



# SIP Industries

Quality Manufacturers Since 1960



## Domestic TXDOT Castings

V 0524-01

[www.sipindustries.com](http://www.sipindustries.com)

Toll Free 877-921-6111



★ ★ ★  
**SIP INDUSTRIES**  
SERAMPORE  
SINCE 1960



## About Us

At SIP Industries we manufacture, import and distribute Municipal Casting, Utility Fittings, Joint Restraints and OEM Castings. We manufacture and distribute these products globally with India and China housing the primary manufacturing units and North America housing primary distribution facilities with its headquarters in Houston, Texas. Our products are fully recyclable and made from recycled material wherever possible. Since 1960, SIP Industries has manufactured quality products that deliver clean water and cover infrastructure needs across the world.

Team SIP pledges to continue to produce quality products and deliver customer satisfaction through honest and ethical practices. We take pride in stating that we still sincerely serve our first customer in US with as much zeal and commitment as we did on our first order in 1977. We extend a humble gratitude to our customers, vendors and associated people for their constant trust and support. The company is committed to its team members whose talent, experience and hard work have been invaluable to the growth of the company.



*Lala Rangil*  
Founder  
SIP Industries

## Mission

### **Service Is Priority**

Our dedication to provide outstanding customer service and experience to last a lifetime

### **Responsible Product Offering**

Our commitment to deliver quality products at competitive prices while maintaining an exhaustive product-line inventory

### **Building Relationships**

Our belief to build and maintain long-term relationship based on transparency, honesty and loyalty

### **People Empowerment**

Empower team members on grounds of lawful and ethical practices

### **Sustainable Community**

Our sincerity towards working in collaboration with the community we work in for a better tomorrow

## History

The foundation for SIP Industries was laid in 1960 in the small town of Serampore, located on the outskirts of the city of Calcutta, India by Lala Rangilal. Post independence, when India was taking its initial steps towards growth, Lala Rangilal believed that national resurgence was possible through the path of industrialization. This belief and the power of his education motivated him to set up a cast iron manufacturing unit.

Lala Rangilal's unfaltering determination and passion for his work prompted him to expand his business beyond the protected shores of Calcutta to other domestic markets and then overseas beginning with South-East Asia by early 1970s. The business further expanded towards west encompassing Middle East and UK. Beginning with manufacturing a small range of products in 1960, the company was now exporting manhole covers, soil pipe fittings, flanges and fence casting among others to several countries across the world. In 1977, Lala Rangilal received his first export order to USA and he then took his maiden trip to the country in 1978 to further expand. His subsequent business trips there, convinced him of the market's tremendous growth opportunity and he envisioned manufacturing and marketing a varied range of cast iron products across the country. He, along with his two sons, who were by now being trained under his able guidance set on a goal to achieve this daunting task of business expansion.

The 1980s and early 1990s saw tremendous growth in the manufacture of new product lines and their export to countries worldwide, especially USA.

This prompted setting up of SIP Industries, a distribution company in USA, headquartered in Houston, Texas in 1999. The company initially imported indigenously manufactured products from its own manufacturing units in India. However, acclimatizing to the growing need for diversity, SIP started manufacturing and procuring different product lines globally, especially from China.

A strong inherent business sense, sharp acumen and an insatiable desire to fulfill Lala Rangilal's commitment has led his future two generations to commit to his vision of expansion.

Currently, SIP Industries is serving the global market with the Americas being its point of focus through its three North American distribution centers located in Atlanta GA, Houston TX and Los Angeles CA. The three distribution centers have a cumulative storage space of over a million square feet.

## Need For Timely Delivery

*Excerpt of Article By Lala Rangilal, Deputy Regional Chairman EEPC (Eastern Region), 1979*

**L**ATE delivery of orders is a common fault with most exporters. This not only leads to higher costs but also may cause loss of future business.

*Price, quality and delivery are the three factors that determine good business. Quality is an attribute which takes years of experience to gain, as it depends upon the skills of manpower and management along with the level of investment. Price is the most volatile factor and the one with which the Government is most concerned as if it were the only criterion that should offset the overall industrial export performance. Hence its preoccupation with the exercise of fixing floor prices without taking into consideration the delivery schedule. However, the most intangible factor is delivery coupled with the acceptable quality. These two factors are more important than the price. Failure to deliver goods on time can harm the entire industry and even the country's reputation. Once the rot sets in it is difficult to get rid of it.*

*Causes leading to late delivery are very simple. Production is interdependent. Producers of raw materials rely on machinery suppliers; the machine manufacturers need components; the component makers must have raw materials. They depend on each other and construction companies are left at the mercy of suppliers of material and equipment.*

*Failure to deliver goods on time will have a chain reaction of events. Repeated failures can destroy confidence and goodwill. No unit can trust its suppliers and it will, in turn, be unable to give promise to its customers. This is the cycle of events that gives the nation's industry a bad name, regardless of the efforts by individuals to put their houses in order.*

*Manufacturers who think they have learned to live with poor delivery performance may, in reality, have simply learned to die from it. The consequences of late delivery are many and can adversely affect the profitability of the company. It will increase overhead charges, production cost and lower the overall efficiency of the whole plant.*





# Approved Cast Iron Product Sheets

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## Standard Inlet and Manhole Program

Bridge Division

February 2014

## Forward:

The Approved Cast Iron Product Sheets provide details of the cast iron frames, rings, covers, and grates for use with the Precast Inlet and Manhole Standards. Cast iron products are supplied with the precast inlets or manholes specified in the plans, and are subsidiary to the corresponding bid item, per Item 465, “Manholes and Inlets” and Item 471, “Frames, Grates, Rings and Covers.”

Refer to the Precast Inlet and Manhole Standards for the type of cover or grate that is supplied with the specified inlet or manhole. Include a note to Item 465 in the General Notes if an alternate cover or grate is desired.

The Product Sheets are for reference only. Do not include the Product Sheets in the plan set.

All grates, except 3x3 Extra Open Area and 4x4 Extra Open Area, are bicycle-compatible when the long dimension of slot is oriented perpendicular to the direction of travel. Grates are not ADA-compliant; do not place in pedestrian walkways or bicycle paths (also known as shared use paths).

A table of hydraulic design values follows. These values should be used for design, regardless of larger values shown on some Product Sheets.

*Table 1: Hydraulic Design Values for Grates*

Product Style	Open Area (in <sup>2</sup> )	Perimeter (in.)
3x3 Standard Grate	653	152.0
3x3 Extra Open Area Grate	792	152.0
4x4 Standard Grate	1180	200.0
4x4 Extra Open Area Grate	1404	200.0
3x5 Standard Grate	1109	200.0
32" Grate Cover	331	100.53
24" Grate Cover	162	73.83
18" Grate Cover	105	60.47
Type PCU Standard Grate	450	92.75

**Supplier: US Foundry**

	Product Style	Product Name
1	3x3 Standard Grate Assembly	4076 Frame & 6376 Grate
2	3x3 Standard Grate	6376 Grate
3	3x3 Extra Open Area Grate Assembly	4076 Frame & 6377 Grate
4	3x3 Extra Open Area Grate	6377 Grate
5	3x3 Frame	4076 Frame
6	4x4 Standard Grate Assembly	4243 Frame & 6243 Grate
7	4x4 Standard Grate	6243 Grate
8	4x4 Extra Open Area Grate Assembly	4243 Frame & 6244 Grate
9	4x4 Extra Open Area Grate	6244 Grate
10	4x4 Frame	4243 Frame
11	3x5 Standard Grate Assembly	4273 Frame & 6273 Grate
12	3x5 Standard Grate	6272 Grate
13	3x5 Frame	4272 Frame
14	32" Ring & Solid Cover Assembly	111 Ring & TW Cover
15	32" Solid Cover	TW Cover
16	32" Ring & Grate Cover Assembly	111 Ring & 5624 Grate
17	32" Grate Cover	5624 Grate
18	32" Ring	111 Ring
19	24" Ring & Solid Cover Assembly	112 Ring & TX Cover
20	24" Solid Cover	TX Cover
21	24" Ring & Grate Cover Assembly	112 Ring & 5619 Grate
22	24" Grate Cover	5619 Grate
23	24" Ring	112 Ring



## Supplier: US Foundry

	Product Style	Product Name
24	18" Ring & Solid Cover Assembly	174 Ring & TY Cover
25	18" Solid Cover	TY Cover
26	18" Ring & Grate Cover Assembly	174 Ring & 5621 Grate
27	18" Grate Cover	5621 Grate
28	18" Ring	174 Ring
29	Type PCU Standard Grate Assembly	4187 Frame & 6187 Grate
30	Type PCU Standard Grate	6187 Grate
31	Type PCU Standard Frame	4187 Frame



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**1. Acceptance.** All sales by SIP Industries (Seller) are made pursuant to these Terms and Conditions. Submission of a purchase order to Seller, and/or acceptance of goods delivered by Seller, shall be deemed an acceptance of these Terms and Conditions by Purchaser. Please note that these Terms and Conditions may be modified from time to time; the applicable Terms and Conditions are those posted on SIP's website, [www.sipindustries.com](http://www.sipindustries.com), at the time that a purchase order is accepted or an agreement otherwise confirmed. Purchaser's alteration or addition to these Terms and Conditions, as same may be in effect from time to time, is expressly rejected unless accepted in writing by an authorized representative of Seller.

