

THOMPSON

PIPE GROUP

PRESSURE

PROJECT: 200036

DESCRIPTION: 66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.

LOCATION: HOUSTON, TX

OWNER: CITY OF HOUSTON

ENGINEER: AURORA TECHNICAL SERVICES

CONTRACTOR: MC2 CIVIL
14115 LUTHE RD.
HOUSTON, TX 77039

PIPE SUMMARY

DESCRIPTION	LENGTH
66" S-200 CL 150-19-0.625	56'
54" S-200 CL 150-20-0.3125	283'
66" S-200 CL 150-19-0.333	5708'
TOTAL	6047'

THOMPSON PIPE GROUP CONTACTS FOR THIS PROJECT:

ENGINEERING:	MARC DONATELLI	469-313-2488
SALES:	MIKE SECHELSKI	713-828-0188
DELIVERY:	JAKE ALLEN	469-313-2506
FIELD SERVICES:	COLIN BROWN	214-980-4841

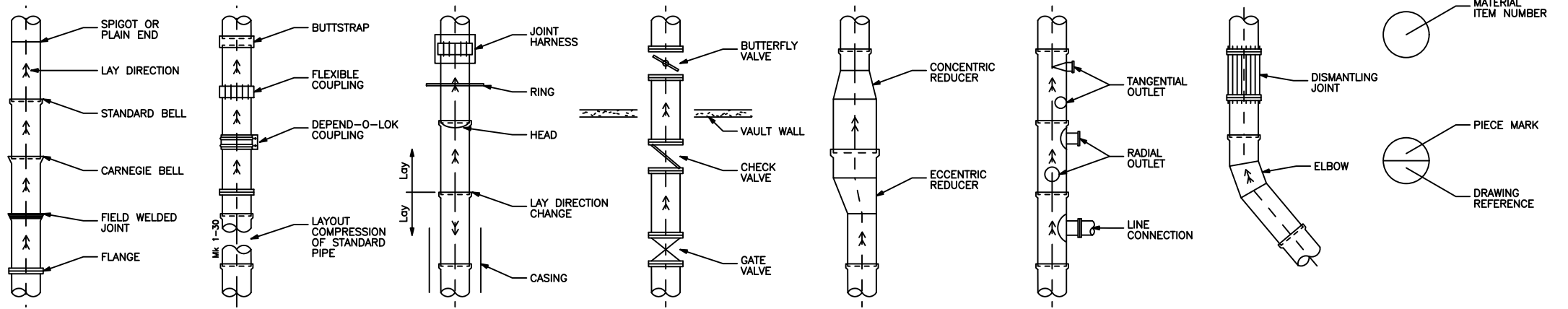
CAUTION: BEFORE LIGHT CONSTRUCTION EQUIPMENT (TRACK HOES, FRONT END LOADERS, PICK-UP TRUCKS ETC) ARE PERMITTED TO CROSS OVER THE PIPE, ENSURE THERE IS AT LEAST THREE FEET OF COMPACTED BACKFILL OVER THE TOP OF THE PIPE. FOR HEAVIER CONSTRUCTION EQUIPMENT (LARGE CRANES, LOADED CONCRETE TRUCKS, SPECIALIZED DUMP TRUCKS ETC), THOMPSON PIPE GROUP SHOULD BE CONTACTED FOR CROSSING RECOMMENDATION.

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						66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
						SCALE: NONE	CHECKED	9/10/20	QUOTE: 131014-158
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SYMBOLS



ABBREVIATIONS

ARV - AIR RELEASE VALVE	DEG - DEGREE	HCBT - HARNESS CLAMP TESTABLE BELL	OL - OUTLET	STL - STEEL
ATH - AIR TEST HOLE	DFT - DRY FILM THICKNESS	HCS - HARNESS CLAMP SPIGOT	OS - OFFSET	TAN - TANGENT
AV - AIR VENT	DIA - DIAMETER	HCST - HARNESS CLAMP TESTABLE SPIGOT	PC - PIECE	THK - THICKNESS
B-303 - AWWA C303 PIPE	DIM - DIMENSION	HD - HEAD	PE - PLAIN END	TOL - THREADED OUTLET
BB - BANDED BELL	DLWB - DEEP LAPWELD BELL	HHB - HEAVY DUTY HARNESS CLAMP BELL	PEBS - PLAIN END FOR BUTTSTRAP	TOT - TANGENTIAL OUTLET
BEV - BEVEL	DLWBT - DEEP LAPWELD BELL W/AIR TEST HOLE	HHS - HEAVY DUTY HARNESS CLAMP SPIGOT	PEBW - PLAIN END FOR BUTTWELDING	VERT - VERTICAL
BFV - BUTTERFLY VALVE	DLWS - DEEP LAPWELD SPIGOT	HORIZ - HORIZONTAL	PEDE - DEPEND-O-LOK COUPLING ExE	VPI - VERT POINT of INTERSECT
BHC - BEGIN HORIZ CURVE	DN - DOWN	HPI - HORIZ POINT of INTERSECT	PEDF - DEPEND-O-LOK COUPLING FxF	WCB - FW CARNEGIE BELL
BI - BID ITEM	DWG - DRAWING	ID - INSIDE DIAMETER	PEFC - PLAIN END FOR FLEX COUPLING	WCBT - FW TESTABLE CARNEGIE BELL
BK - BACK	E-301 - EMBEDDED CYLINDER PIPE	IN - INCHES	QTY - QUANTITY	WCS - FW CARNEGIE SPIGOT
BLD FLG - BLIND FLANGE	EA - EACH	INV - INVERT	R - RADIUS	WCSC - FW CARNEGIE SPIGOT w/GKT GROOVE REMOVED
BO - BLOW OFF	ECC - ECCENTRIC	L-301 - LINED CYLINDER PIPE	REF - REFERENCE	WCST - FW TESTABLE CARNEGIE SPIGOT
BOP - BOTTOM OF PIPE	EHC - END HORIZ CURVE	LEN - LENGTH	RGB - ROLLED GROOVE BELL	WCSTC - FW TESTABLE CARNEGIE SPIGOT w/GKT GROOVE REMOVED
BVC - BEGIN VERT CURVE	ELEV - ELEVATION	LL - LAY LENGTH	RGS - ROLLED GROOVE SPIGOT	WDCB - FW DEEP CARNEGIE BELL
C/L - CENTERLINE	EQU - EQUATION	LOT - LATERAL OUTLET	ROT - RADIAL OUTLET	WDCS - FW DEEP CARNEGIE SPIGOT
CB - COMBINED	EVC - END VERT CURVE	LS - LUMP SUM	RT - RIGHT	WDCSC - FW DEEP CARNEGIE SPIGOT w/GKT GROOVE REMOVED
CB - CARNEGIE BELL	FE150 - FLANGED END - CLASS 150	LS - LONG SIDE	S - SLOPE	WT - WEIGHT
CBT - TESTABLE CARNEGIE BELL	FE300 - FLANGED END - CLASS 300	LT - LEFT	S-200 - AWWA C200 PIPE	WXCB - FW EXTRA DEEP CARNEGIE BELL
CONC - CONCENTRIC	FED - FLANGED END - CLASS D	LWB - LAPWELD BELL	SCH - SCHEDULE	WXCS - FW EXTRA DEEP CARNEGIE SPIGOT
CPI - COMBINED POINT OF INTERSECT	FEE - FLANGED END - CLASS E	LWBT - LAPWELD BELL W/AIR TEST HOLE	SHT - SHEET	WXCS - FW EXTRA DEEP CARNEGIE SPIGOT w/GKT GROOVE REMOVED
CPLG - COUPLING	FEF - FLANGED END - CLASS F	LWS - LAPWELD SPIGOT	SPC - SPECIAL	XCB - EXTRA DEEP CARNEGIE BELL
CS - CARNEGIE SPIGOT	FOL - FLANGED OUTLET	LWST - LAPWELD SPIGOT W/AIR TEST HOLE	SRB - SNAP RING BELL	XCS - EXTRA DEEP CARNEGIE SPIGOT
CST - TESTABLE CARNEGIE SPIGOT	FT - FIELD TOP	MAX - MAXIMUM	SRBT - SNAP RING TESTABLE BELL	w/ - WITH
CTE - COAL TAR EPOXY	FTG - FITTING	MH - MANHOLE	SRS - SNAP RING SPIGOT	w/o - WITHOUT
CTF - CUT TO FIT	FW - FIELD WELD	MIN - MINIMUM	SRST - SNAP RING TESTABLE SPIGOT	
CTF - FIELD CUT-TO-FIT END	GKT - GASKET	NPT - NATIONAL PIPE THREAD	SS - STAINLESS STEEL	
CYL - CYLINDER	GR - GRADE	No - NUMBER	SS - SHORT SIDE	
DCB - DEEP CARNEGIE BELL	Ga - GAUGE	OAL - OVERALL LENGTH	STA - STATION	
DCS - DEEP CARNEGIE SPIGOT	HCB - HARNESS CLAMP BELL	OD - OUTSIDE DIAMETER	STD - STANDARD	

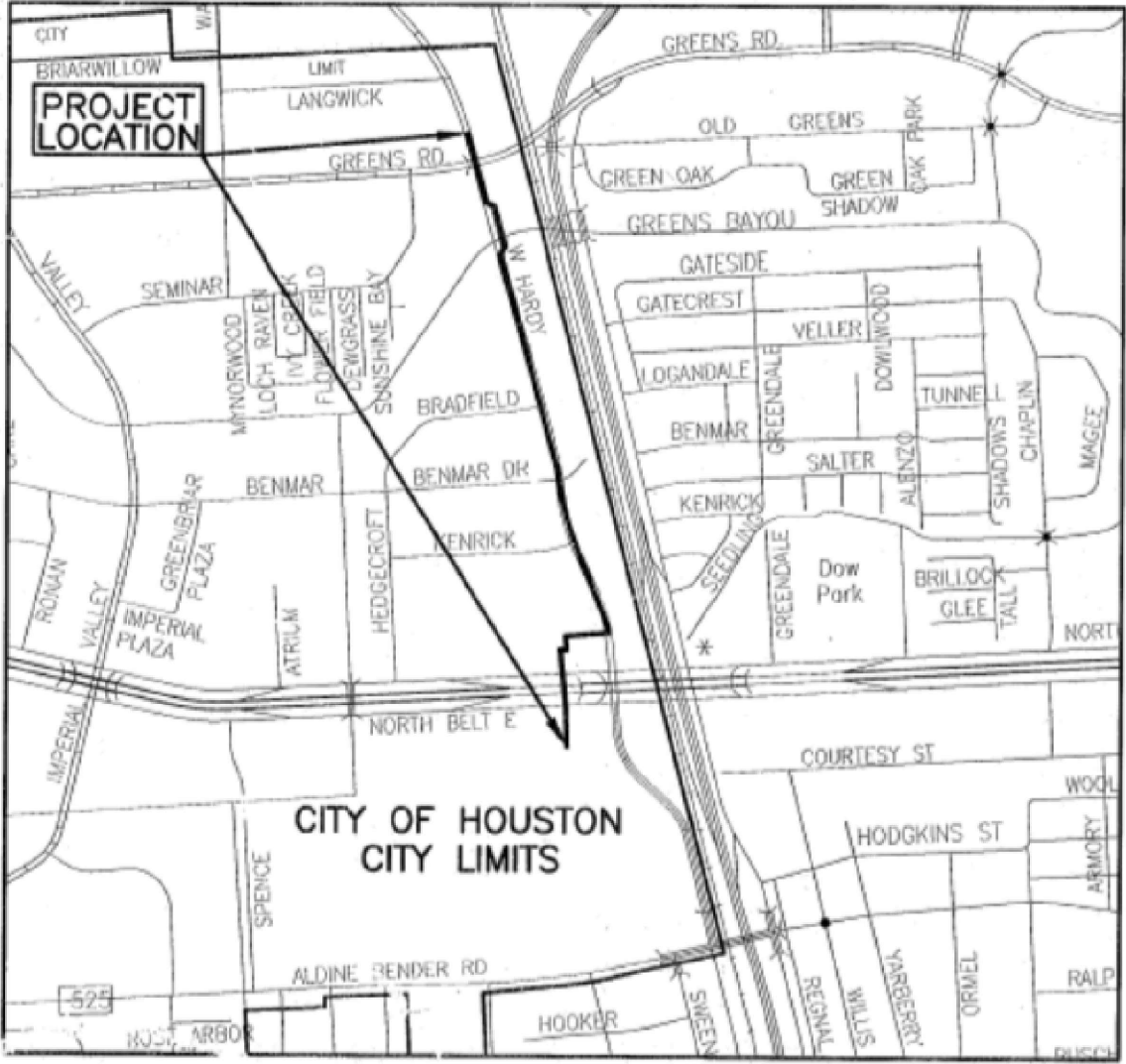
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ORIENTATION



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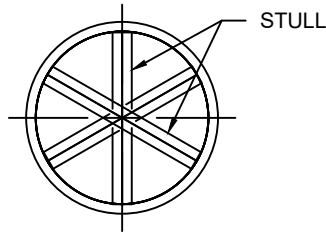


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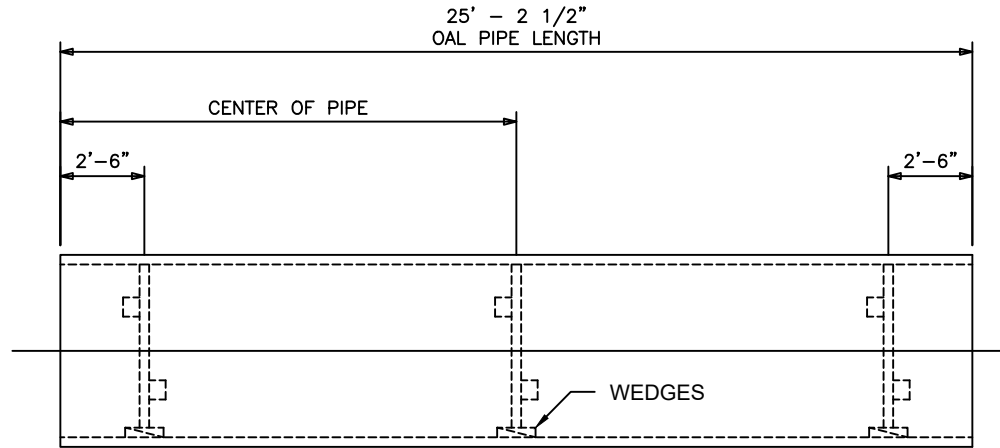
66-INCH WATER LINE INTERCONNECTION
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STULLING



4x4 6-POINT BRACING
(WITH WEDGES NAILED)

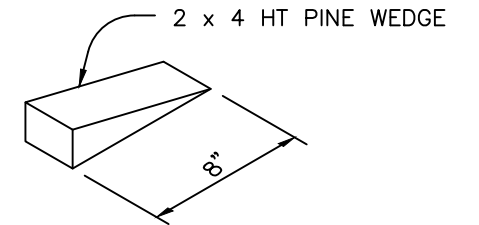


BRACING LOCATIONS

STANDARD PIPE LENGTH SHOWN

**NOTE: IF OAL PIPE LENGTH LESS THAN 15'-0":
NO CENTER STULL REQUIRED**

HT PINE STULLS	
4 x 4	
NOMINAL DIAMETER	LENGTH
66" EPOXY LINED	66"
66" MORTAR LINED	65"
54"	53"



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66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

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General Notes

1. Standard Specification:
AWWA C200, AWWA C205, AWWA C222, AWWA C210
2. All work to be done and all materials furnished shall be in accordance with these drawings and the job specifications. These drawings are based on current information and Thompson Pipe Group is not held responsible for improper alignment due to field conditions or laying methods which may cause the pipe to lay other than as shown. All service connections, tie-in locations, existing pipe outside diameters, outlet locations, etc. are to be verified by the Installation Contractor or Agency prior to returning these drawings marked 'Approved'. Fabrication will commence upon receipt of approved drawings.
3. All dimensions are nominal with fabrication tolerances as specified in the Thompson Pipe Group Quality Standards manual unless indicated otherwise in the Project Specifications or on the shop drawings.
4. For all beveled pipe mark the bevel angle and location of the long and short sides on the beveled end. On all specials and fittings, mark the field top centerline as shown on the shop drawings
5. Flange bolt holes are to straddle the vertical centerline of pipe.
6. Pipe stationing and elevations are given at the elevation reference displayed on the layout drawings. Pipes are to be laid in the directions shown on the layout drawings
7. Nuts, bolts and gasket will be provided and shipped loose for blind flanges attached directly to a flanged outlet or flanged end on Thompson supplied piping.
8. When the pipeline straddles or chords HPs and horizontal curves, the horizontal lengths will not always equal the station differences.
9. For welded steel pipe, shop circumferential joints shall be assembled such that seams in adjacent pipe sections are offset from each other by at least five times the thickness of the pipes being joined. Care shall be taken to ensure field joints shall also meet the above requirement.
10. All pipe and fittings are certified to the NSF 61 drinking water standard and shall be marked accordingly.
11. Pieces shall be studded as required. Pipe will be handled with wide non-abrasive slings, belts, or other equipment designed to prevent damage to the coating.
REF: SHEET G6

General Notes
(Con't)

12. Plastic end covers are required on all openings.
13. Pipe identification markings are to be 4" in height. Piece Numbers are to be placed on inside of both ends of every piece of pipe and fitting at time of shipping.
14. 14 day notice to project manager before start of coating or lining.

Material Specifications

Specifications below shall be of the latest revision:

1. Steel & Miscellaneous:
 - Sheet (WSP) - ASTM A1018 SS Grade 36, Type 1
 - Plate (WSP) - ASTM A36 or ASTM A516, Grade 70
 - Wire Mesh - ASTM A1064 - GALVANIZED.
 - Schedule pipe - ASTM A53, Type E or S, Grade B
 - Flanges (<=10") - ANSI B16.5
 - Flanges (>10") - AWWA C207-18.
 - Flange Bolts - ASTM A193, Grade B7 (heavy hex)
CADIUM PLATED.
 - Flange Nuts - ASTM A194, Grade 2H (heavy hex)
CADIUM PLATED.
 - Flange Gaskets - AWWA C207, FULL FACE, 1/8" CLOTH
INSERTED RUBBER.
2. Cement Mortar / Concrete: C205
 - Portland Cement - ASTM C150, Type I or II
 - Aggregates - ASTM C33
3. Polyurethane - AWWA C222

Shop Test Requirements

WSP

1. Steel for pipe greater than 1/2" thick shall be Charpy tested. Charpy V-notch (CVN) specimens shall be prepared and test results interpreted in accordance with ASTM A370. CVN shall be heat-lot tested; specimens shall be taken in the transverse direction at 30°F (-1°C) with a minimum average full size criteria of 25 ft.lbf
2. Pipe cylinders shall be hydrostatically tested in accordance with AWWA C200. The stress developed in the pipe wall during the hydrostatic test shall be 75% of the specified yield stress (31,500psi). Refer to the design sheets for specific test pressures.
3. Fittings weld seams shall be tested in accordance with AWWA C200, Section 5.2.2 except that any weld seams previously hydrotested shall undergo no further testing.
4. Pipe roundness to be within +/- 1%
5. Conduct weld tests at a maximum interval of once per 3000 feet of weld.
6. Perform x-ray, ultrasonic, magnetic particle, or dye penetrant testing per C200 of manual welds on special pipe and fittings.
7. Inspection for coating & linings to be supervised by a NACE LEVEL III inspector.
8. Compressive strength (7 & 28 day) test required for mortar lining.

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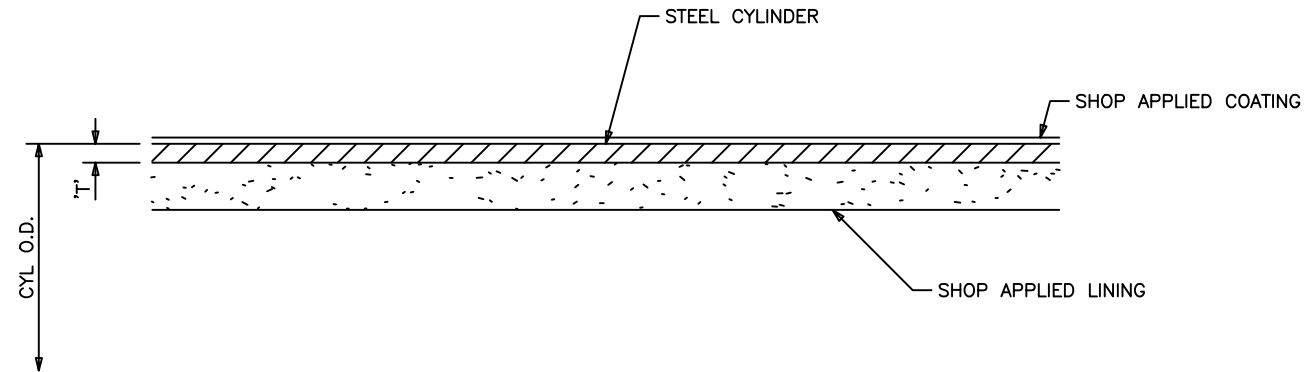
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S-200 WELDED STEEL PIPE


NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. SEE SHEET D1 FOR GENERAL NOTES, MATERIAL SPECIFICATIONS AND SHOP TESTING REQUIREMENTS.

LINING: C205 CEMENT MORTAR
 COATING: C222 POLYURETHANE



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ROW	STEEL CYLINDER												
	NOMINAL I.D. OF PIPE (IN)	DESIGN PRESSURE (PSI)	ALLOWABLE DEPTH OF COVER (FT)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS 'T'	CYL TEST PRES. (PSI)	CYLINDER WEIGHT (LBS/FT)	NOMINAL LINING THICKNESS (IN)	NOMINAL COATING THICKNESS (IN)	APPROXIMATE WEIGHT (LBS/FT)			
D3-A	66	150	19	67.666	0.333	311	239.5	1/2	25 MILS	371			
NO.	REVISION			DATE	BY	CHK			66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX				
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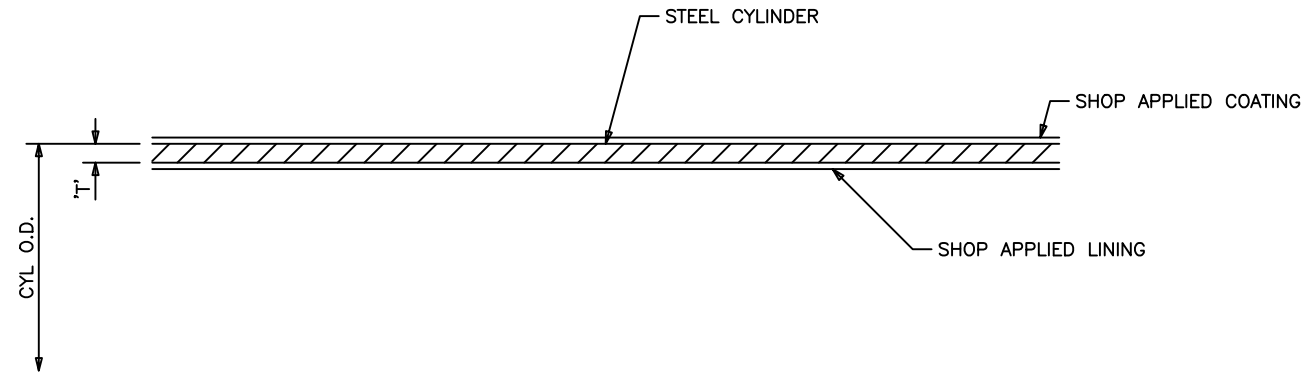
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S-200 WELDED STEEL PIPE


NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. SEE SHEET D1 FOR GENERAL NOTES, MATERIAL SPECIFICATIONS AND SHOP TESTING REQUIREMENTS.

LINING: C210 EPOXY
 COATING: C222 POLYURETHANE



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ROW	STEEL CYLINDER												
	NOMINAL I.D. OF PIPE (IN)	DESIGN PRESSURE (PSI)	ALLOWABLE DEPTH OF COVER (FT)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS 'T'	CYL TEST PRES. (PSI)	CYLINDER WEIGHT (LBS/FT)	NOMINAL LINING THICKNESS (IN)	NOMINAL COATING THICKNESS (IN)	APPROXIMATE WEIGHT (LBS/FT)			
D4-A	66	150	19	67.666	0.333	311	239.5	5/8	25 MILS	387			
							66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX						
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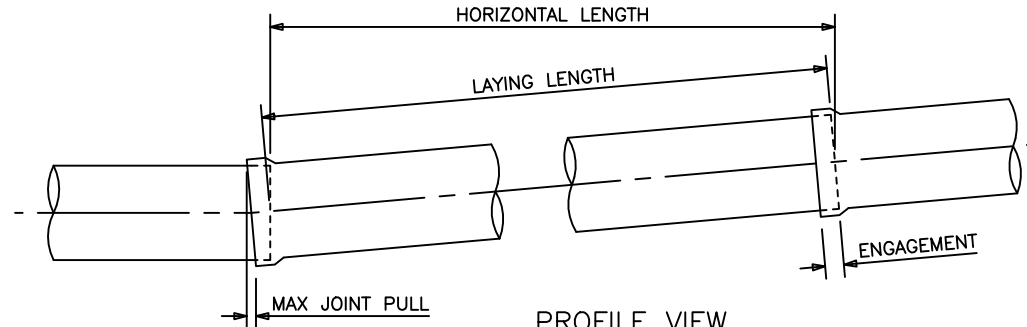
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LAP INSIDE WELD

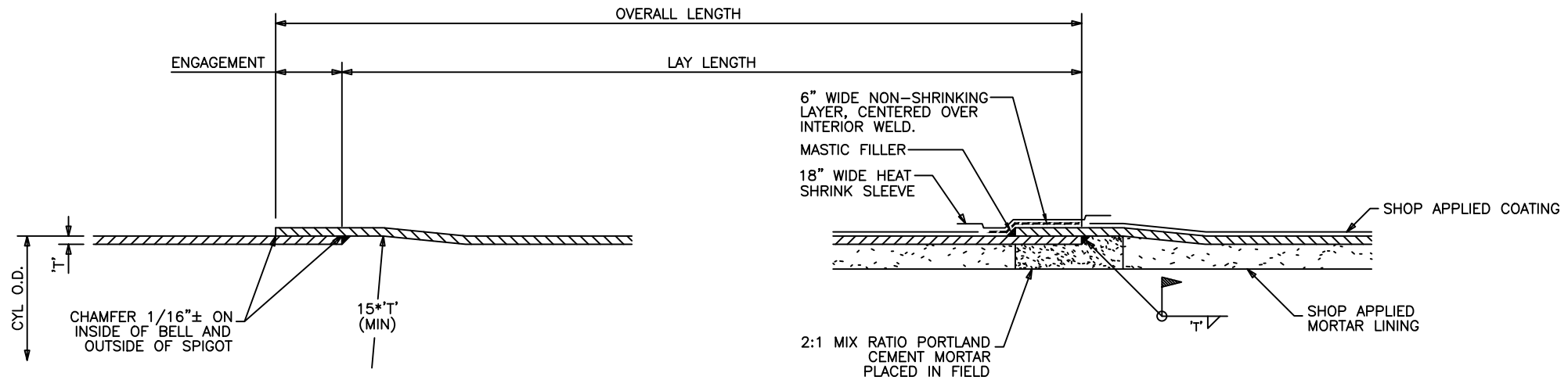
NOTES:

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
2. SEE SHOP DRAWINGS FOR SPECIFIC END PREPARATION REQUIREMENTS AT PIPE ENDS.
3. SEE PROJECT PLANS AND SPECIFICATIONS FOR LINING AND COATING REPAIR AT PIPE JOINTS
4. BELL I.D. TO SPIGOT O.D. TOLERANCE = 0.00" TO 0.125"

LINING: C205 CEMENT MORTAR
COATING: C222 POLYURETHANE



PROFILE VIEW
LENGTHS SHOWN ARE ALONG CENTERLINE FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL LENGTHS ARE SHOWN ON THE LAYOUT DRAWINGS.



