.431	8.136	5.11	0.348	8.312	4.17	0.278	8.461	3.36
10	11.100	0.584	9.862	8.44	0.529	9.979	7.69	0.427	10.195	6.27	0.342	10.375	5.06
12	13.200	0.695	11.727	11.94	0.629	11.867	10.87	0.508	12.123	8.87	0.406	12.339	7.15
14	15.300	0.805	13.593	16.04	0.729	13.755	14.60	0.588	14.053	11.90	0.471	14.301	9.61
16	17.400	0.916	15.458	20.74	0.829	15.643	18.88	0.669	15.982	15.39	0.536	16.264	12.44
18	19.500	1.026	17.325	26.05	0.929	17.531	23.71	0.750	17.910	19.34	0.600	18.228	15.60
20	21.600	1.137	19.190	31.97	1.029	19.419	29.10	0.831	19.838	23.74	0.665	20.190	19.16
24	25.800	1.358	22.921	45.61	1.229	23.195	41.51	0.992	23.697	33.85	0.794	24.117	27.32
30	32.000	1.684	28.430	70.16	1.524	28.769	63.84	1.231	29.390	52.10	0.985	29.912	42.04
36	38.300	2.016	34.026	100.50	1.824	34.433	91.45	1.473	35.177	74.61	1.179	35.801	60.18
42	44.500	2.342	39.535	135.68	2.119	40.008	123.44	1.712	40.871	100.75	1.370	41.596	81.25
48	50.800	2.674	45.131	176.81	2.419	45.672	160.87	1.954	46.658	131.28	1.563	47.486	105.90



## PE 3408/PE 3608 JMM HDPE Typical Primary Properties

Property	Unit	Test Procedure	Typical Value
Material Designation	---	PPI-TR4	PE 3408/PE3608
Cell Classification	---	ASTM D3350	** 345464C
Density [3]	g/cm <sup>3</sup>	ASTM D1505	0.955
Melt Index [4]	g/10 minutes	ASTM D1238	<0.15
Flexural Modulus [5]	psi	ASTM D790	110,000 to <160,000
Tensile Strength [4]	psi	ASTM D638	3,000 – 3,500
SCG (PENT) [6]	Hours	ASTM F1473	>100
HDB @ 73.4°F (23°C)[4]	psi	ASTM D2837	1600
HDB @ 140°F (60°C)	psi	ASTM D2837	800
Color; UV Stabilize [C]	---	---	Black with minimum 2% carbon black
Brittleness Temperature	°F	ASTM D746	<-130
Hardness	Shore D	ASTM D2240	> 60

\*\* Note: Cell Classification is 345464E for all Blue / Green / Gray Polyethylene Pipes.



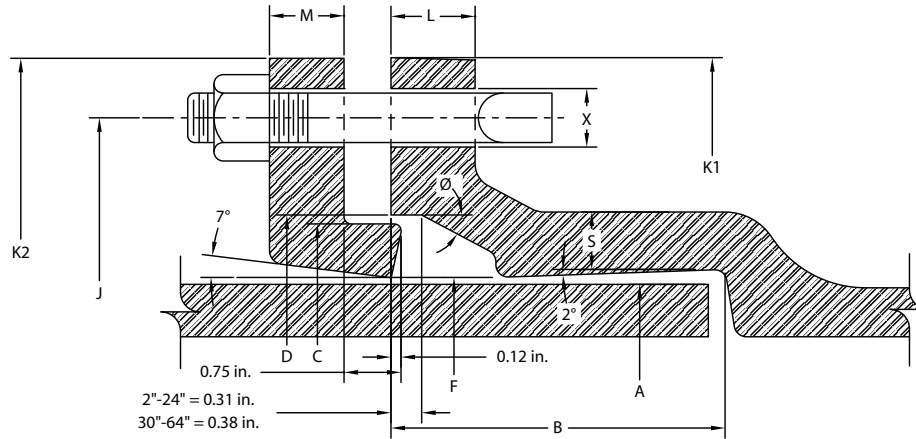
# Compact MJ Fittings

ANSI/AWWA C153/A21.53

## 2" - 64" DUCTILE IRON MECHANICAL JOINT COMPACT FITTINGS

### GENERAL SPECIFICATIONS

- MATERIAL:** Ductile Iron per ASTM A536
- PRESSURE:** 350 PSI rating for 3" - 24" sizes, 250 PSI rating for 30" - 48" sizes and 150 PSI rating for 54" - 60" sizes
- TESTING:** In accordance with ANSI/AWWA C153/A21.53 and UL requirements
- LAYING LENGTH:** In accordance with ANSI/AWWA C153/A21.53 (fittings not listed in ANSI/AWWA have dimensions per Star design as noted in the catalog)
- WEIGHTS:** Are in pounds, unless noted otherwise and do not include accessories, cement lining and coating
- FLANGES:** Flanged ends on fittings match ANSI/AWW C115/A21.15 and ANSI B16.1 class 125 flanges
- CEMENT LINING:** In accordance with ANSI/AWWA C104/A21.4 -- size 2" - 3" single thickness and sizes 4" - 64" double thickness
- COATING:** Asphaltic seal coat inside and out in accordance with ANSI/AWWA C104/A21.4
- GASKETS:** SBR in accordance with ANSI/AWWA C111/A21.11 (see pg. 17)
- T-BOLTS/NUTS:** Low alloy steel in accordance with ANSI/AWWA C111/A21.11 (see pg. 16)
- APPROVALS:** 4" - 12" Underwriters Laboratories Listed  
3" and greater are UL/NSF-61
- DIMENSIONS:** All dimensions are in inches unless noted otherwise



STAR<sup>®</sup> PIPE PRODUCTS

MECHANICAL JOINT DIMENSIONS															
NOM. SIZE	A DIA.	B	C DIA.	D DIA.	F DIA.	J DIA.	K1 DIA.	K2 DIA.	L	M	S	Ø	X DIA.	BOLTS	
														SIZE	NO.
★ 2	2.50	2.50	3.39	3.50	2.61	4.75	6.19	6.25	0.58	0.62	0.36	28°	3/4	5/8 x 3	2
3	3.96	2.50	4.84	4.94	4.06	6.19	7.62	7.69	0.58	0.62	0.39	28°	3/4	5/8 x 3	4
4	4.80	2.50	5.92	6.02	4.90	7.50	9.06	9.12	0.60	0.75	0.39	28°	7/8	3/4 x 3 1/2	4
6	6.90	2.50	8.02	8.12	7.00	9.50	11.06	11.12	0.63	0.88	0.43	28°	7/8	3/4 x 3 1/2	6
8	9.05	2.50	10.17	10.27	9.15	11.75	13.31	13.37	0.66	1.00	0.45	28°	7/8	3/4 x 3 1/2	6
10	11.10	2.50	12.22	12.34	11.20	14.00	15.62	15.62	0.70	1.00	0.47	28°	7/8	3/4 x 4	8
12	13.20	2.50	14.32	14.44	13.30	16.25	17.88	17.88	0.73	1.00	0.49	28°	7/8	3/4 x 4	8
14	15.30	3.50	16.40	16.54	15.44	18.75	20.25	20.25	0.79	1.25	0.55	28°	7/8	3/4 x 4 1/2	10
16	17.40	3.50	18.50	18.64	17.54	21.00	22.50	22.50	0.85	1.31	0.58	28°	7/8	3/4 x 4 1/2	12
18	19.50	3.50	20.60	20.74	19.64	23.25	24.75	24.83	1.00	1.38	0.68	28°	7/8	3/4 x 4 1/2	12
20	21.60	3.50	22.70	22.84	21.74	25.50	27.00	27.08	1.02	1.44	0.69	28°	7/8	3/4 x 4 1/2	14
24	25.80	3.50	26.90	27.04	25.94	30.00	31.50	31.58	1.02	1.56	0.75	28°	7/8	3/4 x 5	16
30	32.00	4.00	33.29	33.46	32.17	36.88	39.12	39.12	1.31	2.00	0.82	20°	1 1/8	1 x 6	20
36	38.30	4.00	39.59	39.76	38.47	43.75	46.00	46.00	1.45	2.00	1.00	20°	1 1/8	1 x 6	24
42	44.50	4.00	45.79	45.96	44.67	50.62	53.12	53.12	1.45	2.00	1.25	20°	1 3/8	1 1/4 x 6 1/2	28
48	50.80	4.00	52.09	52.26	50.97	57.50	60.00	60.00	1.45	2.00	1.35	20°	1 3/8	1 1/4 x 6 1/2	32
★ 54	{ Dimensions Available On Request }														
★ 60															
★ 64															
★ 64															



★Not Included in AWWA C153

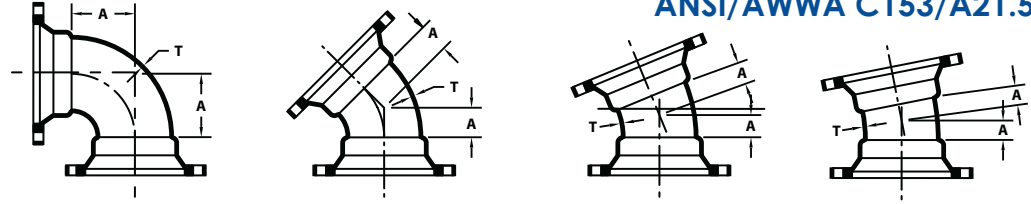
REV.07  
® REGISTERED TRADEMARK OF STAR PIPE PRODUCTS

STAR<sup>®</sup> PIPE PRODUCTS  
HOUSTON CORPORATE | TOLL FREE 1-800-999-3009 | FAX 281-558-9000  
www.starpipeproducts.com

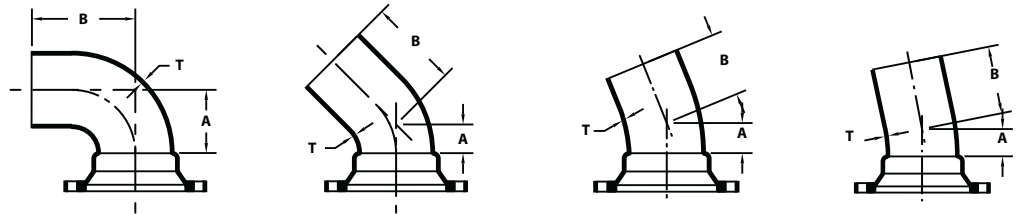


# Compact MJ Fittings

ANSI/AWWA C153/A21.53



MJ x MJ BENDS		90° MJ x MJ BENDS (1/4)		45° MJ x MJ BENDS (1/8)		22 1/2° MJ x MJ BENDS (1/16)		11 1/4° MJ x MJ BENDS (1/32)	
NOM. SIZE	T	A	WT (LBS.)	A	WT (LBS.)	A	WT (LBS.)	A	WT (LBS.)
★ 2	0.30	3.25	14	1.80	13	1.00	9	1.00	8
3	0.33	3.50	23	1.50	21	1.00	16	1.00	14
4	0.34	4.00	27	2.00	23	1.50	18	1.25	16
6	0.36	5.00	39	3.00	32	2.00	32	1.50	30
8	0.38	6.50	57	3.50	46	2.50	46	1.75	42
10	0.40	7.50	89	4.50	70	3.00	64	2.00	58
12	0.42	9.00	108	5.50	86	3.50	84	2.25	74
14	0.47	11.50	180	5.00	145	3.75	140	2.50	128
16	0.50	12.50	264	5.50	202	3.75	178	2.50	148
18	0.54	14.00	335	6.00	250	4.50	255	3.00	205
20	0.57	15.00	400	7.00	305	4.50	262	3.00	245
24	0.61	17.00	565	7.50	405	4.50	412	3.00	315
30	0.66	21.50	1005	11.50	798	6.75	665	4.75	606
36	0.74	24.50	1562	11.50	1164	7.75	960	5.00	840
42	0.82	29.25	2506	14.00	1792	9.00	1350	6.00	1319
48	0.90	33.25	3045	15.00	2390	10.00	1886	6.50	1700
★ 54	{ Dimensions Available On Request }								
★ 60									
★ 62									
★ 64									