**2. Entire Agreement.** These Terms and Conditions, together with Seller's price list and Purchaser's purchase order, when accepted by Seller, shall be the entire agreement between Seller and Purchaser. Neither Seller nor Purchaser is relying on any representations, warranties or agreements except as expressly provided in these Terms and Conditions and in an accepted purchase order. To the extent of any conflict between the terms of a purchase order or any other documents submitted by Purchaser, on the one hand, and these Terms and Conditions, on the other, these Terms and Conditions shall govern.

**3. Prices.** Prices and descriptions of goods stated in Seller's price lists are subject to change without notice. Prices are subject to tariffs, raw material surcharges, labor disputes and shipping surcharges. To submit a purchase order, SIP Industries item numbers and part codes should be included. Seller's quotations are on globally sourced products unless otherwise noted. The ordering party is responsible to specify any required origin as required for end use. Quotations, if provided by Seller, expire sixty (60) days from the date provided unless otherwise agreed in writing.

**4. Terms.** Invoices are due and payable thirty (30) days from date of shipment, unless otherwise written on the invoice or confirmed in writing by Seller. A five percent (5%) late fee will be charged on all past-due accounts. If it becomes necessary to retain attorneys to collect an account, the Purchaser is liable for Seller's attorney's fees and other costs of collection.

**5. FOB point of shipment.** All prices are FOB point of shipment, unless otherwise agreed in writing. Seller's responsibility for goods therefore ceases and title passes to the Purchaser at the point of shipment; all claims for damages or losses in transit must be directed to the carrier with copy to Seller within ten (10) days of shipment.

**6. Delivery.** Seller shall have the right to select the freight carrier unless otherwise agreed. Seller has the right to substitute material with same function and design to accommodate unforeseen delays, shortages or restrictions.

**7. Cancellations, Changes and Returns.** All cancellations, changes and returns must be accepted in writing by an authorized representative of Seller, otherwise they will not be valid and binding on Seller. Seller will not be responsible for unauthorized returned product. It will be the responsibility of purchaser at their expense to have unauthorized product returned or disposed of. Seller shall not be obligated to accept any cancellation, change or return, but if it does so the following terms shall apply: (i) goods must be returned to Seller's facility, in the same condition in which they were accepted by Purchaser; (ii) a handling charge of thirty-five percent (35%) of the purchase price will be deducted from the credit given to Purchaser; and (iii) shipping charges, if not prepaid by Purchaser, will likewise be deducted from the credit given to Purchaser.

**8. Specially Manufactured Goods.** Unless otherwise agreed, specially-manufactured goods, including goods designed to the Purchaser's specifications, may not be cancelled or returned once work has begun to design or manufacture the goods unless an agreement is reached and confirmed in writing by Seller, including compensation to Seller for work thus far done with respect to the goods.

**9. Delays; Force Majeure.** Seller shall not be liable for any expenses, loss or damage resulting from any delay in delivery of goods or other failure of Seller's performance due to fire, floods, acts of god, strikes, labor disputes, labor shortages, riots, accidents, transportation delays or other causes beyond the reasonable control of Seller.

**10. Disclaimer regarding weights.** All stated weights are approximate and are given for inventory and shipping purposes only.

## Warranty, General Terms, and Conditions of Sale

**11. Taxes.** Seller's prices do not include sales, excise or other taxes. Purchaser shall pay all such taxes. If Purchaser claims a tax exemption, Purchaser shall provide Seller with the necessary tax-exemption numbers and certificates. If Purchaser aims a tax exemption, Purchaser shall provide Seller with the necessary tax-exemption numbers and certificates. If Seller accepts an exemption but is later required by the taxing authority to pay taxes, Purchaser shall reimburse to Seller the amount of such taxes.

**12. Limited Warranty.** For a period of one calendar year from the date of shipment, Seller warrants that goods sold and delivered by Seller to Purchaser will conform to the number and type of goods described in the accepted purchase order and that such goods will be free from defects in material and workmanship.

THIS LIMITED WARRANTY IS SELLER'S SOLE AND EXCLUSIVE WARRANTY. SELLER MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. SELLER DOES NOT WARRANT THAT THE GOODS ARE FIT FOR ANY PARTICULAR PURPOSE. SELLER DOES NOT WARRANT THAT THE GOODS ARE MERCHANTABILITY.

**13. Product Disclaimers.** All tooling required to manufacture products are the property of Seller even if tooling costs are incurred by Purchaser. Seller has the right to change product design, engineering, materials, tooling and processes that do not affect the intended use and application of the product. Seller will notify Purchaser if changes are substantial and may affect the application or appearance of the product. Furthermore, references to Buyer's specifications and similar requirements are only to describe the goods and do not give rise to any representation, warranty or other sales term.

Seller manufactures to industry standards and makes every effort to address applications of its products. Please see current technical advisory at Seller's web site, sipindustries.com, for up to date product support and recommendations. All product dimension, designs, technology, tooling, process, software, innovations, and drawings are considered intellectual property and are owned and confidential to Seller. Purchaser has no rights or privileges to SIP industries intellectual property including product applications without Seller's express written consent.

**14. Prompt notice required for Limited Warranty claims.** Buyer is responsible for promptly inspecting goods on delivery and notifying Seller, within sixty (60) days of delivery to Buyer, of any nonconformity or defect that would be discovered on a reasonable and customary inspection. Provided that such notice is given and that the warranty claim is made within one year, Seller will provide a replacement or price adjustment, in Seller's discretion, not to exceed the net sales price of the defective product. However, this warranty shall be of no force or effect absent such timely notice. Seller shall not in any event be responsible for labor, removal or installation charges incurred in connection with the replacement of defective goods.

**15. Conditions to Limited Warranty.** Purchaser shall notify Seller immediately upon discovery of a defect so that Seller may inspect the product in its installed condition. Seller shall not be responsible for defects or failures in goods of which it is not so notified; nor shall Seller be responsible for goods manufactured or sold by other parties or losses or impairments caused by such goods; nor shall Seller be responsible for defects or failure of goods due to improper installation, improper usage, normal or abnormal wear and tear, erosion or corrosion, improper storage, use or maintenance, vandalism, vehicular or other accidents, or storms or other forces beyond the control of the parties. Seller also shall not be responsible for goods that have been damaged by misuse, negligence or accident or that have been altered or repaired by any party other than Seller.

**16. Limitation on Liability.** In the event any remedy hereunder fails of its essential purpose and monetary damages may be imposed, Seller's liability, whether founded in contract or tort (including negligence), arising out of or resulting from (i) the Purchase Order and resulting contract or the performance or breach thereof, or (ii) the design, manufacture, delivery, sale, repair, replacement or use of the goods, shall not exceed the cost of the goods at issue in the claim. NOTWITHSTANDING ANYTHING CONTAINED HEREIN TO THE CONTRARY, SELLER SHALL NOT BE LIABLE TO PURCHASER OR ANY OTHER PERSON FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL, EXEMPLARY, PUNITIVE OR OTHER INDIRECT DAMAGES, INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS, RECALL-RELATED EXPENSES, AND LOSS OF USE OF THE GOODS.

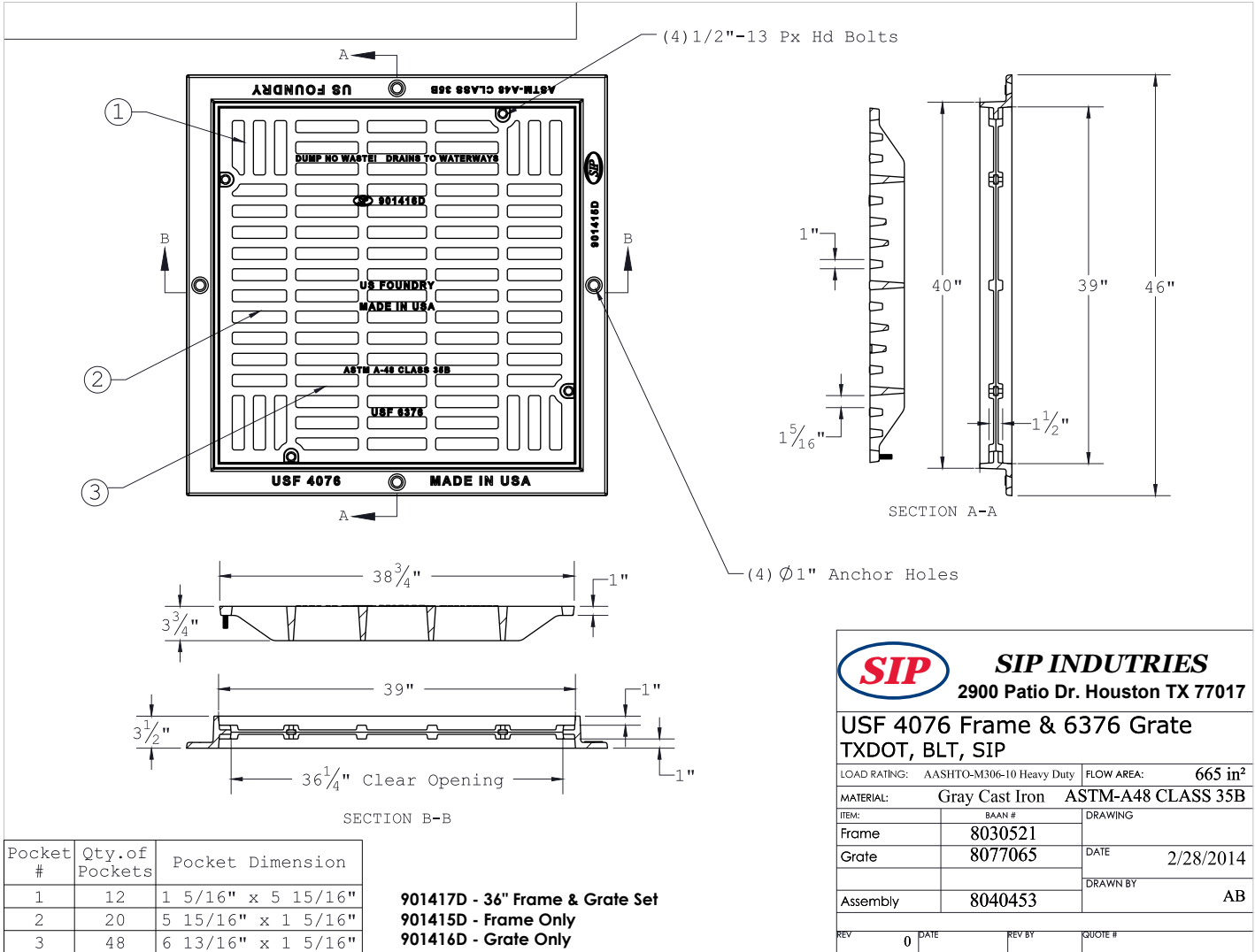
**17. Purchaser specifications.** If Seller has designed the goods using information provided by Purchaser, Seller shall not be responsible for design errors resulting from inaccurate or incomplete information supplied by Purchaser. If