ROW	STEEL CYLINDER					
	NOMINAL I.D. OF PIPE (IN)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS T	ENGAGEMENT (IN)	MAX JOINT PULL (IN)	MAX JOINT PULL (DEG)
D5-A	66	67.666	0.333	2	3/4	0.64°
D5-B	54	55.625	0.313	2	3/4	0.77°

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66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

SCALE: NONE	DRAWN: MD	MD	9/10/20	QUOTE: 131014-158	200036	D5
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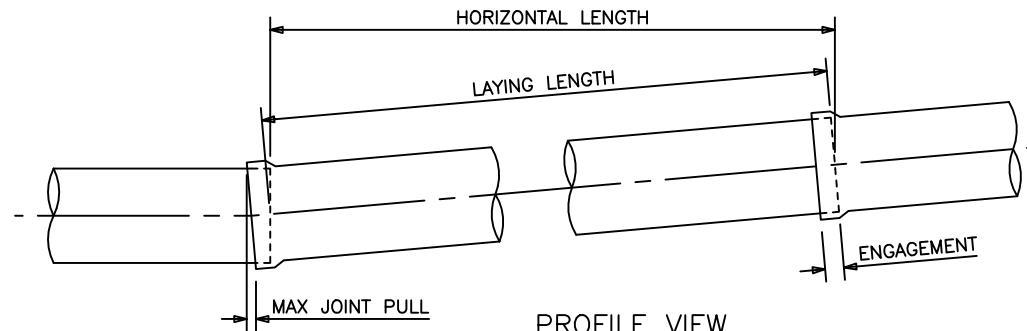
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LAP INSIDE WELD

NOTES:

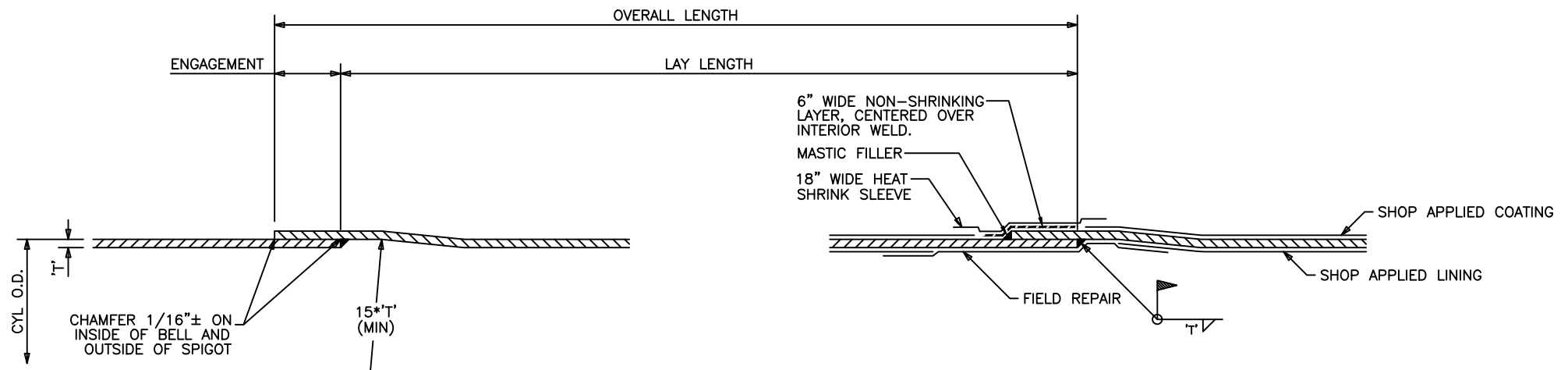
1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
2. SEE SHOP DRAWINGS FOR SPECIFIC END PREPARATION REQUIREMENTS AT PIPE ENDS.
3. SEE PROJECT PLANS AND SPECIFICATIONS FOR LINING AND COATING REPAIR AT PIPE JOINTS
4. BELL I.D. TO SPIGOT O.D. TOLERANCE = 0.00" TO 0.125"

LINING: C210 EPOXY
COATING: C222 POLYURETHANE



PROFILE VIEW

LENGTHS SHOWN ARE ALONG CENTERLINE FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL LENGTHS ARE SHOWN ON THE LAYOUT DRAWINGS.



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ROW	STEEL CYLINDER					
	NOMINAL I.D. OF PIPE (IN)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS	ENGAGEMENT (IN)	MAX JOINT PULL (IN)	MAX JOINT PULL (DEG)
D6-A	66	67.666	0.333	2	3/4	0.64°

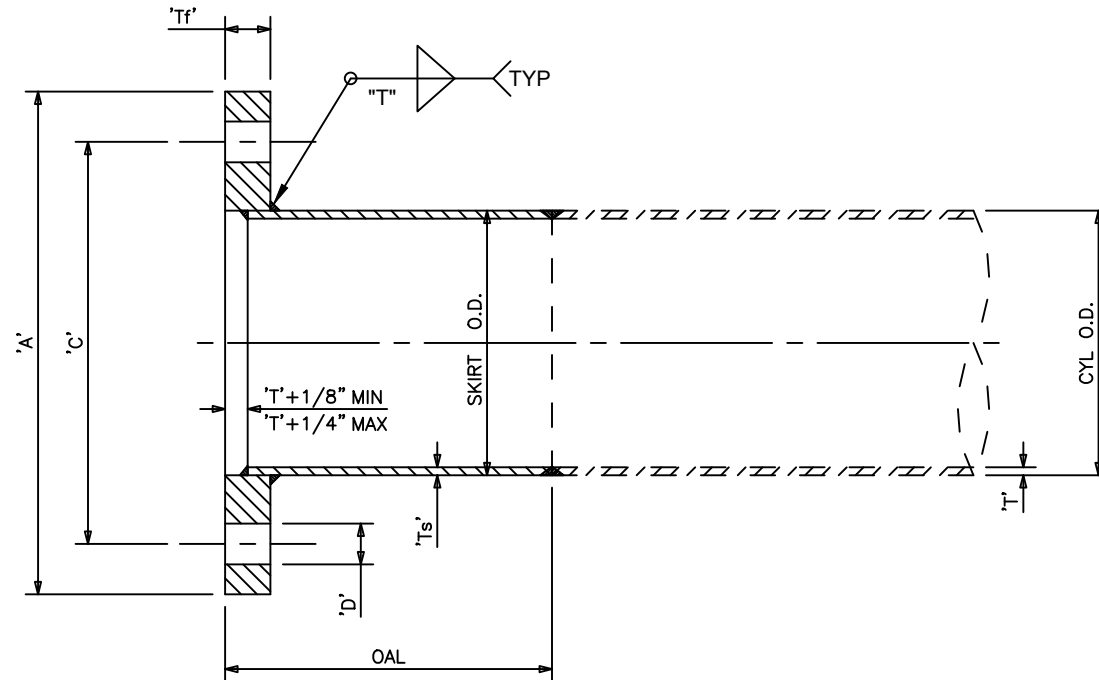
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SKIRTED RING FLANGE

NOTES:

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
2. SEE SHOP DRAWINGS FOR SPECIFIC END PREPARATION REQUIREMENTS AT PIPE ENDS.
3. FLANGE TO BE IN ACCORDANCE WITH AWWA C207
4. FACING OF FLANGE SHALL BE IN ACCORDANCE WITH C207 EXCEPT THAT FINAL MACHINING OF THE FLANGE SHALL BE DONE ONLY AFTER ALL WELDING TO THE PIPE SKIRT IS COMPLETED. FLANGES SHALL BE FACED NORMAL TO THE LONGITUDINAL AXIS.



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ROW	STEEL CYLINDER			FLANGE DATA							SKIRT	
	NOMINAL I.D. OF PIPE (IN)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS 'T'	CLASS	OVERALL LENGTH (IN)	FLANGE O.D. 'A'	NUMBER OF BOLT HOLES	BOLT CIRCLE DIAMETER 'C'	BOLT HOLE DIAMETER 'D'	FLANGE THICKNESS 'Tf'	SKIRT O.D. (IN)	THICKNESS 'Ts' (IN)
D7-A	66	67 21/32	11/32	D	12.0	80.0	52	76.0	1.875	2.5	67 21/32	3/8
D7-B	54	55 5/8	5/16	D	12.0	66.25	44	62.75	1.875	2.125	55 5/8	5/16
D7-C	24	25 3/4	3/8	D	10.0	32.0	20	29.5	1.375	1.25	25 3/4	3/8

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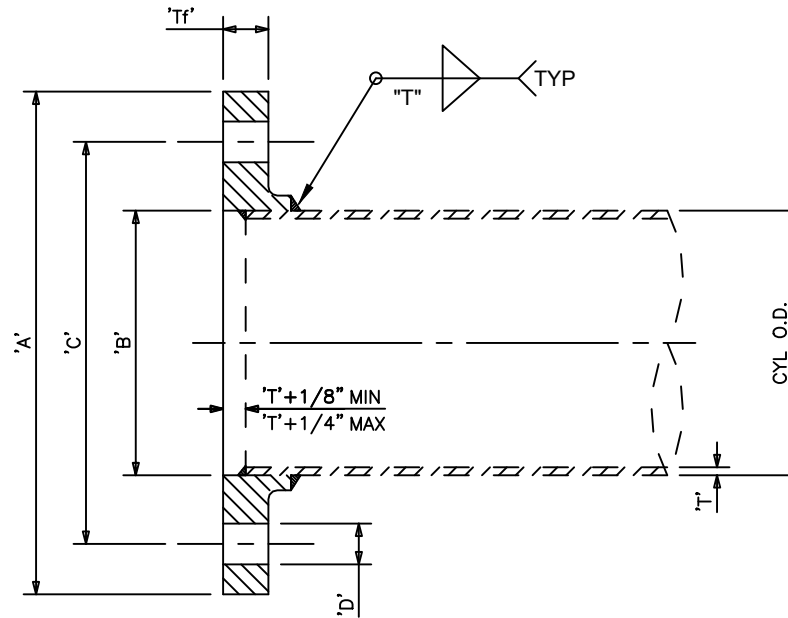


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CHECKED:			200036
			D7

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SLIP-ON FLANGE

- NOTES:
 1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
 2. SEE SHOP DRAWINGS FOR SPECIFIC END PREPARATION REQUIREMENTS AT PIPE ENDS.
 3. FLANGE TO BE IN ACCORDANCE WITH ANSI B16.5



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ROW	NOMINAL I.D. OF PIPE (IN)	STEEL CYLINDER		FLANGE DATA							
		O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS 'T'	CLASS	FACE	FLANGE O.D. 'A'	FLANGE I.D. 'B'	NUMBER OF BOLT HOLES	BOLT CIRCLE DIAMETER 'C'	BOLT HOLE DIAMETER 'D'	FLANGE THICKNESS 'Tf'
D8-A	6	6 5/8	SCH 80	150	FLAT	11.0	6.720	8	9.5	0.875	1.0
D8-B	4	4 1/2	SCH 40	150	FLAT	9.0	4.570	8	7.5	0.750	0.9375
D8-C	6	6 5/8	SCH 40	150	FLAT	11.0	6.720	8	9.5	0.875	1.0

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SCALE: NONE			D8

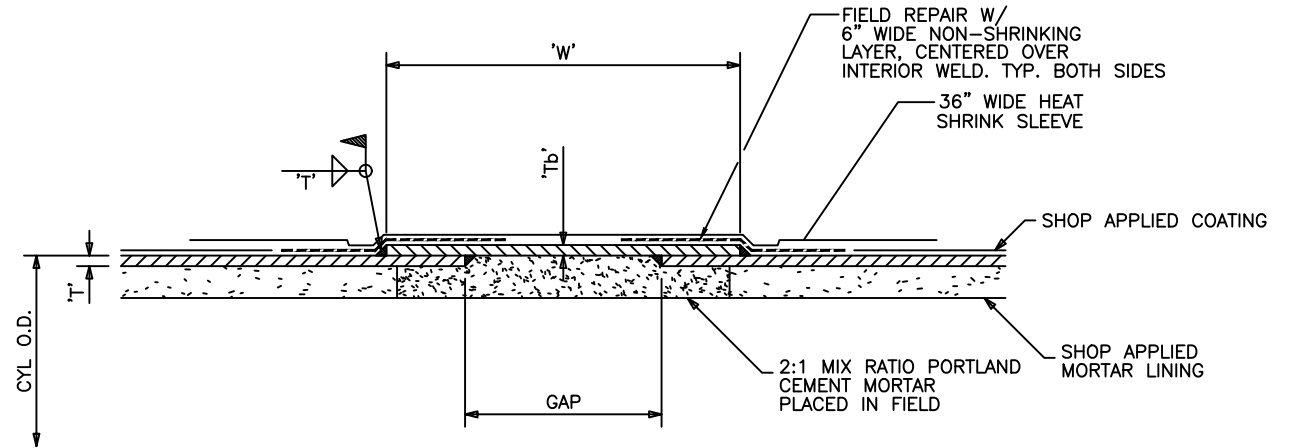
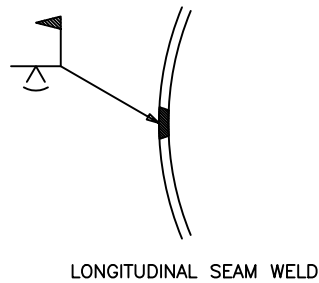
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BUTTSTRAP DOUBLE WELD

NOTES:

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2. SEE SHOP DRAWINGS FOR SPECIFIC END PREPARATION REQUIREMENTS AT PIPE ENDS.
3. SEE PROJECT PLANS AND SPECIFICATIONS FOR LINING AND COATING REPAIR AT PIPE JOINTS

LINING: C205 CEMENT MORTAR
COATING: C222 POLYURETHANE



ROW	STEEL CYLINDER			BUTTSTRAP		
	NOMINAL I.D. OF PIPE (IN)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS T	LAYOUT GAP (IN)	WIDTH 'W' (IN)	THICKNESS 'Tb' (IN)
D10-A	66	67.666	0.333	5.000	12.000	0.375
D10-B	54	55.625	0.313	5.000	12.000	0.313

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036 D10

CAD File: 200036-D10.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:48 PM

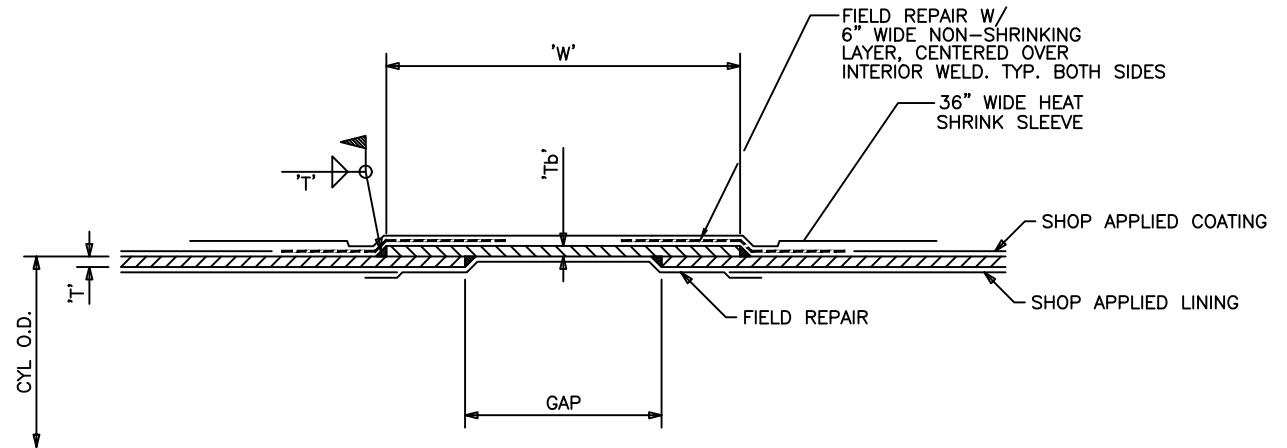
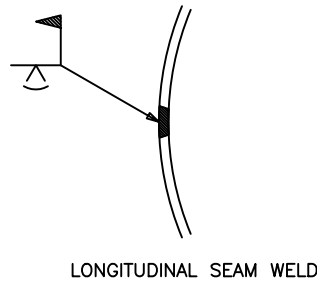
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BUTTSTRAP DOUBLE WELD

NOTES:

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
2. SEE SHOP DRAWINGS FOR SPECIFIC END PREPARATION REQUIREMENTS AT PIPE ENDS.
3. SEE PROJECT PLANS AND SPECIFICATIONS FOR LINING AND COATING REPAIR AT PIPE JOINTS

LINING: C210 EPOXY
COATING: C222 POLYURETHANE



ROW	STEEL CYLINDER			BUTTSTRAP		
	NOMINAL I.D. OF PIPE (IN)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS T	LAYOUT GAP (IN)	WIDTH 'W' (IN)	THICKNESS 'Tb' (IN)
D11-A	66	67.666	0.333	5.000	12.000	0.626

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX				DRAWN MD	9/10/20	QUOTE: 131014-158	200036	D11
				SCALE: NONE	CHECKED	131014-158	200036	D11

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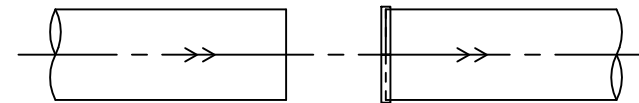
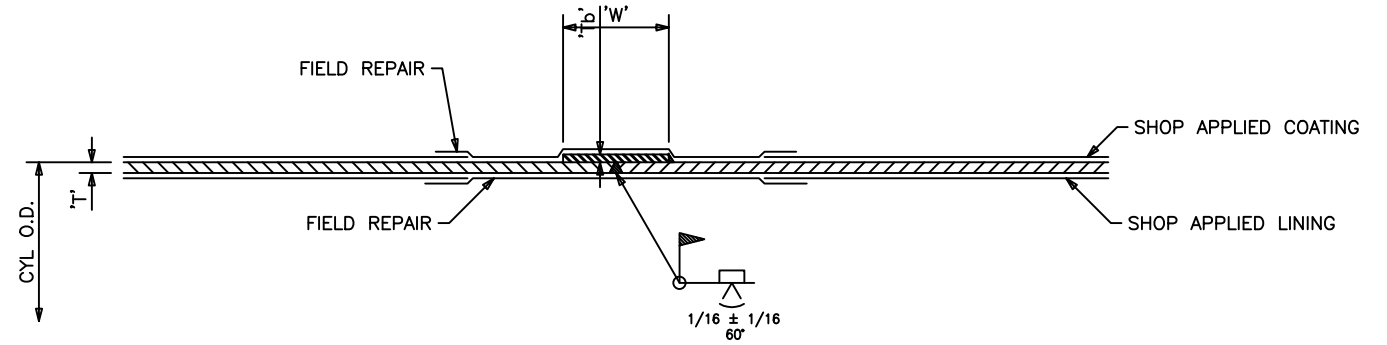
BUTTWELD w/OUTSIDE BACKING BAR

NOTES:

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
2. SEE SHOP DRAWINGS FOR SPECIFIC END PREPARATION REQUIREMENTS AT PIPE ENDS.
3. SEE PROJECT PLANS AND SPECIFICATIONS FOR LINING AND COATING REPAIR AT PIPE JOINTS
3. BACKING BAR HALVES TO BE PLACED ON ONE ONE SIDE OF PIECE REFERENCED ON 'S' SHEET.

EDGE PREP: INSIDE BEVEL

LINING: C210 EPOXY
COATING: C222 POLYURETHANE



BACKING BAR ALIGNMENT

ROW	STEEL CYLINDER		BACKING BAR			
	NOMINAL I.D. OF PIPE (IN)	GAUGE OR THICKNESS 'T'	WIDTH 'W' (IN)	THICKNESS 'Tb' (IN)		
D12-A	66	0.625	2.00	0.250		

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
DRAWN	MD	9/10/20	QUOTE:
CHECKED			131014-158
SCALE: NONE			200036

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D12

SKIRTED RING FLANGE OUTLET w/COLLAR

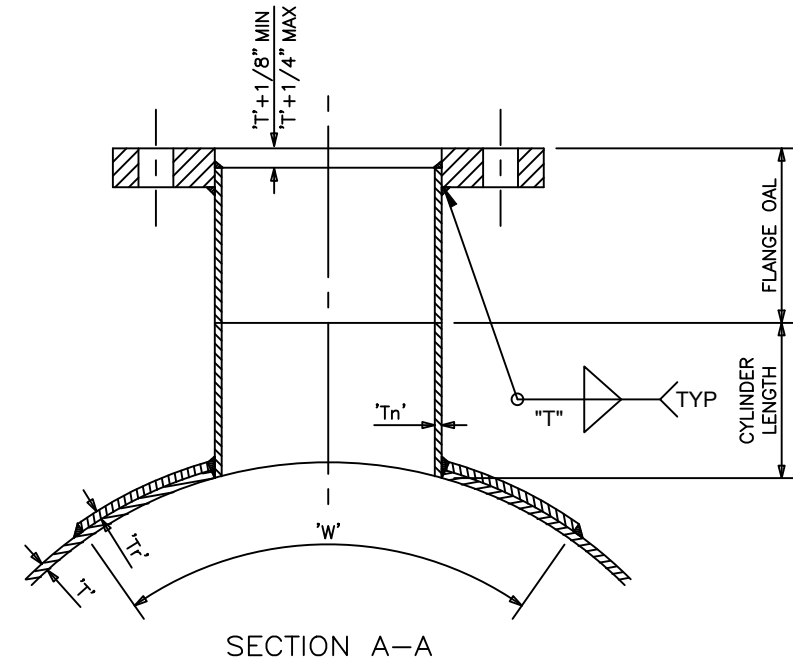
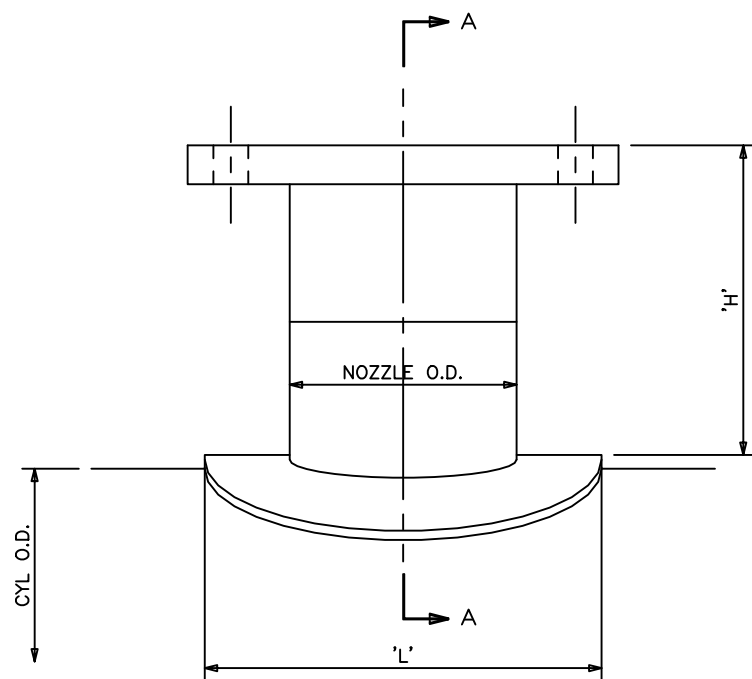
NOTES:

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
2. FLANGE TO BE TWO-HOLED ON RUN AXIS UNLESS OTHERWISE SHOWN ON MARK No DWG.
3. OUTLET PIPE SHOWN AT 90 DEG TO RUN PIPE. SEE MARK No DWG FOR ANGLES OTHER THAN 90 DEG.

OUTLET LINING: C205 CEMENT MORTAR
 OUTLET COATING: C222 POLYURETHANE

FLG EDGE & BACK: C222 POLYURETHANE
 FLG MACHINED FACE: SHOP PRIMER

FED	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	FLUSH	



CAD File: 200036-D13.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:48 PM

ROW	STEEL CYLINDER			NOZZLE				SKIRTED FLANGE				REINFORCING			
	NOMINAL I.D. OF PIPE (IN)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS 'T'	O.D. (IN)	THICKNESS 'Tn' (IN)	HEIGHT 'H' (IN)	CYLINDER LENGTH (IN)	CLASS	SKIRT O.D. (IN)	THICKNESS 'Ts' (IN)	SKIRTED FLANGE OAL (IN)	REF SHT	THICKNESS 'Tr' (IN)	CIRCUMFERENTIAL WIDTH 'W' (IN)	LENGTH 'L' (IN)
D13-A	66	67.666	0.333	25 3/4	3/8	21.56	14.66	D	25 3/4	3/8	10.00	D7-C	3/16	43.75	43.25
D13-B	54	55.625	0.313	25 3/4	3/8	21.56	15.26	D	25 3/4	3/8	10.00	D7-C	3/16	43.75	43.25

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

SCALE: NONE	DRAWN: MD	MD	9/10/20	QUOTE: 131014-158	200036	D13
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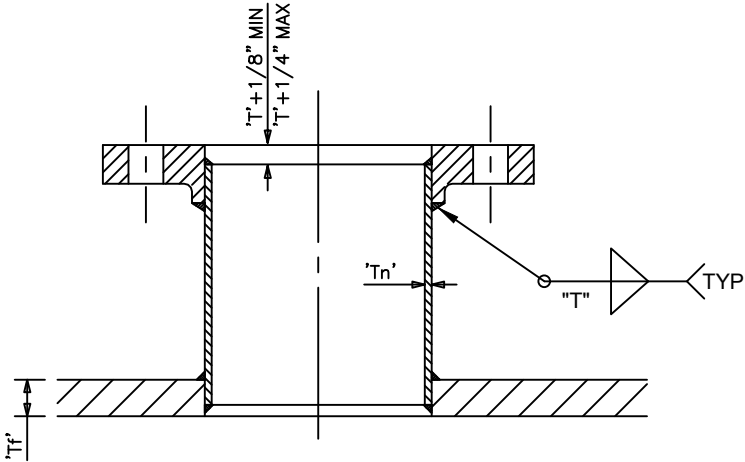
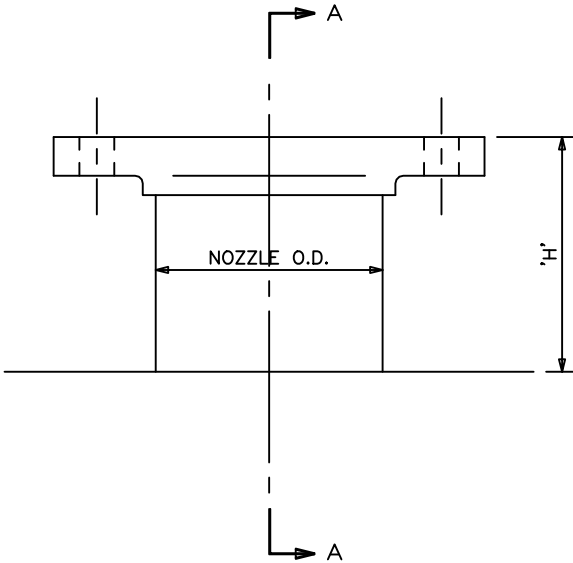
SLIP-ON FLANGE OUTLET

- NOTES:
 1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
 2. FLANGE TO BE TWO-HOLED ON RUN AXIS UNLESS OTHERWISE SHOWN ON MARK No DWG.

OUTSIDE FINISH: C222 POLYURETHANE
 INSIDE FINISH: C210 EPOXY

FLG EDGE & BACK: UNCOATED
 FLG MACHINED FACE: UNCOATED

FE150 HOLDBACK GRIND
 INTERIOR
 EXTERIOR



ROW	BLIND FLANGE			NOZZLE				FLANGE DATA		
	NOMINAL DIAMETER (IN)	CLASS	THICKNESS "Tf"	O.D. (IN)	THICKNESS "Tn" (IN)	HEIGHT "H" (IN)	CYLINDER LENGTH (IN)	NOMINAL DIAMETER (IN)	CLASS	FLANGE REF SHEET
D14-A	24	D	1.661	6 5/8	SCH 80	6.00	6.55	6	150	D8-A
D14-B	24	D	1.661	6 5/8	SCH 40	6.00		6	150	D8-C

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			D14

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SLIP-ON FLANGE OUTLET w/COLLAR

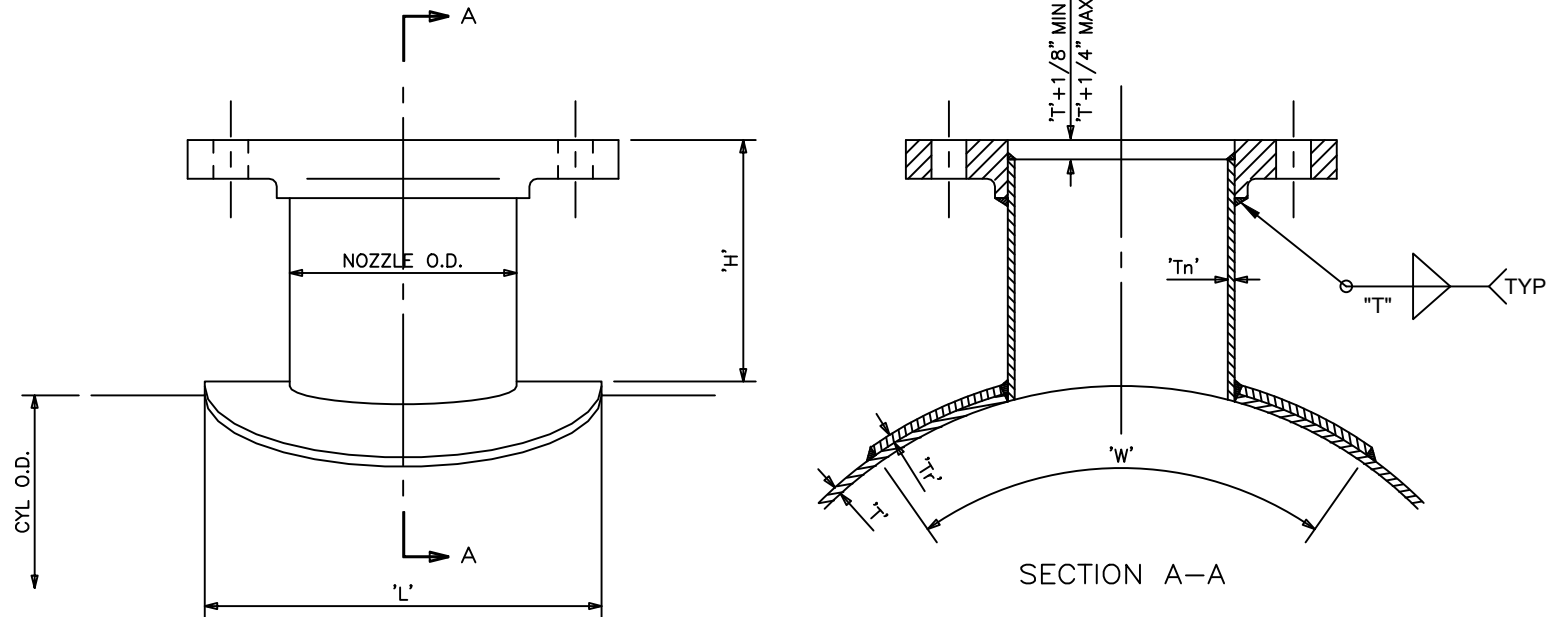
NOTES:

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
2. FLANGE TO BE TWO-HOLED ON RUN AXIS UNLESS OTHERWISE SHOWN ON MARK No DWG.
3. OUTLET PIPE SHOWN AT 90 DEG TO RUN PIPE. SEE MARK No DWG FOR ANGLES OTHER THAN 90 DEG.