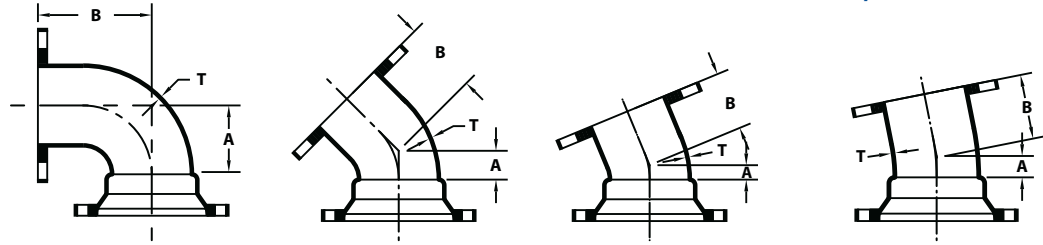
MJ x PE BENDS		90° MJ x PE BENDS (1/4)			45° MJ x PE BENDS (1/8)			22 1/2° MJ x PE BENDS (1/16)			11 1/4° MJ x PE BENDS (1/32)		
NOM. SIZE	T	A	B	WT (LBS.)	A	B	WT (LBS.)	A	B	WT (LBS.)	A	B	WT (LBS.)
3	0.33	3.50	8.50	16	1.50	7.00	13	1.00	6.50	12	1.00	6.50	12
4	0.34	4.00	9.50	22	2.00	7.50	19	1.50	7.00	18	1.25	6.25	17
6	0.36	5.00	12.00	40	3.00	8.50	31	2.00	7.50	29	1.50	7.00	27
8	0.38	6.50	12.50	61	3.50	9.00	46	2.50	8.00	43	1.75	7.25	39
10	0.40	7.50	13.00	83	4.50	10.00	68	3.00	8.50	61	2.00	7.50	52
12	0.42	9.00	14.50	114	5.50	11.00	95	3.50	9.00	81	2.25	7.75	70
14	0.47	11.50	19.50	197	5.00	13.00	148	3.75	11.25	133	2.50	10.50	122
16	0.50	12.50	20.50	248	5.50	13.50	184	3.75	11.75	166	2.50	10.50	148
18	0.54	14.00	21.00	325	6.00	13.00	235	6.00	13.00	235	6.00	13.00	235
20	0.57	15.00	22.50	390	7.00	14.00	300	7.00	14.00	300	7.00	14.00	300
24	0.61	17.00	25.00	575	7.50	14.50	390	7.50	14.50	395	7.50	14.50	400
30	0.66	22.75	31.75	865	10.50	19.50	715	6.75	15.75	600	4.75	13.75	535
36	0.74	24.50	33.50	1355	12.00	21.00	1040	7.75	16.75	865	5.00	14.00	725
42	0.82	29.25	38.25	2055	14.00	23.00	1460	9.00	18.00	1200	6.00	15.00	1030
48	0.90	33.25	42.25	2805	15.00	24.00	1905	10.00	19.00	1575	6.50	15.50	1290

STAR<sup>®</sup> PIPE PRODUCTS

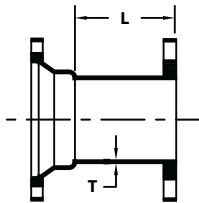


# Compact MJ Fittings

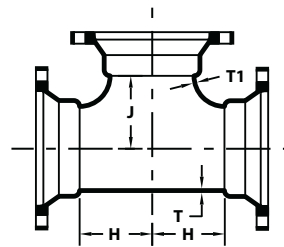
ANSI/AWWA C153/A21.53



MJ x FE BENDS		90° MJ x FE BENDS (1/4)			45° MJ x FE BENDS (1/8)			22 1/2° MJ x FE BENDS (1/16)			11 1/4° MJ x FE BENDS (1/32)		
NOM. SIZE	T	A	B	WT (LBS.)	A	B	WT (LBS.)	A	B	WT (LBS.)	A	B	WT (LBS.)
3	0.33	3.50	5.50	20	1.50	3.00	17	1.00	3.00	17	1.00	3.00	15
4	0.34	4.00	6.50	26	2.00	4.00	24	1.50	4.00	26	1.25	4.00	19
6	0.36	5.00	8.00	47	3.50	5.00	40	2.00	5.00	36	1.50	5.00	30
8	0.38	6.50	9.00	68	3.50	5.50	57	2.50	5.50	53	1.75	5.50	50
10	0.40	7.50	11.00	102	4.50	6.50	83	3.00	6.50	102	2.00	6.50	75
12	0.42	9.00	12.00	134	5.50	7.50	110	3.50	7.50	134	2.25	7.50	88
14	0.47	11.50	14.00	227	5.00	7.50	207	---	---	---	---	---	---
16	0.50	12.50	15.00	306	5.50	8.00	239	---	---	---	---	---	---
30	0.66	21.50	25.00	1070	10.50	15.00	858	---	---	---	---	---	---



MJ x FLANGE ADAPTER			
NOM. SIZE	T	L	WT (LBS.)
3	0.33	3.50	13
4	0.34	3.50	22
6	0.36	3.50	32
8	0.38	3.50	46
10	0.40	3.50	63
12	0.42	3.50	100
14	0.47	5.00	141
16	0.50	5.00	170
18	0.54	5.00	221
20	0.57	5.00	252
24	0.61	5.00	324
30	0.66	7.00	557
36	0.74	8.50	798
42	0.82	12.00	1214
48	0.90	12.00	1600



MJ x MJ TEES						
NOM. SIZE	T	T1	H	J	WT (LBS.)	
2 x 2	0.39	0.39	3.25	3.25	22	
3 x 2	0.48	0.39	3.50	3.50	43	
3 x 3	0.33	0.33	3.00	3.00	28	
4 x 3	0.34	0.33	3.50	4.00	30	
4 x 4	0.34	0.34	4.00	4.00	32	
6 x 3	0.36	0.33	3.50	5.00	42	
6 x 4	0.36	0.34	4.00	5.00	46	
6 x 4 x 6	0.36	0.36	5.00	5.00	45	
6 x 6	0.36	0.36	5.00	5.00	56	
6 x 6 x 8	0.36	0.38	6.50	6.50	62	
8 x 3	0.38	0.33	4.00	6.50	52	
8 x 4	0.38	0.34	4.00	6.50	60	
8 x 6	0.38	0.36	5.00	6.50	72	
8 x 6 x 6	0.38	0.38	5.00	6.50	62	
8 x 6 x 8	0.38	0.38	6.00	6.50	85	
8 x 8	0.38	0.38	6.50	6.50	86	
10 x 3	0.40	0.33	4.00	7.50	75	
10 x 4	0.40	0.34	4.00	7.50	78	
10 x 6	0.40	0.36	5.00	7.50	90	
10 x 8	0.40	0.38	6.50	7.50	105	
10 x 10	0.40	0.40	7.50	7.50	120	
12 x 3	0.42	0.33	4.00	8.75	90	
12 x 4	0.42	0.34	4.00	8.75	94	

(Con't) →



★ Not Included in AWWA C153

REV.07  
© REGISTERED TRADEMARK OF STAR PIPE PRODUCTS

STAR<sup>®</sup> PIPE PRODUCTS  
HOUSTON CORPORATE | TOLL FREE 1-800-999-3009 | FAX 281-558-9000  
www.starpipeproducts.com

STAR<sup>®</sup> PIPE PRODUCTS



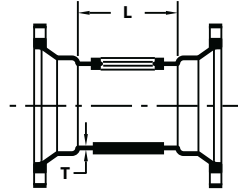
# Compact MJ Fittings

ANSI/AWWA C153/A21.53

MJ x MJ TEES (Con't)					
NOM. SIZE	T	T1	H	J	WT (LBS.)
12 x 6	0.42	0.36	5.00	8.75	110
12 x 8	0.42	0.38	6.50	8.75	125
12 x 10	0.42	0.40	7.50	8.75	140
12 x 12	0.42	0.42	8.75	8.75	160
14 x 6	0.47	0.36	6.50	10.50	182
14 x 8	0.47	0.38	7.50	10.50	190
14 x 10	0.47	0.40	8.50	10.50	206
14 x 12	0.47	0.42	9.50	10.50	221
14 x 14	0.47	0.47	10.50	10.50	251
16 x 6	0.50	0.36	6.50	11.50	218
16 x 8	0.50	0.38	7.50	11.50	223
16 x 10	0.50	0.40	8.50	11.50	264
16 x 12	0.50	0.42	9.50	11.50	280
16 x 14	0.50	0.47	10.50	11.50	316
16 x 16	0.50	0.50	11.50	11.50	322
18 x 6	0.54	0.36	6.50	12.50	275
18 x 8	0.54	0.38	7.50	12.50	295
18 x 10	0.54	0.40	8.50	12.50	315
18 x 12	0.54	0.42	9.50	12.50	335
18 x 14	0.54	0.47	10.50	12.50	380
18 x 16	0.54	0.50	11.50	12.50	405
18 x 18	0.54	0.54	12.50	12.50	435
20 x 6	0.57	0.36	6.50	14.00	315
20 x 8	0.57	0.38	8.00	14.00	345
20 x 10	0.57	0.40	9.00	14.00	370
20 x 12	0.57	0.42	10.00	14.00	395
20 x 14	0.57	0.47	11.00	14.00	440
20 x 16	0.57	0.50	12.00	14.00	465
20 x 18	0.57	0.54	13.00	14.00	505
20 x 20	0.57	0.57	14.00	14.00	535
24 x 6	0.61	0.36	7.00	16.00	415
24 x 8	0.61	0.38	8.00	16.00	445
24 x 10	0.61	0.40	9.00	16.00	470
24 x 12	0.61	0.42	10.00	16.00	500
24 x 14	0.61	0.47	11.00	16.00	550
24 x 16	0.61	0.50	12.00	16.00	580
24 x 18	0.61	0.54	13.00	16.00	625
24 x 20	0.61	0.57	14.00	16.00	660
24 x 24	0.61	0.61	16.00	16.00	720
★ 30 x 6	0.66	0.36	8.00	20.00	686
★ 30 x 8	0.66	0.38	8.50	20.00	739
★ 30 x 12	0.66	0.42	10.00	20.00	830
★ 30 x 14	0.66	0.47	11.00	20.00	880
★ 30 x 16	0.66	0.50	12.50	20.00	959
★ 30 x 18	0.66	0.54	14.00	20.00	1085
★ 30 x 20	0.66	0.57	15.00	20.00	1000
★ 30 x 24	0.66	0.61	21.00	22.00	1389
★ 30 x 30	0.66	0.66	20.00	20.00	1323
★ 36 x 6	0.74	0.36	8.00	23.50	1100
★ 36 x 8	0.74	0.38	9.00	23.50	1287
★ 36 x 12	0.74	0.42	10.00	23.50	1150
★ 36 x 16	0.74	0.50	12.50	23.50	1165
★ 36 x 18	0.74	0.54	13.00	23.50	1410

(Con't) ➔

MJ x MJ TEES (Con't)					
NOM. SIZE	T	T1	H	J	WT (LBS.)
★ 36 x 20	0.74	0.57	15.00	23.50	1650
★ 36 x 24	0.74	0.61	16.00	23.50	1550
★ 36 x 30	0.74	0.66	20.00	23.50	1555
★ 36 x 36	0.74	0.74	23.50	23.50	2072
★ 42 x 6	0.82	0.36	9.00	27.50	1600
★ 42 x 12	0.82	0.42	14.00	27.50	1950
★ 42 x 16	0.82	0.50	13.00	27.50	2040
★ 42 x 18	0.82	0.54	16.00	27.50	2195
★ 42 x 24	0.82	0.61	20.00	27.50	2270
★ 42 x 30	0.82	0.66	22.00	29.50	2608
★ 42 x 36	0.82	0.74	30.00	30.00	3000
★ 42 x 42	0.82	0.82	30.00	30.00	3175
★ 48 x 6	0.90	0.36	10.00	32.00	2155
★ 48 x 12	0.90	0.42	14.00	32.00	2500
★ 48 x 16	0.90	0.50	13.00	32.00	2405
★ 48 x 24	0.90	0.61	23.00	32.00	2870
★ 48 x 30	0.90	0.66	23.00	32.00	3050
★ 48 x 36	0.90	0.74	33.50	32.25	3900
★ 48 x 42	0.90	0.82	33.50	33.50	4100
★ 48 x 48	0.90	0.90	33.50	33.50	4250
★ 54 x 20	{ Dimensions Available On Request }				
★ 64 x 64					



★ MJ x MJ TAPPED TEES (2" TAP)				
NOM. SIZE	T	L	MAX TAP	WT (LBS.)
3	0.33	6.00	2 1/2	18
4	0.34	6.00	3	25
6	0.36	6.00	3	35
8	0.38	6.00	3	55
10	0.40	6.00	3	70
12	0.42	6.00	3	85
16	0.50	6.00	3	164