Purchaser has provided specifications or a model or sample from which a good is designed and manufactured, Seller shall not be responsible for any defect, error or inadequacy provided that the good is designed or manufactured in compliance with Purchaser's specifications, model or sample.

**18. Solvency and Security Interest.** By submitting a Purchase Order, Buyer represents to Seller that Buyer is solvent and capable of timely fulfilling its payment and other obligations to Seller. Until the goods and any other indebtedness of Buyer have been paid in full, Buyer, its agents any successors: (i) will hold the goods subject to a security interest in favor of Seller allowing for the right or re-possession by Seller to the extent permitted by applicable law, (ii) will not alter, remove, destroy, or damage any identifying mark on the goods or their packaging, and (iii) will keep the goods separate from any other products.

**19. Governing law; venue.** All sales shall be governed by the law of the state of Texas. In the event that a lawsuit is filed between the parties on any claim arising out of or in connection with such sales, Seller and Purchaser agree that exclusive venue and jurisdiction shall be in the state or federal courts of Harris County, Texas.

**20. Attorney's fees and costs.** In the event of litigation between the parties with respect to the sale of goods, the prevailing party shall be entitled to recover its reasonable attorney's fees and costs, including expert witness fees.



Pocket #	Qty. of Pockets	Pocket Dimension
1	12	1 5/16" x 5 15/16"
2	20	5 15/16" x 1 5/16"
3	48	6 13/16" x 1 5/16"

901417D - 36" Frame & Grate Set  
 901415D - Frame Only  
 901416D - Grate Only

**SIP INDUSTRIES**  
 2900 Patio Dr. Houston TX 77017

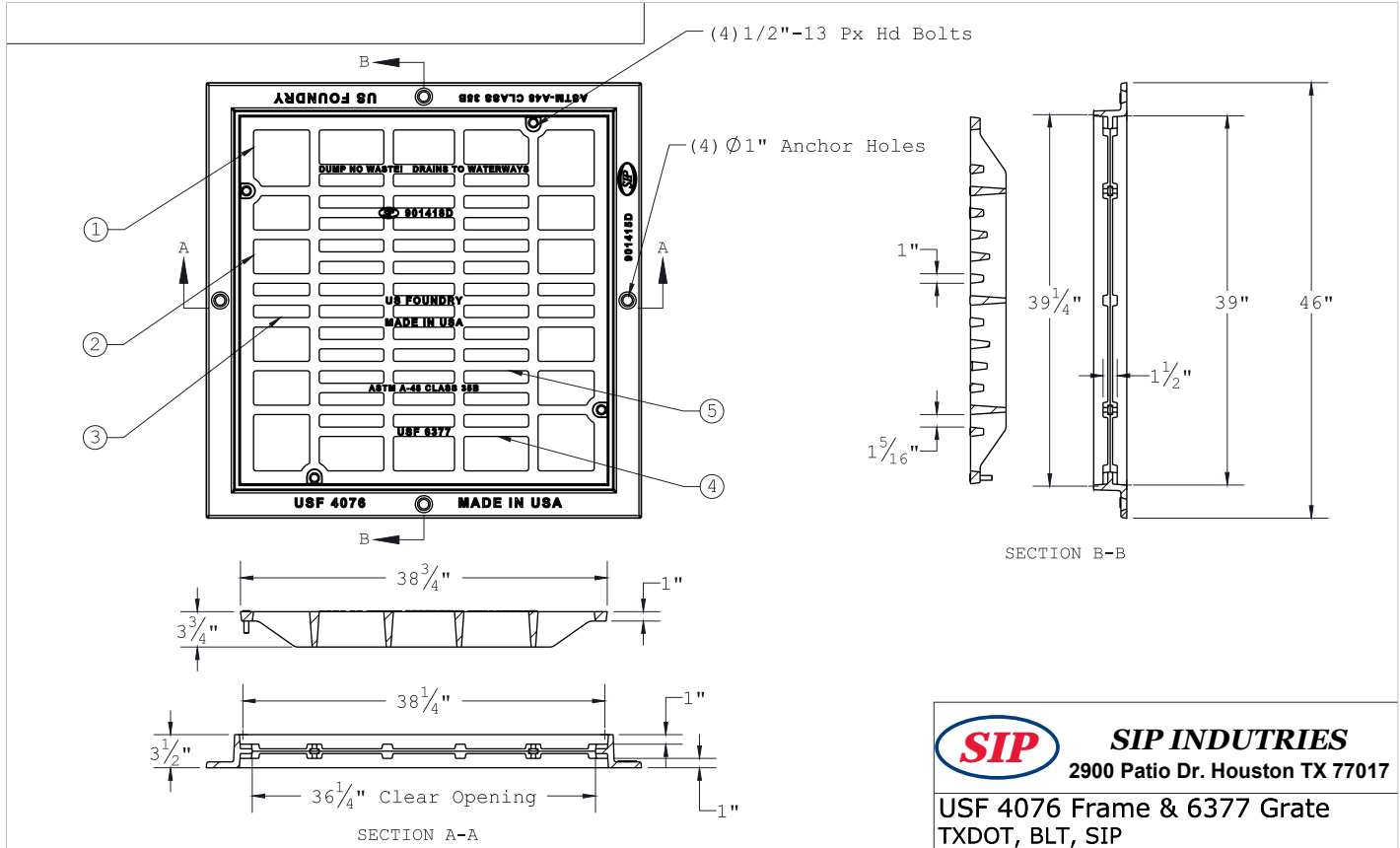
**USF 4076 Frame & 6376 Grate**  
 TXDOT, BLT, SIP

LOAD RATING:	AASHTO-M306-10 Heavy Duty	FLOW AREA:	665 in <sup>2</sup>
MATERIAL:	Gray Cast Iron	ASTM-A48 CLASS 35B	
ITEM:	BAAN #	DRAWING	
Frame	8030521		
Grate	8077065	DATE	2/28/2014
Assembly	8040453	DRAWN BY	AB
REV	0	DATE	REV BY
		QUOTE #	