OUTLET LINING: C205 CEMENT MORTAR
 OUTLET COATING: C222 POLYURETHANE

FLG EDGE & BACK: UNCOATED
 FLG MACHINED FACE: UNCOATED

FE150	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6	



CAD File: 200036-D15.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:48 PM

ROW	NOMINAL I.D. OF PIPE (IN)	STEEL CYLINDER		NOZZLE				REINFORCING			FLANGE DATA		
		O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS 'T'	O.D. (IN)	THICKNESS 'Tr' (IN)	HEIGHT 'H' (IN)	CYLINDER LENGTH (IN)	THICKNESS 'Tr' (IN)	CIRCUMFERENTIAL WIDTH 'W' (IN)	LENGTH 'L' (IN)	NOMINAL DIAMETER (IN)	CLASS	FLANGE REF SHEET
D15-A	66	67.666	0.333	4 1/2	SCH 40	6.00	6.23	3/16	7.75	7.50	4	150	D8-B
D15-B	54	55.625	0.313	4 1/2	SCH 40	6.00	6.23	3/16	7.75	7.50	4	150	D8-B

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
DRAWN	MD	9/10/20	QUOTE:
CHECKED			131014-158
SCALE: NONE			200036
			D15

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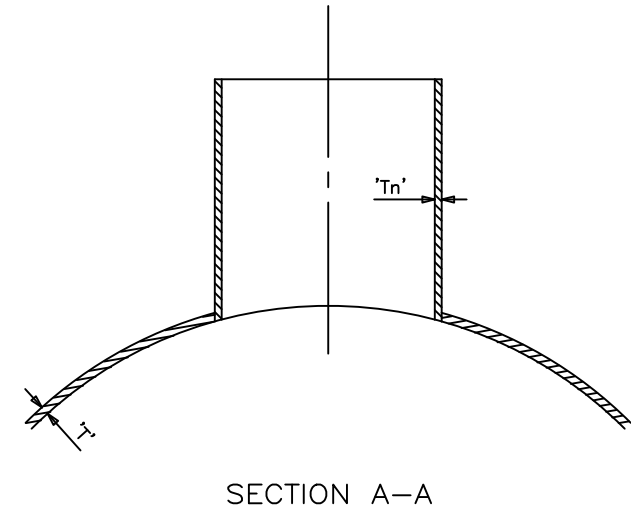
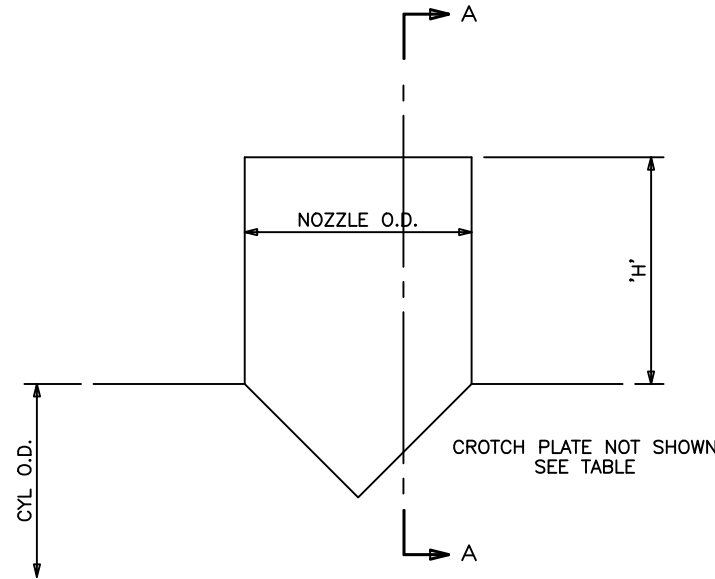
PLAIN END OUTLET w/CROTCH PLATE

NOTES:

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
2. OUTLET PIPE SHOWN AT 90 DEG TO RUN PIPE. SEE MARK No DWG FOR ANGLES OTHER THAN 90 DEG.

OUTLET LINING: C210 EPOXY
 OUTLET COATING: C222 POLYURETHANE

PE	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0



ROW	STEEL CYLINDER			NOZZLE				REINFORCING		
	NOMINAL I.D. OF PIPE (IN)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS 'T' (IN)	O.D. (IN)	THICKNESS 'Tn' (IN)	HEIGHT 'H' (IN)	JOINT	CYLINDER LENGTH (IN)	THICKNESS 'Tr' (IN)	REF SHT
D16-A	66	67.666	0.625	67 21/32	5/8	32.17	PLAIN END	66.60	1 1/2	D21-A

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NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX				SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158	200036	D16
				CHECKED:					

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SKIRTED RING FLANGE OUTLET

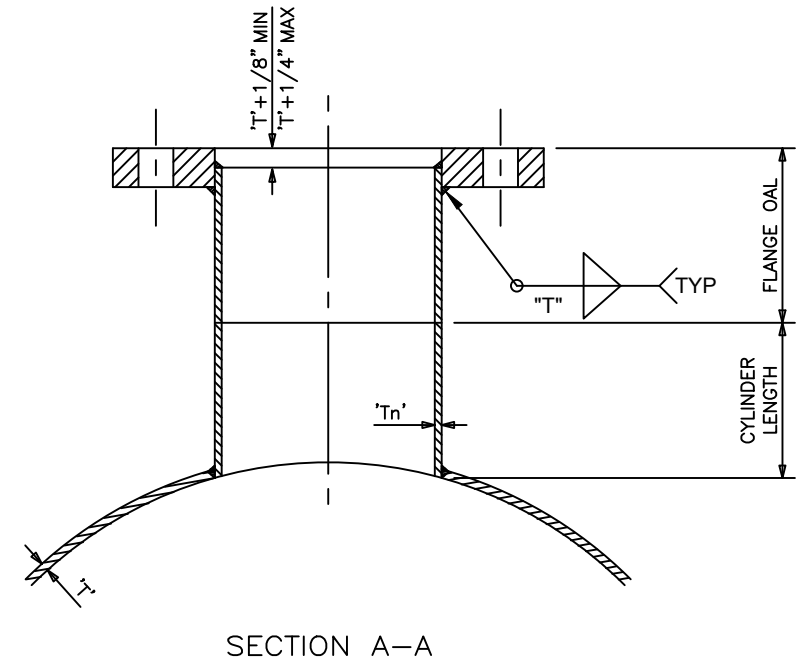
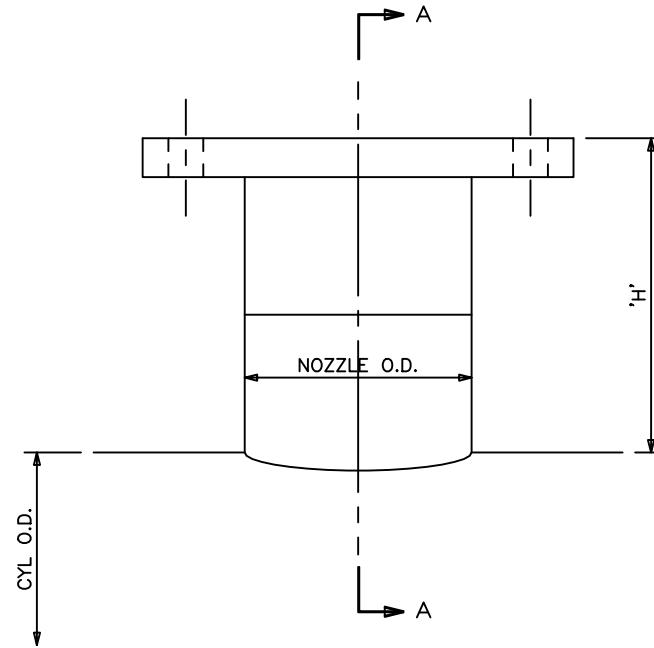
NOTES:

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
2. FLANGE TO BE TWO-HOLED ON RUN AXIS UNLESS OTHERWISE SHOWN ON MARK No DWG.

OUTSIDE FINISH: C222 POLYURETHANE
INSIDE FINISH: C210 EPOXY

FLG EDGE & BACK: C222 POLYURETHANE
FLG MACHINED FACE: SHOP PRIMER

FED	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6	



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ROW	STEEL CYLINDER			NOZZLE				SKIRTED FLANGE				
	NOMINAL I.D. OF PIPE (IN)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS 'T'	O.D. (IN)	THICKNESS 'Tn' (IN)	HEIGHT 'H' (IN)	CYLINDER LENGTH (IN)	CLASS	SKIRT O.D. (IN)	THICKNESS 'Ts' (IN)	SKIRTED FLANGE OAL (IN)	REF SHT
D17-A				25 3/4	3/8	24.00		D	25 3/4	3/8	10.00	D7-C

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX				SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158	200036	D17
				CHECKED:					

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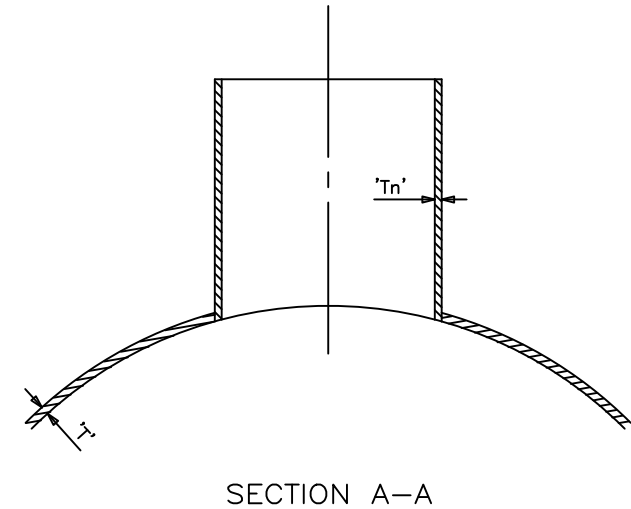
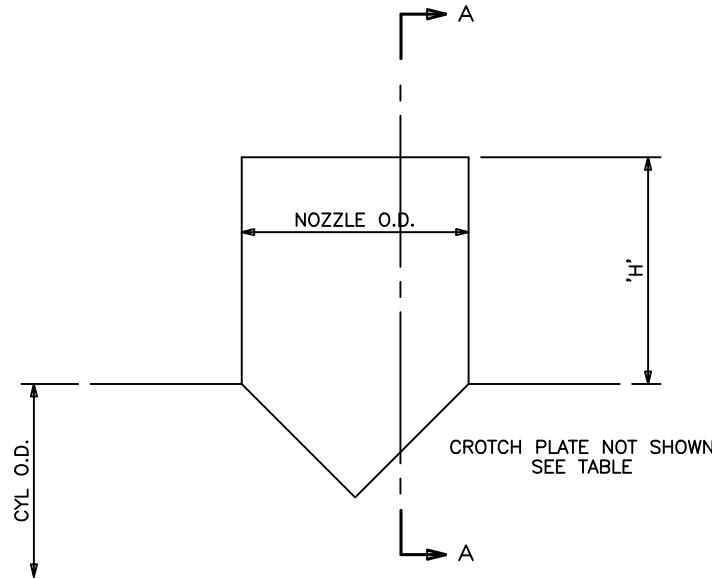
PLAIN END OUTLET w/CROTCH PLATE

NOTES:

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
2. OUTLET PIPE SHOWN AT 90 DEG TO RUN PIPE. SEE MARK No DWG FOR ANGLES OTHER THAN 90 DEG.

OUTLET LINING: C205 CEMENT MORTAR
 OUTLET COATING: C222 POLYURETHANE


PE	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0



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ROW	STEEL CYLINDER			NOZZLE				REINFORCING		
	NOMINAL I.D. OF PIPE (IN)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS 'T' (IN)	O.D. (IN)	THICKNESS 'Tn' (IN)	HEIGHT 'H' (IN)	JOINT	CYLINDER LENGTH (IN)	THICKNESS 'Tr' (IN)	REF SHT
D18-A	66	67.666	0.333	67 21/32	11/32	24.00	PLAIN END	58.43	1 1/2	D21-B

NO.	REVISION	DATE	BY	CHK



THOMPSON
PIPE GROUP
PRESSURE

66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

SCALE:	NONE
CHECKED	

DRAWN	MD	9/10/20
QUOTE:	131014-158	

200036

D18

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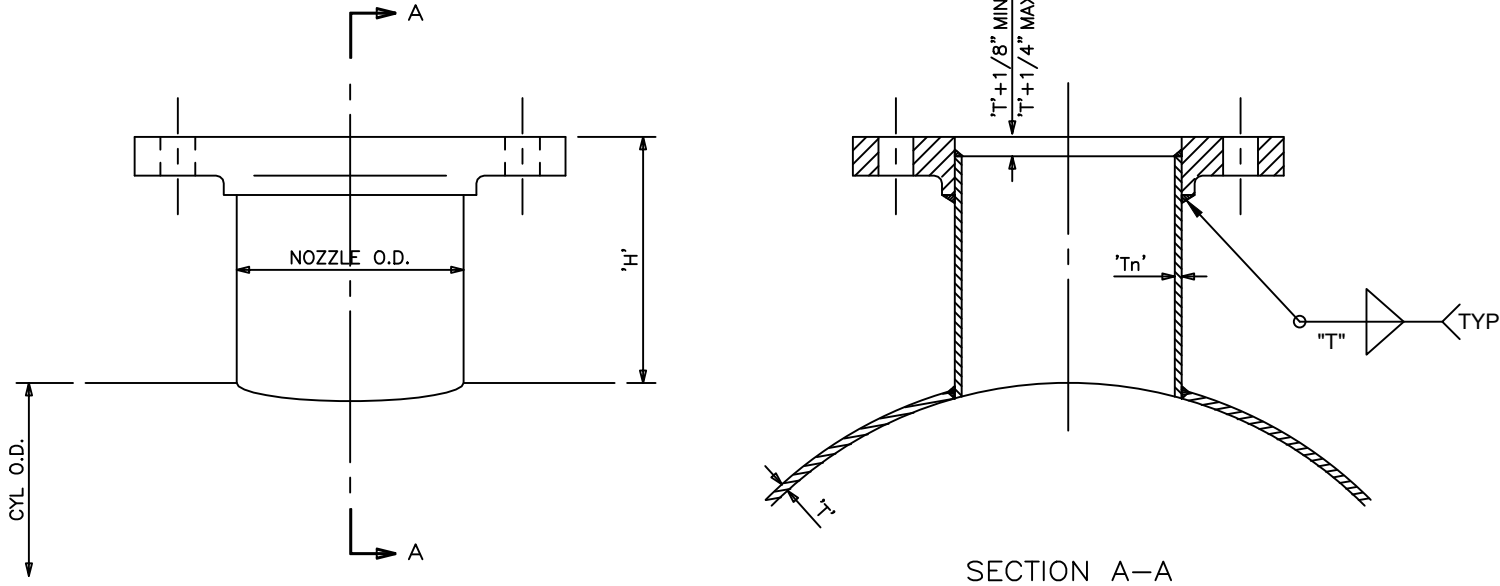
SLIP-ON FLANGE OUTLET

- NOTES:
 1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
 2. FLANGE TO BE TWO-HOLED ON RUN AXIS UNLESS OTHERWISE SHOWN ON MARK No DWG.

OUTSIDE FINISH: C222 POLYURETHANE
 INSIDE FINISH: C205 CEMENT MORTAR

FLG EDGE & BACK: C222 POLYURETHANE
 FLG MACHINED FACE: SHOP PRIMER

FE150	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6	



ROW	STEEL CYLINDER			NOZZLE			FLANGE DATA			
	NOMINAL I.D. OF PIPE (IN)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS 'T'	O.D. (IN)	THICKNESS 'Tn' (IN)	HEIGHT 'H' (IN)	CYLINDER LENGTH (IN)	NOMINAL DIAMETER (IN)	CLASS	FLANGE REF SHEET
D19-A				6 5/8	SCH 40	6.00		6	150	D8-C

NO.	REVISION	DATE	BY	CHK

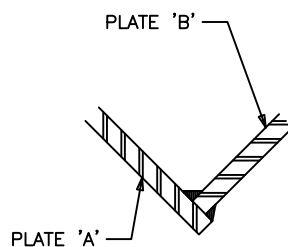
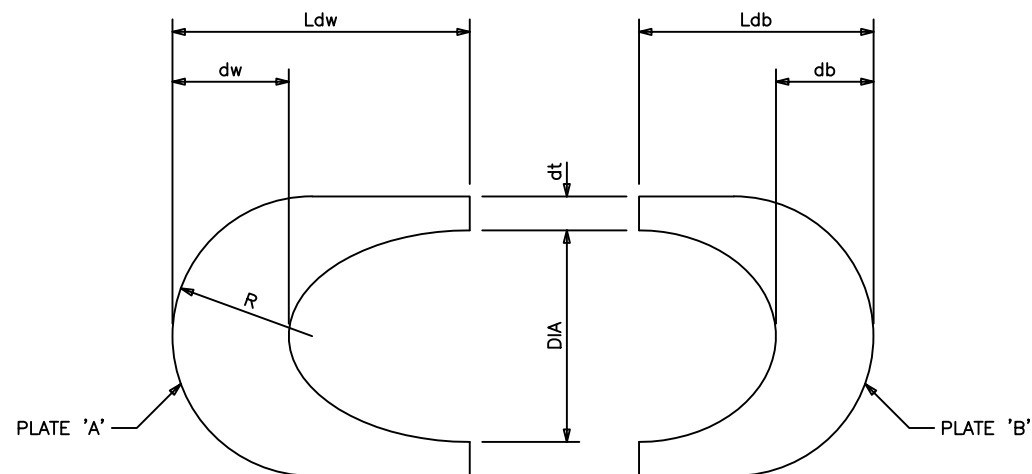
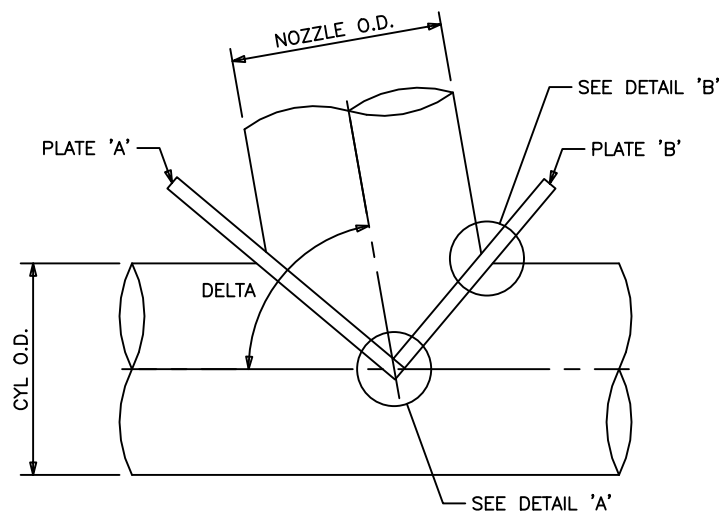


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			D19

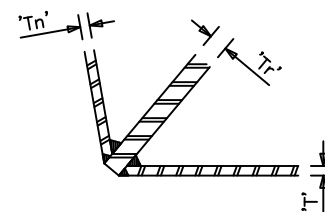
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TWO-PIECE CROTCH PLATE



DETAIL 'A'



DETAIL 'B'

NOTES:
1. ALL DIMENSIONS ARE IN INCHES.

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ROW	STEEL CYLINDER			NOZZLE			REINFORCING							
	NOMINAL I.D. OF PIPE (IN)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS 'T'	O.D. (IN)	THICKNESS 'Tr' (IN)	DELTA	THICKNESS 'Tr' (IN)	'dw' (IN)	'db' (IN)	'dt' (IN)	'Ldw' (IN)	'Ldb' (IN)	'R' (IN)	INSIDE DIAMETER (IN)
D21-A	66	67.666	0.625	67 21/32	5/8	90.0°	1 1/2	29.050	29.050	11.600	77.513	76.013	44.808	66.416
D21-B	66	67.666	0.333	67 21/32	11/32	90.0°	1 1/2	29.050	29.050	11.600	77.926	76.426	45.1	67.0

NO.	REVISION	DATE	BY	CHK



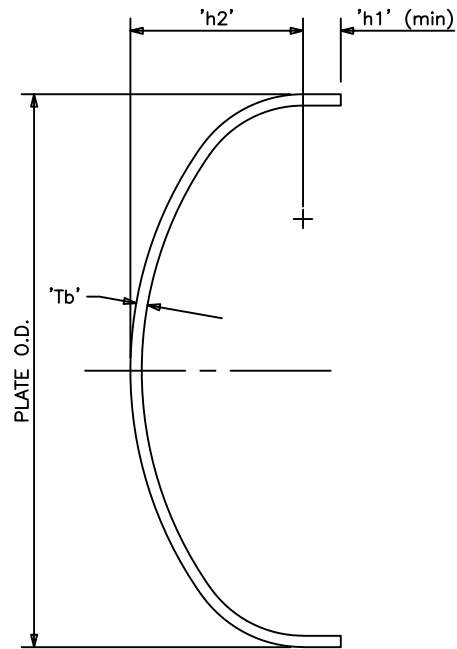
66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX				SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158	200036 D21
				CHECKED:				

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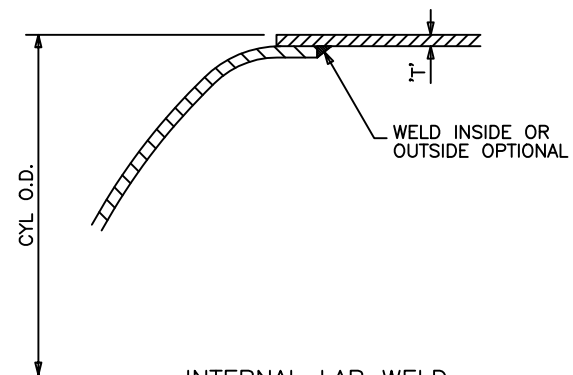
SEMI-ELLIPTICAL HEAD

NOTES:
1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

INSIDE FINISH: C210 EPOXY
OUTSIDE FINISH: C222 POLYURETHANE



SEMI-ELLIPTICAL



INTERNAL LAP WELD

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ROW	STEEL CYLINDER						
	NOMINAL I.D. OF PIPE (IN)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS 'T'	PLATE O.D. (IN)	MIN THICKNESS 'Tb'	DIMENSION 'h1' (IN)	DIMENSION 'h2' (IN)
D22-A	66	67.666	0.625	66 5/16	0.276	2.00	16.729

NO.	REVISION	DATE	BY	CHK



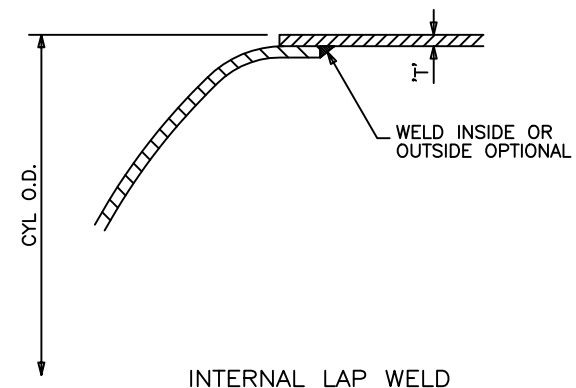
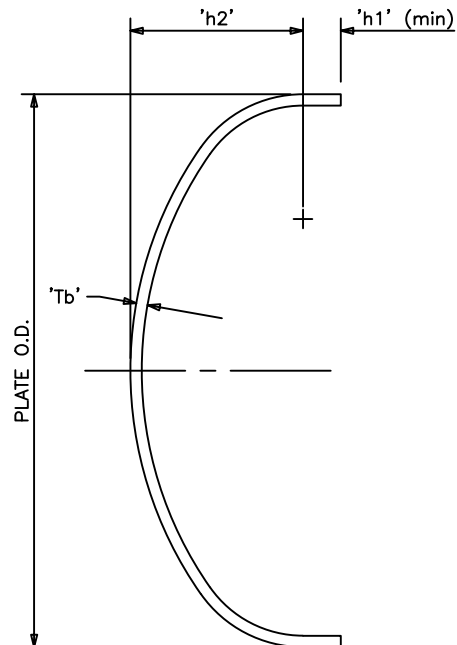
66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			D22

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SEMI-ELLIPTICAL HEAD

NOTES:
1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

INSIDE FINISH: C205 CEMENT MORTAR
OUTSIDE FINISH: C222 POLYURETHANE



SEMI-ELLIPTICAL

ROW	STEEL CYLINDER						
	NOMINAL I.D. OF PIPE (IN)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS 'T'	PLATE O.D. (IN)	MIN THICKNESS 'Tb'	DIMENSION 'h1' (IN)	DIMENSION 'h2' (IN)
D23-A	54	55.625	0.313	54 7/8	0.66	2.00	13.574

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			D23

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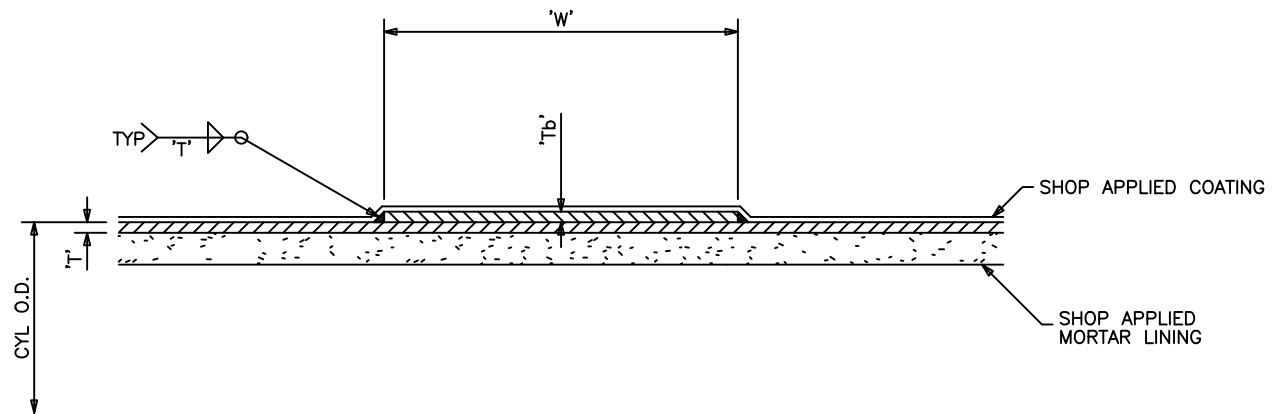
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PIPE SUPPORT WRAPPER

NOTES:

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
2. SEE SHOP DRAWINGS FOR SPECIFIC END PREPARATION REQUIREMENTS AT PIPE ENDS.