Threads in Accordance with ANSI/ASME B1.20.1

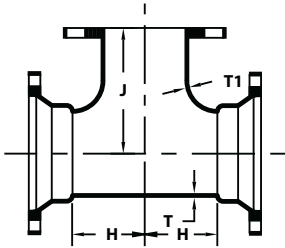
STAR® PIPE PRODUCTS





# Compact MJ Fittings

ANSI/AWWA C153/A21.53

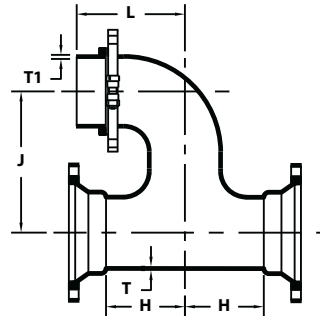


★ MJ x FE TEES

NOM. SIZE	T	T1	H	J	WT (LBS.)
3 x 3	0.33	0.33	3.00	5.50	30
4 x 2	0.52	0.39	4.80	4.80	53
4 x 3	0.34	0.33	3.50	6.50	34
4 x 4	0.34	0.34	4.00	6.50	40
6 x 3	0.36	0.33	3.50	8.00	50
6 x 4	0.36	0.34	4.00	8.00	65
6 x 6	0.36	0.36	5.00	8.00	62
8 x 4	0.38	0.34	4.50	9.00	75
8 x 6	0.38	0.36	5.50	9.00	78
8 x 8	0.38	0.38	6.50	9.00	88
10 x 4	0.40	0.34	4.00	11.00	90
10 x 6	0.40	0.36	5.00	11.00	106
10 x 8	0.40	0.38	6.50	11.00	114
10 x 10	0.40	0.40	7.50	11.00	126
12 x 4	0.42	0.34	4.50	12.00	118
12 x 6	0.42	0.36	5.50	12.00	133
12 x 8	0.42	0.38	6.50	12.00	134
12 x 10	0.42	0.40	7.50	12.00	145
12 x 12	0.42	0.42	8.75	12.00	170
14 x 6	0.47	0.36	6.50	14.00	185
14 x 10	0.47	0.40	8.50	14.00	244
14 x 12	0.47	0.42	9.50	14.00	284
14 x 14	0.47	0.47	10.50	14.00	305
16 x 6	0.50	0.36	6.50	15.00	207
16 x 8	0.50	0.38	7.50	15.00	260
16 x 10	0.50	0.40	8.50	15.00	287
16 x 12	0.50	0.42	9.50	15.00	312
16 x 14	0.50	0.47	10.50	15.00	348
16 x 16	0.50	0.50	11.50	15.00	374
18 x 6	0.54	0.36	6.50	15.50	325
18 x 8	0.54	0.38	7.50	15.50	351
18 x 12	0.54	0.42	9.50	15.50	358
18 x 18	0.54	0.54	12.50	16.50	445
20 x 6	0.57	0.36	6.50	17.00	360
20 x 8	0.57	0.38	8.00	17.00	339
24 x 6	0.61	0.36	7.00	19.00	406
24 x 8	0.61	0.38	8.00	19.00	472
24 x 12	0.61	0.42	10.00	19.00	580
24 x 16	0.61	0.50	12.00	19.00	744
24 x 24	0.61	0.61	16.00	22.00	950
30 x 6	0.66	0.36	8.00	23.00	675
30 x 8	0.66	0.38	8.50	23.00	695
30 x 12	0.66	0.42	10.00	23.00	715
30 x 16	0.66	0.50	12.50	23.00	1125

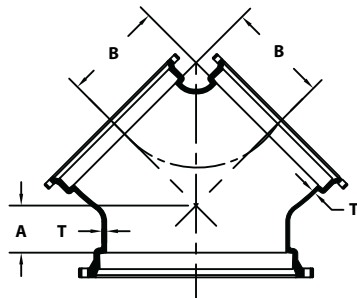
★ MJ x FE TEES (Con't)

NOM. SIZE	T	T1	H	J	WT (LBS.)
30 x 24	0.66	0.61	16.00	25.00	1290
36 x 6	0.74	0.36	8.00	26.00	1175
36 x 16	0.74	0.50	12.50	26.00	1475



★ MJ x SWIVEL PARALLEL TEE

NOM. SIZE	T	T1	H	J	L	WT (LBS.)
6 x 6	0.36	0.36	8.00	12.50	10.00	83
8 x 6	0.38	0.36	9.00	13.50	11.00	105
10 x 6	0.40	0.38	11.00	14.00	13.00	125



★ MJ x MJ TRUE WYES

NOM. SIZE	T	T1	A	B	WT (LBS.)
24 x 14	0.61	0.47	9.00	11.50	395
30 x 24	0.66	0.61	8.00	17.00	815

(Con't)➡

STAR<sup>®</sup> PIPE PRODUCTS



★Not Included in AWWA C153

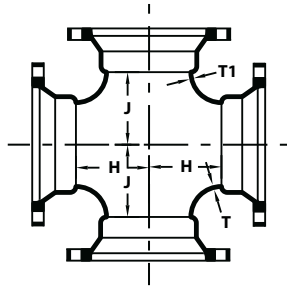
REV.07  
® REGISTERED TRADEMARK OF STAR PIPE PRODUCTS

STAR<sup>®</sup> PIPE PRODUCTS  
HOUSTON CORPORATE | TOLL FREE 1-800-999-3009 | FAX 281-558-9000  
www.starpipeproducts.com



# Compact MJ Fittings

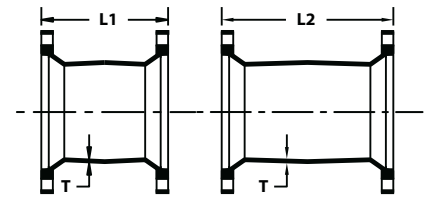
ANSI/AWWA C153/A21.53



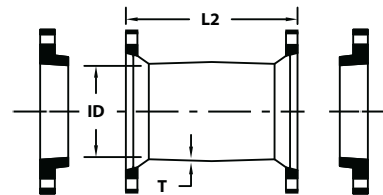
MJ CROSSES					
NOM. SIZE	T	T1	H	J	WT (LBS.)
3 x 3	0.33	0.33	3.00	3.00	35
4 x 3	0.34	0.33	3.50	4.00	38
4 x 4	0.34	0.34	4.00	4.00	40
6 x 4	0.36	0.34	4.00	5.00	68
6 x 6	0.36	0.36	5.00	5.00	80
8 x 4	0.38	0.34	4.00	6.00	99
8 x 6	0.38	0.36	5.00	6.00	100
8 x 8	0.38	0.38	6.00	6.00	106
10 x 4	0.40	0.34	4.00	7.00	120
10 x 6	0.40	0.36	5.00	7.00	125
10 x 8	0.40	0.38	6.50	7.00	130
10 x 10	0.40	0.40	7.00	7.00	145
12 x 4	0.42	0.34	4.00	8.50	123
12 x 6	0.42	0.36	5.00	8.50	142
12 x 8	0.42	0.38	6.00	8.50	157
12 x 10	0.42	0.40	7.50	8.50	189
12 x 12	0.42	0.42	8.50	8.50	200
14 x 6	0.47	0.36	6.50	10.50	210
14 x 8	0.47	0.38	7.50	10.50	231
14 x 10	0.47	0.40	8.50	10.50	255
14 x 12	0.47	0.42	9.50	10.50	269
14 x 14	0.47	0.47	10.50	10.50	335
16 x 6	0.50	0.36	6.50	11.50	250
16 x 8	0.50	0.38	7.50	11.50	264
16 x 10	0.50	0.40	8.50	11.50	286
16 x 12	0.50	0.42	9.50	11.50	310
16 x 16	0.50	0.50	11.50	11.50	385
18 x 12	0.54	0.42	9.50	12.50	348
18 x 18	0.54	0.54	12.50	12.50	478
20 x 8	0.57	0.38	8.00	14.00	379
20 x 12	0.57	0.42	10.00	14.00	413
20 x 18	0.57	0.54	13.00	14.00	554
20 x 20	0.57	0.57	14.00	14.00	590
24 x 6	0.61	0.36	7.00	16.00	481
24 x 8	0.61	0.38	8.00	16.00	500
24 x 12	0.61	0.42	10.00	16.00	529
24 x 16	0.61	0.50	12.00	16.00	576
24 x 18	0.61	0.54	13.00	16.00	868
24 x 20	0.61	0.57	14.00	16.00	1015
24 x 24	0.61	0.61	16.00	16.00	881
30 x 12	0.66	0.42	10.00	20.00	870
30 x 24	0.66	0.61	16.00	20.00	1333
30 x 30	0.66	0.66	22.00	22.00	1691
36 x 24	0.74	0.61	16.00	23.50	1840

(Con't) ▶

MJ CROSSES (Con't)					
NOM. SIZE	T	T1	H	J	WT (LBS.)
36 x 36	0.74	0.74	26.00	26.00	2811
42 x 24	0.82	0.61	20.00	27.50	2480
42 x 36	0.82	0.74	30.00	30.00	3900
48 x 24	0.90	0.61	23.00	32.00	3670
48 x 30	0.90	0.66	23.00	32.00	4505
48 x 36	0.90	0.74	33.50	32.25	4700



MJ SLEEVES					
NOM. SIZE	T	SHORT SLEEVES		LONG SLEEVES	
		L1	WT (LBS.)	L2	WT (LBS.)
2	0.30	7.50	8	12.00	13
3	0.33	7.50	13	12.00	18
4	0.34	7.50	17	12.00	20
6	0.36	7.50	28	12.00	36
8	0.38	7.50	38	12.00	46
10	0.40	7.50	49	12.00	62
12	0.42	7.50	56	12.00	76
14	0.47	9.50	93	15.00	125
16	0.50	9.50	108	15.00	172
18	0.54	9.00	160	15.00	225
20	0.57	9.00	195	15.00	255
24	0.61	9.00	255	15.00	335
30	0.66	15.00	500	24.00	670
36	0.74	15.00	725	24.00	1091
42	0.82	15.00	877	24.00	1390
48	0.90	15.00	1406	24.00	1740



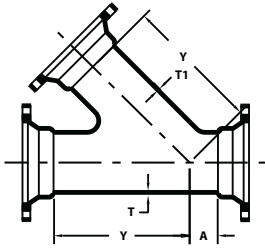
MJ DUAL PURPOSE SLEEVES W/ OVERSIZE GLANDS					
NOM. SIZE	PIPE SIZE	T	L	(I.D.)	WT (LBS.)
4	4.80 - 5.00	0.34	12.00	5.10	20
6	6.90 - 7.10	0.36	12.00	7.20	36
8	9.05 - 9.30	0.38	12.00	9.40	46
10	11.10 - 11.40	0.40	12.00	11.50	62
12	13.20 - 13.50	0.42	12.00	13.60	76
16	17.40 - 17.80	0.50	15.00	17.94	172

STAR® PIPE PRODUCTS



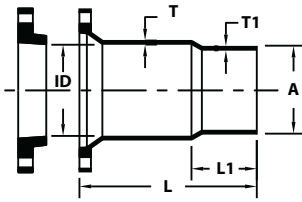
# Compact MJ Fittings

ANSI/AWWA C153/A21.53



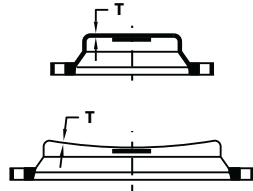
★ **45° MJ LATERALS**

NOM. SIZE	T	T1	A	Y	WT (LBS.)
3 x 3	0.33	0.33	2.50	8.50	36
4 x 3	0.34	0.33	2.50	8.50	40
4 x 4	0.34	0.34	2.50	8.50	41
6 x 4	0.36	0.34	1.50	11.00	53
6 x 6	0.36	0.36	3.00	12.50	85
8 x 4	0.38	0.34	0.50	13.00	73
8 x 6	0.38	0.36	2.00	14.50	90
8 x 8	0.38	0.38	3.50	16.00	102
10 x 4	0.40	0.34	0.00	15.00	150
10 x 6	0.40	0.36	1.00	16.00	158
10 x 8	0.40	0.38	2.50	17.00	172
10 x 10	0.40	0.40	3.50	19.00	210
12 x 4	0.42	0.34	0.00	16.50	184
12 x 6	0.42	0.36	1.50	18.50	186
12 x 8	0.42	0.38	1.50	18.50	188
12 x 10	0.42	0.40	3.00	20.00	250
12 x 12	0.42	0.42	4.50	22.50	272
14 x 14	0.47	0.47	6.00	25.00	474
16 x 6	0.50	0.36	0.00	21.00	300
16 x 8	0.50	0.38	0.50	22.50	349
16 x 12	0.50	0.42	3.50	25.00	453
16 x 16	0.50	0.50	6.50	28.00	575

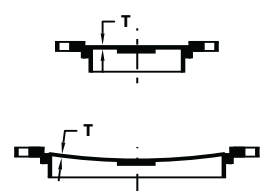


★ **MJ x PE CUTTING IN SLEEVE W/ OVER SIZE GLAND**

NOM. SIZE	ID	T	T1	A	L	L1	WT (LBS.)
4	5.10	0.36	0.34	4.80	20.00	9.00	50
6	7.20	0.38	0.36	6.90	20.00	9.00	62
8	9.40	0.40	0.38	9.05	20.00	9.00	90
10	11.50	0.42	0.40	11.10	20.00	9.00	105
12	13.60	0.47	0.42	13.20	20.00	9.00	128
16	17.90	0.54	0.50	17.40	20.00	9.00	275