ITEM # : 901419D

36" Frame & Grate 4076-6377



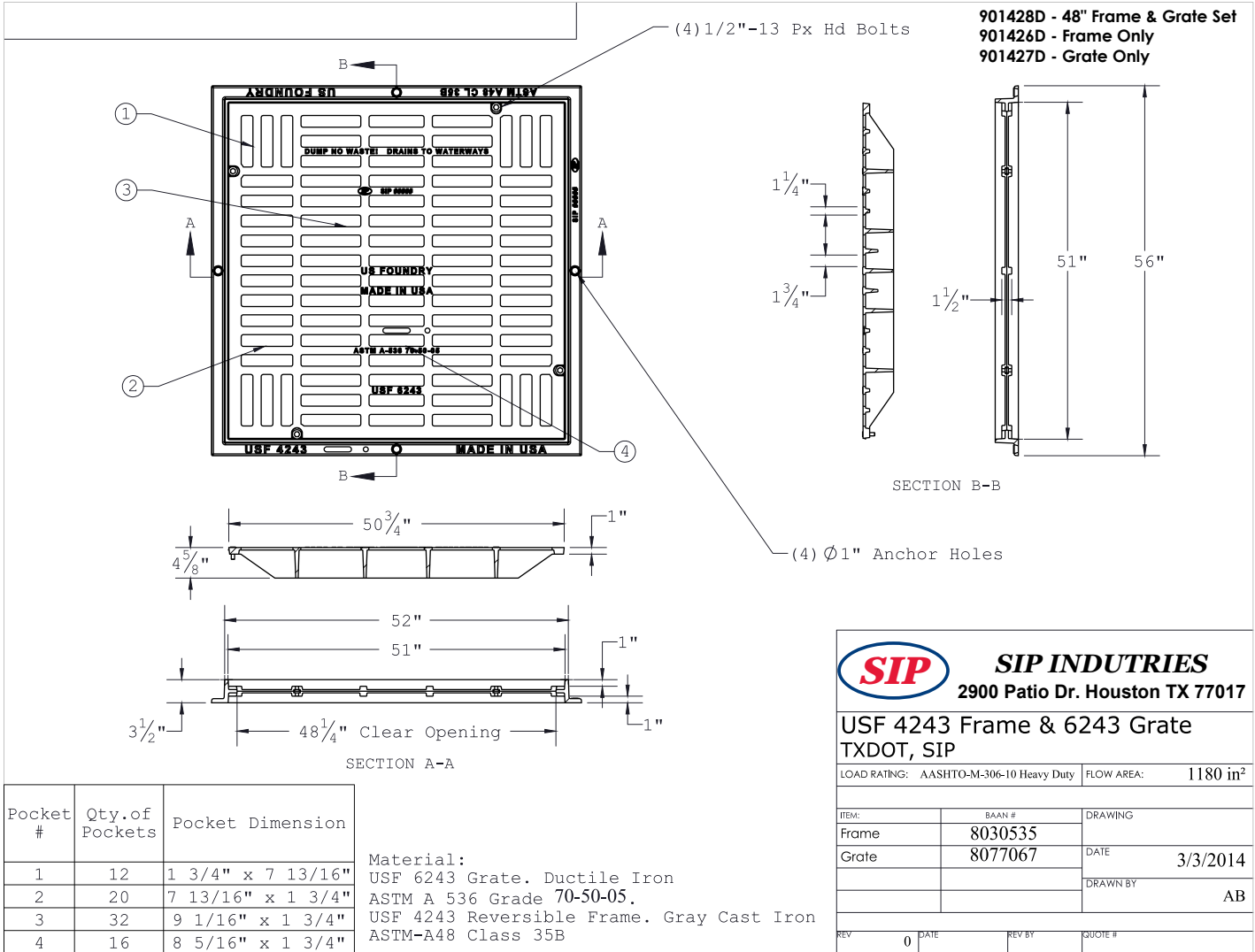
Pocket #	Qty. of Pockets	Pocket Dimension
1	4	5 15/16" x 5 15/16"
2	8	5 15/16" x 3 5/8"
3	4	5 15/16" x 1 5/16"
4	6	6 7/16" x 3 5/8"
5	36	6 7/16" x 1 5/16"

901419D - 36" Frame & Grate Set  
 901415D - Frame Only  
 901418D - Grate Only

**SIP INDUSTRIES**  
 2900 Patio Dr. Houston TX 77017

**USF 4076 Frame & 6377 Grate**  
 TXDOT, BLT, SIP

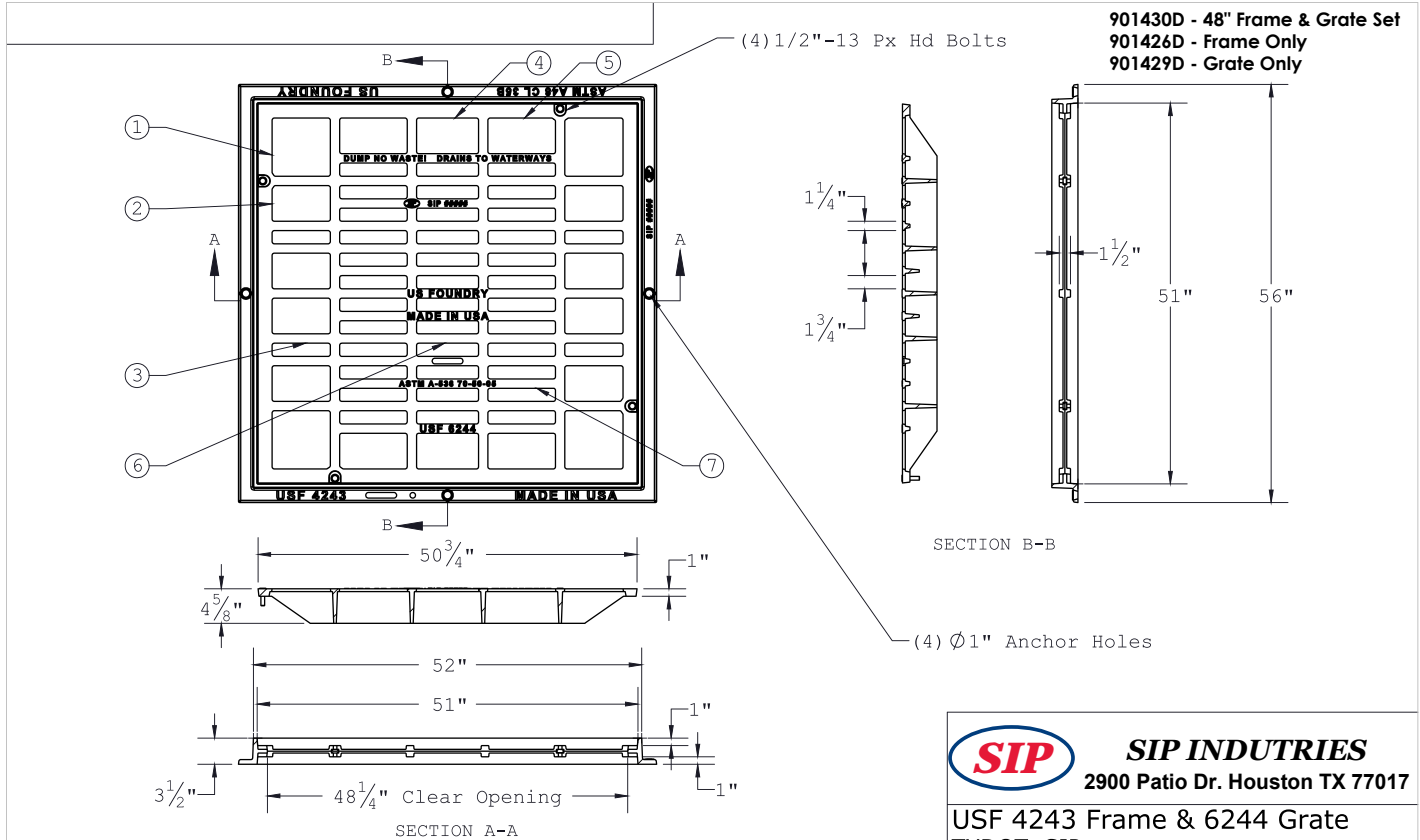
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ITEM:	BAAN #	DRAWING	
Frame	8030521		
Grate	8077066	DATE	5/16/2015
Assembly	8040454	DRAWN BY	AB
REV	0	DATE	REV BY
			QUOTE #





ITEM # : 901430D

48" Sq. Frame & Grate Ductile USF #4243-6244



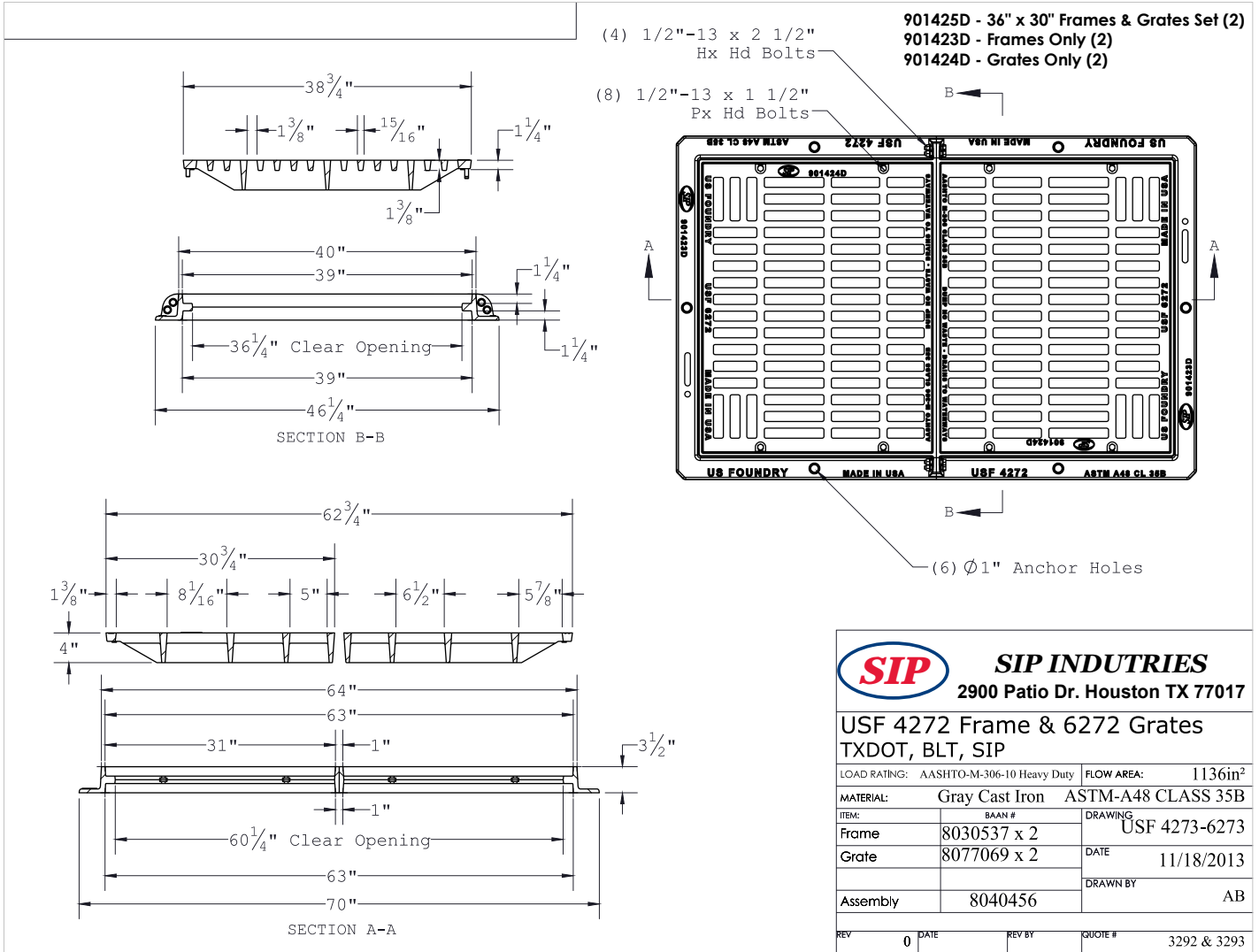
901430D - 48" Frame & Grate Set  
 901426D - Frame Only  
 901429D - Grate Only