LINING: C205 CEMENT MORTAR
 COATING: C222 POLYURETHANE



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ROW	STEEL CYLINDER			WRAPPER			
	NOMINAL I.D. OF PIPE (IN)	O.D. OF CYLINDER (IN)	GAUGE OR THICKNESS "T"	WIDTH "W"	THICKNESS "Tb"		
D24-A	66	67 21/32	11/32	36"	3/8"		

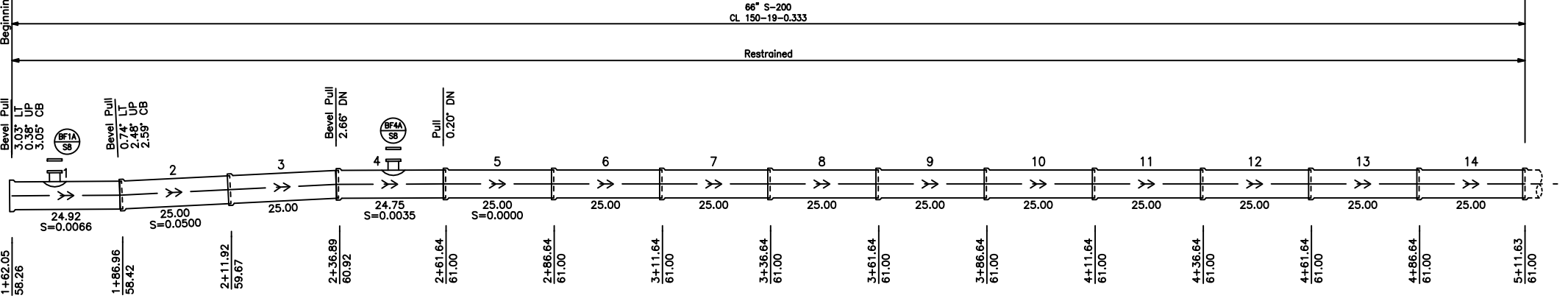
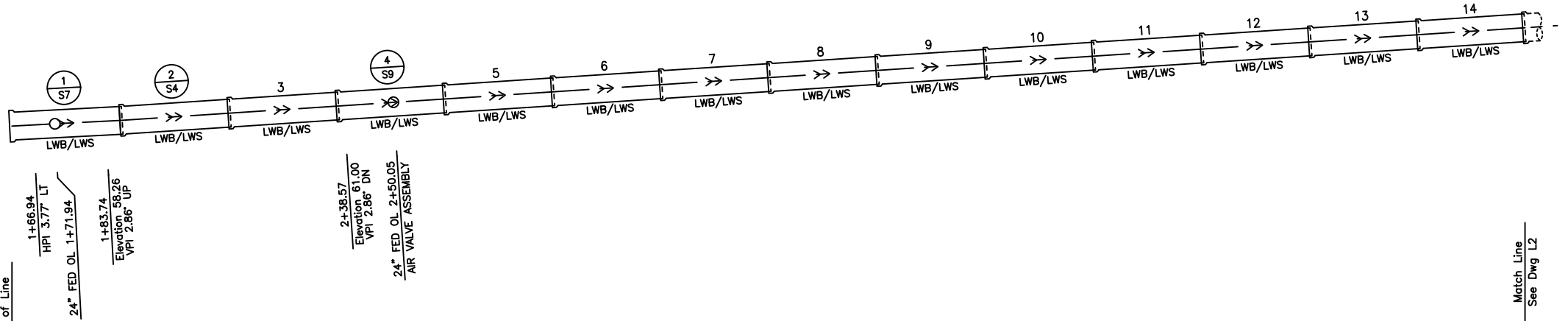
						66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX	
						DRAWN	MD
						9/10/20	QUOTE:
						131014-158	200036
						SCALE: NONE	D24

NO.	REVISION	DATE	BY	CHK

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66" Line From (1+62.03 to Vertical Shaft @ 48+65.50)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L1.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:49 PM

NO.	REVISION	DATE	BY	CHK

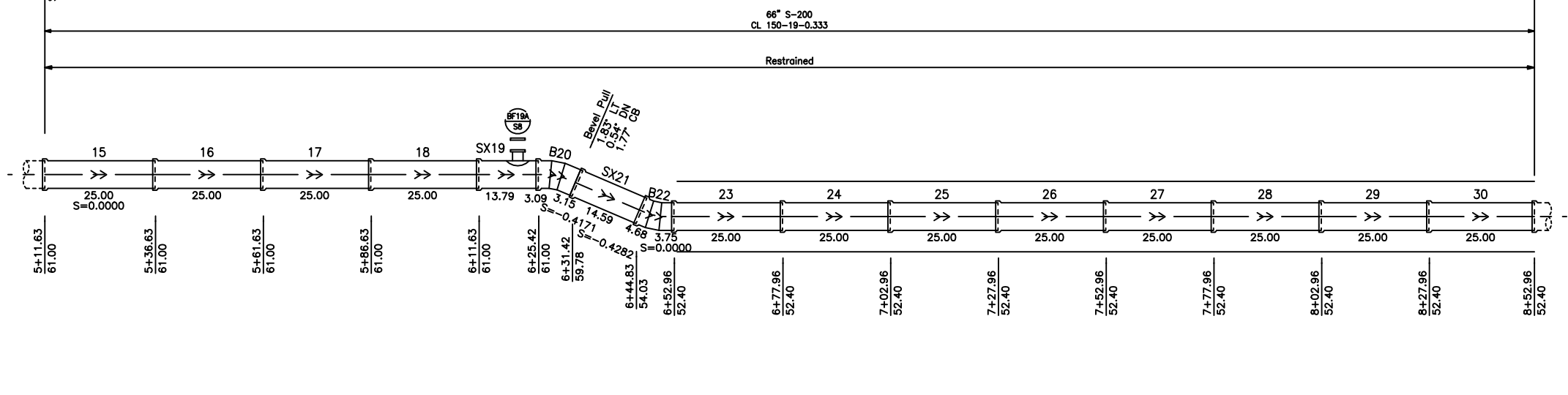
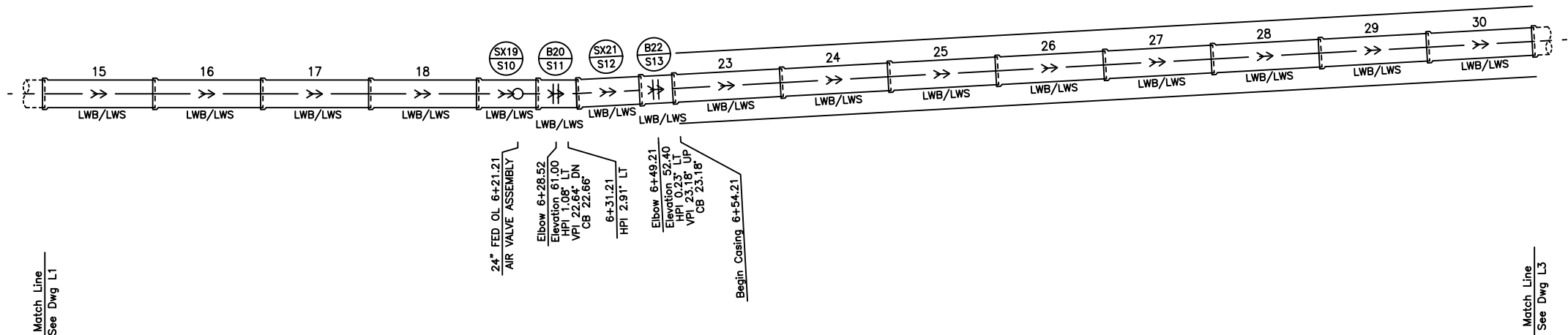


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			L1

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

66" Line From (1+62.03 to Vertical Shaft @ 48+65.50)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L2.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK

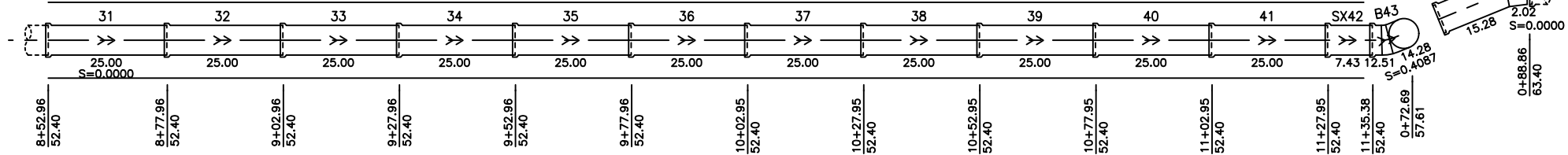
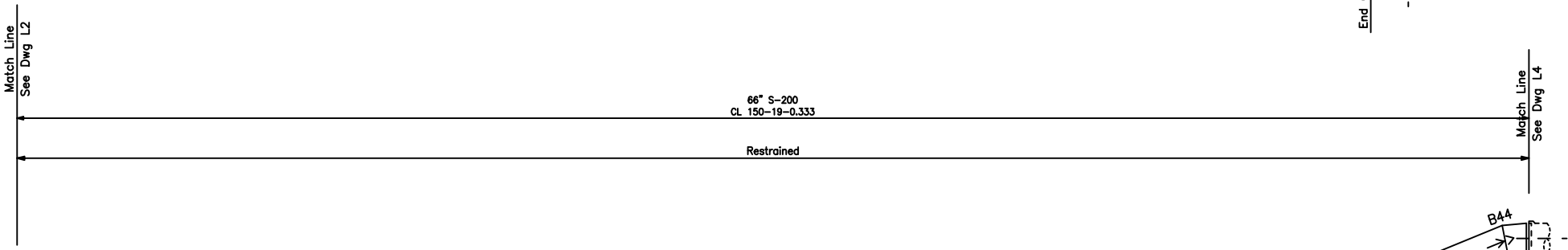
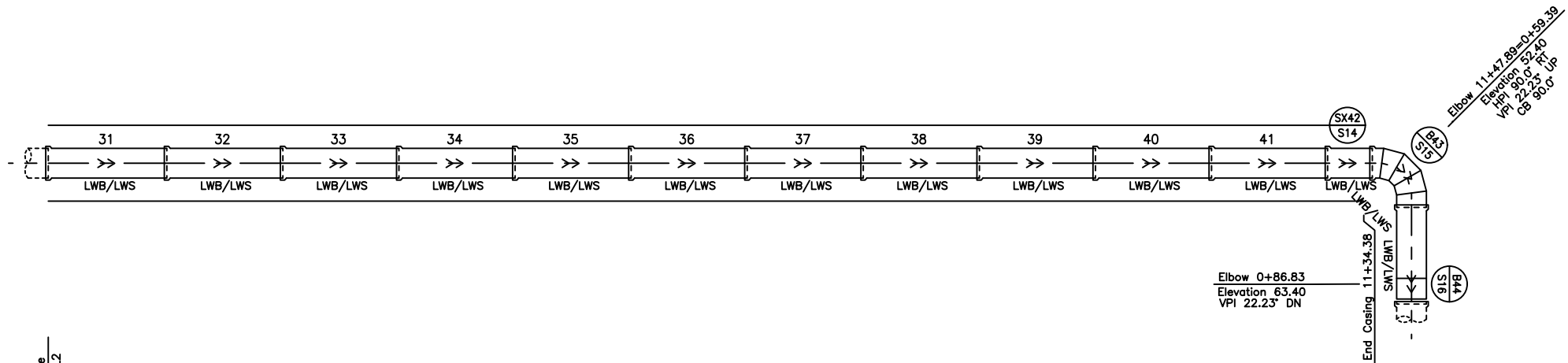


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			L2

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

66" Line From (1+62.03 to Vertical Shaft @ 48+65.50)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L3.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK

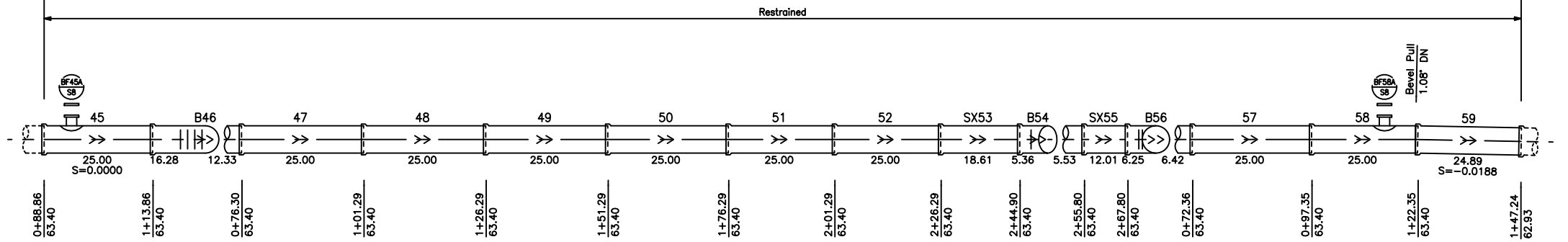
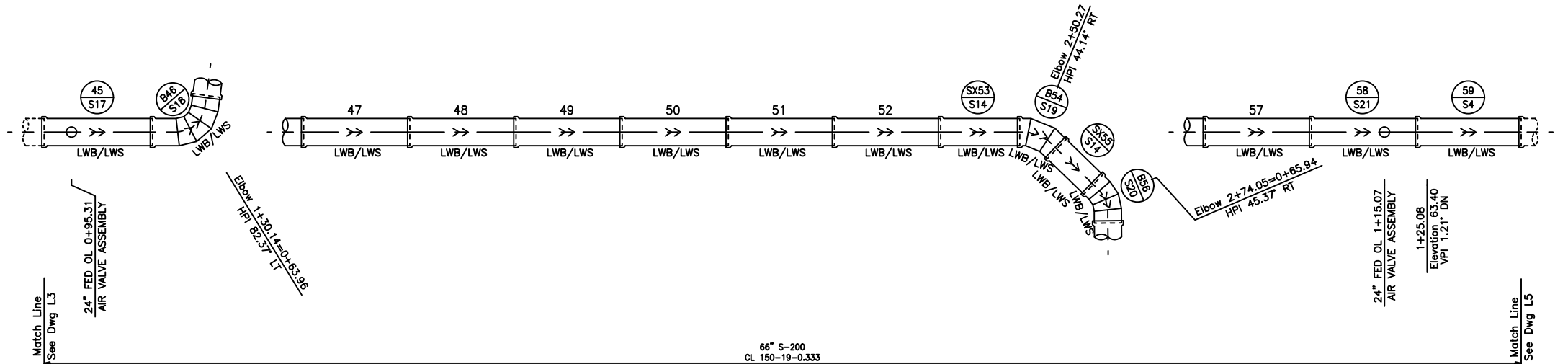


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			L3

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

66" Line From (1+62.03 to Vertical Shaft @ 48+65.50)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L4.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

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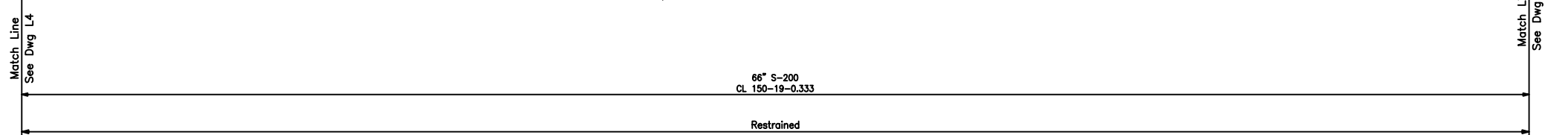
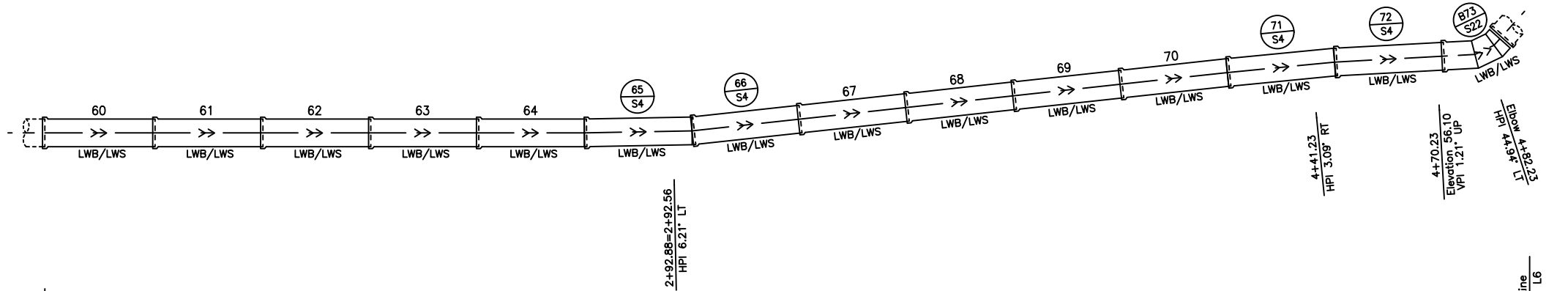


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	CHECKED	MD	9/10/20
QUOTE: 131014-158	200036	L4	

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

66" Line From (1+62.03 to Vertical Shaft @ 48+65.50)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L5.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK

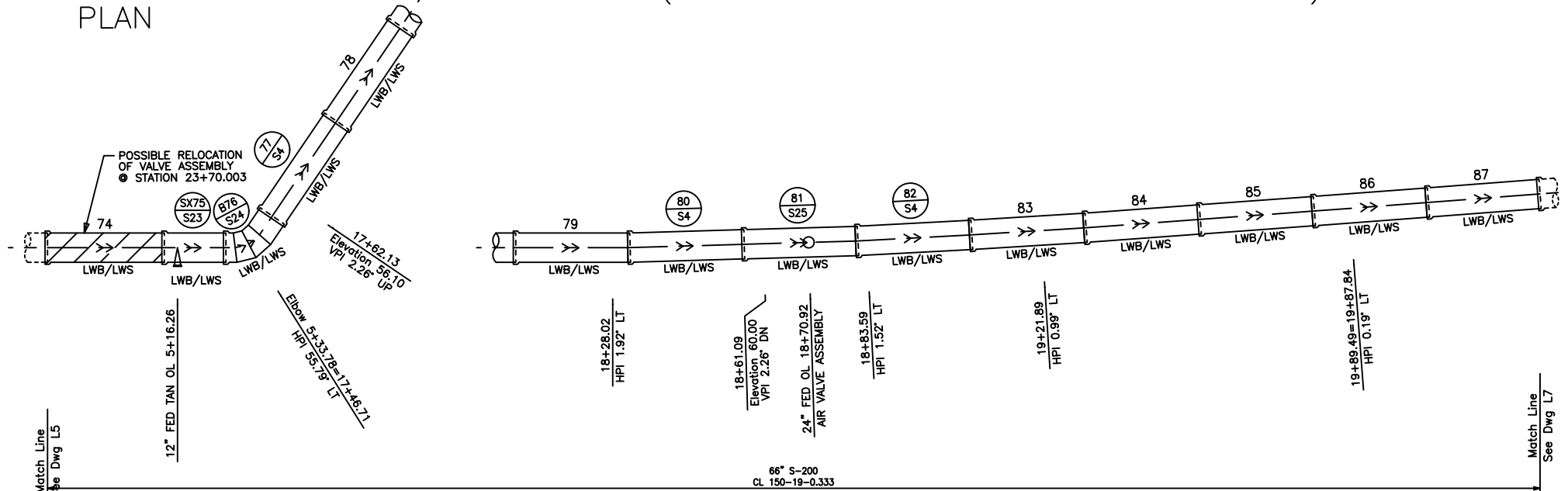


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX				
SCALE: NONE	CHECKED	MD	9/10/20	QUOTE: 131014-158
				200036
				L5

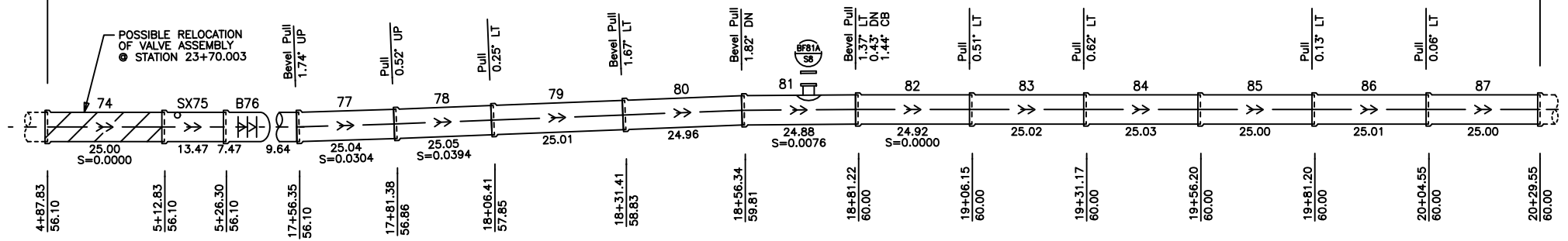
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PLAN

66" Line From (1+62.03 to Vertical Shaft @ 48+65.50)



PROFILE



Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L6.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK

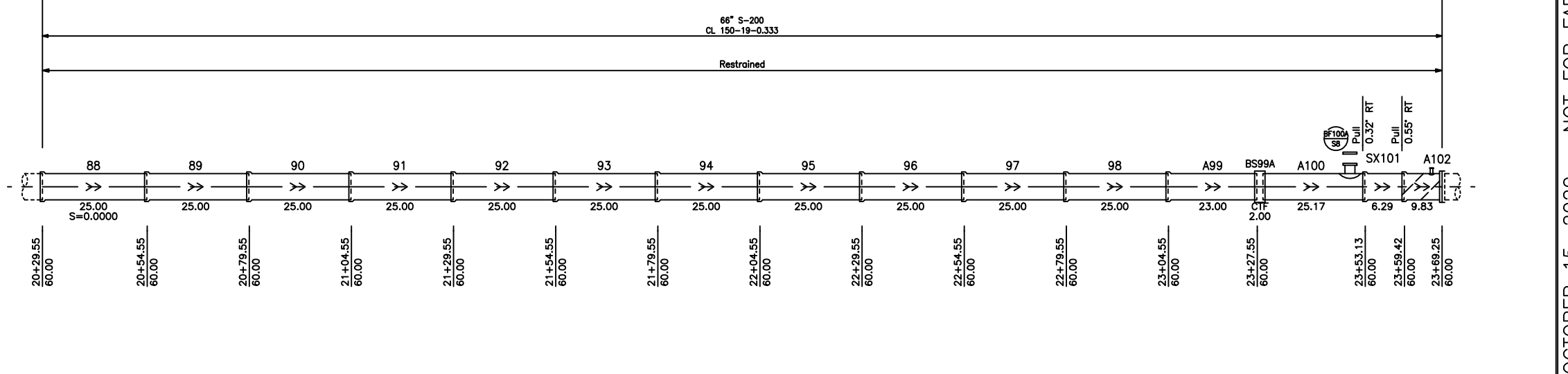
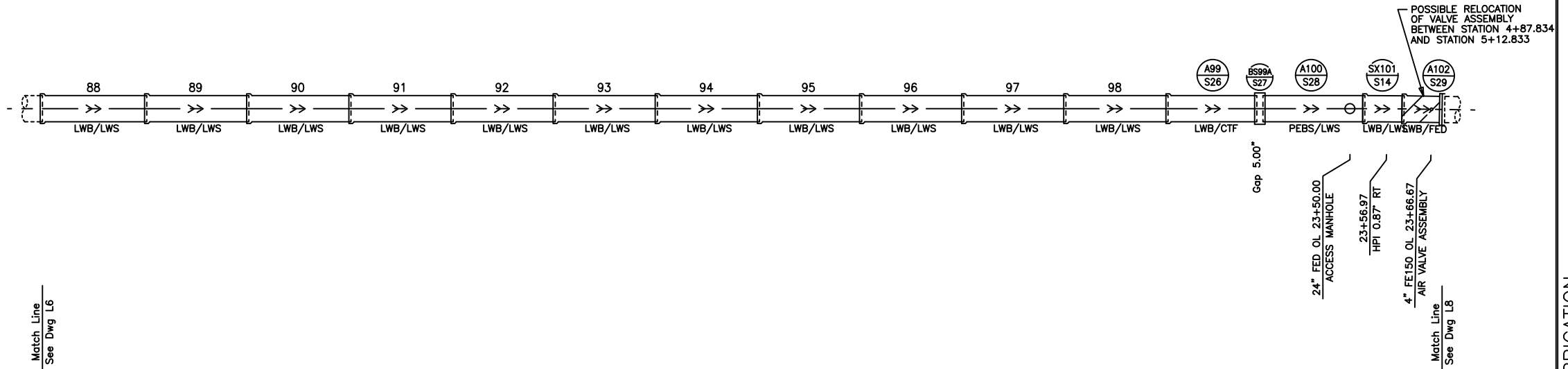


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	CHECKED	DRAWN MD 9/10/20	QUOTE: 131014-158
			200036
			L6

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

66" Line From (1+62.03 to Vertical Shaft @ 48+65.50)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L7.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK

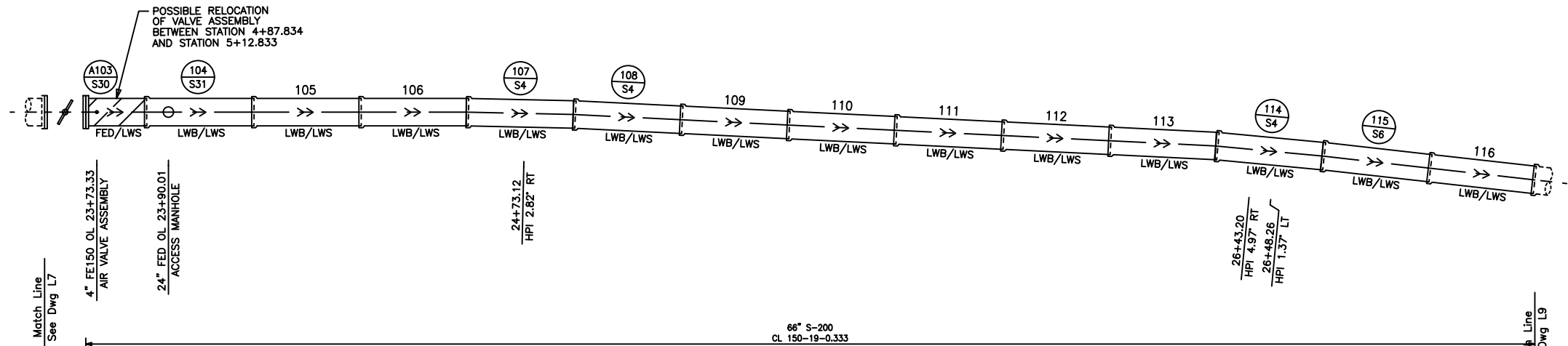


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			L7

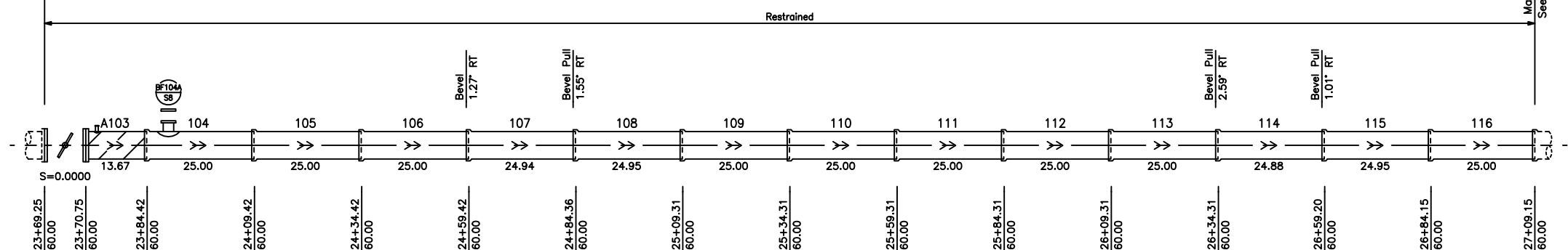
REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

66" Line From (1+62.03 to Vertical Shaft @ 48+65.50)

PLAN



PROFILE



Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L8.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK

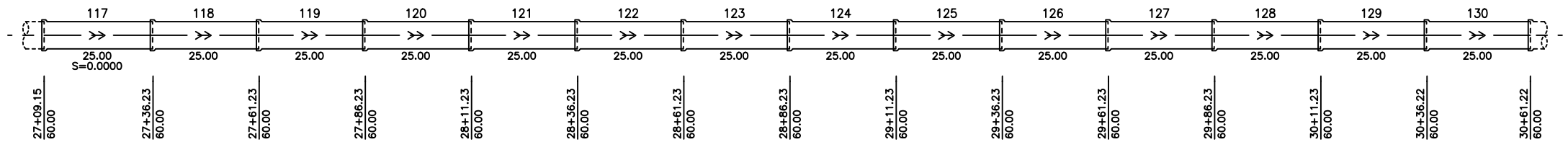
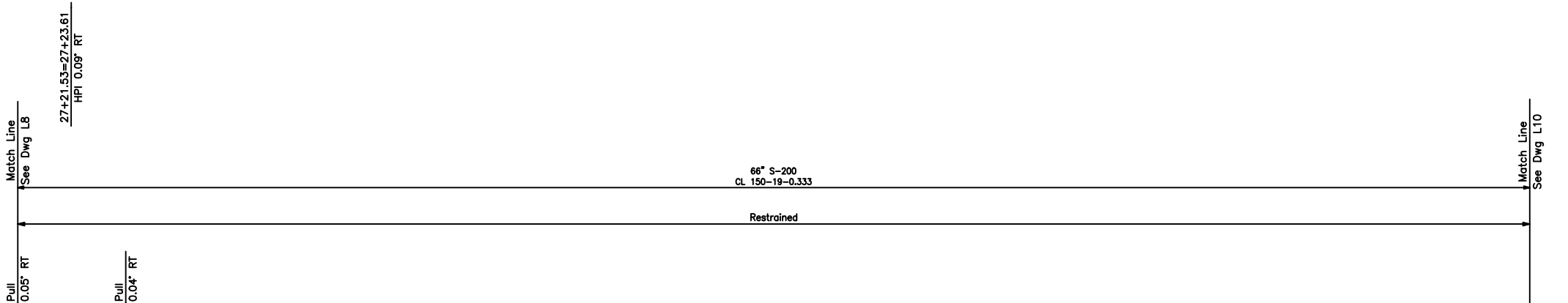
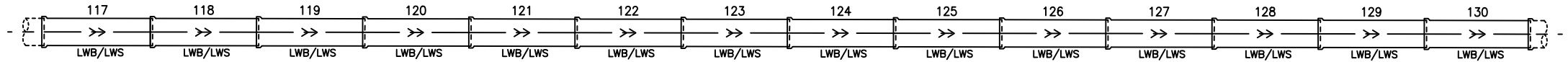