**30"-48"  
CAPS**

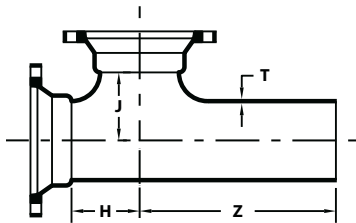


**30"-48"  
PLUGS**

**MJ CAPS & PLUGS (SOLID OR TAPPED)**

NOM. SIZE	T	MAX. TAP	WT (LBS.)	
			PLUGS	CAPS
3	0.48	2	9	8
4	0.34	2	12	9
6	0.42	2	21	15
8	0.44	2	32	22
10	0.46	2	40	32
12	0.48	2	54	42
14	0.55	2 ½	77	86
16	0.56	2 ½	101	94
18	0.60	3	126	116
20	0.66	3	139	129
24	0.68	3	181	171
30	0.82	4	434	395
36	1.00	4	688	628
42	1.00	4	1200	893
48	1.00	4	1550	1076

*Threads in Accordance with ANSI/ASME B1.20.1*



★ **MJ x PE x MJ TEES**

NOM. SIZE	T	H	J	Z	WT (LBS.)
6 x 6	0.36	5.00	5.00	12.00	57
8 x 6	0.38	5.50	6.50	11.50	69
8 x 8	0.38	6.50	6.50	12.50	77
10 x 10	0.40	7.50	7.50	13.00	120

STAR<sup>®</sup> PIPE PRODUCTS



★ Not Included in AWWA C153

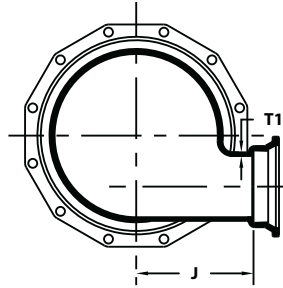
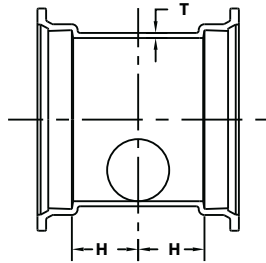
REV.07  
© REGISTERED TRADEMARK OF STAR PIPE PRODUCTS

STAR<sup>®</sup> PIPE PRODUCTS  
HOUSTON CORPORATE | TOLL FREE 1-800-999-3009 | FAX 281-558-9000  
www.starpipeproducts.com

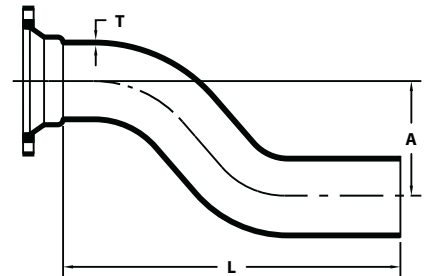
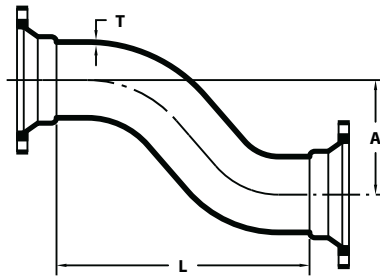


# Compact MJ Fittings

ANSI/AWWA C153/A21.53



★ MJ x MJ TANGENTIAL TEES					
NOM. SIZE	T	T1	H	J	WT (LBS.)
16 X 6	0.50	0.38	6.50	11.50	225
16 X 12	0.50	0.42	9.50	11.50	300
18 X 6	0.54	0.36	6.50	12.50	285
24 X 6	0.61	0.36	7.00	16.00	455
24 X 12	0.61	0.42	10.00	16.00	540



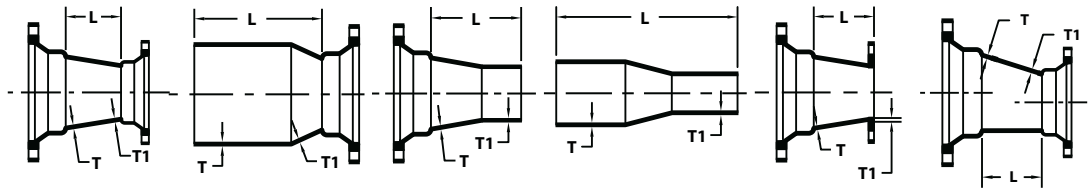
★ MJ OFFSETS			MJ x MJ		MJ x PE	
NOM. SIZE	T	A	L	WT (LBS.)	L	WT (LBS.)
3 X 6	0.33	6.00	9.00	20	---	---
4 X 6	0.34	6.00	10.00	25	15.50	25
4 X 12	0.34	12.00	18.00	55	23.50	46
4 X 18	0.34	18.00	22.00	65	27.50	59
4 X 24	0.34	24.00	28.00	75	33.50	65
6 X 6	0.36	6.00	12.00	29	17.50	51
6 X 12	0.36	12.00	18.00	69	23.50	68
6 X 18	0.36	18.00	24.00	87	29.50	96
6 X 24	0.36	24.00	30.00	107	35.50	117
8 X 6	0.38	6.00	13.00	80	18.50	78
8 X 12	0.38	12.00	19.00	105	24.50	110
8 X 18	0.38	18.00	25.00	135	30.50	124
8 X 24	0.38	24.00	30.00	141	35.50	189
10 X 6	0.40	6.00	15.00	110	20.50	130
10 X 12	0.40	12.00	21.00	135	26.50	172
10 X 18	0.40	18.00	27.00	183	32.50	189
10 X 24	0.40	24.00	33.00	175	38.50	237
12 X 6	0.42	6.00	17.00	118	22.50	115
12 X 12	0.42	12.00	23.00	203	28.50	198
12 X 18	0.42	18.00	27.00	190	32.50	270
12 X 24	0.42	24.00	35.00	277	40.50	334
16 X 12	0.50	12.00	26.00	206	---	---
16 X 18	0.50	18.00	36.00	250	---	---

STAR® PIPE PRODUCTS



# Compact MJ Fittings

ANSI/AWWA C153/A21.53



REDUCERS			MJ x MJ		SEB		LEB		PE x PE		MJ x FE		★ ECCENTRIC	
NOM. SIZE	T	T1	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)
4 x 3	0.34	0.33	3.00	18	8.50	17	8.50	18	14.00	14	5.00	19.00	---	---
6 x 3	0.36	0.33	5.00	22	10.62	24	10.50	19	16.00	19	---	---	---	---
6 x 4	0.36	0.34	4.00	24	9.50	23	9.50	23	15.00	22	5.00	30.00	---	---
8 x 4	0.38	0.34	5.00	32	10.50	30	10.50	34	16.00	30	---	---	---	---
8 x 6	0.38	0.36	4.00	36	9.50	35	9.50	32	15.00	33	6.00	41.00	---	---
10 x 4	0.40	0.34	7.00	46	12.50	44	12.50	43	---	---	---	---	---	---
10 x 6	0.40	0.36	5.00	47	10.50	46	10.50	46	16.00	46	---	---	---	---
10 x 8	0.40	0.38	4.00	50	9.50	49	9.50	50	15.00	47	---	---	---	---
12 x 4	0.42	0.34	9.00	58	14.50	60	14.50	57	20.00	58	---	---	---	---
12 x 6	0.42	0.36	7.00	60	12.50	53	12.50	57	18.00	57	---	---	---	---
12 x 8	0.42	0.38	5.00	60	10.50	61	10.50	59	16.00	54	7.00	82	---	---
12 x 10	0.42	0.40	4.00	64	9.50	53	9.50	58	15.00	54	---	---	---	---
14 x 6	0.47	0.36	9.00	110	16.90	100	14.50	105	---	---	---	---	---	---
14 x 8	0.47	0.38	7.00	122	14.90	99	12.40	98	---	---	---	---	---	---
14 x 10	0.47	0.40	5.00	120	12.90	96	10.40	92	---	---	---	---	---	---
14 x 12	0.47	0.42	4.00	132	11.90	90	9.40	92	17.30	88	---	---	---	---
16 x 6	0.50	0.36	11.00	148	21.00	125	16.50	144	24.30	93	---	---	---	---
16 x 8	0.50	0.38	9.00	155	18.00	124	14.50	136	22.30	119	---	---	---	---
16 x 10	0.50	0.40	7.00	160	15.00	124	12.50	125	20.50	119	---	---	---	---
16 x 12	0.50	0.42	5.00	161	12.90	122	10.50	116	18.30	99	---	---	---	---
16 x 14	0.50	0.47	4.00	173	12.00	133	12.00	135	19.70	129	---	---	---	---
18 x 8	0.54	0.38	13.00	201	20.00	170	19.50	195	---	---	16.00	190	---	---
18 x 10	0.54	0.40	10.00	196	18.00	165	17.40	185	25.50	160	---	---	---	---
18 x 12	0.54	0.42	7.00	180	15.50	150	14.00	150	19.50	150	12.00	198	---	---
18 x 14	0.54	0.47	6.00	200	15.00	175	15.00	200	---	---	---	---	---	---
18 x 16	0.54	0.50	5.00	196	12.50	170	12.50	192	---	---	---	---	---	---
★ 20 x 8	0.57	0.38	16.00	227	---	---	---	---	---	---	---	---	---	---
20 x 10	0.57	0.40	16.00	220	22.12	200	19.00	210	---	---	---	---	---	---
20 x 12	0.57	0.42	12.00	227	17.50	170	16.00	205	---	---	---	---	---	---
20 x 14	0.57	0.47	10.00	200	18.00	190	17.90	205	---	---	---	---	---	---
20 x 16	0.57	0.50	7.00	231	13.50	185	13.50	200	---	---	---	---	---	---
20 x 18	0.57	0.54	4.00	225	12.00	200	12.00	215	---	---	---	---	8.00	235
★ 24 x 8	0.61	0.38	20.00	263	---	---	---	---	---	---	---	---	---	---
24 x 12	0.61	0.42	16.00	263	21.50	275	21.00	290	---	---	18.00	318	---	---
24 x 14	0.61	0.47	14.00	310	22.00	310	21.90	315	---	---	---	---	---	---
24 x 16	0.61	0.50	13.00	279	21.00	285	17.50	285	---	---	---	---	---	---
24 x 18	0.61	0.54	10.00	284	18.00	300	18.00	310	---	---	---	---	---	---
24 x 20	0.61	0.57	7.00	328	15.00	276	13.50	275	---	---	---	---	---	---
★ 30 x 12	0.66	0.42	30.00	763	---	---	---	---	---	---	---	---	---	---
30 x 16	0.66	0.50	30.00	633	39.00	565	39.00	623	48.00	690	---	---	---	---
30 x 18	0.66	0.54	28.00	658	37.00	654	37.00	635	---	---	---	---	---	---
30 x 20	0.66	0.57	24.00	628	33.00	590	33.00	603	---	---	---	---	---	---
30 x 24	0.66	0.61	10.00	478	24.50	536	24.50	526	---	---	---	---	---	---
★ 36 x 12	0.74	0.42	36.00	1135	---	---	---	---	---	---	---	---	---	---

(Con't) ▶

STAR<sup>®</sup> PIPE PRODUCTS



★Not Included in AWWA C153

REV.07  
 © REGISTERED TRADEMARK OF STAR PIPE PRODUCTS

STAR<sup>®</sup> PIPE PRODUCTS  
 HOUSTON CORPORATE | TOLL FREE 1-800-999-3009 | FAX 281-558-9000  
 www.starpipeproducts.com

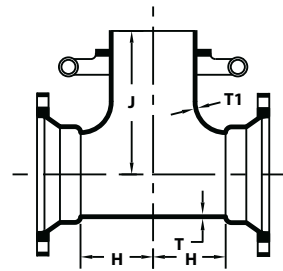
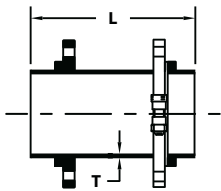


# Compact MJ Fittings

ANSI/AWWA C153/A21.53

STAR® PIPE PRODUCTS

REDUCERS* (Con't)			MJ x MJ		SEB		LEB		PE x PE		MJ x FE		★ ECCENTRIC	
NOM. SIZE	T	T1	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)
★ 36 x 16	0.74	0.50	40.00	1078	27.00	700	---	---	---	---	---	---	---	---
★ 36 x 18	0.74	0.54	38.00	1329	37.00	800	---	---	---	---	---	---	---	---
★ 36 x 20	0.74	0.57	36.00	1165	45.00	850	45.00	950	---	---	---	---	---	---
36 x 24	0.74	0.61	19.00	822	33.12	746	33.00	810	---	---	---	---	19.00	820
36 x 30	0.74	0.66	15.50	650	24.62	788	24.50	758	---	---	---	---	15.50	650
42 x 24	0.82	0.61	40.00	1356	49.00	1204	49.00	1320	---	---	---	---	---	---
42 x 30	0.82	0.66	20.00	1083	29.12	1150	29.00	1015	---	---	---	---	---	---
42 x 36	0.82	0.74	15.50	1114	24.62	962	24.50	1013	---	---	---	---	15.50	1114
★ 48 x 24	0.90	0.61	40.00	1700	---	---	---	---	---	---	---	---	---	---
48 x 30	0.90	0.66	40.00	1779	49.00	1594	49.00	1711	---	---	---	---	40.00	1960
48 x 36	0.90	0.74	28.00	1641	37.00	1456	37.00	1540	---	---	---	---	---	---
48 x 42	0.90	0.82	15.50	1426	24.50	1241	24.50	1275	---	---	---	---	---	---
★ 54 X 36 60 X 48	{ Dimensions Available On Request }													