Pocket #	Qty. of Pockets	Pocket Dimension
1	4	7 13/16" x 7 13/16"
2	8	7 13/16" x 4 13/16"
3	4	7 13/16" x 1 3/4"
4	2	8 5/16" x 4 13/16"
5	4	9 1/16" x 4 13/16"
6	12	8 5/16" x 1 3/4"
7	24	9 1/16" x 1 3/4"

Material:  
 USF 6243 Grate. Ductile Iron  
 ASTM A 536 Grade 70-50-05.  
 USF 4243 Reversible Frame. Gray Cast Iron  
 ASTM-A48 Class 35B

		<b>SIP INDUSTRIES</b>	
2900 Patio Dr. Houston TX 77017			
USF 4243 Frame & 6244 Grate		TXDOT, SIP	
LOAD RATING:	AASHTO-M-306-10 Heavy Duty	FLOW AREA:	1404 in <sup>2</sup>
ITEM:	BAAN #	DRAWING	
Frame	8030535		
Grate	8077068	DATE	3/3/2014
		DRAWN BY	AB
REV	0	DATE	REV BY
		QUOTE #	



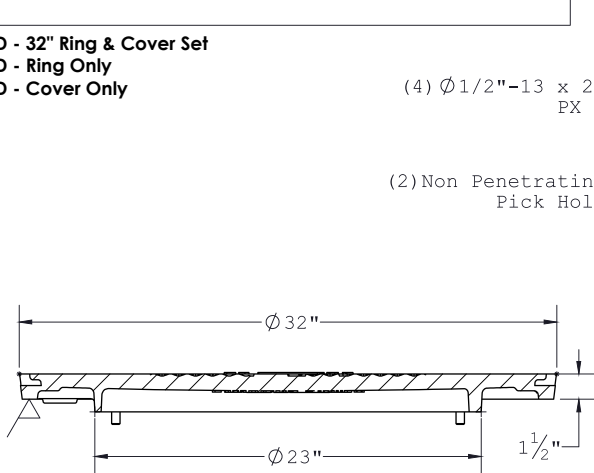




ITEM # : 901412D

30" R&C 111-TW

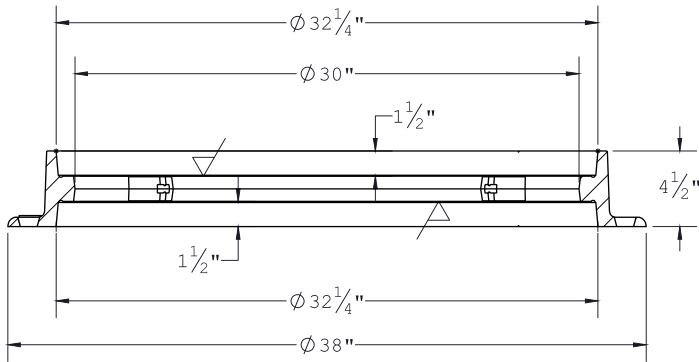
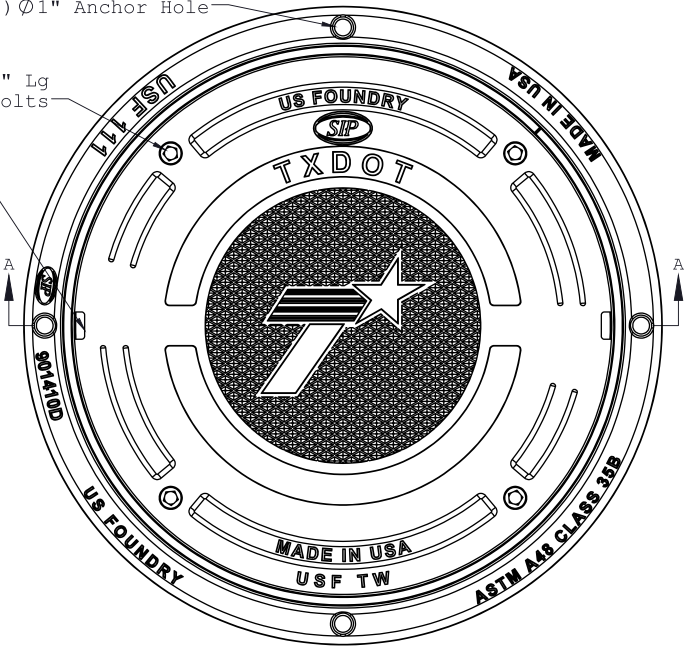
901412D - 32" Ring & Cover Set  
901410D - Ring Only  
901411D - Cover Only