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			L8

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66" Line From (1+62.03 to Vertical Shaft @ 48+65.50)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L9.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK



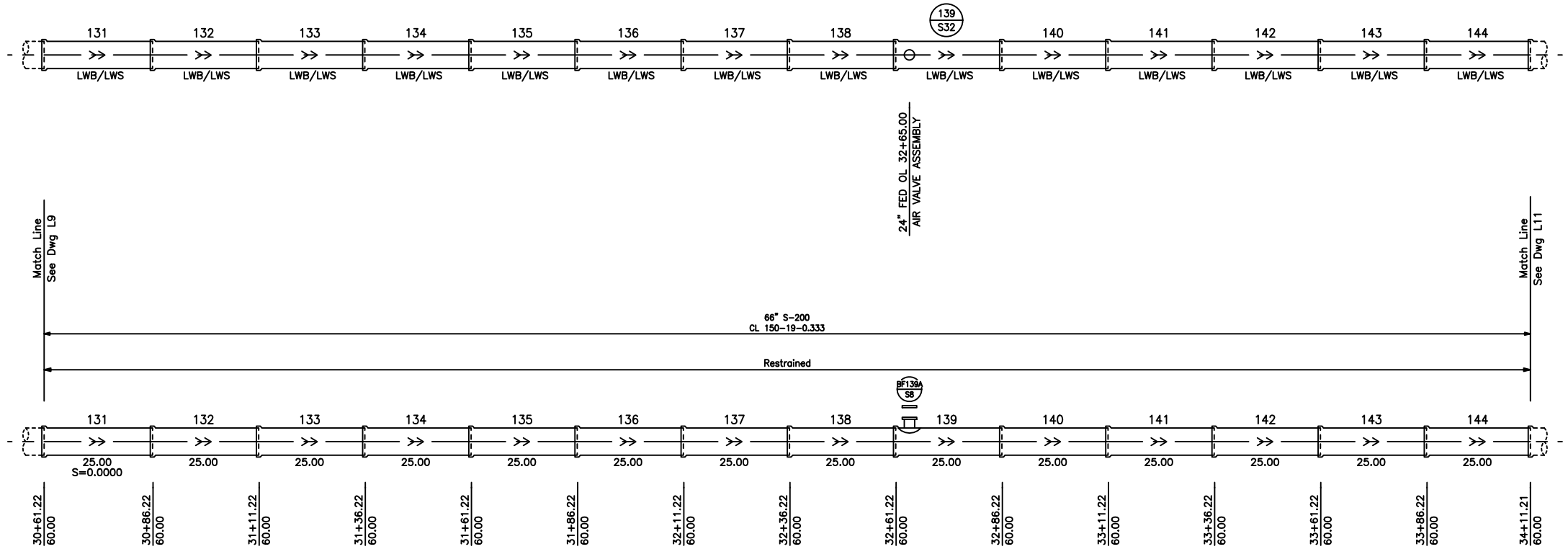
66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
DRAWN	MD	9/10/20	QUOTE:
CHECKED			131014-158
SCALE: NONE			200036

L9

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66" Line From (1+62.03 to Vertical Shaft @ 48+65.50)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L10.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:49 PM

NO.	REVISION	DATE	BY	CHK

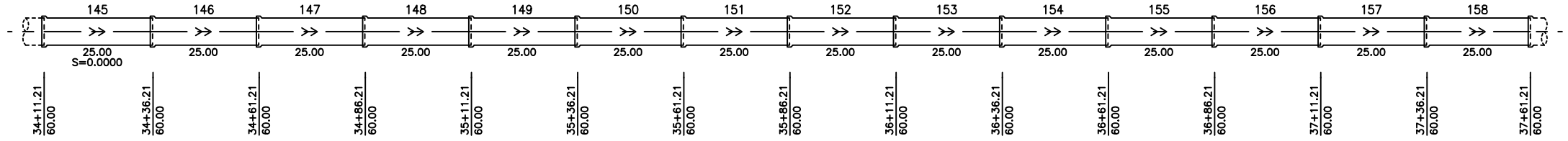
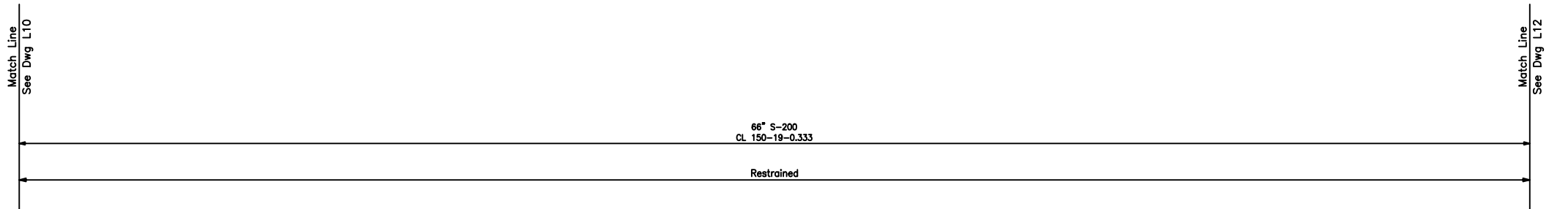
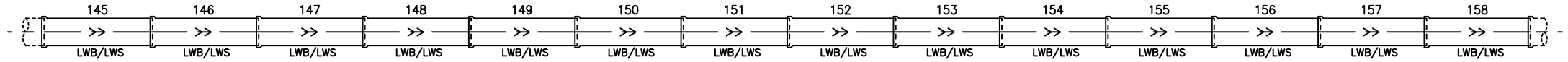


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			L10

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

66" Line From (1+62.03 to Vertical Shaft @ 48+65.50)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L11.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:49 PM

NO.	REVISION	DATE	BY	CHK

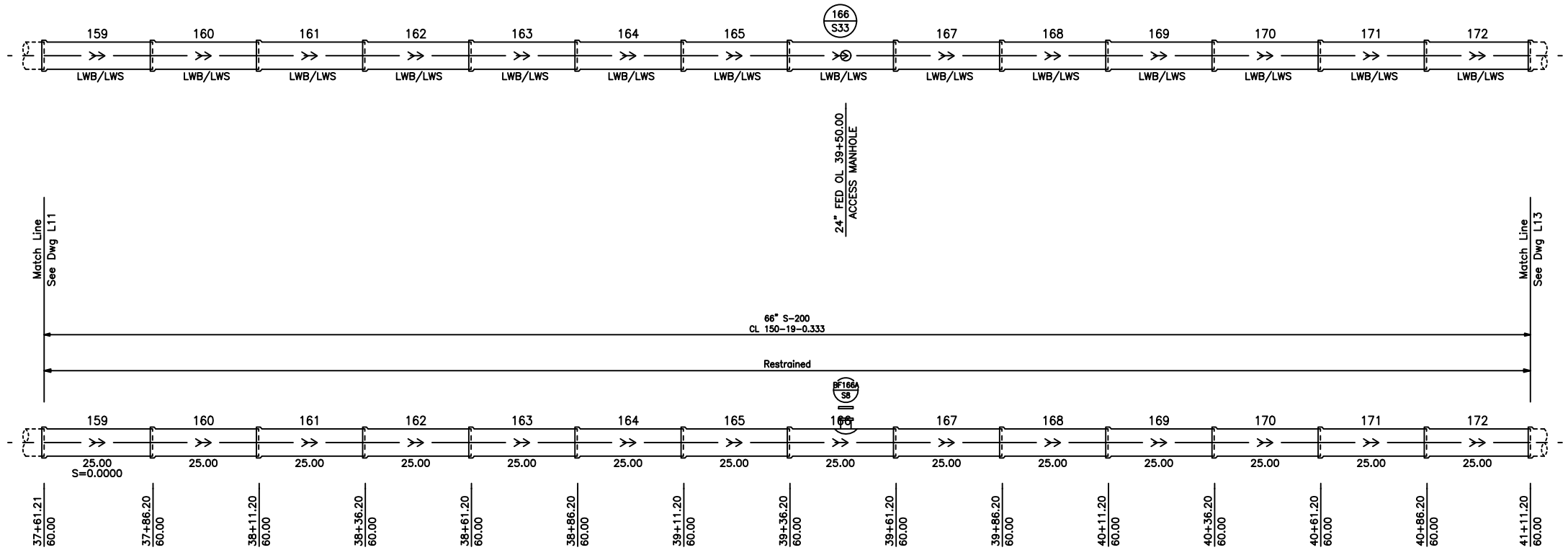


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX				DRAWN MD	9/10/20	QUOTE: 131014-158	200036	L11
				SCALE: NONE	CHECKED	131014-158	200036	L11

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66" Line From (1+62.03 to Vertical Shaft @ 48+65.50)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L12.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:49 PM

NO.	REVISION	DATE	BY	CHK

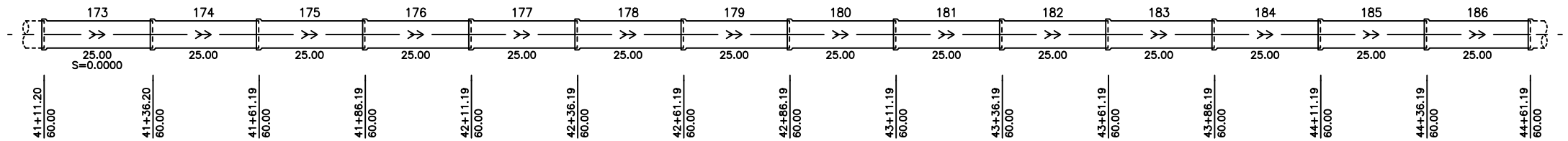
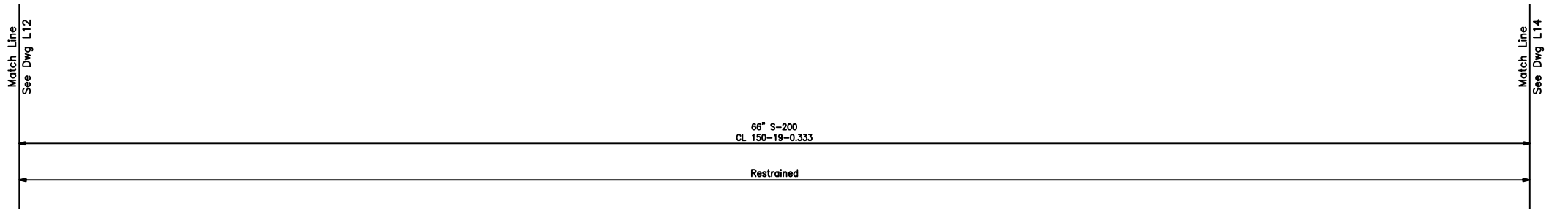
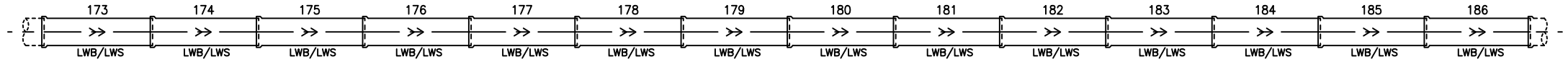


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CHECKED		QUOTE: 131014-158	200036	L12	

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66" Line From (1+62.03 to Vertical Shaft @ 48+65.50)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L13.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:49 PM

NO.	REVISION	DATE	BY	CHK

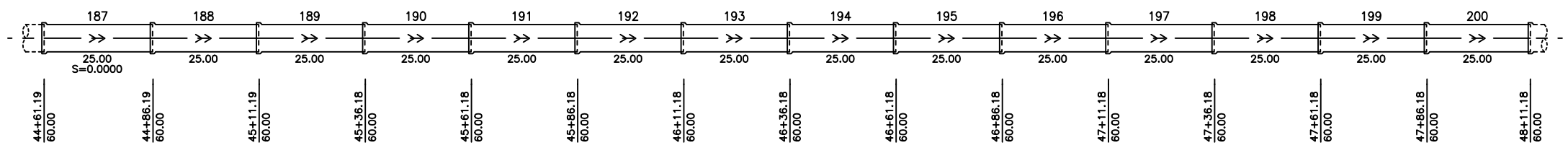
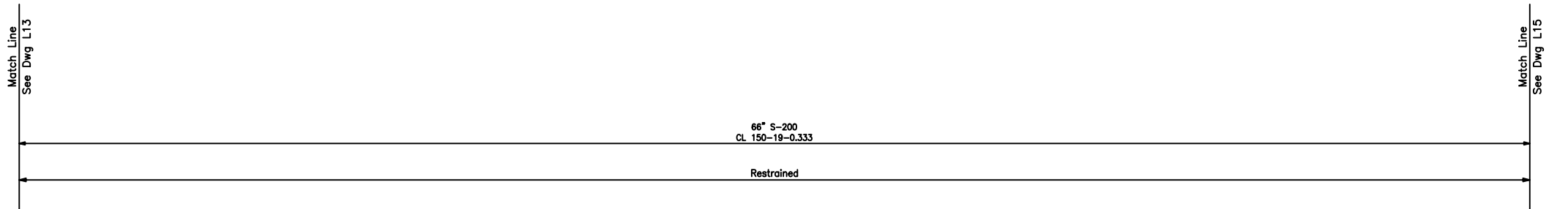
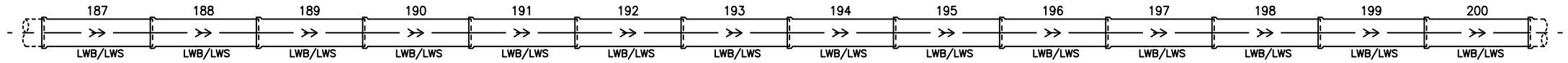


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		DRAWN MD 9/10/20	QUOTE: 131014-158
CHECKED		200036	L13

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66" Line From (1+62.03 to Vertical Shaft @ 48+65.50)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L14.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:49 PM

NO.	REVISION	DATE	BY	CHK

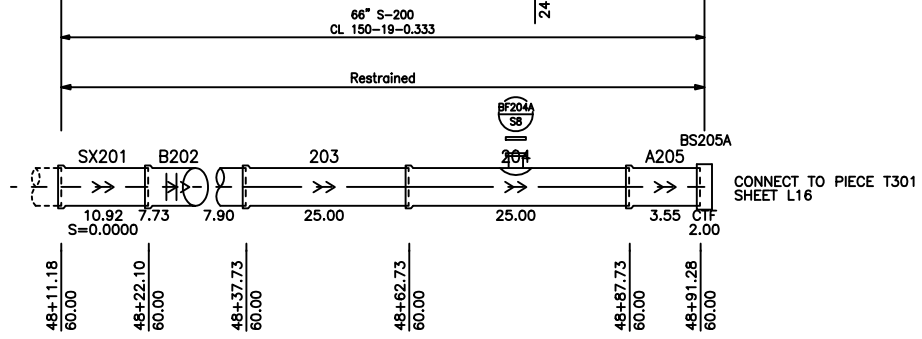
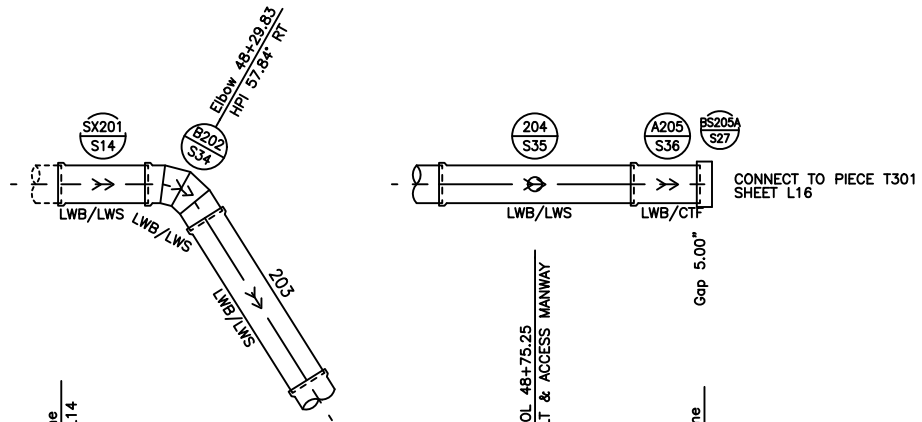


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			L14

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66" Line From (1+62.03 to Vertical Shaft @ 48+65.50)

PLAN



PROFILE

Elevation Reference = Invert.
 All dimensions in 'ft' unless specified.

CAD File: 200036-L15.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK



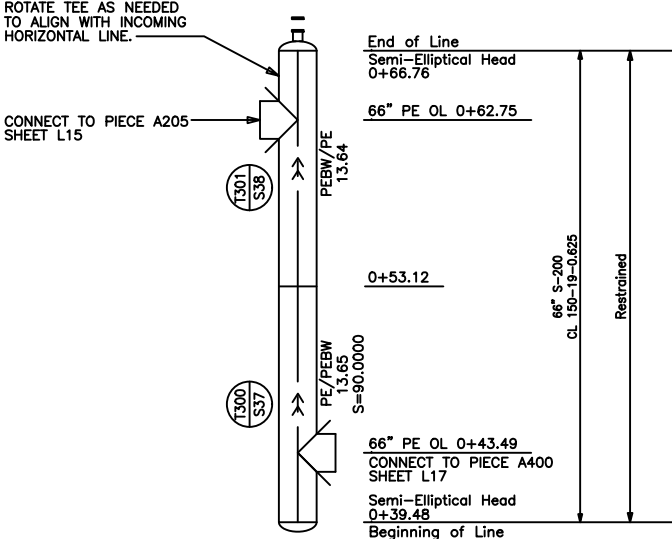
SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		L15	
CHECKED									

66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

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Vertical Shaft @ 48+65.50

PROFILE



CAD File: 200036-L16.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

NO.	REVISION	DATE	BY	CHK

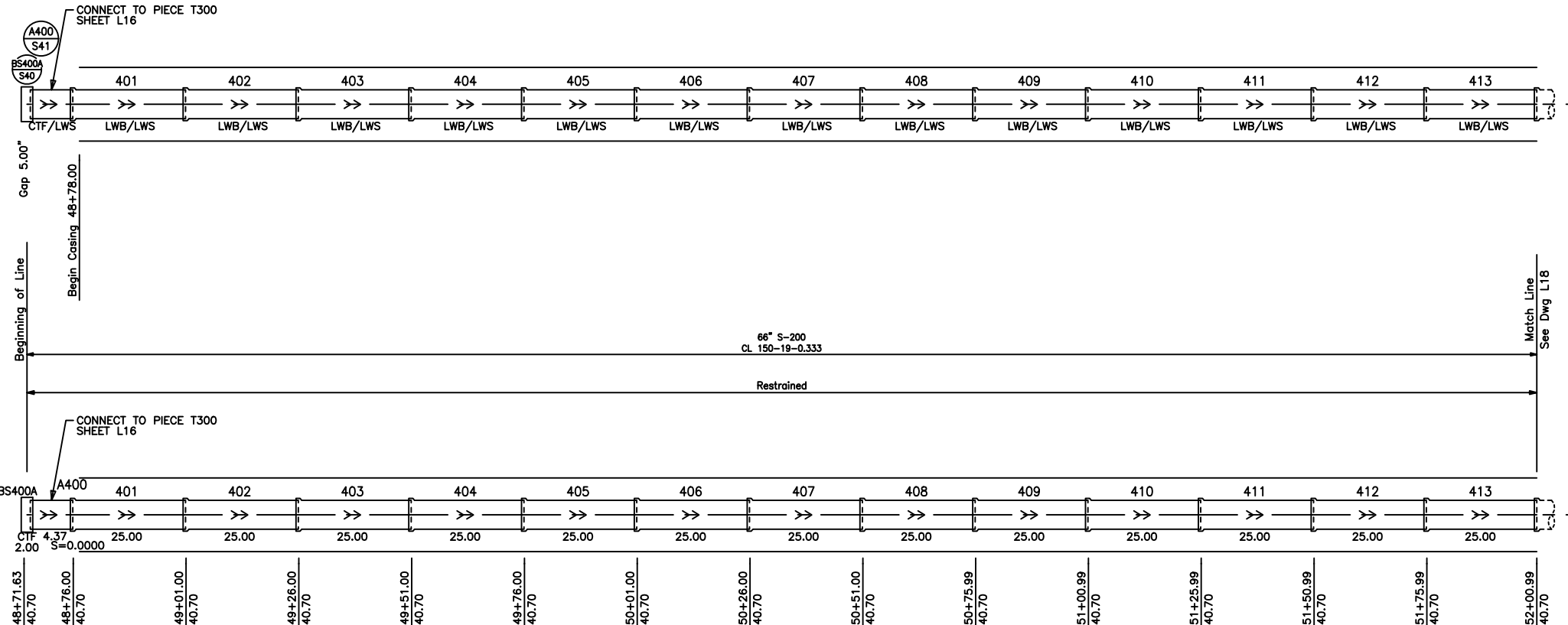


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036 L16

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Tunnel @ (48+65.60 to 52+64.00)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L17.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK

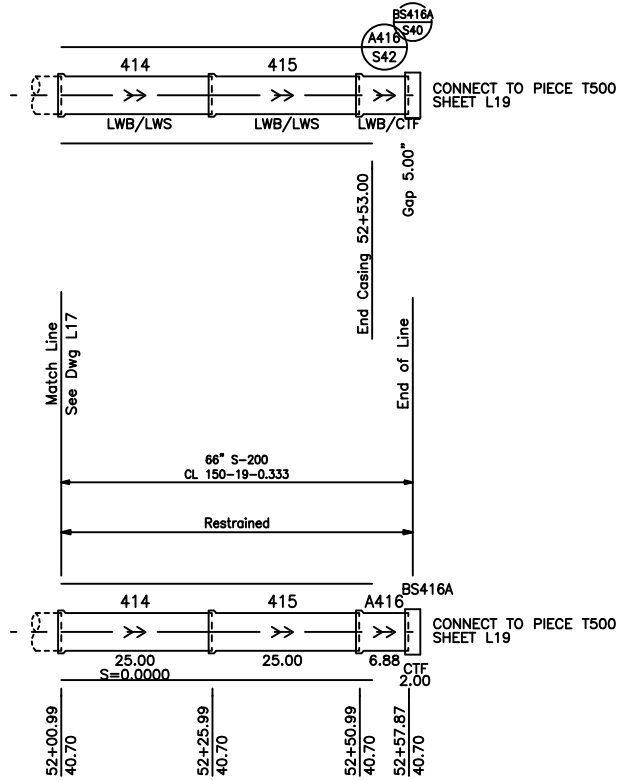


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			L17

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Tunnel @ (48+65.60 to 52+64.00)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L18.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK



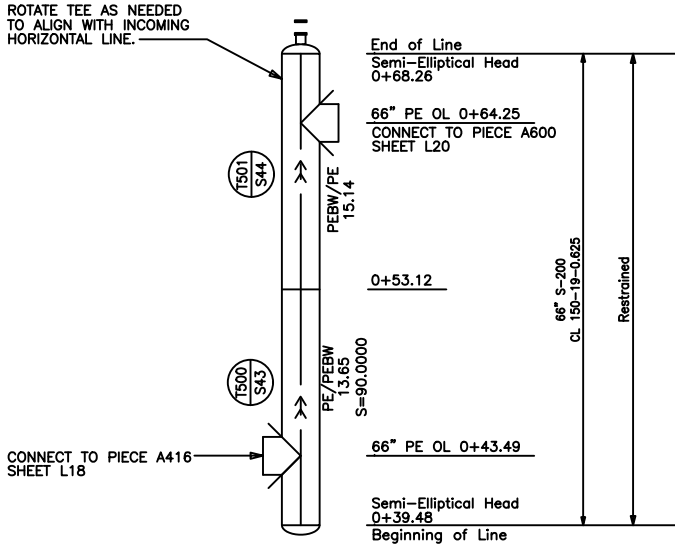
SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		L18	
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66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

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Vertical Shaft @ 52+64.00

PROFILE



Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L19.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK

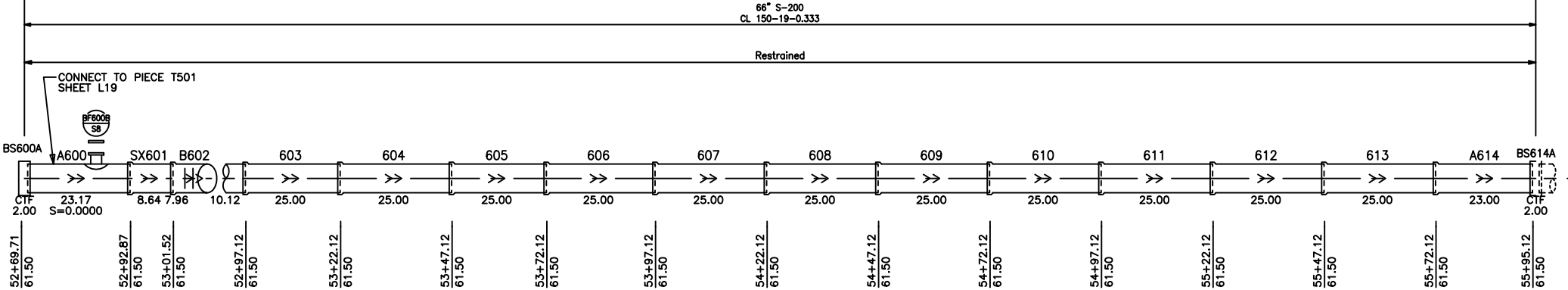
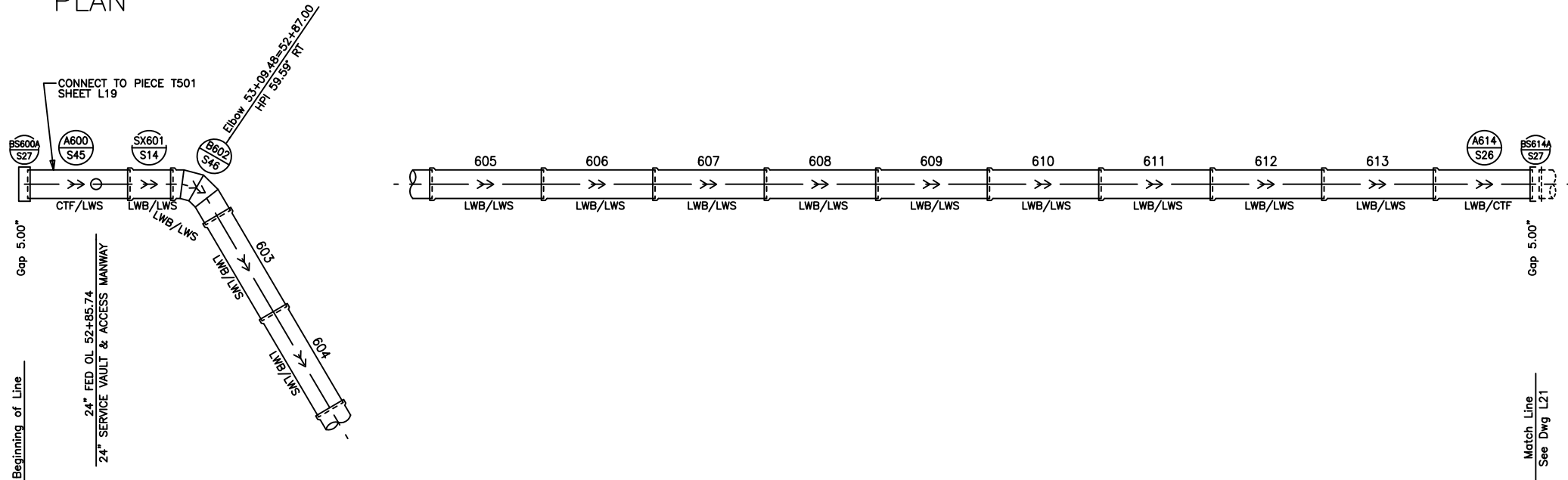


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66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX								

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66" & 54" Line From (52_64.00 to 58+35.00)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L20.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK

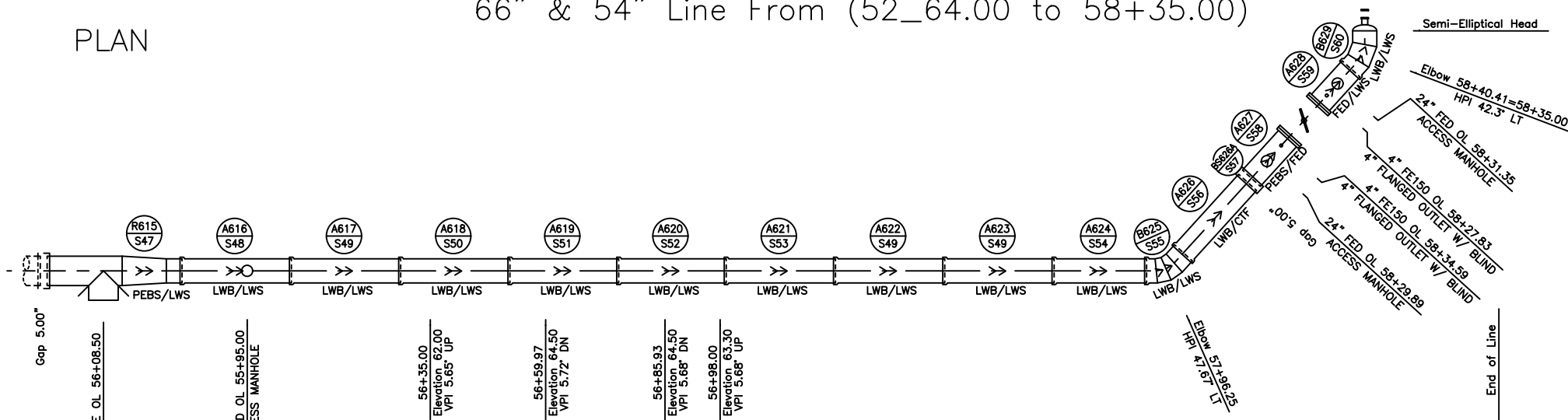


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX				
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158	200036
CHECKED:				L20

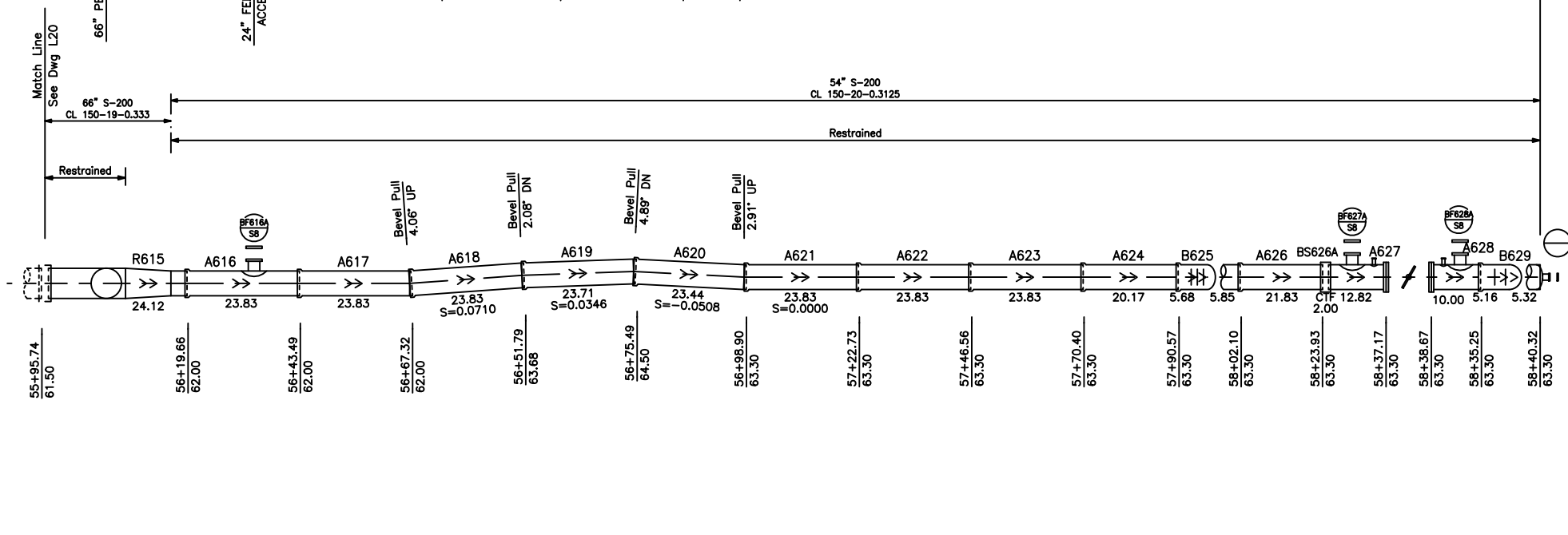
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66" & 54" Line From (52_64.00 to 58+35.00)

PLAN



PROFILE



Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L21.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK

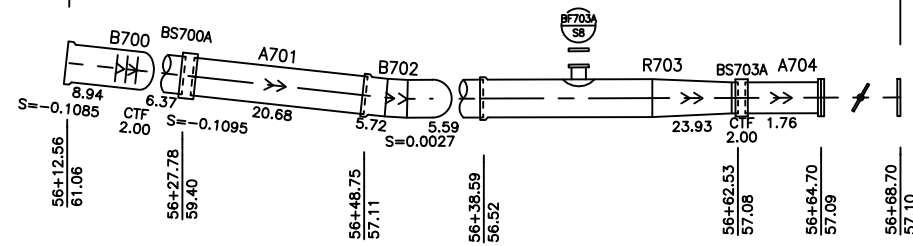
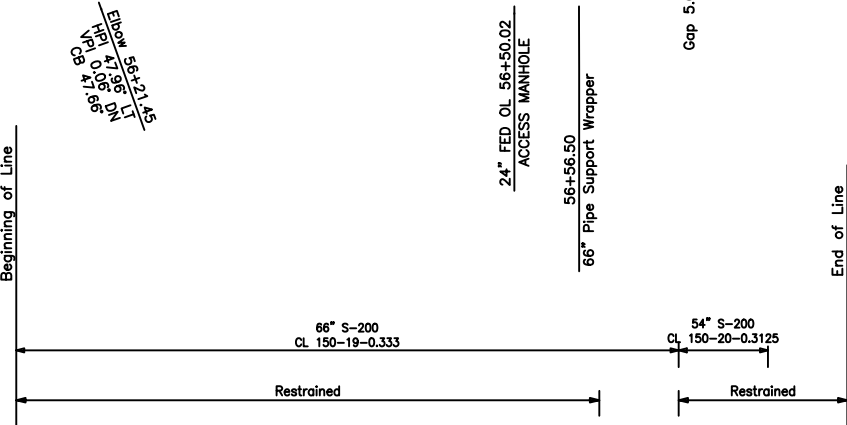
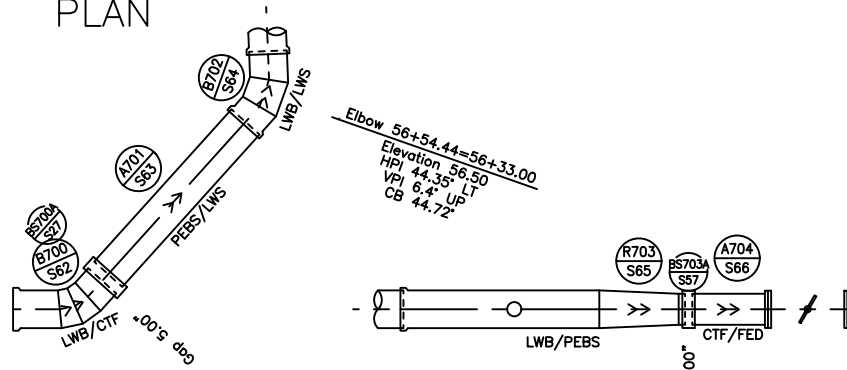


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	CHECKED	DRAWN MD	9/10/20
QUOTE: 131014-158	200036	L21	

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66" & 54" Line From (56+08.50 to 56+70.00)

PLAN



PROFILE

Elevation Reference = Invert.
All dimensions in 'ft' unless specified.

CAD File: 200036-L22.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX						
					DRAWN	MD
SCALE:	NONE	CHECKED		131014-158	200036	L22

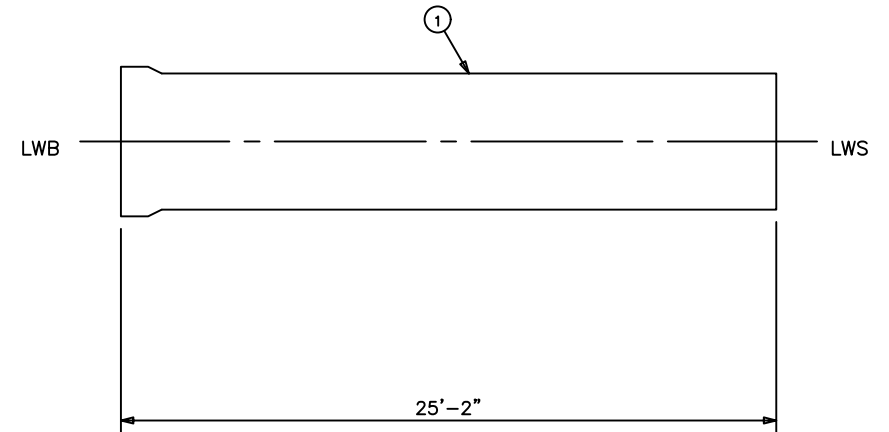
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S T A N D A R D P I P E

ITEM No	QTY	DESCRIPTION	REF SHEET
1	130	66" S-200 x 0.333" x 25'-2"	D3-A
	130	LWB END	D5-A
	130	LWS END	D5-A

PIECE	DWG#	PIECE	DWG#	PIECE	DWG#	PIECE	DWG#	PIECE	DWG#
3	L1	34	L3	79	L6	118	L9	145	L11
5	L1	35	L3	83	L6	119	L9	146	L11
6	L1	36	L3	84	L6	120	L9	147	L11
7	L1	37	L3	85	L6	121	L9	148	L11
8	L1	38	L3	86	L6	122	L9	149	L11
9	L1	39	L3	87	L6	123	L9	150	L11
10	L1	40	L3	88	L7	124	L9	151	L11
11	L1	41	L3	89	L7	125	L9	152	L11
12	L1	47	L4	90	L7	126	L9	153	L11
13	L1	48	L4	91	L7	127	L9	154	L11
14	L1	49	L4	92	L7	128	L9	155	L11
15	L2	50	L4	93	L7	129	L9	156	L11
16	L2	51	L4	94	L7	130	L9	157	L11
17	L2	52	L4	95	L7	131	L10	158	L11
18	L2	57	L4	96	L7	132	L10	159	L12
23	L2	60	L5	97	L7	133	L10	160	L12
24	L2	61	L5	98	L7	134	L10	161	L12
25	L2	62	L5	105	L8	135	L10	162	L12
26	L2	63	L5	106	L8	136	L10	163	L12
27	L2	64	L5	109	L8	137	L10	164	L12
28	L2	67	L5	110	L8	138	L10	165	L12
29	L2	68	L5	111	L8	140	L10	167	L12
30	L2	69	L5	112	L8	141	L10	168	L12
31	L3	70	L5	113	L8	142	L10	169	L12
32	L3	74	L6	116	L8	143	L10	170	L12
33	L3	78	L6	117	L9	144	L10	171	L12

LWB	HOLDBACK	GRIND	LWS	HOLDBACK	GRIND
INTERIOR	6.0	3.0	INTERIOR	2.0	
EXTERIOR	6.0		EXTERIOR	6.0	3.0



Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333

CAD File: 200036-S1.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
DRAWN	MD	9/10/20	QUOTE:
CHECKED			131014-158
SCALE: NONE			200036
			S1

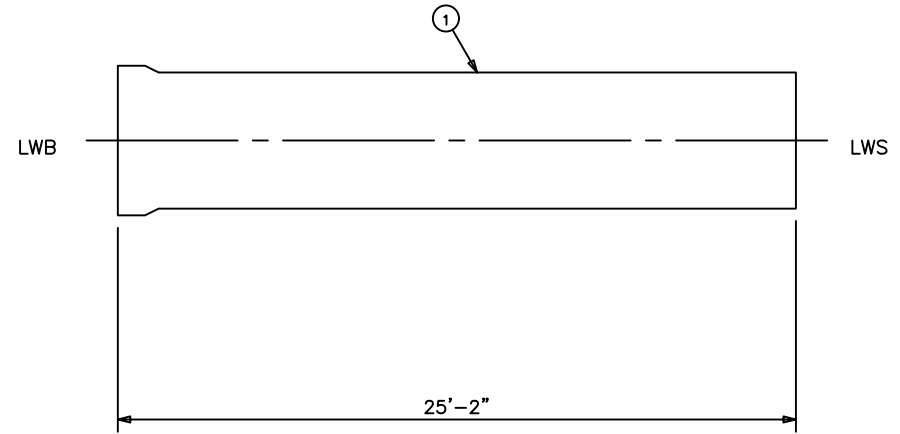
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S T A N D A R D P I P E

PIECE	DWG#	PIECE	DWG#
172	L12	198	L14
173	L13	199	L14
174	L13	200	L14
175	L13	203	L15
176	L13	603	L20
177	L13	604	L20
178	L13	605	L20
179	L13	606	L20
180	L13	607	L20
181	L13	608	L20
182	L13	609	L20
183	L13	610	L20
184	L13	611	L20
185	L13	612	L20
186	L13	613	L20
187	L14		
188	L14		
189	L14		
190	L14		
191	L14		
192	L14		
193	L14		
194	L14		
195	L14		
196	L14		
197	L14		

ITEM No	QTY	DESCRIPTION	REF SHEET
1	41	66" S-200 x 0.333" x 25'-2"	D3-A
	41	LWB END	D5-A
	41	LWS END	D5-A

LWB	HOLDBACK	GRIND	LWS	HOLDBACK	GRIND
INTERIOR	6.0	3.0	INTERIOR	2.0	
EXTERIOR	6.0		EXTERIOR	6.0	3.0



Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333

CAD File: 200036-S2.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			S2

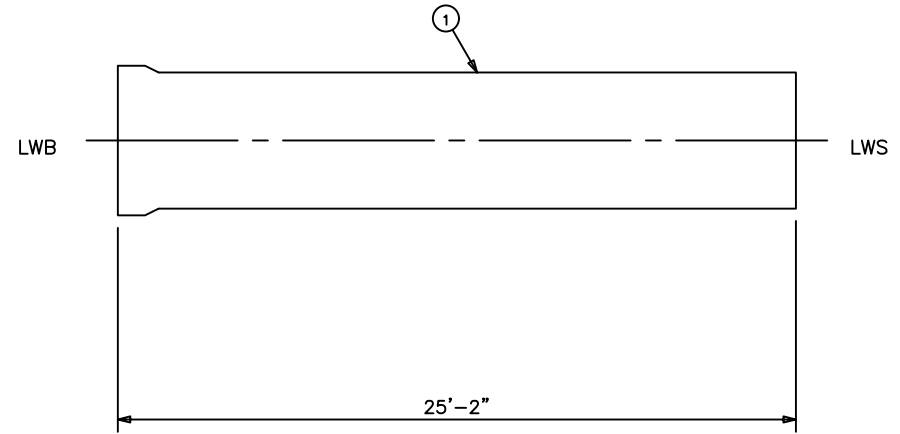
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S T A N D A R D P I P E

PIECE	DWG#
401	L17
402	L17
403	L17
404	L17
405	L17
406	L17
407	L17
408	L17
409	L17
410	L17
411	L17
412	L17
413	L17
414	L18
415	L18

ITEM No	QTY	DESCRIPTION	REF SHEET
1	15	66" S-200 x 0.333" x 25'-2"	D4-A
	15	LWB END	D6-A
	15	LWS END	D6-A

LWB	HOLDBACK	GRIND	LWS	HOLDBACK	GRIND
INTERIOR	6.0	4.03.0	INTERIOR	2.0	
EXTERIOR	6.0		EXTERIOR	6.0	3.0



Lining: C210 Epoxy
 Coating: C222 Polyurethane
 Class: 150-19-0.333

CAD File: 200036-S3.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
DRAWN	MD	9/10/20	QUOTE:
CHECKED			131014-158
SCALE: NONE			200036

S3

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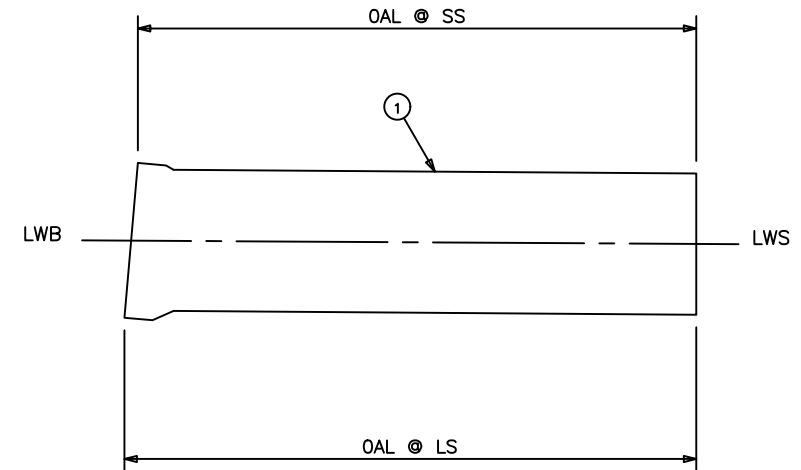
B E V E L P I P E T A B L E

PIECE MARK	CLASS	REF SHEET	OAL @ LS	OAL @ SS	BEVEL ANGLE	FIELD TOP LOCATION		
						ANGLE	DIST	BEVEL
* 1	150-19-0.333	S7	25'-2"	24'-11"	2.54°	-97.1°	4'-9 5/16"	
2	150-19-0.333	L1	25'-2"	24'-11"	2.54°	-163.3°	8'-7/16"	
* 4	150-19-0.333	S9	25'-2"	24'-11"	2.54°	0.0°	0'-0"	
59	150-19-0.333	L4	25'-2"	25'-1/2"	1.27°	0.0°	0'-0"	
65	150-19-0.333	L5	25'-2"	25'-1/2"	1.27°	-90.0°	4'-5 1/8"	
66	150-19-0.333	L5	25'-2"	24'-8 1/16"	5.00°	-90.1°	4'-5 3/16"	
71	150-19-0.333	L5	25'-2"	25'-1/2"	1.27°	90.0°	4'-5 1/8"	
72	150-19-0.333	L5	25'-2"	24'-11"	2.54°	91.4°	4'-6"	
77	150-19-0.333	L6	25'-2"	25'-1/2"	1.27°	-180.0°	8'-10 5/16"	
80	150-19-0.333	L6	25'-2"	25'-1/2"	1.27°	-90.0°	4'-5 1/8"	
* 81	150-19-0.333	S25	25'-2"	25'-1/2"	1.27°	0.0°	0'-0"	
82	150-19-0.333	L6	25'-2"	25'-1/2"	1.27°	-72.5°	3'-6 13/16"	
107	150-19-0.333	L8	25'-2"	25'-1/2"	1.27°	90.0°	4'-5 1/8"	
108	150-19-0.333	L8	25'-2"	25'-1/2"	1.27°	90.0°	4'-5 1/8"	
114	150-19-0.333	L8	25'-2"	24'-11"	2.54°	90.0°	4'-5 1/8"	

FIELD TOP LOCATION MEASURED FROM LONG SIDE FACING BEVEL. (+) = CLOCKWISE, (-) = COUNTER-CLOCKWISE

ITEM No	QTY	DESCRIPTION	REF SHEET
1	15	66" S-200 x 0.333"	D3-A
	15	LWB END	D5-A
	15	LWS END	D5-A

LWB	HOLDBACK	GRIND	LWS	HOLDBACK	GRIND
INTERIOR	6.0	3.0	INTERIOR	2.0	
EXTERIOR	6.0		EXTERIOR	6.0	3.0



* NOTE: ADDITIONAL FITTING WORK REQUIRED

Lining: C205 Cement Mortar
Coating: C222 Polyurethane

CAD File: 200036-S4.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			S4

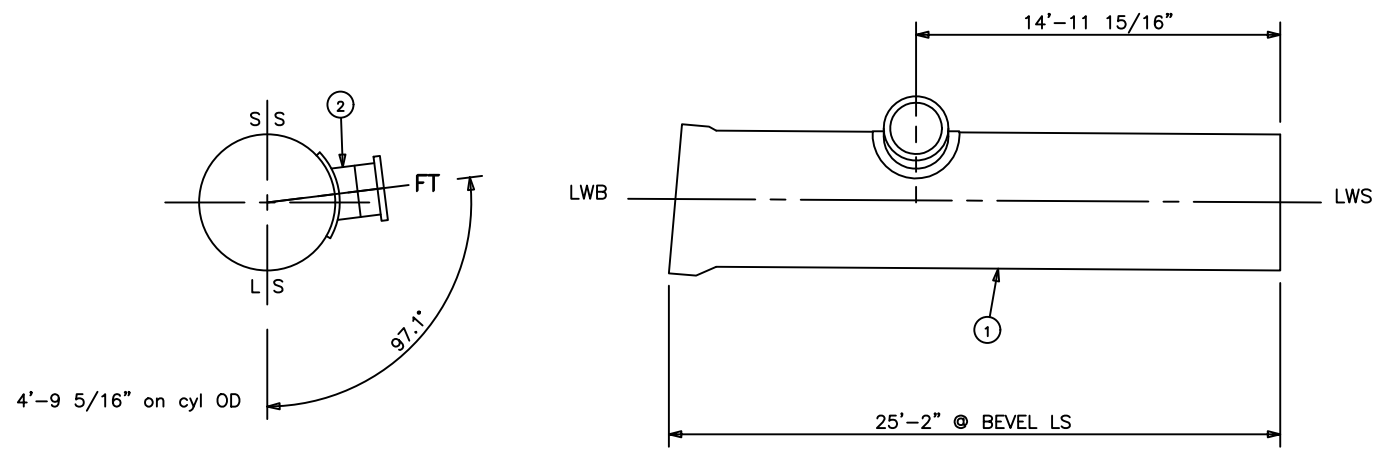
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LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 25'-2"	D3-A
2	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-A
	1	LWB END	D5-A
	1	LWS END	D5-A

BEVEL DATA:
 OAL @ LS: 25'-2"
 OAL @ SS: 24'-11"
 BEVEL ANGLE: 2.54'



CAD File: 200036-S7.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:53 PM

Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333



NO.	REVISION	DATE	BY	CHK



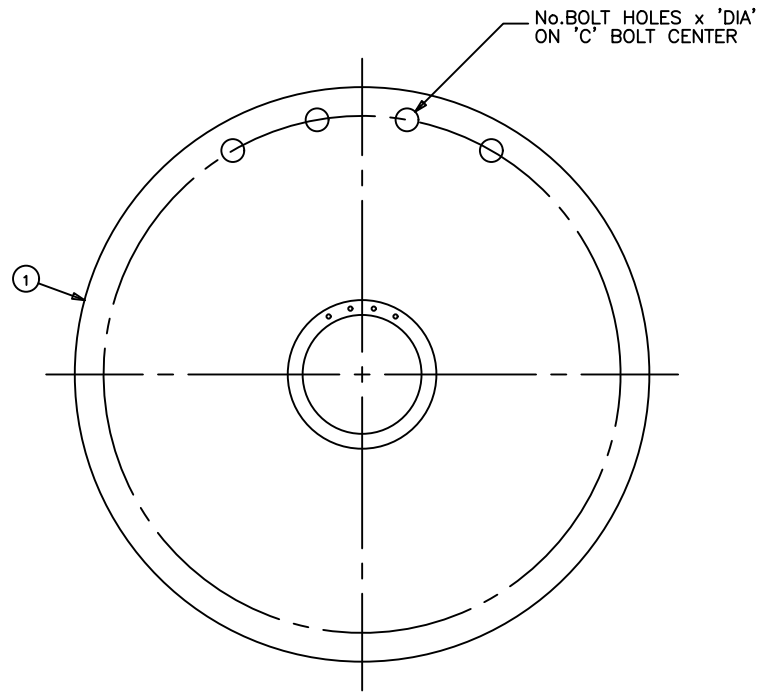
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66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

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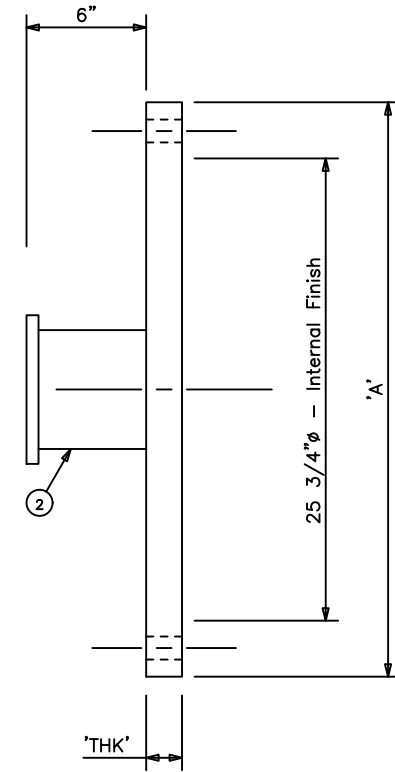
FLANGE DATA

CLASS	NOM	'A'	No. BOLT HOLES	'C'	'DIA'	'THK'
D	24	32.000	20	29.500	1.375	1.661



ITEM No	QTY	DESCRIPTION	REF SHEET
1	16	24" CLASS D BLIND FLANGE	
2	16	6" FE150 OUTLET	D14-A

Piece No.	Ref Sheet
BF1A	L1
BF4A	L1
BF19A	L2
BF45A	L4
BF58A	L4
BF81A	L6
BF100A	L7
BF104A	L8
BF139A	L10
BF166A	L12
BF204A	L15
BF600B	L20
BF616A	L21
BF627A	L21
BF628A	L21
BF703A	L22



Internal Finish: C210 Epoxy
 External Finish: C222 Polyurethane
 Machined Face: Shop Primer

CAD File: 200036-S8.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:53 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN: MD		9/10/20		QUOTE: 131014-158		200036		S8	
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66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

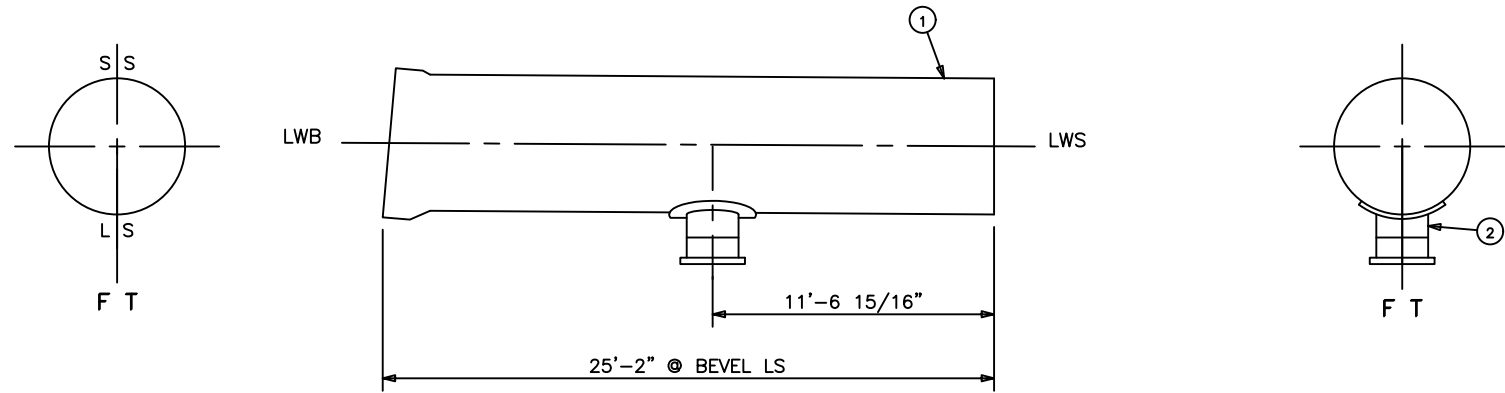
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LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 25'-2"	D3-A
2	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-A
	1	LWB END	D5-A
	1	LWS END	D5-A

BEVEL DATA:
 OAL @ LS: 25'-2"
 OAL @ SS: 24'-11"
 BEVEL ANGLE: 2.54°



CAD File: 200036-S9.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:53 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S9	
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Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333



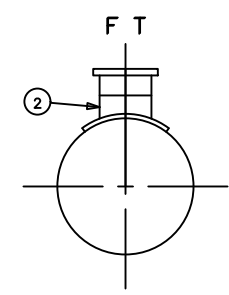
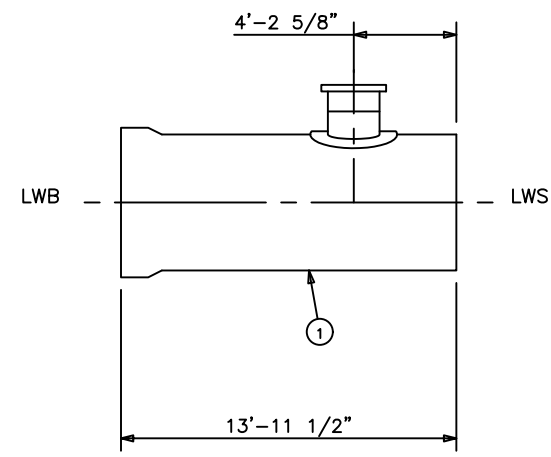
66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

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LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 13'-11 1/2"	D3-A
2	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-A
	1	LWB END	D5-A
	1	LWS END	D5-A