★ SWIVEL x SOLID HYDRANT ADAPTERS W/ SWIVEL GLAND			
NOM. SIZE	T	L	WT (LBS.)
4 x 13	0.34	13.00	29
6 x 13	0.36	11.50	47
6 x 18	0.36	18.00	56
6 x 24	0.36	24.00	60
6 x 36	0.36	36.00	75
6 x 48	0.36	48.00	94
8 x 13	0.38	13.00	54
8 x 18	0.38	18.00	67
8 x 24	0.38	24.00	82
8 x 48	0.38	48.00	143
12 x 13	0.42	13.00	120

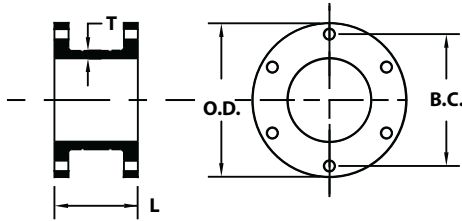
★ MJ x SWIVEL HYDRANT TEES W/ SWIVEL GLAND					
NOM. SIZE	T	T1	H	J	WT (LBS.)
6 x 6	0.36	0.36	5.00	10.25	65
8 x 6	0.38	0.36	5.00	11.25	85
8 x 8	0.38	0.38	6.50	11.50	100
10 x 6	0.40	0.36	5.00	12.75	105
10 x 8	0.40	0.38	6.50	12.75	118
12 x 6	0.42	0.36	5.00	13.75	126
12 x 8	0.42	0.38	6.50	13.75	128
14 x 6	0.47	0.36	6.50	15.00	211
16 x 6	0.50	0.36	6.50	16.00	279
18 x 6	0.54	0.36	6.50	18.00	278
20 x 6	0.57	0.36	6.50	18.50	358
24 x 6	0.61	0.36	7.00	19.00	460





# Compact MJ Fittings

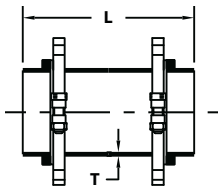
ANSI/AWWA C153/A21.53



**Material:** Cast Grey Iron per ASTM A 48  
Extensions include two (2) break-away grooves

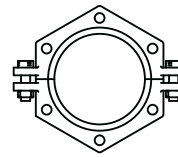
★ **HYDRANT EXTENSIONS (STANDARD 6 HOLE)**

NOM. SIZE	T	DIMENSIONS			FLANGE HOLE DIA.	WT (LBS.)
		L	B.C.	O.D.		
6 x 6	0.56	6.00	9.50	11.12	0.75	50
6 x 12	0.56	12.00	9.50	11.12	0.75	73



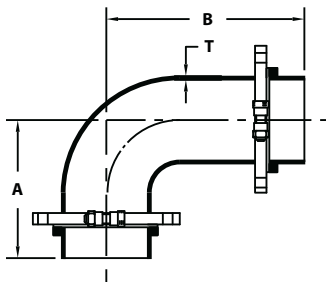
★ **SWIVEL x SWIVEL HYDRANT ADAPTERS W/ 2 SWIVEL GLANDS**

NOM. SIZE	T	L	WT (LBS.)
6 x 12	0.36	12.00	28
6 x 18	0.36	18.00	49
6 x 24	0.36	24.00	52



★ **SWIVEL GLANDS**

NOM. SIZE	WT (LBS.)
4	8
6	12
8	10
12	24



★ **SWIVEL x SWIVEL HYDRANT ELL W/ 2 SWIVEL GLANDS**

NOM. SIZE	T	A	B	WT (LBS.)
6	0.36	10.50	16.00	50

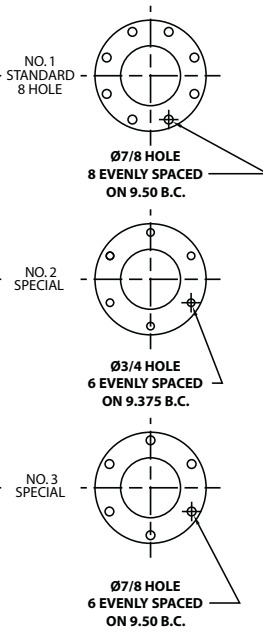
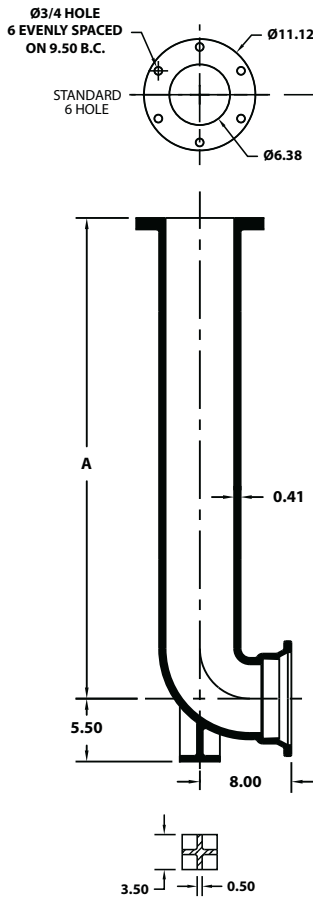
STAR<sup>®</sup> PIPE PRODUCTS





# Compact MJ Fittings

ANSI/AWWA C153/A21.53



★ MJ HYDRANT BURY

NOM. SIZE	A	WT (LBS.)
6 x 22	22.00	85
6 x 24	24.00	90
6 x 30	30.00	103
6 x 36	36.00	117
6 x 42	42.00	130
6 x 48	48.00	146
6 x 54	54.00	160

★ MJ LONG RADIUS HYDRANT BURY

NOM. SIZE	RADIUS	WT (LBS.)
6	15.00	84

STAR® PIPE PRODUCTS



# PVC Stargrip® series 4000

Mechanical Joint Wedge Action Restraint for AWWA C900/C905 and IPS PVC Pipe



PVC Stargrip® Series 4000 for PVC Pipe

## INFORMATION

The PVC Stargrip® Mechanical Joint Restraint System is a unique product with a proven design that provides an exceptional restraining system for mechanical joint fittings (AWWA C153 or C110), valves, fire hydrants on all classes of PVC pipe.

## Unique Product with a Proven Design

## FEATURES & ADVANTAGES

- The design has been proven in the market since 1992.
- Can be used on 4"-12" AWWA C900, 14"-36" AWWA C905 PVC pipe or 3"-12" IPS PVC pipe\* (**\*transition gasket required on IPS PVC Pipe 12" and under**).
- Gland is made from high strength Ductile Iron per ASTM A536 Grade 65-45-12 and is compatible with all Mechanical Joints Conforming to ANSI/AWWA C111/A21.11.
- Eliminates tie rods and thrust blocks
- Listed with Underwriters Laboratories in sizes 4"-12" for use on DR18 class 235 C900 PVC pipe at 150 PSI. Approved by Factory Mutual Research in sizes 4"-12" for use on DR18 class 235 at 150 PSI and for sizes 4"-10" DR14 class 305 C900 PVC pipe at 200 PSI.
- Tested to and meets the requirements of ASTM F1674 through 14" size for DR18 PVC pipe.
- The safety factor is twice (2:1) the standardized pressure rating listed on Page 18.
- Double headed torque limiting bolts utilize 1 1/4" wrench size on both hex heads.
- Will fit any Mechanical Joint configuration, meaning compatibility with different types of installations.
- PVC Stargrip® offers 5° deflection through 12", 3° on 14"-24" and 2° on 30"-36".
- Larger ID allows easier installation on out-of-round pipe.
- Torque limiting bolts are designed with collars so that a wrench won't slip off the bottom for easier installation.
- Torque limiting bolts are designed so that you can't over torque and damage PVC pipe.
- All sizes have curved wedges that will not flatten pipe.
- For use on HDPE or C909 pipe, please contact Star Engineering.
- Standard gland color is Coral Red (RAL 3016).

## SAMPLE SPECIFICATIONS

*Restrainer mechanism shall be integrated into the design of the follower gland. As the mechanism is activated, multiple wedging action shall be imparted against the pipe increasing its resistance as internal pressure increases. After burial of the restraining mechanism, joint flexibility shall be maintained.*

*The actuating bolt shall be threaded into the gland and have a 1-1/4" hex operating nut. The actuating bolt system shall have a torque-limiting head designed to break off at preset torque levels, thus insuring proper action of the restraining device. After removal of the torque-limiting head, a 1 1/4" hex head shall remain to facilitate the removal and re-assembly of the gland. Glands, bolts and wedges shall be manufactured of high strength ductile iron in accordance with ASTM A536 Grade 65-45-12 requirements.*

*Applicable dimensions conforming to ANSI/AWWA C111/A21.11, C110/A21.10 and C153/A21.53 and shall be incorporated into the design so that the device facilitates use with standard mechanical joint sockets.*

*The restraining mechanism shall have a pressure rating as stated in most current catalog and shall have a safety factor of at least 2:1. The restraining device for C900/C905 PVC and IPS PVC Pipe shall be Star® Pipe Products PVC Stargrip® Series 4000 or equal.*

REV.11-1



® REGISTERED TRADEMARK OF STAR PIPE PRODUCTS

STAR® PIPE PRODUCTS  
HOUSTON CORPORATE | TOLL FREE 1-800-999-3009 | FAX 281-558-9000  
www.starpipeproducts.com

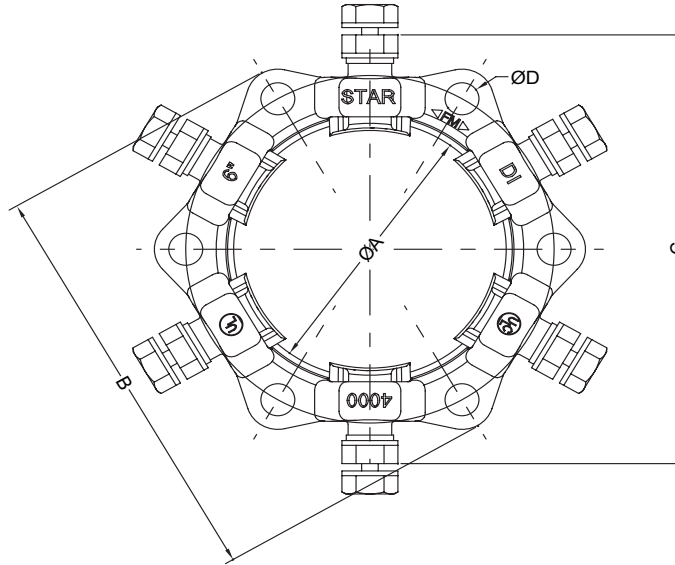
STAR® PIPE PRODUCTS



# PVC Stargrip® series 4000

Mechanical Joint Wedge Action Restraint for AWWA C900/C905 and IPS PVC Pipe

TECHNICAL INFORMATION



PVC STARGRIP® 4000 SPECIFICATIONS\*

NOM. SIZE	C900/C905 PIPE CI OD	IPS PIPE OD (TRANSITION GASKET REQUIRED)	ØA	B	C'	ØD	T-BOLTS SIZE (QTY)	WEDGES (QTY)	APPROX WT. (LBS)
3	N/A	3.50	4.09	7.69	8.50	3/4	5/8 (4)	4	7
4	4.80	4.50	4.93	9.12	9.53	7/8	3/4 (4)	4	9
6	6.90	6.63	7.03	11.12	11.63	7/8	3/4 (6)	6	12
8	9.05	8.63	9.18	13.37	13.97	7/8	3/4 (6)	6	17
10	11.10	10.75	11.23	15.62	16.18	7/8	3/4 (8)	8	23
12	13.20	12.75	13.33	17.87	18.18	7/8	3/4 (8)	8	28
14	15.30	N/A	15.45	20.75	20.36	7/8	3/4 (10)	10	49
16	17.40	N/A	17.55	23.00	22.46	7/8	3/4 (12)	12	59
18	19.50	N/A	19.65	25.25	24.56	7/8	3/4 (12)	12	67
20	21.60	N/A	21.75	27.50	26.66	7/8	3/4 (14)	14	79
24	25.80	N/A	25.95	32.00	30.86	7/8	3/4 (16)	16	102
30	32.00	N/A	32.18	39.38	36.82	1-1/8	1 (20)	20	185
36	38.30	N/A	38.48	46.25	43.12	1-1/8	1 (24)	24	209

\*All dimensions in inches except where indicated.