(4) Ø1" Anchor Hole

(4) Ø1/2"-13 x 2-1/2" Lg  
PX Hd Bolts

(2) Non Penetrating  
Pick Holes



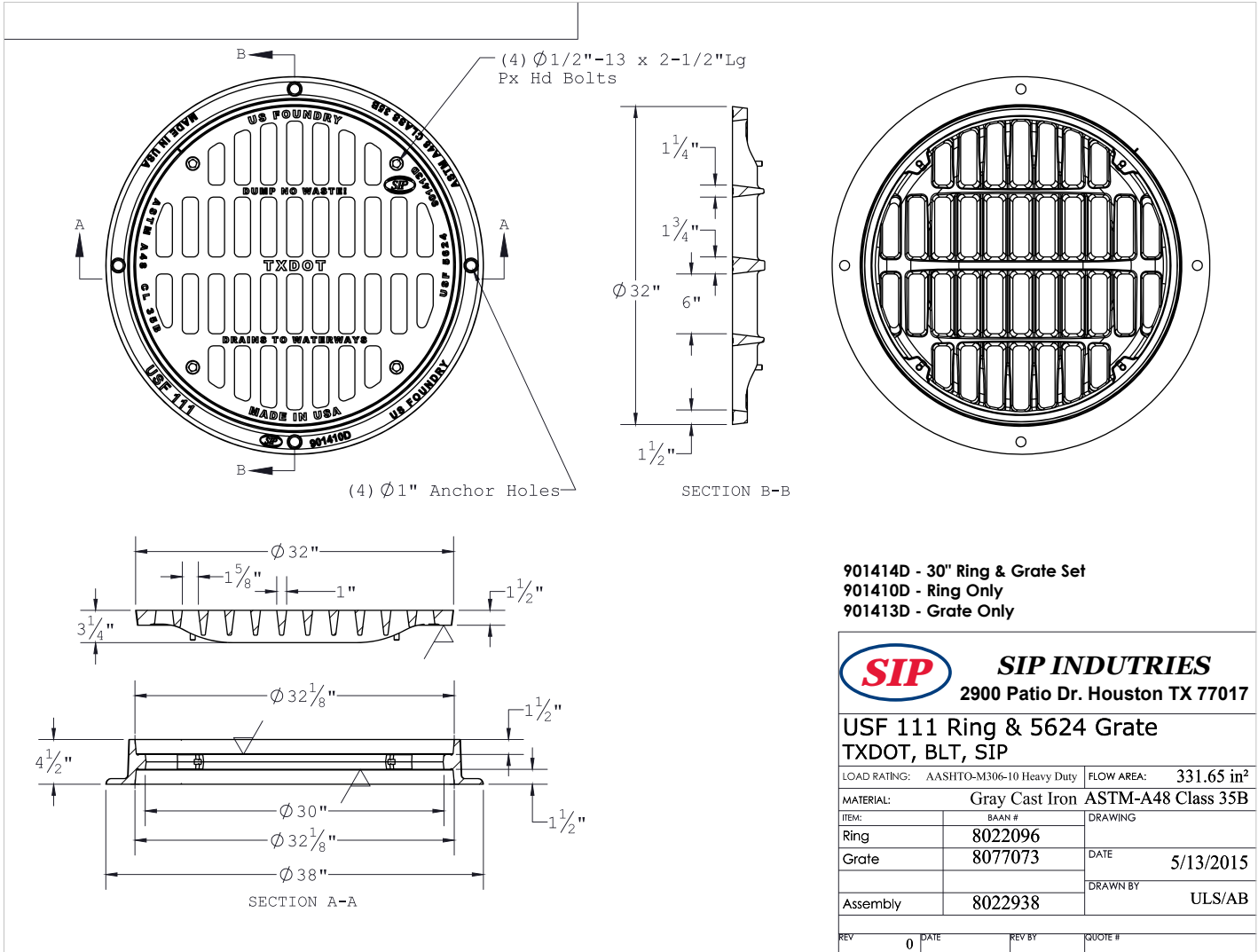
SECTION A-A



**SIP INDUSTRIES**  
2900 Patio Dr. Houston TX 77017

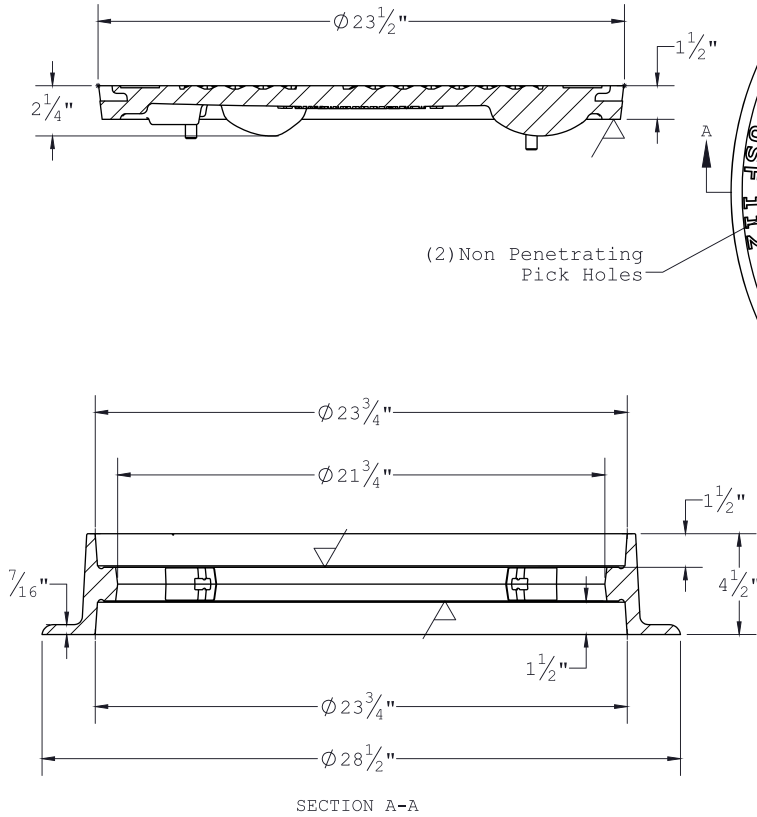
**USF 111 Ring & TW Cover**  
BLT, SIP

LOAD CLASSIFICATION:		Heavy Duty
MATERIAL: Gray Cast Iron AASHTO M306 Class 35B		
ITEM:	BAAN #	DRAWING
Ring	8022096	
Cover	8018448	DATE 5/13/2015
Assembly	8022937	DRAWN BY ULS/AB
REV	0	DATE
		REV BY
		QUOTE #

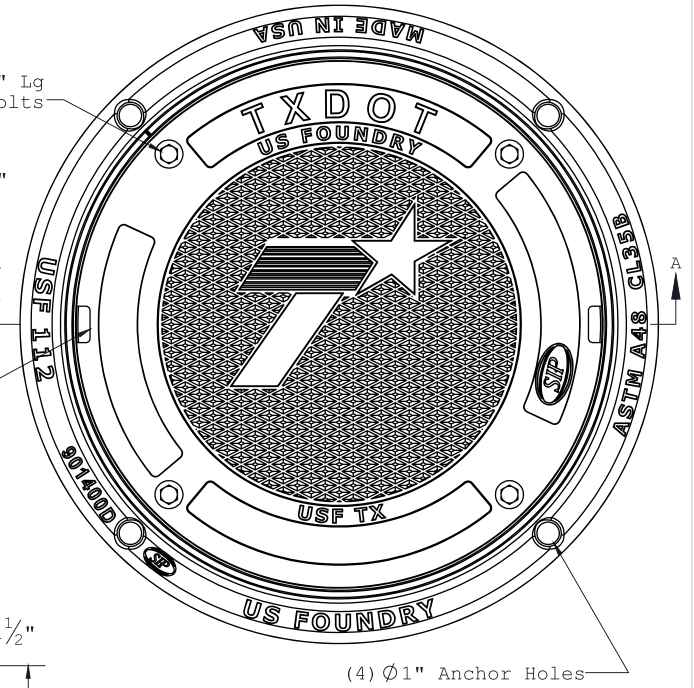


901402D - 24" Ring & Cover Set  
 901400D - Ring Only  
 901401D - Cover Only

(4)  $\varnothing 1/2"$ -13 x 2-1/2" Lg  
 Px Hd Bolts



(2) Non Penetrating  
 Pick Holes



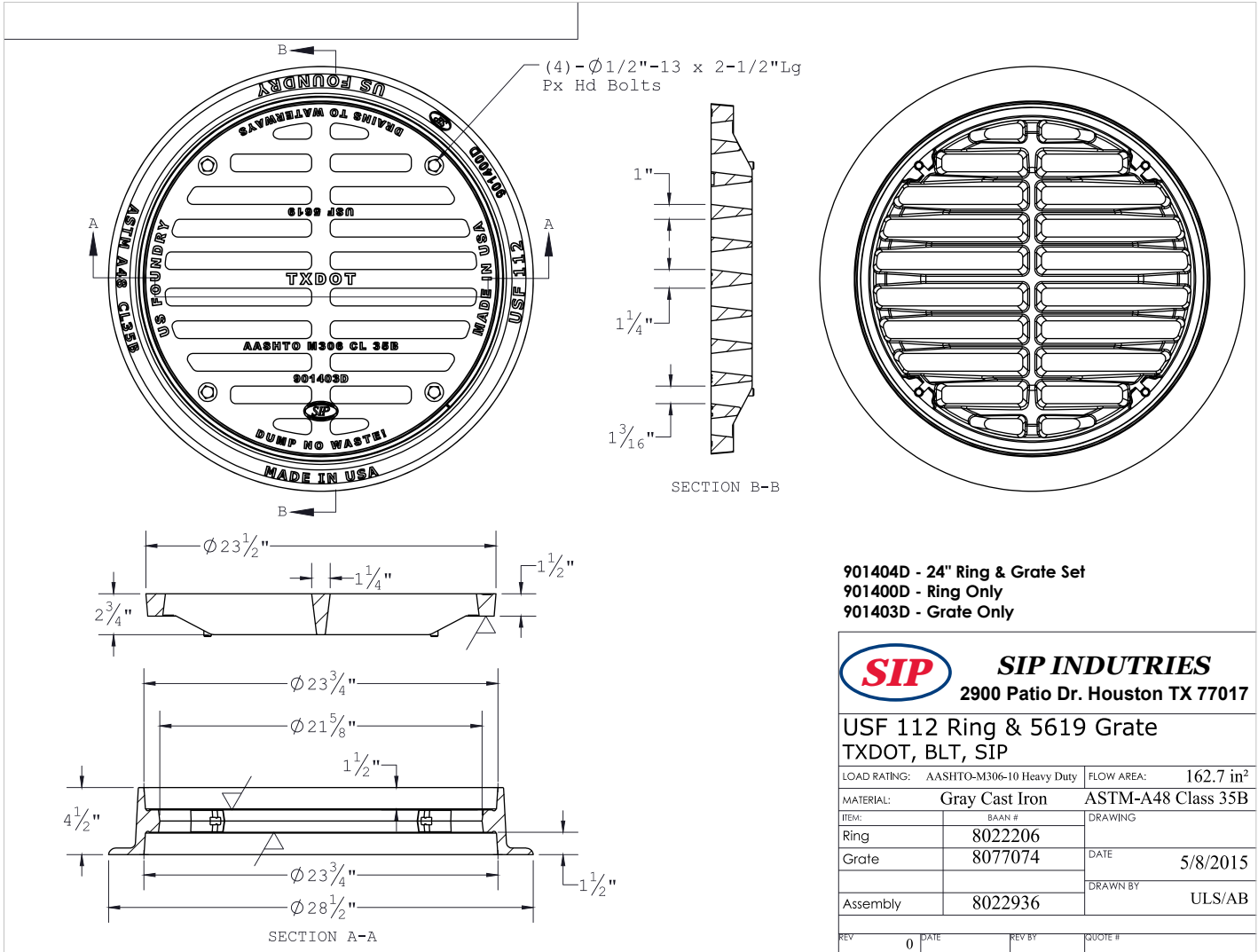
(4)  $\varnothing 1"$  Anchor Holes




**SIP INDUSTRIES**  
 2900 Patio Dr. Houston TX 77017

**USF 112 Ring & TX Cover**  
 TXDOT, BLT, SIP

LOAD RATING: AASHTO-M306-10 Heavy Duty		ASTM-A48 Class 35B	
MATERIAL:	Gray Cast Iron	DRAWING	
ITEM:	BAAN #	DATE	
Ring	8022206	5/8/2015	
Cover	8018458	DRAWN BY	
Assembly	8022935	ULS/AB	
REV	0	DATE	QUOTE #
			3284