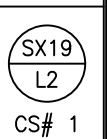
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NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S10	
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Lining: C205 Cement Mortar
Coating: C222 Polyurethane
Class: 150-19-0.333



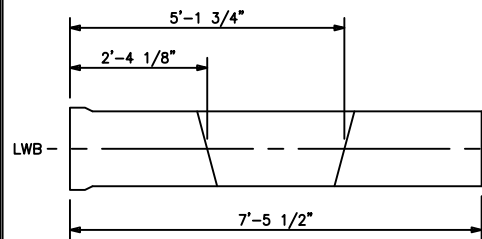
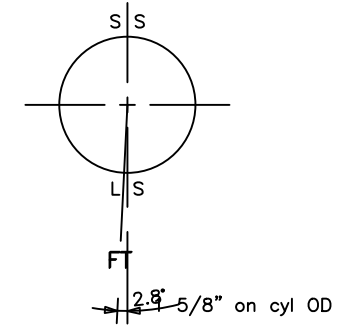
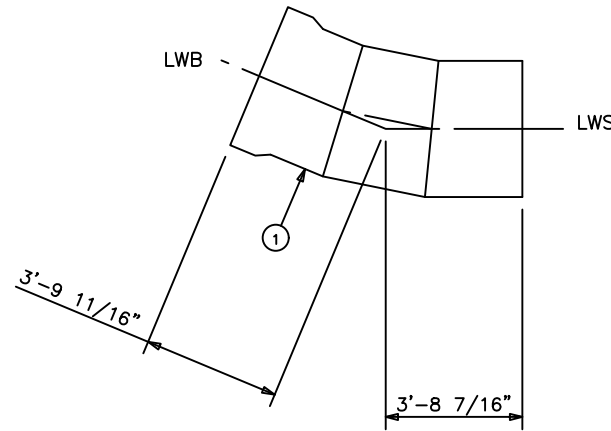
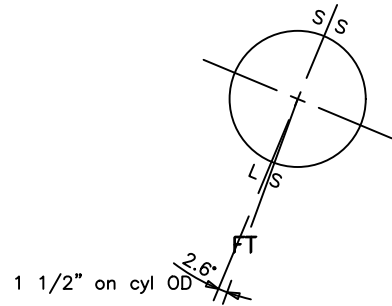
66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

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LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

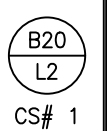
LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 7'-5 1/2"	D3-A
	1	LWB END	D5-A
	1	LWS END	D5-A



	CUT 1	CUT 2
1) 0"	24 13/16"	65 1/16"
2) 26 9/16"	25 3/4"	64 1/16"
3) 53 1/8"	28 1/8"	61 3/4"
4) 79 11/16"	30 1/2"	59 3/8"
5) 106 5/16"	31 1/2"	58 3/8"

Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333
 Inflection: 22.66°
 Radius: 170.00"
 SS Chord: 6'-2 15/16"



CAD File: 200036-S11.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX		SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158	200036	S11
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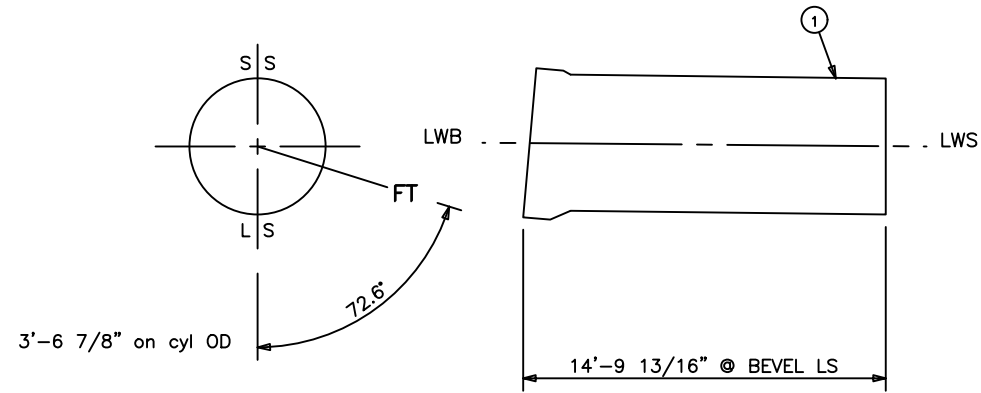
REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 14'-9 13/16"	D3-A
	1	LWB END	D5-A
	1	LWS END	D5-A

BEVEL DATA:
 OAL @ LS: 14'-9 13/16"
 OAL @ SS: 14'-8 5/16"
 BEVEL ANGLE: 1.27°



CAD File: 200036-S12.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN: MD		9/10/20		QUOTE: 131014-158		200036		S12	
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Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333

SX21
 L2
 CS# 2

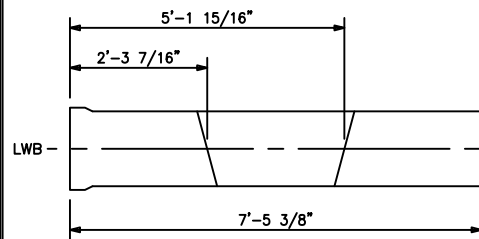
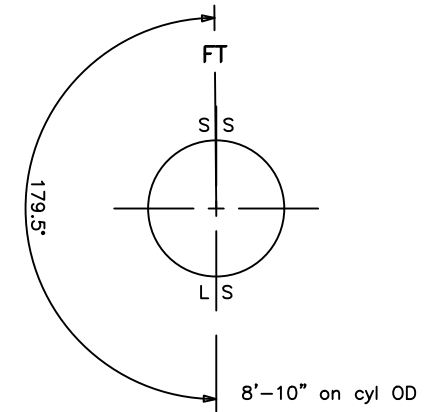
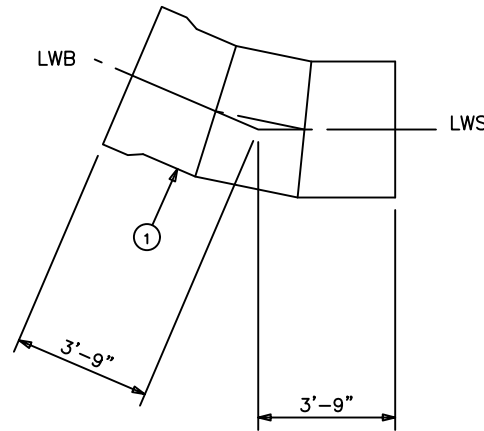
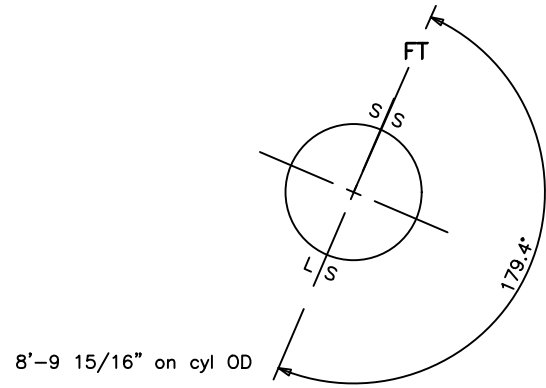
66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

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LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 7'-5 3/8"	D3-A
	1	LWB END	D5-A
	1	LWS END	D5-A



	CUT 1	CUT 2
1) 0"	24"	65 3/8"
2) 26 9/16"	25"	64 3/8"
3) 53 1/8"	27 7/16"	61 15/16"
4) 79 11/16"	29 7/8"	59 1/2"
5) 106 5/16"	30 7/8"	58 1/2"

Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333
 Inflection: 23.18"
 Radius: 170.00"
 SS Chord: 6'-2 5/8"

B22
 L2
 CS# 2

CAD File: 200036-S13.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK



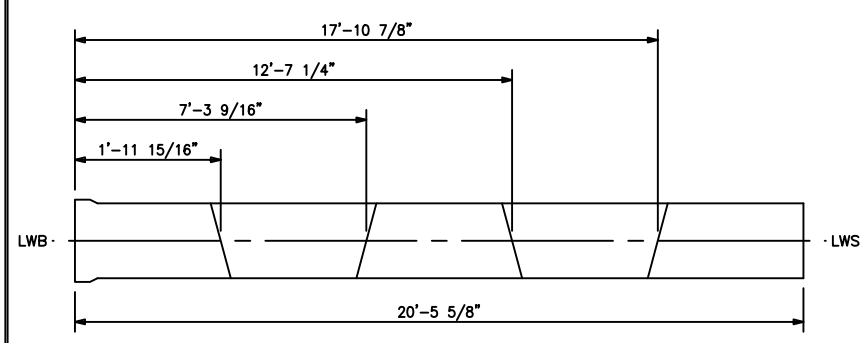
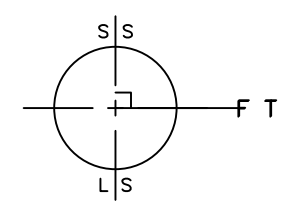
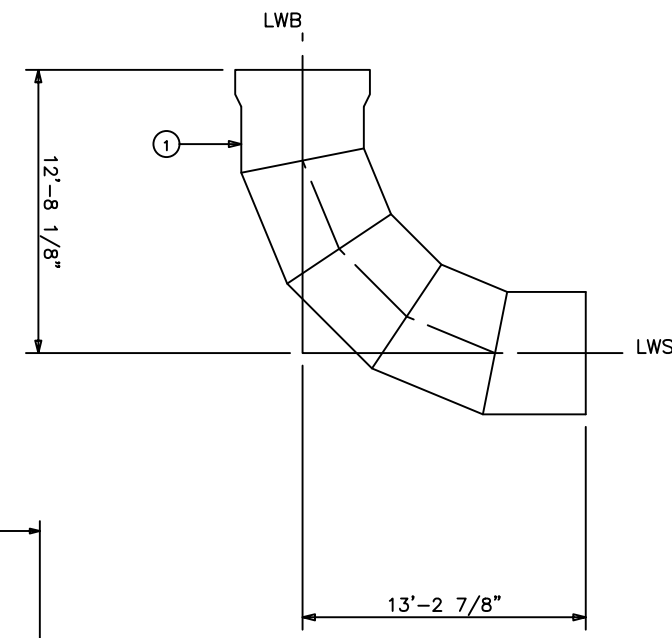
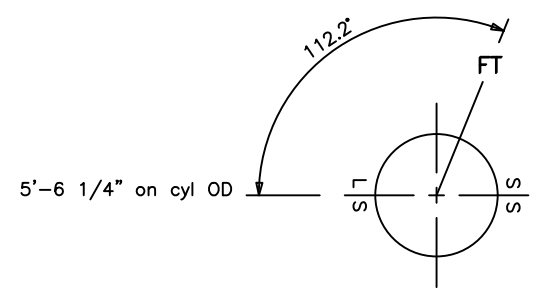
66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036 S13

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LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 20'-5 5/8"	D3-A
	1	LWB END	D5-A
	1	LWS END	D5-A



	CUT 1	CUT 2	CUT 3	CUT 4
1) 0"	17 3/16"	94 5/16"	144 1/2"	221 5/8"
2) 26 9/16"	19 3/16"	92 3/8"	146 1/2"	219 5/8"
3) 53 1/8"	23 15/16"	87 9/16"	151 1/4"	214 7/8"
4) 79 11/16"	28 11/16"	82 13/16"	156"	210 1/8"
5) 106 5/16"	30 11/16"	80 7/8"	157 15/16"	208 3/16"

Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333
 Inflection: 90.00"
 Radius: 160.00"
 SS Chord: 14'-3 7/8"

B43
 L3
 CS# 4

CAD File: 200036-S15.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

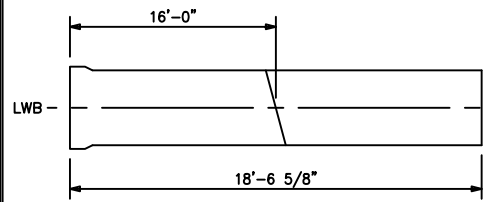
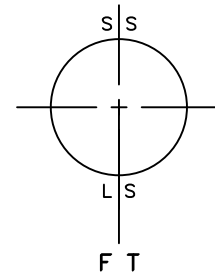
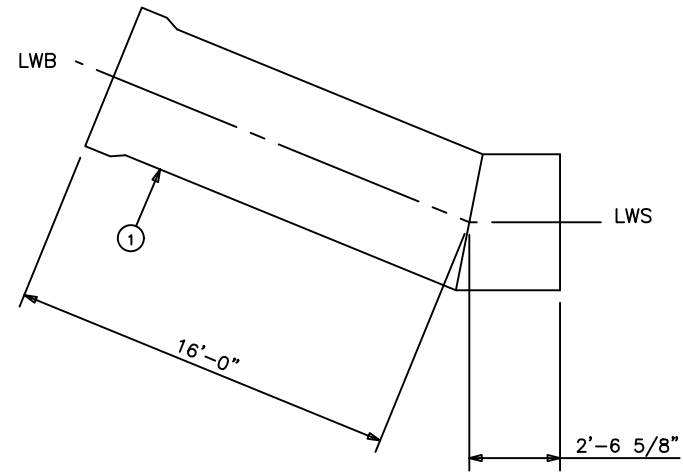
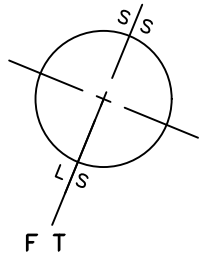
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158	200036	S15
CHECKED:					

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 18'-6 5/8"	D3-A
	1	LWB END	D5-A
	1	LWS END	D5-A



CUT 1

1) 0"	185 3/8"
2) 26 9/16"	187 5/16"
3) 53 1/8"	192"
4) 79 11/16"	196 11/16"
5) 106 5/16"	198 5/8"

Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333
 Inflection: 22.23°
 SS Chord: 17'-3 3/4"

B44
L3
CS# 5

CAD File: 200036-S16.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:50 PM

NO.	REVISION	DATE	BY	CHK



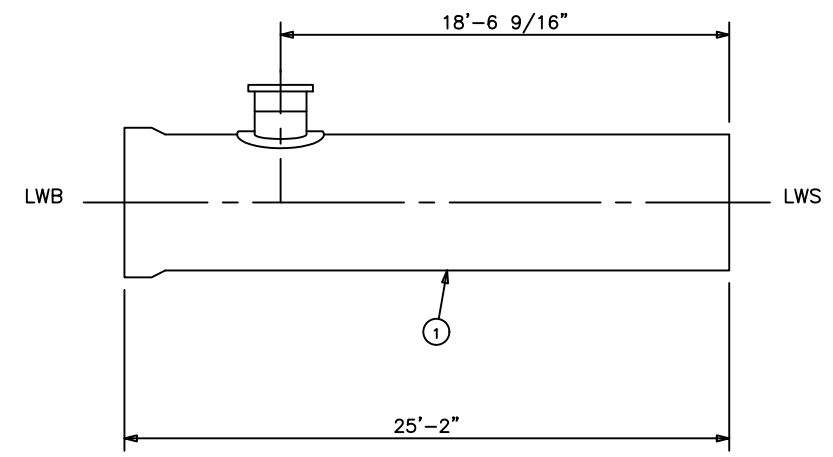
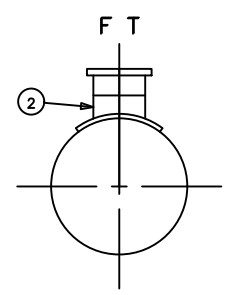
66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036 S16

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 25'-2"	D3-A
2	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-A
	1	LWB END	D5-A
	1	LWS END	D5-A



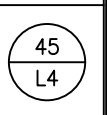
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NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S17	
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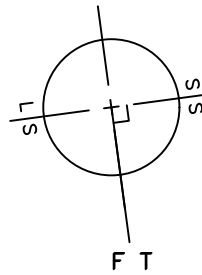
Lining: C205 Cement Mortar
Coating: C222 Polyurethane
Class: 150-19-0.333



66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

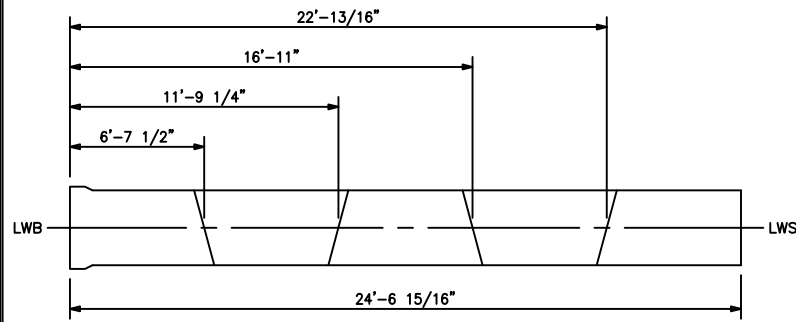
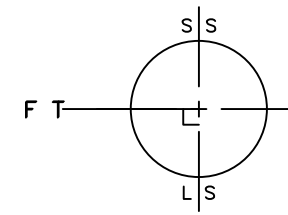
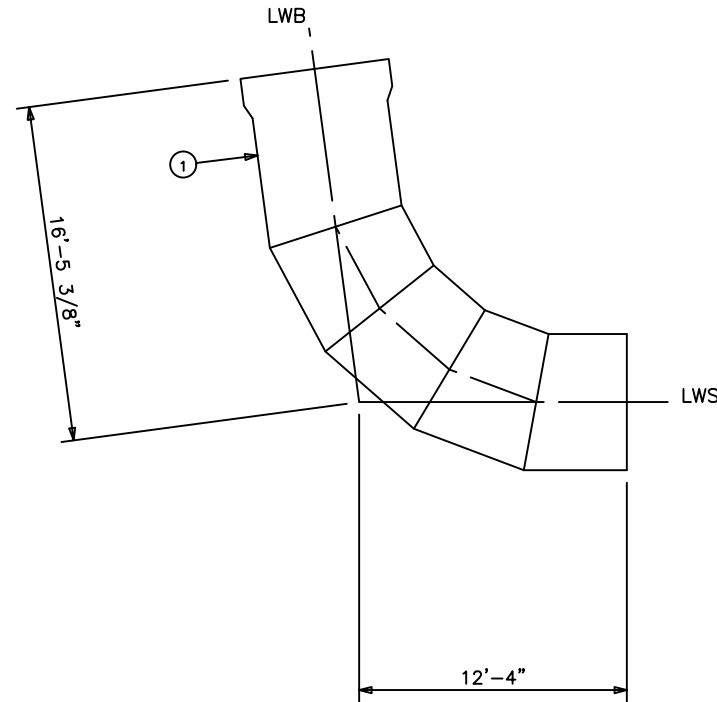
REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	



LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 24'-6 15/16"	D3-A
	1	LWB END	D5-A
	1	LWS END	D5-A



	CUT 1	CUT 2	CUT 3	CUT 4
1) 0"	73 5/16"	147 3/8"	196 7/8"	270 15/16"
2) 26 9/16"	75 1/8"	145 5/8"	198 11/16"	269 1/8"
3) 53 1/8"	79 1/2"	141 1/4"	203"	264 13/16"
4) 79 11/16"	83 13/16"	136 15/16"	207 3/8"	260 7/16"
5) 106 5/16"	85 5/8"	135 1/8"	209 3/16"	258 5/8"

Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333
 Inflection: 82.37"
 Radius: 170.00"
 SS Chord: 18'-1 5/8"

B46
L4
CS# 6

CAD File: 200036-S18.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

NO.	REVISION	DATE	BY	CHK



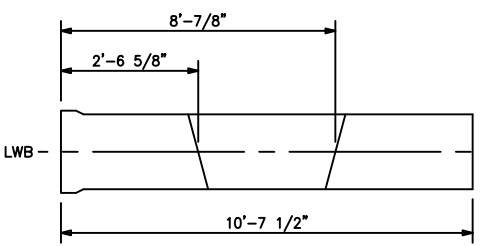
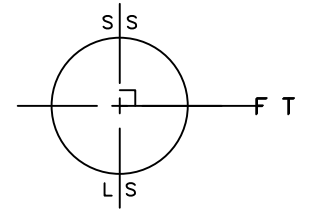
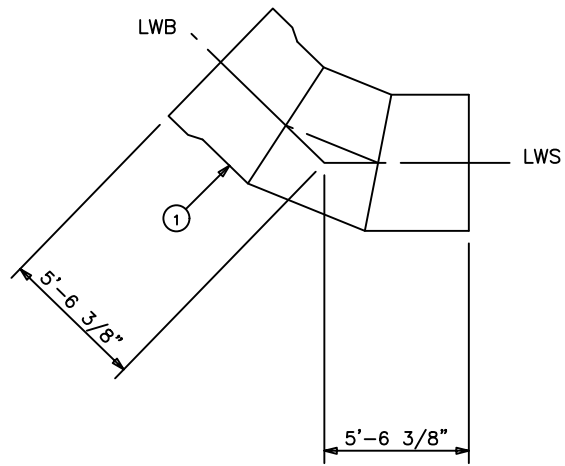
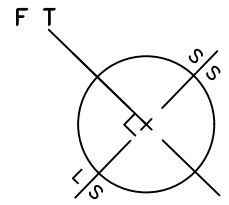
66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			S18

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 10'-7 1/2"	D3-A
	1	LWB END	D5-A
	1	LWS END	D5-A



	CUT 1	CUT 2
1) 0"	24"	103 1/2"
2) 26 9/16"	25 15/16"	101 9/16"
3) 53 1/8"	30 5/8"	96 7/8"
4) 79 11/16"	35 1/4"	92 1/4"
5) 106 5/16"	37 3/16"	90 5/16"

Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333
 Inflection: 44.14'
 Radius: 170.00"
 SS Chord: 8'-1 7/16"

B54
 L4
 CS# 3

CAD File: 200036-S19.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

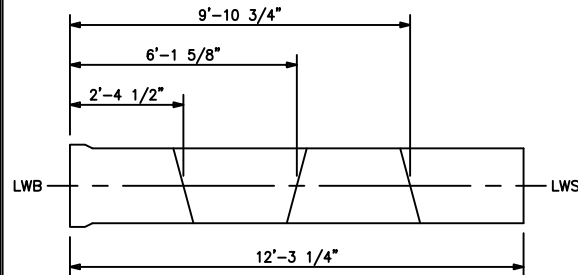
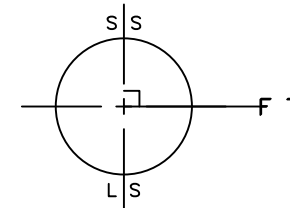
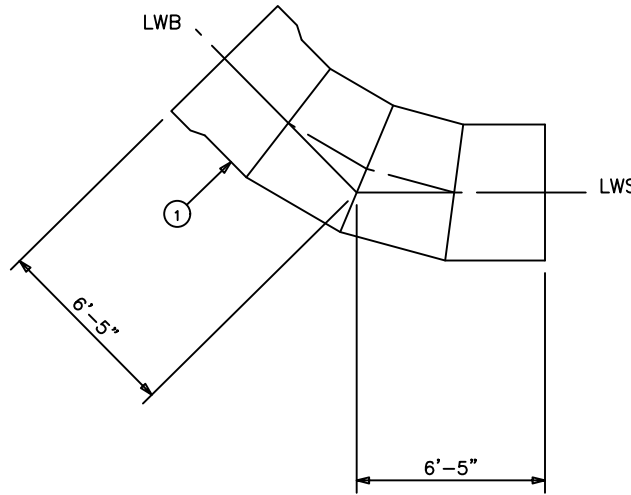
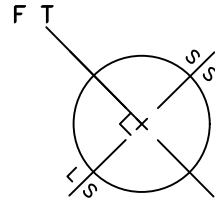
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158	200036	S19
CHECKED:					

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

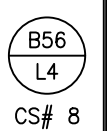
LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 12'-3 1/4"	D3-A
	1	LWB END	D5-A
	1	LWS END	D5-A



	CUT 1	CUT 2	CUT 3
1) 0"	24"	78 1/8"	114 1/4"
2) 26 9/16"	25 5/16"	76 13/16"	115 9/16"
3) 53 1/8"	28 1/2"	73 5/8"	118 3/4"
4) 79 11/16"	31 11/16"	70 7/16"	121 15/16"
5) 106 5/16"	33"	69 1/8"	123 1/4"

Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333
 Inflection: 45.37"
 Radius: 170.00"
 SS Chord: 9'-7 13/16"



CAD File: 200036-S20.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN: MD		9/10/20		QUOTE: 131014-158		200036		S20	
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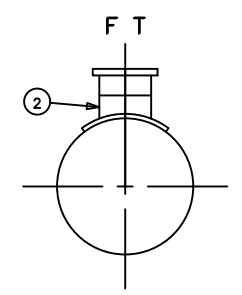
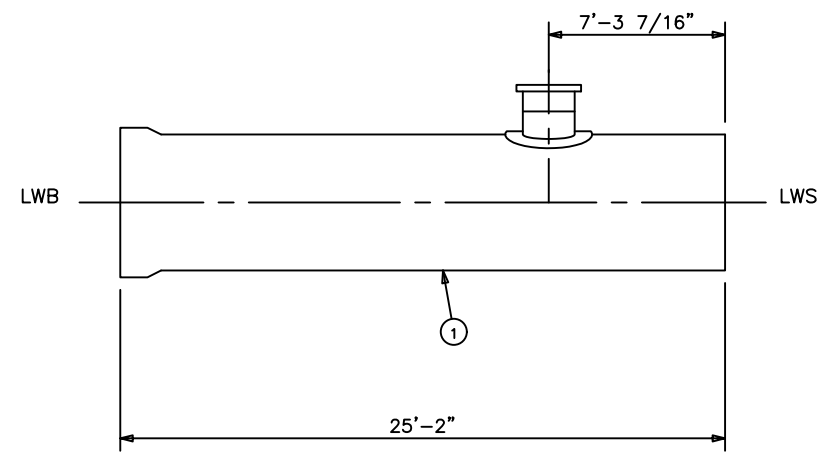
66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 25'-2"	D3-A
2	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-A
	1	LWB END	D5-A
	1	LWS END	D5-A



CAD File: 200036-S21.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S21	
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Lining: C205 Cement Mortar
Coating: C222 Polyurethane
Class: 150-19-0.333

58
L4

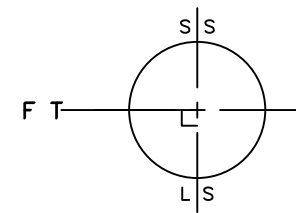
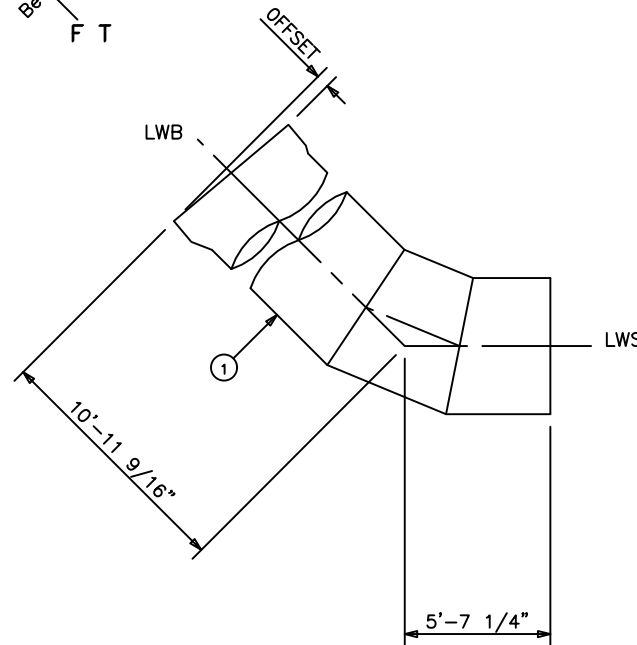
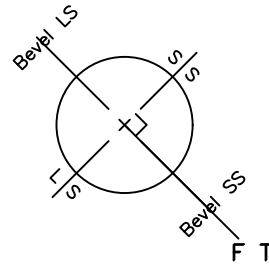
66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

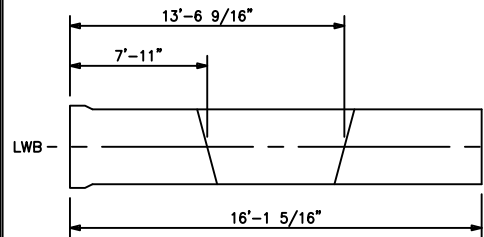
LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 16'-1 5/16"	D3-A
	1	LWB END	D5-A
	1	LWS END	D5-A



BEVEL END SHOWN IN ROTATED VIEW:
 OAL @ LS: 16'-1 5/16"
 OAL @ SS: 15'-11 13/16"
 BEVEL ANGLE: 1.27°



	CUT 1	CUT 2
1) 0"	88 5/16"	169 5/16"
2) 26 9/16"	90 5/16"	167 5/16"
3) 53 1/8"	95"	162 9/16"
4) 79 11/16"	99 13/16"	157 13/16"
5) 106 5/16"	101 3/4"	155 7/8"

Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333
 Inflection: 44.94°
 Radius: 170.00"
 SS Chord: 13'-3 3/4"