1 - dimension after assembly on pipe

NOM. SIZE (IN)	MAXIMUM WORKING PRESSURE RATING WITH OCCASSIONAL & RECURRING SURGES									
	C900			C905				ASTM D2241		
	DR14	DR18	DR25	DR18	DR21	DR25	DR32.5	SDR17	SDR21	SDR26
3								250	200	160
4	305	235	165					250	200	160
6	305	235	165					250	200	160
8	305	235	165					250	200	160
10	305	235	165					250	200	160
12	305	235	165					250	200	160
14				235	200	165	125			
16				235	200	165	125			
18				200	200	165	125			
20				200	200	165	125			
24				165	165	165	125			
30						165	125			
36						165	125			

STAR® PIPE PRODUCTS





# PVC Stargrip® series 4000

Mechanical Joint Wedge Action Restraint for AWWA C900/C905 and IPS PVC Pipe

## INSTALLATION INSTRUCTIONS - SIZES 3" - 36"



STEP 1

The rubber gasket seals more effectively if the surfaces with which it comes in contact are thoroughly cleaned just before assembly to remove all loose foreign material. Lubrication and additional cleaning should be provided by brushing both the gasket and the plain end with soapy water or pipe lubricant. Slide the PVC Stargrip® on the plain end, followed by the MJ gasket.



STEP 2

After insertion of the pipe into the bell of the fitting, firmly press the gasket into the gasket recess. During this process the joint should be kept straight.



STEP 3

Slide the PVC Stargrip® toward the MJ bell with the gland lip against the gasket. Insert T-bolts and hand tighten nuts.

**IMPORTANT:** Make deflection after joint is assembled but before tightening T-bolts.



STEP 4

While tightening T-bolts, it is essential that the gland be brought up toward the bell flange evenly, maintaining approximately the same distance between the gland and the face of the flange at all points around the socket. All T-bolts should be tightened until they are within the torque range per ANSI/AWWA C600 (See Table A). T-Bolts should be tightened alternately on opposite sides (Star Pattern).



STEP 5

Hand tighten the Torque-limiting twist-off Bolts in a clockwise direction until all wedges are in firm contact with the pipe surface.

**IMPORTANT:** When installing sizes 4" through 12" on IPS PVC, the spacer washers must be removed from the torque limiting bolts.



STEP 6

Continue tightening in an alternative manner going on opposite sides [Star Pattern], until all of the Torque-limiting twist-off Bolt heads have been twisted off. Never turn a single bolt over 180 degrees without alternating to another bolt.

If removal is necessary, utilize the 1 1/4" hex head provided. [If reassembly is required, assemble the joint in the same manner as above and tighten the wedge bolt to 90 ft-lbs].

(TABLE A) T-HEAD BOLT & NUT DETAILS		
PIPE SIZE (IN)	BOLT SIZE (IN)	RANGE <sup>1</sup> OF TORQUE (FT-LBS)
3	5/8	45-60
4-24	3/4	75-90
30-36	1	100-120

<sup>1</sup>These torque ranges are requirements of AWWA C600

### Notes:

- If effective sealing is not attained at the maximum torque indicated, then the joint should be disassembled, thoroughly cleaned, and reassembled. **Overstressing the bolts to compensate for poor installation practice is not acceptable.**
- Not to be used on DI or steel pipe.
- Stargrips must be adequately wrapped or protected if they are covered by concrete to ensure that concrete is not allowed to enter the wedge pocket.
- For applications with vertical offsets please contact Star Pipe Products for technical assistance.



STAR® PIPE PRODUCTS

# MUELLER® 2300 SERIES RESILIENT WEDGE GATE VALVES

## PRODUCT SPECIFICATIONS

---

### 1. GENERAL CLASSIFICATION

- 1.1 MUELLER Resilient Wedge Gate Valves comply with either ANSI/AWWA C509 or C515.
- 1.2 MUELLER Resilient Wedge Gate Valves through 16" are listed by Underwriters Laboratories, Inc. (UL) and approved by Factory Mutual Research Corporation (FM).
- 1.3 MUELLER Resilient Wedge Gate Valves are tested and certified to ANSI/NSF Standard 61.
- 1.4 MUELLER Resilient Wedge Gate Valves are suitable for ordinary non-shock cold water service.
- 1.5 MUELLER Resilient Wedge Gate Valves are iron body, fully encapsulated resilient wedge type.
- 1.6 MUELLER Resilient Wedge Gate Valves are made in the U.S.A. at an ISO9001: 2000 Certified factory.

### 2. SIZE RANGE, WORKING PRESSURE AND WORKING TEMPERATURE

- 2.1 2" thru 48" AWWA valves.
  - 2.1.1 250 psi maximum working pressure.
  - 2.1.2 125F maximum working temperature.
  - 2.1.3 33F minimum working temperature.
- 2.2 2-1/2" thru 16" UL/FM valves.
  - 2.2.1 200 psi maximum working pressure (14" and 16" sizes are 250 psi MWP)
  - 2.2.2 125F maximum working temperature.
  - 2.2.3 33F minimum working temperature.

### 3. TYPE OF VALVE

- 3.1 MUELLER Resilient Wedge Gate Valves are either non-rising stem (NRS) (2" thru 48") or rising stem (OS&Y) (2-1/2" thru 16") type.
- 3.2 MUELLER NRS Resilient Wedge Gate Valves are offered with O-ring stem seals.
- 3.3 MUELLER Resilient Wedge Gate Valves are offered to either open left or open right.
- 3.4 MUELLER Resilient Wedge Gate Valves with flanged ends are furnished with a hand wheel. (A 2" square wrench nut is optional.) Valves with other type ends are furnished with a 2" square wrench nut complying with AWWA C509/C515.
- 3.5 MUELLER Resilient Wedge Gate Valves of the non-rising stem type are offered with the following end connections:
  - 3.5.1 AguaGrip™ Ends, with integral restraint and compression connection, for plain end of Ductile Iron, C900 PVC, or DIPS PE (DR9 through DR17) pipe.
  - 3.5.2 Flanged Ends, with flange dimensions and drilling complying to ANSI B16.1 Class 125 (ISO PN10/PN16 drilling optional).
  - 3.5.3 Standard Mechanical Joint Ends for cast iron pipe, with end dimensions complying with ANSI/AWWA C111/A21.11.
  - 3.5.4 Slip-On Joint Ends\* complete with Mueller Slip-On Gasket, complying with ANSI/AWWA C111/A21.11. Fit Ductile Iron pipe manufactured to ANSI/AWWA C151/A21.51; including the plain end of all makes of Cast Iron or Ductile Iron of the slip connection type. Also fits classes 150 and 200 Ductile Iron O.D. PVC plastic pipe\*\*.
  - 3.5.5 Radial Compression Joint Ends, for I.P. size PVC pipe.
  - 3.5.6 Threaded Ends, with end dimensions complying to ANSI B2.1.
  - 3.5.7 D-150 Mechanical Joint ends with two specially designed gaskets to fit either of two diameters of Cast Iron or Ductile Iron Pipe: duck-tipped rubber gasket for Class 150 pipe or plain rubber gasket for Class D pit cast pipe.

\*Design and dimensions of the joint are manufactured under license of U.S. Pipe and Foundry Company.

\*\*When using DI O.D. PVC pipe, the gaskets supplied by Mueller must be used with this valve connection.

(Continued)



MAIN OFFICE – Decatur, IL 1-800-423-1323  
CANADA – Mueller Canada Inc., Milton Ontario (905) 878-0541  
www.muellercompany.com

# MUELLER® 2300 SERIES RESILIENT WEDGE GATE VALVES

## PRODUCT SPECIFICATIONS

---

- 3.6 MUELLER Resilient Wedge Gate Valves of the rising stem (OS&Y) style have Flanged Ends with flange dimensions and drilling complying with ANSI B16.1 Class 125 (ISO PN10/PN16 drilling optional).
- 3.7 MUELLER Resilient Wedge Tapping valves have an inlet flange complying with ANSI B16.1 Class 125 (2" thru 12" also MSS SP-60), and are offered with a Standard Mechanical Joint outlet end with dimensions complying with ANSI/AWWA C111/A2.11.
- 3.8 MUELLER Resilient Wedge Cut-In valves have D-150 Mechanical Joint ends with two specially designed gaskets to fit either of two diameters of Cast Iron or Ductile Iron Pipe: duck-tipped rubber gasket for Class 150 pipe, or plain rubber gasket for Class D pit cast pipe.

#### 4. MATERIAL SPECIFICATIONS

- 4.1 Cap screw
  - 4.1.1 2" thru 12" sizes – Stainless Steel Type 304.
  - 4.1.2 14" thru 48" sizes – Steel, SAE J429 Grade 2 Zinc Plated.
- 4.2 Wrench nut – Cast Iron, ASTM A-126, Class B.
- 4.3 Handwheel – Cast Iron, ASTM A-126, Class B.
- 4.4 Stuffing box
  - 4.4.1 2" thru 12" sizes – Cast Iron, ASTM A-126, Class B.
  - 4.4.2 14" thru 48" sizes – Ductile Iron, ASTM A-536, Grade 64-45-12.
- 4.5 Stem O-rings – Nitrile, ASTM D2000, 3CH 720.
- 4.6 Anti-friction washers – Acetal Copolymer.
- 4.7 Stem
  - 4.7.1 2" thru 16" sizes – Manganese Bronze, CDA Alloy C67600.
  - 4.7.2 18" thru 48" sizes – Bronze, ASTM B-584, Alloy C86200 or C86400 or C86500.
- 4.8 Bonnet
  - 4.8.1 2" thru 12" sizes – Cast Iron, ASTM A-126, Class B.
  - 4.8.2 14" thru 48" sizes – Ductile Iron, ASTM A-536, Grade 64-45-12.
- 4.9 Bonnet seal
  - 4.9.1 2" thru 3" sizes – Flat gasket, Neoprene, ASTM D2000.
  - 4.9.2 4" thru 48" sizes – O-ring, Nitrile, ASTM D2000.
- 4.10 Stuffing box bolts & nuts
  - 4.10.1 2" thru 12" sizes – Stainless Steel Type 304.
  - 4.10.2 14" thru 48" sizes – Steel - Bolts: SAE J429, Grade 2; Nuts: ASTM A-536 Grade B – Plated to ASTM F1941 Class Fe/Zn 12c.
- 4.11 Bonnet bolts & nuts
  - 4.11.1 2" thru 12" sizes – Stainless Steel Type 304.
  - 4.11.2 14" thru 48" sizes – Steel - Bolts: SAE J429 Grade 2; Nuts: ASTM A-536 Grade B – Plated to ASTM F1941 Class Fe/Zn 12c.
- 4.12 Disc nut – Bronze, ASTM B62 CDA 83600.
- 4.13 Guide cap bearings – Acetal Copolymer.
- 4.14 Disc
  - 4.14.1 2" thru 12" sizes – Cast Iron, ASTM A-126, Class B.
  - 4.14.2 14" thru 48" sizes – Ductile Iron, ASTM A-536, Grade 64-45-12.
- 4.15 Disc encapsulated
  - 4.15.1 2" thru 36" sizes – SBR ASTM D2000
  - 4.15.2 42" and 48" sizes – EPDM; optional SBR ASTM D2000
- 4.16 Body
  - 4.16.1 2" thru 12" sizes – Cast Iron, ASTM A-126, Class B.
  - 4.16.2 14" thru 48" sizes – Ductile Iron, ASTM A-526, Grade 64-45-12.
- 4.17 Inside and outside of valve fully coated with MUELLER® PRO-GARD™ Epoxy Coating - coating complies with ANSI/AWWA C550 and is certified to ANSI/NSF Standard 61.