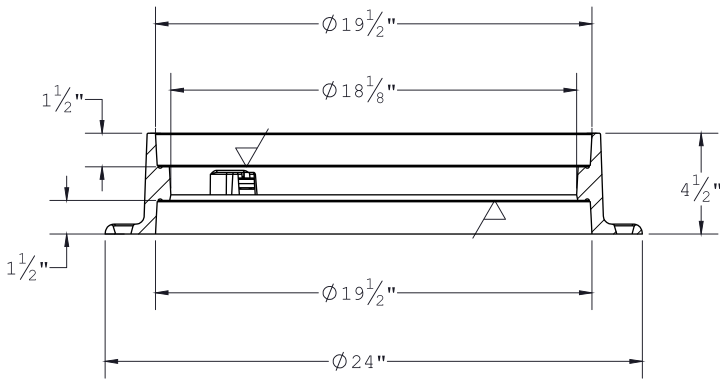
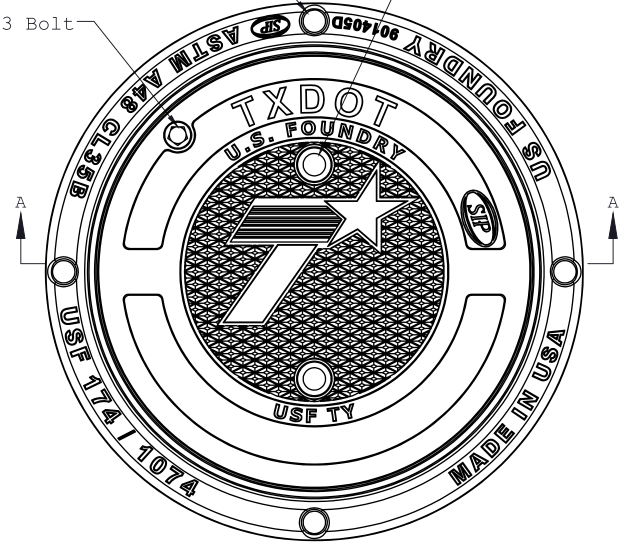
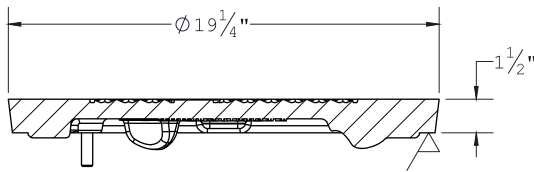
901404D - 24" Ring & Grate Set  
 901400D - Ring Only  
 901403D - Grate Only

 <b>SIP INDUSTRIES</b> 2900 Patio Dr. Houston TX 77017		USF 112 Ring & 5619 Grate TXDOT, BLT, SIP	
		LOAD RATING: AASHTO-M306-10 Heavy Duty	FLOW AREA: 162.7 in <sup>2</sup>
MATERIAL: Gray Cast Iron	ASTM-A48 Class 35B	ITEM: BAAN # DRAWING	
Ring	8022206	DATE	
Grate	8077074	5/8/2015	
Assembly	8022936	DRAWN BY ULS/AB	
REV 0	DATE	REV BY	QUOTE #

901407D - 18" Ring & Cover Set  
 901405D - Ring Only  
 901406D - Cover Only

(4)  $\varnothing 1"$  Anchor Holes (2)  $\varnothing 1"$  Pick Holes

1/2"-13 Bolt



SECTION A-A



**SIP INDUSTRIES**

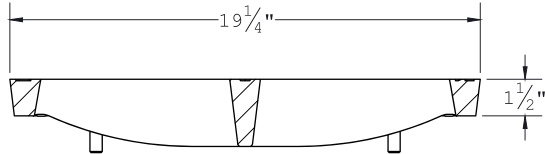
2900 Patio Dr. Houston TX 77017

**USF 174 Reversible Ring & TY Cover**  
 TXDOT, BLT1, SIP

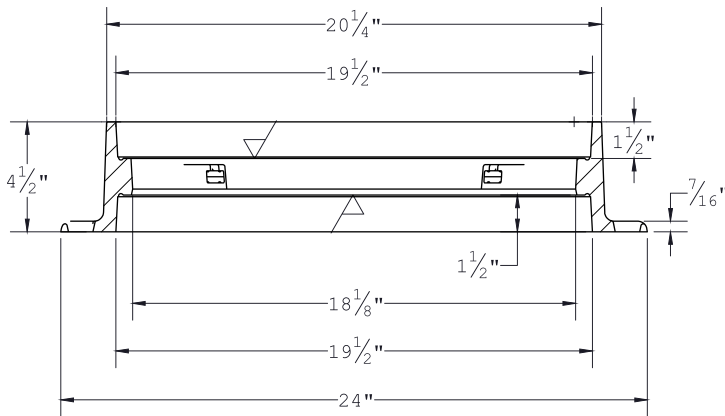
LOAD RATING: AASHTO-M306-10 Heavy Duty		
MATERIAL: Gray Cast Iron ASTM-A48 Class 35B		
ITEM:	BAAN #	DRAWING
Ring	8022941	
Cover	8018460	DATE 5/8/2015
Assembly	8022946	DRAWN BY ULS/AB
REV 0	DATE	REV BY QUOTE # 3283

901409D - 18" Ring & Grate Set  
 901405D - Ring Only  
 901408D - Grate Only

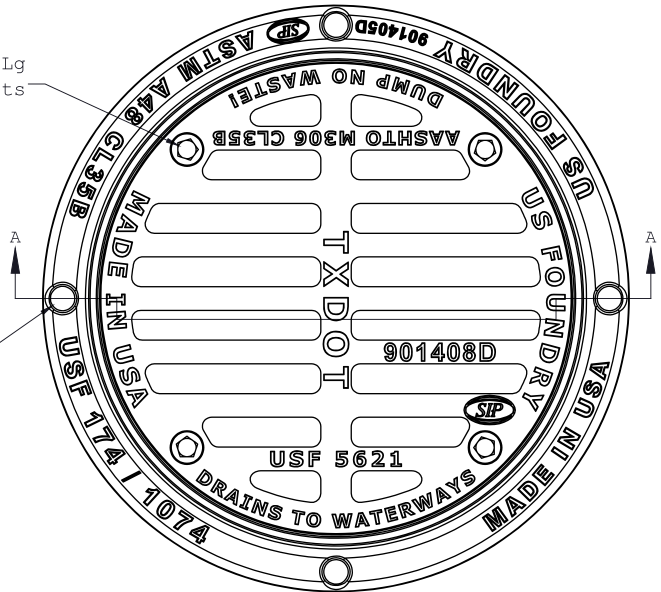
(4)  $\phi 1/2"$ -13 x 2-1/2"Lg  
 Px Hd Bolts



(4)  $\phi 1"$  Anchor Holes



SECTION A-A

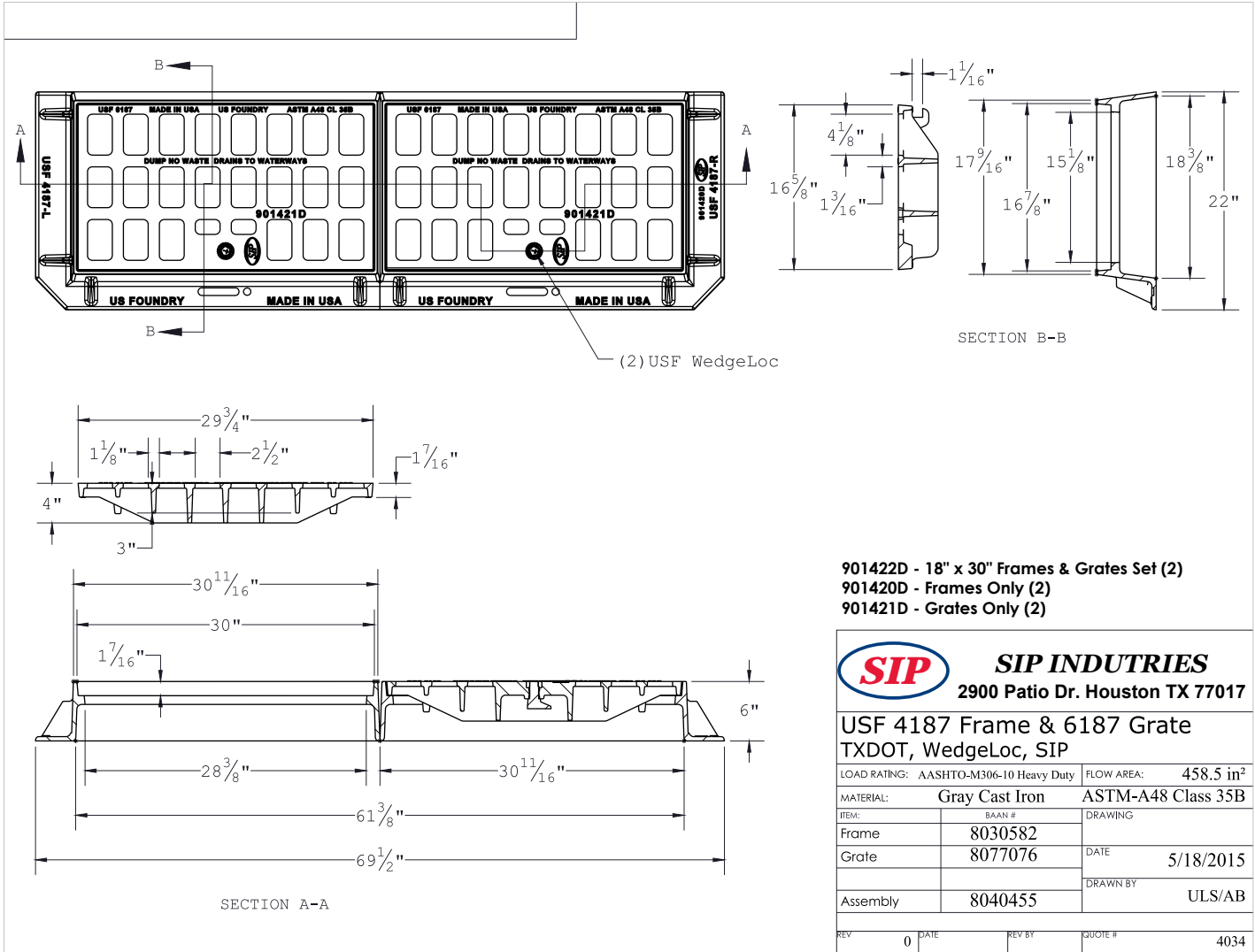


**SIP INDUSTRIES**

2900 Patio Dr. Houston TX 77017

USF 174 Ring & 5621 Grate  
 TXDOT, BLT, SIP

LOAD RATING: AASHTO-M306-10 Heavy Duty		
MATERIAL:	Gray Cast Iron	ASTM-A48 Class 35B
ITEM:	BAAN #	DRAWING
Ring	8022962	
Grate	8070767	DATE 5/28/2015
Assembly	8022963	DRAWN BY ULS/AB
REV 0	DATE	REV BY QUOTE # 3283,3286,4091