(Continued)



MAIN OFFICE – Decatur, IL 1-800-423-1323  
CANADA – Mueller Canada Inc., Milton Ontario (905) 878-0541  
[www.muellercompany.com](http://www.muellercompany.com)

# MUELLER® 2300 SERIES RESILIENT WEDGE GATE VALVES

## PRODUCT SPECIFICATIONS

---

### 5. DESIGN FEATURES

- 5.1 Fully unobstructed, oversized (except 16" which is same size) flow way. The sealing mechanism is withdrawn from the flow way in a full open position. No pockets in bottom of flow way to trap sediment or debris. The flow way will permit passage of full-sized shell cutters (except 16" which requires undersized cutter).
- 5.2 Bronze Disc Nut on non-rising stem valves.
- 5.3 Anti-Friction Washers on non-rising stem valves – Are located above and below the thrust collar portion of the stem to reduce friction and provide more effective conversion of operating torques into seating loads.
- 5.4 Stem for non-rising stem valves, with O-ring Seals – One O-ring is located below the thrust collar of the stem and two are located above the thrust collar, the upper most serving as a dirt seal. The O-rings and thrust collar are factory lubricated. The two primary O-rings seal the thrust collar area from outside contaminants and water, and retain an ample amount of lubricant on the thrust collar and anti-friction washers to reduce operating torque and wear.
- 5.5 Stem – The threads on the bronze stem are Acme form threads for strength and efficiency. The stem thrust collar is made integral with the stem – and is formed by a heat upset operation for valves through 18" in size; cast in place for 20" and larger valves.
- 5.6 Upper Stem O-ring Replacement – The two O-rings above the thrust collar of all MUELLER Resilient Wedge Gate Valves can be replaced with the valve in the fully open position, under pressure, with no leakage.
- 5.7 Corrosion Resistant – All inside and outside cast iron surfaces are coated with MUELLER® PRO-GARD™ Epoxy Coating, 10 mils nominal. MUELLER® PRO-GARD™ Epoxy Coating is non-toxic and imparts no taste to water. The coating complies with ANSI/AWWA C550 and is certified to ANSI/NSF Standard 61.

### 6. OPTIONAL FEATURES

- 6.1 MUELLER 2300 Series Resilient Wedge Gate Valves can be furnished with the following optional designs or features:
  - 6.1.1 Gearing – Required for valves 30" and larger. Valves 4" and larger can be furnished with bevel gearing; valves 14" and larger can be furnished with spur gearing. Bevel geared valves are for horizontal installations; spur geared for vertical. Geared valves provide an additional bearing to support the extreme end of the stem. Bevel and spur geared valves are furnished with a grease case. Any valve leakage past the stuffing box does not enter the grease case.
  - 6.1.2 Bypass valve – Valves 18" or larger. The bypass valves are non-rising stem Mueller® Series 2360 Resilient Wedge Valves. The bypass size and location comply with Section 24 of AWWA C500.
  - 6.1.3 Position indicator - Available for NRS valves 4" and larger.
  - 6.1.4 Bolts and nuts – Stainless Steel, Type 316.
  - 6.1.5 Stem – Silicon bronze - Valves 16" and smaller ASTM B98 C66100; 18" and larger ASTM B763 C99400 or C99500.
  - 6.1.6 Disc encapsulation – 42" and 48" sizes - SBR D2000.

### 7. TEST PRESSURE

- 7.1 The pressure test on each MUELLER Resilient Wedge Gate Valve meets the requirements of AWWA Standard C509 for Resilient Seated Valves.
  - 7.1.1 Each MUELLER Resilient Wedge Gate Valve is subjected to two pressure tests. The seat test is at the working pressure of the valve and the shell test at two times the working pressure.
  - 7.1.2 Pressure tests at the working pressure shall show NO leakage past the seat from either side of the wedge or at the flange joints. Pressure tests at twice the working pressure shall show NO leakage through the metal or flange joints.
  - 7.1.3 Test pressures are as follows: 2" thru 48" – 250 psi - Seat Test, 500 psi - Shell Test.



MAIN OFFICE – Decatur, IL 1-800-423-1323  
CANADA – Mueller Canada Inc., Milton Ontario (905) 878-0541  
[www.muellercompany.com](http://www.muellercompany.com)

---

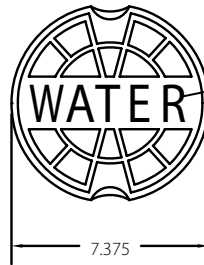
**Mueller Co.**

**2 PIECE HEAVY DUTY SCREW TYPE VALVE BOX (OPTIONAL CLASS 35B)**

**VB-0002**

ITEM CODE CL 30B	ITEM CODE CL 35B	HEIGHT	APPROX. WT. (LBS)	LENGTH	
				TOP	BOT.
VB461SHD	VB461SHD35	19-21	55	10	15
VB462SHD	VB462SHD35	27-32	72	10	24
VB562SHD	VB562SHD35	27-37	82	16	24
VB564SHD	VB564SHD35	39-50	93	16	36
VB664SHD	VB664SHD35	39-60	111	26	36
◆VB666SHD	VB666SHD35	51-71	136	26	48
★VB668SHD	VB668SHD35	62-82	143	26	60

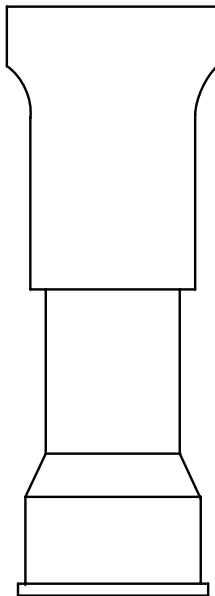
- ◆ - Optional bottom (48" one piece or 24" bottom w/ 24" extension) - Please indicate your preference
- ★ - Bottom is in two pieces (36" bottom and 24" extension)



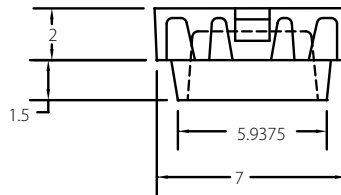
**LID LETTER OPTIONS\***

- WATER
- SEWER
- RECLAIM
- IRRIGATION
- GAS
- FIRE

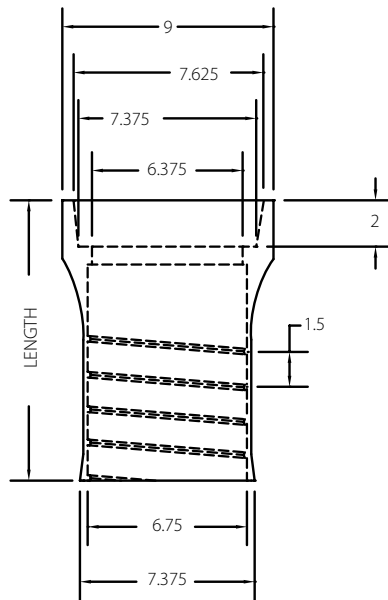
.....  
\*Unless specified, all VB shipped with "WATER" lids.



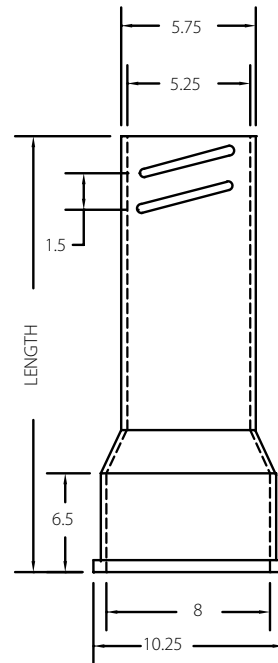
**BOX COMPLETE**



**LID**



**TOP**



**BOTTOM**

**Notes:**

- Material - Cast Iron Per ASTM A48 Class 30B or 35B
- Dimensions in Inches



# MUELLER® SUPER CENTURION 250™ FIRE HYDRANT-AWWA

## PRODUCT SPECIFICATIONS

---

### 1. GENERAL CLASSIFICATION

- 1.1 MUELLER SUPER CENTURION 250 Hydrants are suitable for general waterworks service.
- 1.2 MUELLER SUPER CENTURION 250 Hydrants are dry barrel, post type with compression main valve closing with the inlet pressure.
- 1.3 MUELLER SUPER CENTURION 250 Hydrants have a replaceable Safety Stem Coupling and a replaceable Safety Flange at the ground line to minimize traffic damage.
- 1.4 MUELLER SUPER CENTURION 250 Hydrants comply with AWWA Standard C502, and Underwriters Laboratories listed, and are Factory Mutual Systems approved.

### 2. SELECTIVE SPECIFICATIONS (TO BE SELECTED BY CUSTOMER)

- 2.1 Size of Hydrant -- 4-1/2" or 5-1/4" hydrants are sized by seat ring internal diameters.
- 2.2 Size and type of inlet connections
  - 2.2.1 Mueller AquaGrip™ Connection -- Stab compression connection with integral restraint. Furnished ready to install with all hardware and O-ring seal assembled. Use on Ductile Iron, C900 PVC, or DIPS PE (DR9 through DR17). 6" size.
  - 2.2.2 Flange -- Horizontal or vertical in relation to hydrant barrel -- American Standard complying to ANSI B16.1 Class 125 (ISO PN10/PN16 drilling optional). 4" and 6" sizes.
  - 2.2.3 Standardized Mechanical Joint -- Dimensions comply with ANSI/AWW C111/A21.11. Furnished with integral anti-rotation pads on all bolt holes (allowing use of standard tee-head bolts), and with two strapping lugs. 4", 6" and 8" sizes.
  - 2.2.4 D-150 Mechanical Joint -- With two specially designed gaskets to fit either of two diameters of Cast Iron or Ductile Iron pipe: duck-tipped rubber gasket for Class 150 pipe or plain rubber gasket for Class D pit cast pipe. 4" and 6" sizes.
  - 2.2.5 Slip-On Joint\* -- Complete with Mueller Slip-On Gasket, complies with ANSI/AWWA C111/A21.11. Fits Ductile Iron pipe manufactured to ANSI/AWWA C151/A21.51; including the plain end of all makes of Cast Iron or Ductile Iron of the slip connection type. Also fits Classes 150 and 200 Ductile Iron O.D. PVC plastic pipe. \*\* 6" size
- 2.3 Operating nut and nozzle cap nut -- shape and dimension according to customer selection.
- 2.4 Opening direction -- Open left or right. Arrow on bonnet indicates opening direction.
- 2.5 Nozzle arrangement -- Furnished 3-way, with 2 hose nozzles 180 degrees apart, 1 pumper in between, and all on the same horizontal plane.
  - 2.5.1 Hose nozzle threading -- Regularly furnished with 2-1/2" National Standard Hose Thread. Other 2-1/2" or 3" hose threads to customer specifications.
  - 2.5.2 Pumper nozzle threading -- Regularly furnished with 4-1/2" National Standard Pumper Hose Thread. Other 3-1/2", 4", 4-1/4", 4-1/2", and 5" pumper hose threads to customer specifications. Integral 4" or 5" Storz pumper connection available.

### 3. WORKING AND TEST PRESSURES

- 3.1 Working pressure 250 psi.
- 3.2 MUELLER SUPER CENTURION 250 Hydrants are subjected to two hydrostatic tests per AWWA C502 Standard.
  - 3.2.1 First test at 500 psi is made with the main valve closed with pressure applied through the inlet of the shoe.
  - 3.2.2 Second test is made with the main valve open and entire hydrant subject to a pressure of 500 psi.

During the above tests, no indication of leakage is permitted through castings, joints, main valve, or stem packing. Drain valve leakage cannot exceed five fluid ounces per minute.

\* Design and dimensions of the joint are manufactured under license of U.S. Pipe and Foundry Company.

\*\* When using DI O.D. PVC pipe, the gaskets supplied by Mueller must be used with this hydrant connection.

(Continued)



CUSTOMER SERVICE - Decatur, IL 1-800-423-1323  
CANADA - Mueller Canada Inc., Barrie, Ontario (705) 719-9965  
www.muellercompany.com

# MUELLER® SUPER CENTURION 250™ FIRE HYDRANT-AWWA

## PRODUCT SPECIFICATIONS

---

### 4. DESIGN FEATURES

- 4.1 Bonnet assembly -- Dry top, factory lubricated. Oil level checked by removing the oil filter plug on outside of bonnet. Cannot be overfilled with oil.
- 4.2 Upper operating system -- Bronze encased for O-ring seal surface contact.
- 4.3 Nozzles -- Interchangeable, threaded in place and retained by stainless steel locks.
- 4.4 Nozzle caps -- Attached to upper barrel with individual non-kinking chains.
- 4.5 Lower barrel flange -- Concealed for improved appearance.
- 4.6 Interchangeable design permits the upper barrel assembly to be used with existing MUELLER Improved or 107® Hydrants. (For 107 hydrant, use upper barrel assembly with stop-in-bonnet option.)
- 4.7 Safety flange -- Breaks cleanly upon impact, yet strong enough for normal handling, shipping, and use. Permits full 360 degree rotation of upper barrel to position nozzles in any desired direction. Extension sections or upper barrel with different nozzle size or arrangement can easily be added. Full size unnotched steel bolts used to retain safety flange and connect the upper and lower barrels.
- 4.8 Stem coupling -- Stainless steel, connects the upper and lower stems and is retained with stainless steel clevis and cotter pins. When traffic damage occurs, the coupling breaks cleanly, flush with the lower stem. Lower stem retains bottom clevis and cotter pin with no loose parts to fall into hydrant barrel. Upper end of lower stem is located below lower barrel flange surface to prevent it from being held open by vehicle wheel after traffic damage.
- 4.9 Lower barrel -- Heavy wall sections where flange joins the barrel section for added strength.
- 4.10 Shoe -- Has lugs for strapping anchors on Mechanical Joint, D-150 and Slip-On Joint ends. Bottom has a support pad and side opposite inlet has a backing support pad.
- 4.11 Seat ring -- Bronze ring threads into bronze drain ring, which has two drain holes to provide an all bronze drain way.
- 4.12 Double drain valves (with replaceable plastic drain valve facings) operate automatically to force flush the drain way each time the hydrant is opened or closed. No toggles, springs, or adjustable mechanisms are required and the drain valve facings can be replaced when seat ring and main valve assembly is removed.
- 4.13 Main valve -- Molded rubber, reversible, compression type, closes with inlet pressure and remains closed during any above ground repairs or changes to upper barrel or bonnet assemblies.
- 4.14 Main valve opening -- Controlled by lug in bottom of shoe. Stop in bonnet also available.
- 4.15 Main valve and seat ring -- Removable from above ground with seat removal wrench.
- 4.16 Lower stem end threads -- Covered with an epoxy coated iron cap nut and sealed with rubber washer to protect them from corrosion. The cap nut is retained with a stainless steel lock washer.
- 4.17 Shoe and upper valve plate design -- Permits maximum flow by minimizing friction loss.
- 4.18 Shoe interior, lower valve plate and cap nut -- Epoxy coated to resist corrosion.

### 5. MATERIAL SPECIFICATION

- 5.1 Bonnet, nozzle caps, barrels, safety flange, drain ring housing, lower valve plate, cap nut and shoe (Flanged, 8" Mechanical Joint and Slip-On) -- Cast Iron, ASTM A-126, Grade B.
  - 5.1.1 AquaGrip Shoe -- Ductile Iron, ASTM A-536, Grade 65-45-12.
  - 5.1.2 4" and 6" Mechanical Joint Shoe -- Ductile Iron, ASTM A-536, Grade 65-45-12.
  - 5.1.3 D-150 Mechanical Joint Shoe -- Ductile Iron, ASTM A-536, Grade 65-45-12.
- 5.2 Operating nut, hold down nut, nozzles, upper valve plate, seat ring and drain ring -- Bronze, in compliance with AWWA Standard C502.
- 5.3 Oil filter plug -- Brass, ASTM B-16, half hard.
- 5.4 O-ring seals -- Buna N, ASTM D2000 3CH720.
- 5.5 Weather seal -- EPDM, ASTM D2000 2AA910.
- 5.6 Anti-friction washer -- Thermoplastic polymer with high resistance to dynamic and static wear.
- 5.7 Bolts for bonnet, safety flange, shoe and drain ring housing -- Steel, ElectroGalvanized, ANSI B18.2 -- ASTM A-307 Grade B

(Continued)



CUSTOMER SERVICE - Decatur, IL 1-800-423-1323  
CANADA - Mueller Canada Inc., Barrie, Ontario (705) 719-9965  
www.muellercompany.com

# MUELLER® SUPER CENTURION 250™ FIRE HYDRANT-AWWA

## PRODUCT SPECIFICATIONS

---

### 5. MATERIAL SPECIFICATION (cont.)

- 5.8 Cap chains -- Steel, ElectroGalvanized.
- 5.9 Upper and lower stems -- Steel, ASTM A-576.
- 5.10 Stem pin -- Stainless Steel, ASTM A-276 Type 302.
- 5.11 Drain valve facing screws -- Stainless Steel, ASTM A-276 Type 305.
- 5.12 Nozzle lock -- Stainless Steel, ASTM A-276 Type 410.
- 5.13 O-rings for bonnet and barrel flanges -- Buna N, ASTM D2000.
- 5.14 O-ring for drain ring housing flange -- Buna N, ASTM D2000.
- 5.15 Gaskets for nozzle caps -- Neoprene, ASTM D2000, 3BC720.
- 5.16 Safety stem coupling -- Stainless Steel, ASTM A-890.
- 5.17 Safety stem coupling clevis pins -- Stainless Steel, ASTM A-276 Type 305.
- 5.18 Safety stem coupling cotter pins -- Stainless Steel, ASTM A-276 Type 302.
- 5.19 Drain valve facings -- Resilient precision molded thermoplastic with unique sealing characteristics.
- 5.20 Reversible main valve -- Molded rubber, ASTM D2000.
- 5.21 Lower valve plate -- Cast Iron, ASTM A-126 Class B coated with high performance 2-part epoxy. NSF61 listed and AWWA C550 compliant.
- 5.22 Lock washer -- Stainless Steel, ASTM A-276 Type 302.
- 5.23 Cap nut -- Cast Iron ASTM A-126 Class B coated with high performance 2-part epoxy. NSF61 listed and AWWA C550 compliant.
- 5.24 Cap nut seal -- Rubber, ASTM D2000, 4AA715.
- 5.25 Shoe coating -- Interior and exterior coated with high performance 2-part epoxy. NSF61 listed and AWWA C550 compliant.
- 5.26 Paint -- Interior and exterior above and below ground line coated with high performance 2-part epoxy. Exterior above ground line -- one coat UV resistant high gloss 2-part polyurethane enamel, color as specified.



CUSTOMER SERVICE - Decatur, IL 1-800-423-1323  
CANADA - Mueller Canada Inc., Barrie, Ontario (705) 719-9965  
[www.muellercompany.com](http://www.muellercompany.com)

---

**Mueller Co.**



"THE STANDARD OF EXCELLENCE IN THE INDUSTRY"

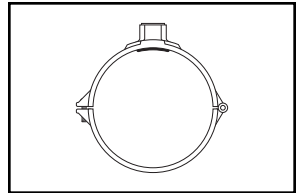
## **CASING SPACERS (Stainless Steel) - STYLE – CCS**

Casing spacer shall be a two-piece shell per carrier pipe and made from T-304 stainless steel of a minimum 14 gauge thickness. Each shell section shall be lined with a 0.090" thick, ribbed PVC extrusion with a retaining section that overlaps the edges of the shell and prevents slippage. Bearing surfaces (runners) shall be ultra high molecular weight polyethylene (UHMW) to provide abrasion resistance and a low coefficient of friction (0.12). The runners shall be attached to support structures (risers) at appropriate positions to properly support the carrier pipe within the casing pipe and to ease installation. The runners shall be mechanically bolted to the riser. The bolt heads are welded to the inside of the risers for strength. Risers shall be made of T-304 stainless steel of a maximum 10 gauge. All risers shall be MIG welded to the shell. Bottom risers 6" and over in height shall be reinforced. All reinforcing plates shall be 10 ga. T-304 stainless steel and shall be MIG welded to mating parts. ***Standard positioning within the casing pipe*** shall be sized such that the carrier rests near the bottom of the casing pipe and the height of the risers and runners are to provide a bottom clearance not less than one-half inch between the casing pipe and the extreme outside diameter of the joint (bell, seam weld, joint clamp, ...) of the carrier pipe. ***Centered & Restrained positioning within the casing pipe*** shall be sized such that the height of the risers and runners are to center the carrier pipe in the casing pipe with a top clearance of three-fourths inch minimum. ***Restrained positioning within the casing pipe*** shall be sized such that the carrier rests near the bottom of the casing pipe and the height of the risers and runners are to provide a bottom clearance not less than one-half inch between the casing pipe and the extreme outside diameter of the joint (bell, seam weld, joint clamp, ...) of the carrier pipe and a top clearance of three-fourths inch minimum. ***Multiple Carrier pipes within the casing pipe*** shall be sized such that the carrier pipes are held at fixed distances relative to each other, with the height of the risers and runners to provide not less than three-fourths inch between the casing pipe and the outside diameter of the riser/runner combinations. Special reinforcing plates may be required to stabilize and support structure. All welds and metal surfaces shall be chemically passivated. Due to the numerous application possibilities, consult factory for spacing requirements. Casing spacers shall be Model CCS as manufactured by Cascade Waterworks Mfg. Co. of Yorkville, IL or approved equal.

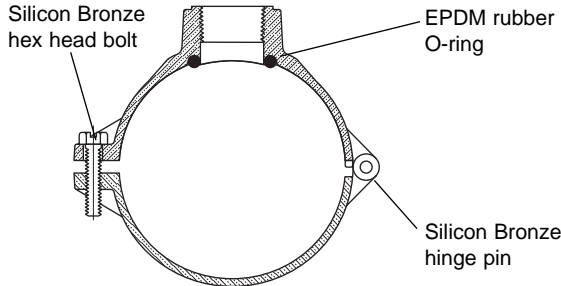
02.01.2007

# SUBMITTAL INFORMATION

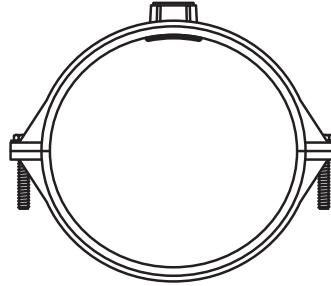
## Brass Saddles For C900 PVC - (S91-xxx style)



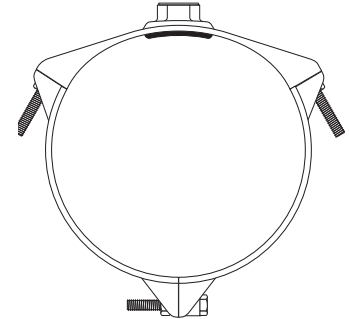
### S91 BRASS SADDLES WITH IRON PIPE TAPS FOR C900 PVC PIPE



Style A (Hinged Design)



Style B 2-Piece (Bolted Design)



Style C 3-Piece (Bolted Design)

PVC PIPE SIZE	ACTUAL O.D.	TAP SIZE	APPROX. WT. LBS.	CATALOG NUMBER	STYLE	✓ SUBMITTED ITEM(S)
2"	2.50	1/2"	.9	S91-201	A	
		3/4"	1.1	S91-203	A	
4"	4.80	1/2"	1.8	S91-401	A	
		3/4"	1.8	S91-403	A	
		1"	2.0	S91-404	A	
		1-1/2"	6.5	S91-406	A	
		2"	6.4	S91-407	A	
6"	6.90	3/4"	2.6	S91-603	A	
		1"	2.6	S91-604	A	
		1-1/2"	8.9	S91-606	A	
		2"	7.3	S91-607	A	
8"	9.05	1/2"	2.8	S91-801	A	
		3/4"	2.8	S91-803	A	
		1"	3.2	S91-804	A	
		1-1/2"	8.0	S91-806	A	
		2"	8.5	S91-807	A	
10"	11.10	3/4"	9.3	S91-1003	B	
		1"	9.1	S91-1004	B	
		1-1/2"	10.5	S91-1006	C	
		2"	10.5	S91-1007	C	
12"	13.20	3/4"	11.1	S91-1203	B	
		1"	11.0	S91-1204	B	
		1-1/2"	11.5	S91-1206	C	
		2"	11.0	S91-1207	C	



### FEATURES

- All brass conforms to AWWA Standard C800 (ASTM B-62 and ASTM B-584, UNS NO C83600 - 85-5-5-5)
- Style A Saddle body and strap permanently held together with silicon bronze pin for saddles sized 2" thru 8"
- Bolt is 5/16" slotted hex head silicon bronze for saddles sized 2" thru 8"
- A three-piece bolted design is used for S91 Saddles sized 10" and 12" with 1-1/2" and 2" taps, two-piece for 3/4" and 1" taps
- All 10" and 12" saddles are held together with 1/2" silicon bronze bolts (3/4" hex head)
- UL Classified to ANSI/NSF Standard 61

The Ford Meter Box Company considers the information in this submittal form to be correct at the time of publication. Item and option availability, including specifications, are subject to change without notice. Please verify that your product information is current.



#### The Ford Meter Box Company, Inc.

P.O. Box 443, Wabash, Indiana U.S.A. 46992-0443

Phone: 260-563-3171 / Fax: 800-826-3487

Overseas Fax: 260-563-0167

<http://www.fordmeterbox.com>

10/15/10

Submitted By:



## P-25028

MUELLER 300 Ball Corporation Valve

**Inlet:** AWWA I.P. thread

**Outlet:** MUELLER Pack Joint Connection for CTS O.D.\* tubing

3/4"	3/4" x 1"	1"	1-1/2"	1-1/2" x 2"‡	2"
------	-----------	----	--------	--------------	----



## P-24258

MUELLER 300

Ball Angle Meter Valve

MUELLER Pack Joint Connection

for CTS O.D.\* tubing x meter

swivel nut\*\* Quarter turn check -

lock wing. 360° turn option available

by adding -3 suffix to catalog number.

Example: P-24258-3

Catalog size	5/8x3/4R†	5/8x3/4	5/8x3/4x3/4R†
Meter size	5/8	5/8	5/8x3/4, 3/4
Tubing size	3/4	3/4	3/4

Catalog size	5/8x3/4x3/4	5/8x3/4x1	1R†	1
Meter size	5/8x3/4, 3/4	5/8x3/4, 3/4	1	1
Tubing size	3/4	1	1	1