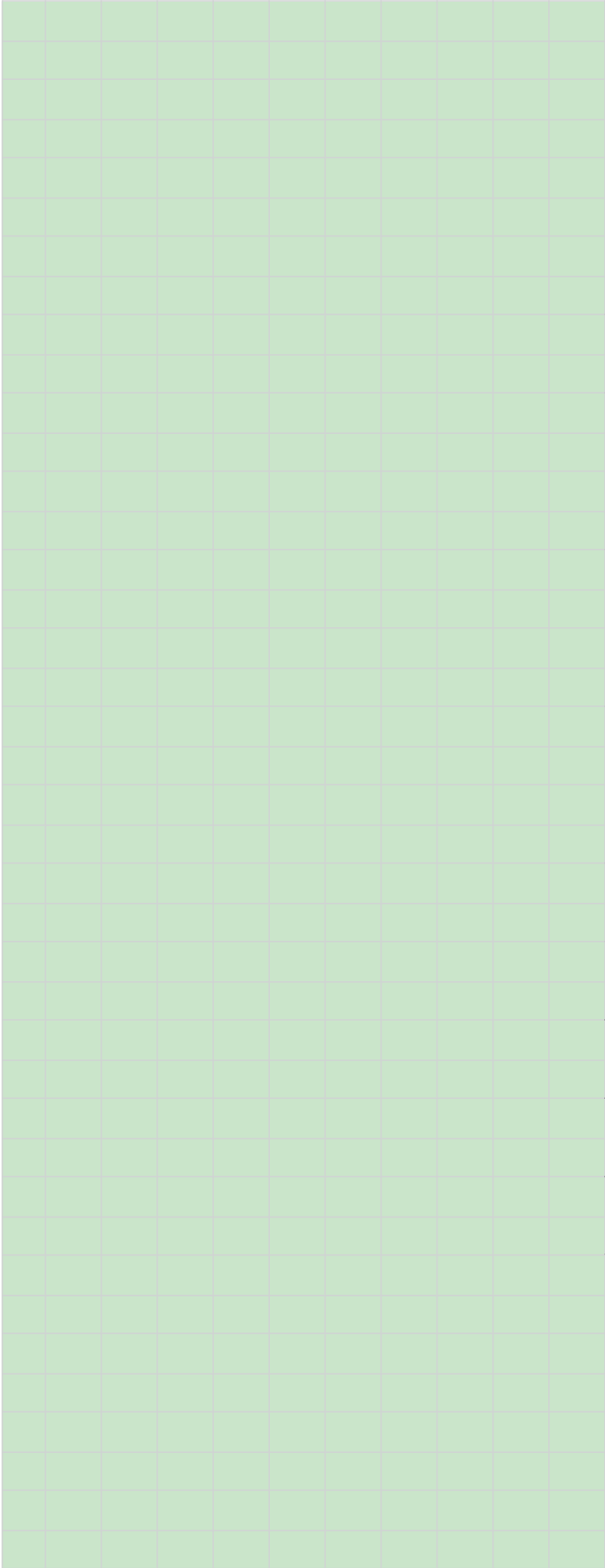





## TXDOT COSS REFERENCE US Foundry/EJ

	PRODUCT STYLE	US FOUNDRY CODE	EJ CODE
1	3X3 STANDARD GRATE ASSEMBLY	4076 FRAME & 6376 GRATE	5750ZPT 5750M
2	3X3 STANDARD	6376 GRATE	5750M
3	3X3 EXTRA OPEN AREA GRATE ASSEMBLY	4076 FRAME & 6377 GRATE	5750ZPT 5750M2
4	3X3 EXTRA OPEN ARE GRATE	6377 GRATE	5750M2
5	3X3 FRAME	4076 FRAME	5750ZPT
6	4X4 STANDARD GRATE ASSEMBLY	4243 FRAME & 6243 GRATE	5751ZPT 5751M
7	4X4 STANDARD GRATE	6243 GRATE	5751M
8	4X4 EXTRA OPEN AREA GRATE ASSEMBLY	4243 FRAME & 6244 GRATE	5751ZPT 5751M2
9	4x4 EXTRA OPEN AREA GRATE	6244 GRATE	5751M2
10	4X4 FRAME	4243 FRAME	5751ZPT
11	3X5 STANDARD GRATE ASSEMBLY	4273 FRAME & 6273 GRATE	5752ZPT 5752M
12	3X5 STANDARD GRATE	6273 GRATE	5752M
13	3X5 FRAME	4273 FRAME	5752ZPT
14	32" RING & SOLID COVER ASSEMBLY	111 RING & TW COVER TW	1495 V1430
15	32" SOLID COVER	COVER	V1430
16	32" RING & GRATE COVER ASSEMBLY	111 RING & 5624 GRATE	1495 V3419
17	32" GRATE COVER	5624 GRATE	V3419
18	32" RING	111 RING	1495
19	24" RING & SOLID GRATE ASSEMBLY	112 RING & TX COVER	V1600-2 V1418
20	24" SOLID COVER	TX COVER	V1418
21	24" RING & GRATE COVER ASSEMBLY	112 RING & 5619 GRATE	V1600-2 V3418-1
22	24" GRATE COVER	5619 GRATE	V3418-1
23	24" RING	112 RING	V1600-2
24	18" RING & SOLID COVER ASSEMBLY	174 RING & TY COVER	V1600-1
25	18" SOLID COVER	TY COVER	C1600-1
26	18" RING & GRATE COVER ASSEMBLY	174 RING & 5621 GRATE	V1600-1 V3600-1
27	18" GRATE COVER	5621 GRATE	V3600-1
28	18" RING	174 RING	V1600-1
29	TYPE PCU STANDARD GRATE ASSEMBLY	4187 FRAME & 6187 GRATE	V4243-4
30	TYPE PCU STANDARD GRATE	6187 GRATE	V4243-4
31	TYPE PCU STANDARD FRAME	4187 FRAME	V4243Z2

**GENERAL NOTES**

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# SIP Industries

Quality Manufacturers Since 1960



## PRODUCT LINE

### AWWA DI Fittings & Accessories

- C153 Compact MJ Fittings and Acc. 2" - 64"
- C110 Full Body MJ Fittings 2" - 64"
- C153 Trim Tyton® Push-On Fittings 4" - 24"
- C110 Flange Fittings 2" - 64"
- MJ x MJ Adapter for Connecting MJ Bells 3" - 24"
- Stainless Steel & Blue T-Bolts
- Made in India, China & Mexico
- Bare, Cement, Zinc, FBE & Other Linings

### Joint Restraint System

- EZD Joint Restraint for DI Pipe 3" - 48"
- EZDTP Joint Restraint Tandem for DI Pipe 3" - 48"
- EZDPTP Joint Restraint for Push-On Joints DI Pipe 3" - 48"
- Ductile Iron Retainer Glands 3" - 30"
- FAR / FAH Flange Adapter for DI Pipe 3" - 48"
- EZFA Restrained Flange Adapter for DI and PVC Pipe 3" - 36"
- EZPVC Joint Restraint for PVC Pipe 3" - 36"
- ULTRA Joint Restraint for PVC Pipe 4" - 12"
- EZPVCPTP Joint Restraint for Push-On Joints PVC Pipe 14" - 36"
- PTPVC Pipe to Pipe Restraint 4" - 48"
- PTPDF Pipe to MJ Fittings Restraint 4" - 48"
- PTPFC Pipe to PVC Fittings Restraint 4" - 12"
- Made in China & USA
- EZ Shield or Shop Coating

### Municipal Construction Castings

- Manhole Rings and Cover
- Frames and Grates
- Valve Boxes and Service Boxes
- Water Meter Covers and Boxes
- Cleanout and Monument Boxes
- Detectable Warning Plates
- Extension Rings
- Trench Grates and Tree Grates
- Made in India & USA

### Fabrication Products for DI Pipe

- High Hub Flanges Class 150 and 250. 3" - 64"
- Threaded Bell Flanges 3" - 48"
- Anchor Flanges 3" - 60"
- Filler Flanges 4" - 30"

### Other Products and Services

- All Thread Rod
- Pipe Lube and Hydraulic Cement
- Socket Clamps and Lugs
- Flange Packs
- OEM Castings



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**SIP EAST** 600 Rayloc Drive, Atlanta, GA 30336

**SIP WEST** 8333 Almeria Avenue, Fontana, CA 92335

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