B73
L5
CS# 9

CAD File: 200036-S22.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

NO.	REVISION	DATE	BY	CHK



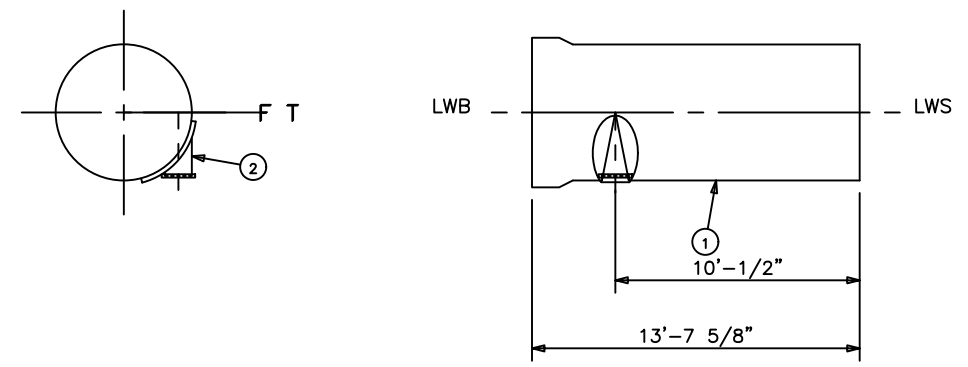
66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX		SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158	200036	S22
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LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 13'-7 5/8"	D3-A
2	1	12" FED TANGENTIAL OUTLET w/40 1/4" CIRCUM. WIDTH x 22 1/2" LONG x 3/16" COLLAR	D20-A
	1	LWB END	D5-A
	1	LWS END	D5-A



CAD File: 200036-S23.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S23	
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Lining: C205 Cement Mortar
Coating: C222 Polyurethane
Class: 150-19-0.333

SX75
L6
CS# 10

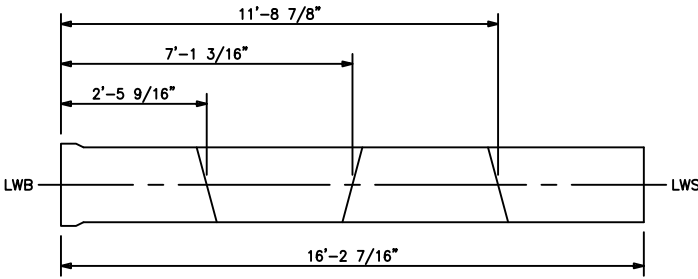
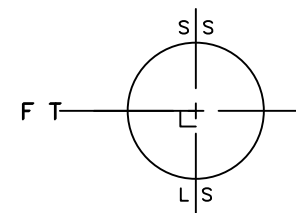
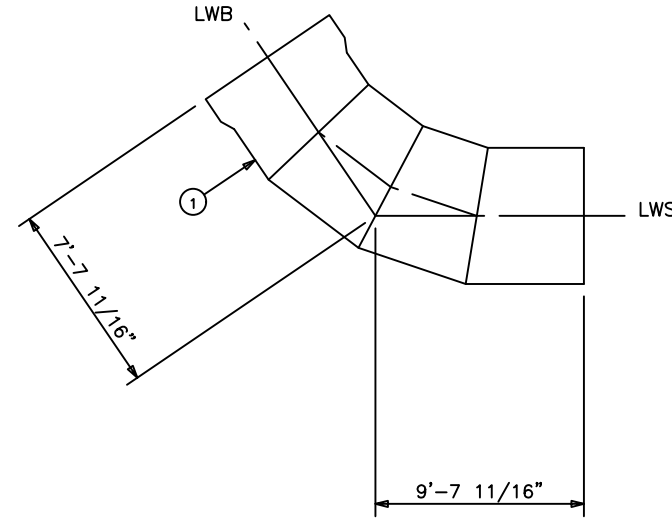
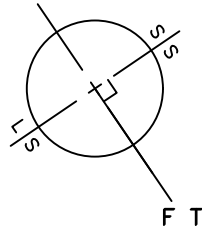
66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 16'-2 7/16"	D3-A
	1	LWB END	D5-A
	1	LWS END	D5-A



	CUT 1	CUT 2	CUT 3
1) 0"	24"	90 3/4"	135 5/16"
2) 26 9/16"	25 5/8"	89 1/8"	136 15/16"
3) 53 1/8"	29 9/16"	85 3/16"	140 7/8"
4) 79 11/16"	33 7/16"	81 5/16"	144 13/16"
5) 106 5/16"	35 1/16"	79 11/16"	146 7/16"

Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333
 Inflection: 55.79"
 Radius: 170.00"
 SS Chord: 12'-7 7/8"

B76
L6
CS# 11

CAD File: 200036-S24.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX	
				QUOTE: 131014-158	200036

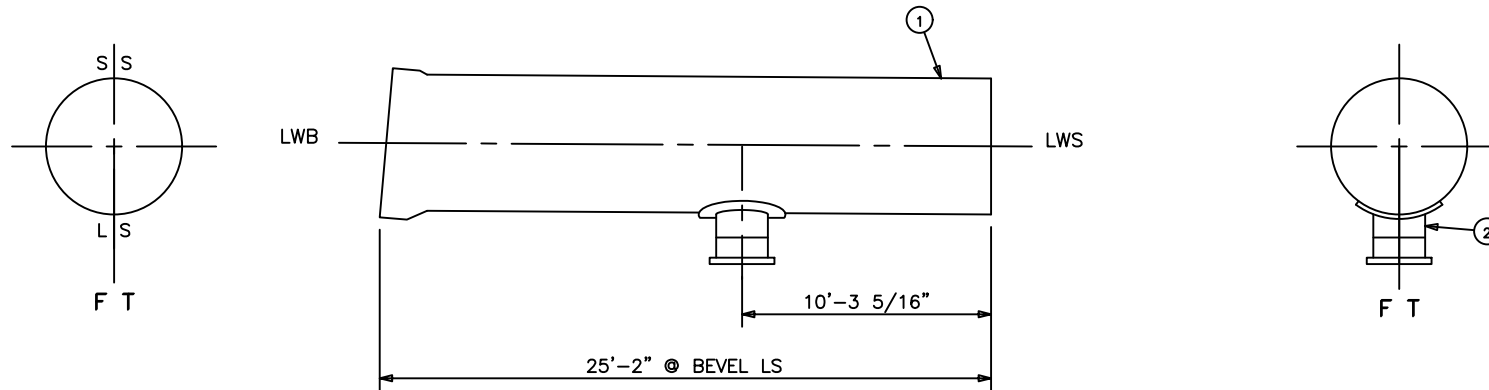
REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 25'-2"	D3-A
2	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-A
	1	LWB END	D5-A
	1	LWS END	D5-A

BEVEL DATA:
 OAL @ LS: 25'-2"
 OAL @ SS: 25'-1/2"
 BEVEL ANGLE: 1.27°



CAD File: 200036-S25.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333

81
L6

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S25	
CHECKED									

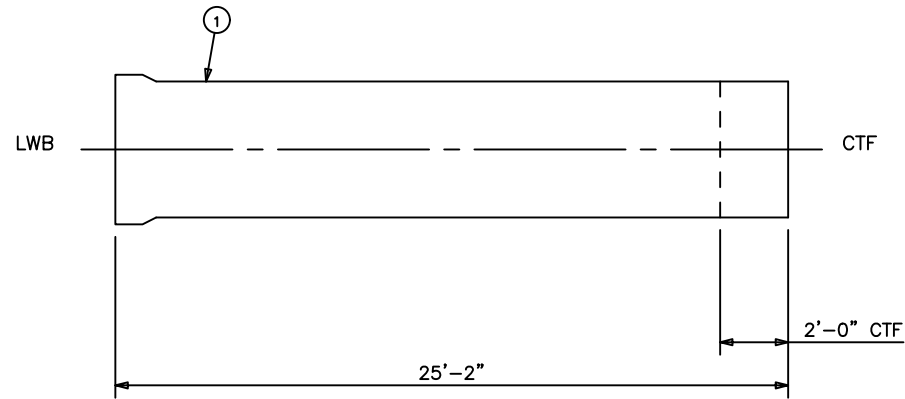
66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

CTF	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	2	66" S-200 x 0.333" x 25'-2"	D3-A
	2	LWB END	D5-A
	2	CTF END	D10-A



CAD File: 200036-S26.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S26	
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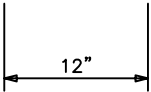
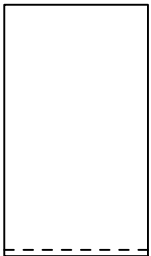
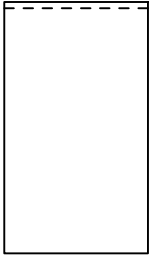
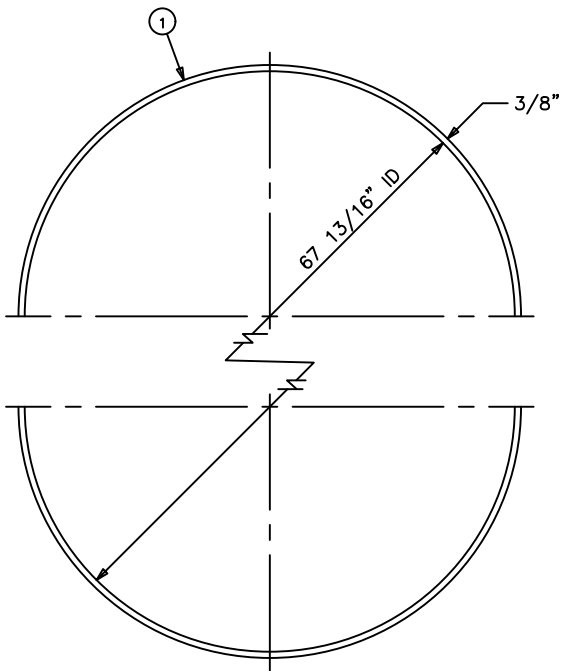
Lining: C205 Cement Mortar
Coating: C222 Polyurethane
Class: 150-19-0.333

A614 L20
A99 L7

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

ITEM No	QTY	DESCRIPTION	REF SHEET
1	5	12" x 3/8" x 214 1/8" LONG BUTTSTRAP	D10-A

Piece No.	Ref Sheet
BS99A	L7
BS205A	L15
BS600A	L20
BS614A	L20
BS700A	L22



CAD File: 200036-S27.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN		MD	9/10/20	QUOTE:	131014-158	200036	S27
		CHECKED							

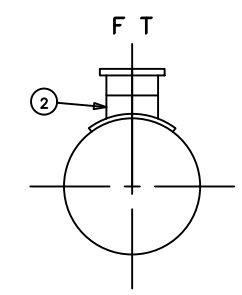
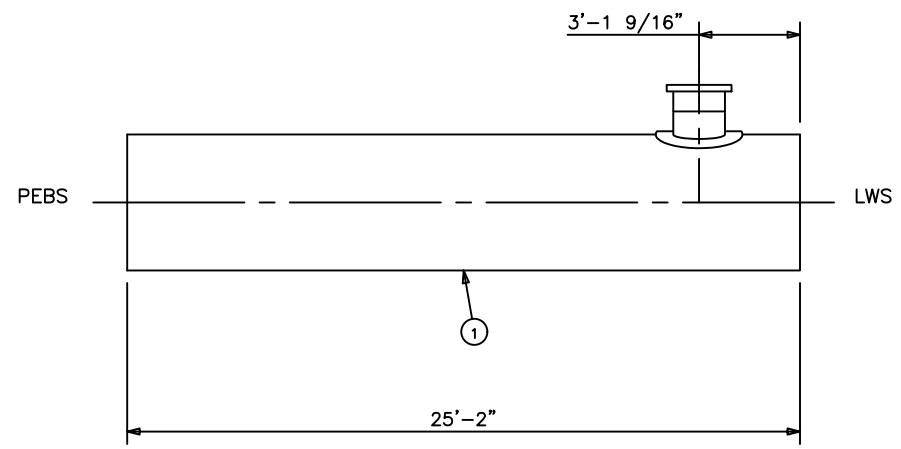
66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

PEBS	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 25'-2"	D3-A
2	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-A
	1	PEBS END	D10-A
	1	LWS END	D5-A



CAD File: 200036-S28.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

Lining: C205 Cement Mortar
Coating: C222 Polyurethane
Class: 150-19-0.333

A100
L7

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		CHECKED		QUOTE: 131014-158		200036		S28	
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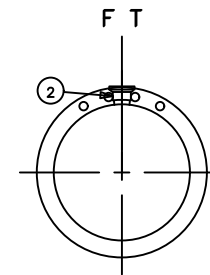
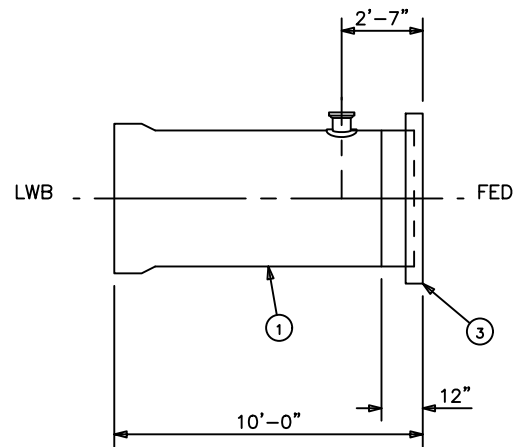
66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

FED	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 9'-0"	D3-A
2	1	4" FE150 RADIAL OUTLET w/7 3/4" CIRCUM. WIDTH x 7 1/2" LONG x 3/16" COLLAR	D15-A
	1	LWB END	D5-A
3	1	FED SKIRTED FLANGE	D7-A



FLANGES TO BE TWO-HOLED ON FIELD TOP.

FLG EDGE & BACK: C222 Polyurethane
FLG MACHINED FACE: Shop Primer

CAD File: 200036-S29.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

Lining: C205 Cement Mortar
Coating: C222 Polyurethane
Class: 150-19-0.333

A102
L7
CS# 9

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S29	
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66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

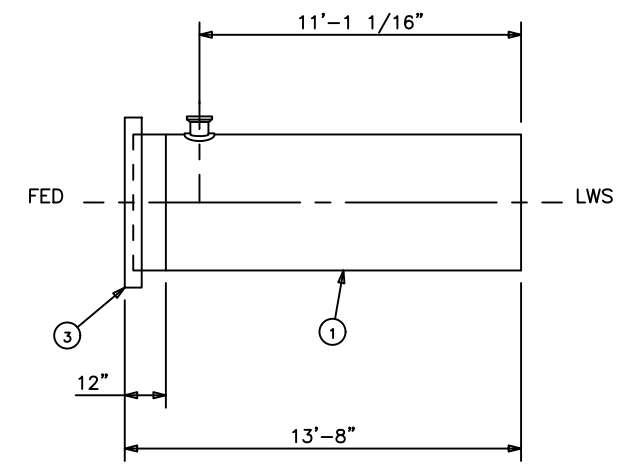
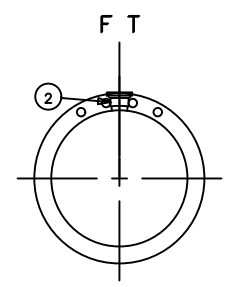
REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

FED	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 12'-8"	D3-A
2	1	4" FE150 RADIAL OUTLET w/7 3/4" CIRCUM. WIDTH x 7 1/2" LONG x 3/16" COLLAR	D15-A
3	1	FED SKIRTED FLANGE	D7-A
	1	LWS END	D5-A

FLANGES TO BE TWO-HOLED ON FIELD TOP.
 FLG EDGE & BACK: C222 Polyurethane
 FLG MACHINED FACE: Shop Primer



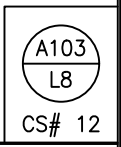
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NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S30	
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Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333



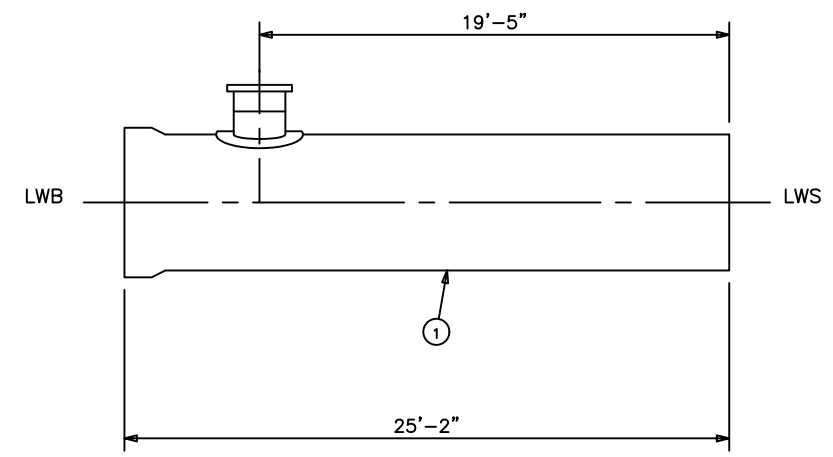
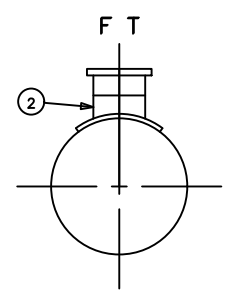
66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 25'-2"	D3-A
2	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-A
	1	LWB END	D5-A
	1	LWS END	D5-A



CAD File: 200036-S31.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S31	
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Lining: C205 Cement Mortar
Coating: C222 Polyurethane
Class: 150-19-0.333

104
L8

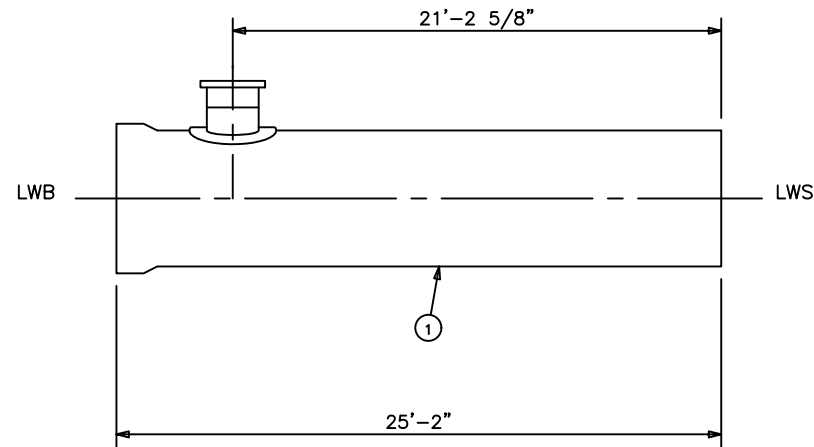
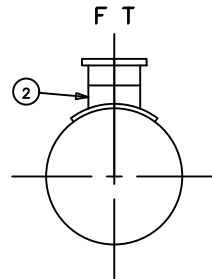
66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 25'-2"	D3-A
2	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-A
	1	LWB END	D5-A
	1	LWS END	D5-A



CAD File: 200036-S32.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

Lining: C205 Cement Mortar
Coating: C222 Polyurethane
Class: 150-19-0.333

139
L10

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S32	
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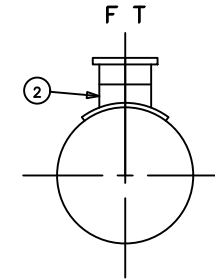
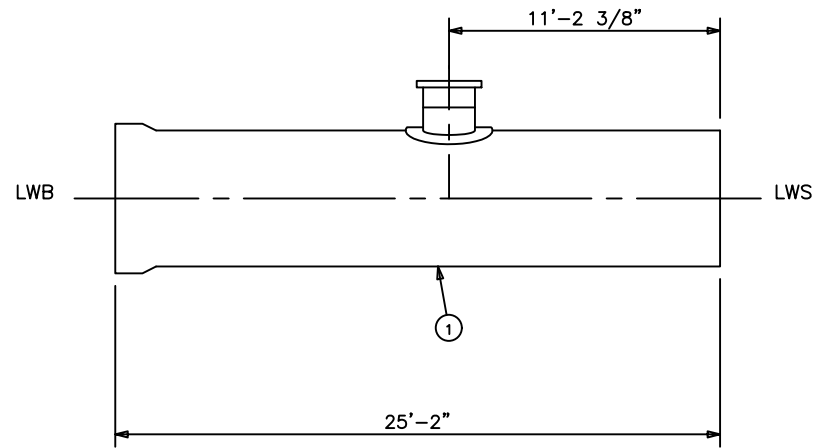
66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 25'-2"	D3-A
2	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-A
	1	LWB END	D5-A
	1	LWS END	D5-A



CAD File: 200036-S33.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

Lining: C205 Cement Mortar
Coating: C222 Polyurethane
Class: 150-19-0.333

166
L12

NO.	REVISION	DATE	BY	CHK



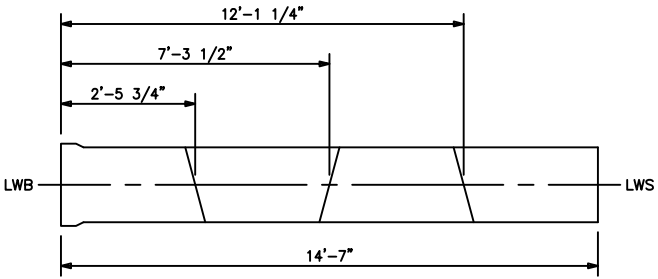
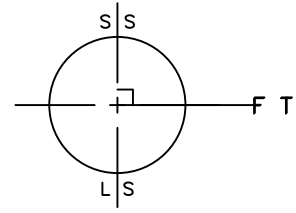
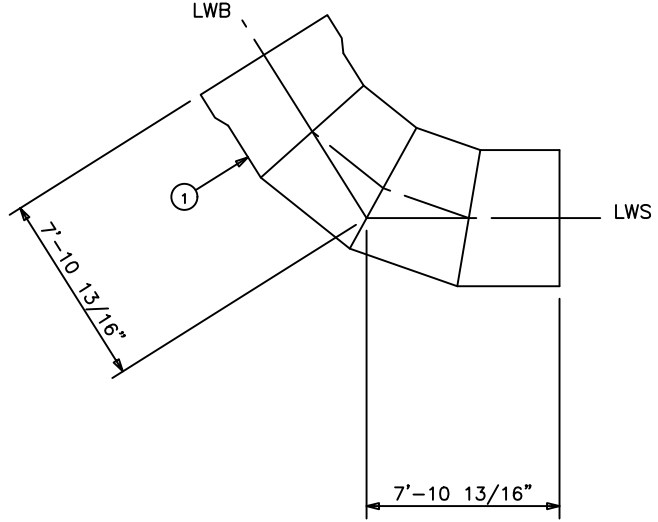
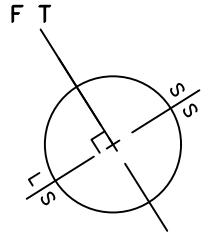
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66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX									

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 14'-7"	D3-A
	1	LWB END	D5-A
	1	LWS END	D5-A



	CUT 1	CUT 2	CUT 3
1) 0"	24"	93 1/4"	139 1/2"
2) 26 9/16"	25 11/16"	91 9/16"	141 3/16"
3) 53 1/8"	29 3/4"	87 1/2"	145 1/4"
4) 79 11/16"	33 13/16"	83 7/16"	149 5/16"
5) 106 5/16"	35 1/2"	81 3/4"	151"

Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333
 Inflection: 57.84°
 Radius: 170.00"
 SS Chord: 11'-1"

B202
L15
CS# 13

CAD File: 200036-S34.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

NO.	REVISION	DATE	BY	CHK



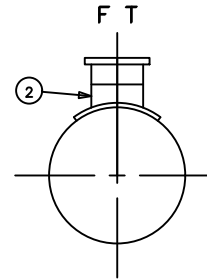
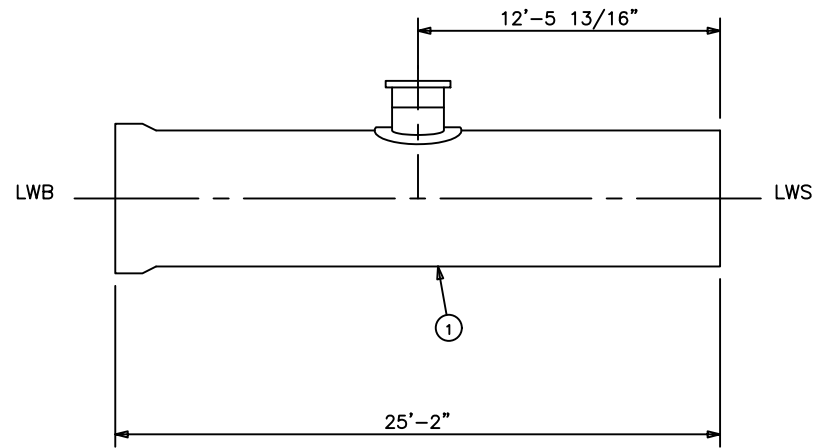
66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			S34

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 25'-2"	D3-A
2	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-A
	1	LWB END	D5-A
	1	LWS END	D5-A



CAD File: 200036-S35.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

Lining: C205 Cement Mortar
Coating: C222 Polyurethane
Class: 150-19-0.333

204
L15

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S35	
		CHECKED							

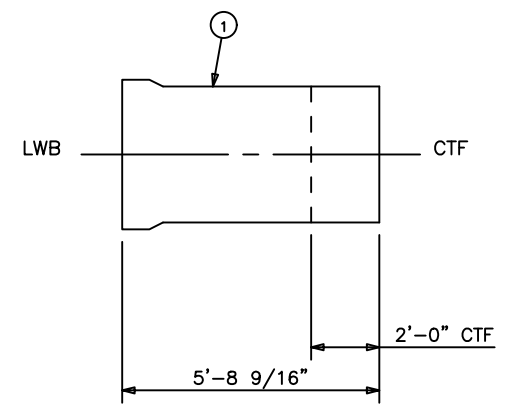
66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

CTF	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 5'-8 9/16"	D3-A
	1	LWB END	D5-A
	1	CTF END	D10-A



CAD File: 200036-S36.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158	200036	S36
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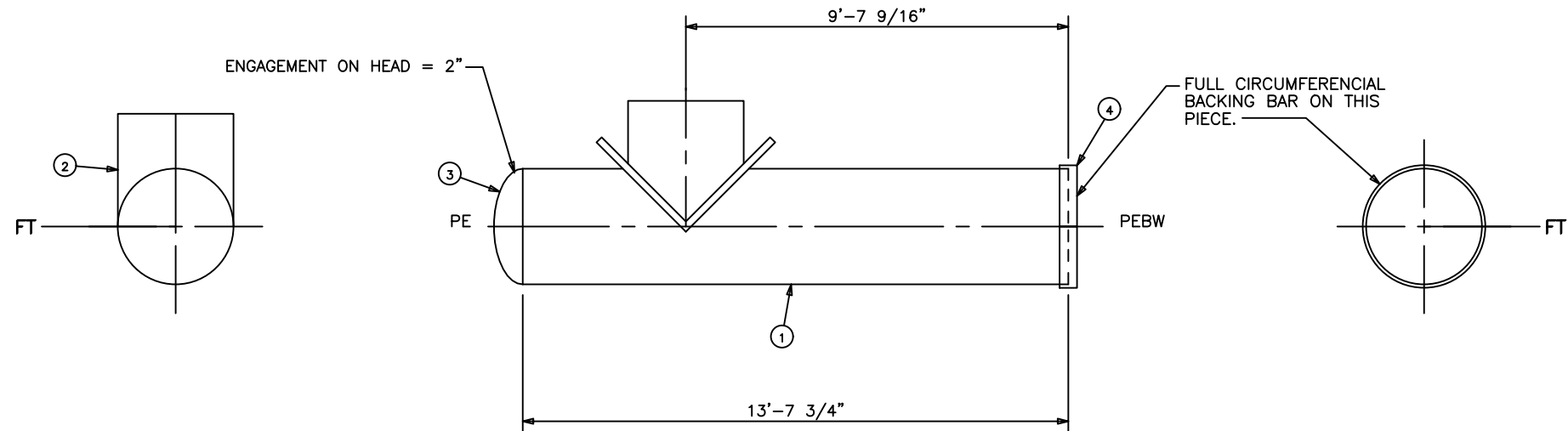
Lining: C205 Cement Mortar
Coating: C222 Polyurethane
Class: 150-19-0.333

A205
L15
CS# 7

66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

PE	HOLDBACK	GRIND	PEBW	HOLDBACK	GRIND	ITEM No	QTY	DESCRIPTION	REF SHEET
INTERIOR	FLUSH		INTERIOR	4.0		1	1	67.666" OD x 0.625" x 13'-7 3/4" ROLLED CYL	
EXTERIOR	6.0	6.0	EXTERIOR	6.0		2	1	66" PE RADIAL OUTLET	D16-A
						3	1	66.291" OD x 0.276" SEMI-ELLIPTICAL HEAD	D22-A
							1	PE END	
						4	1	PEBW END	D12-A



CAD File: 200036-S37.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

Lining: C210 Epoxy, 5/8"
 Coating: C222 Polyurethane, 25 MILS
 Class: 150-19-0.625

T300
L16

CS# 21

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S37	
		CHECKED							

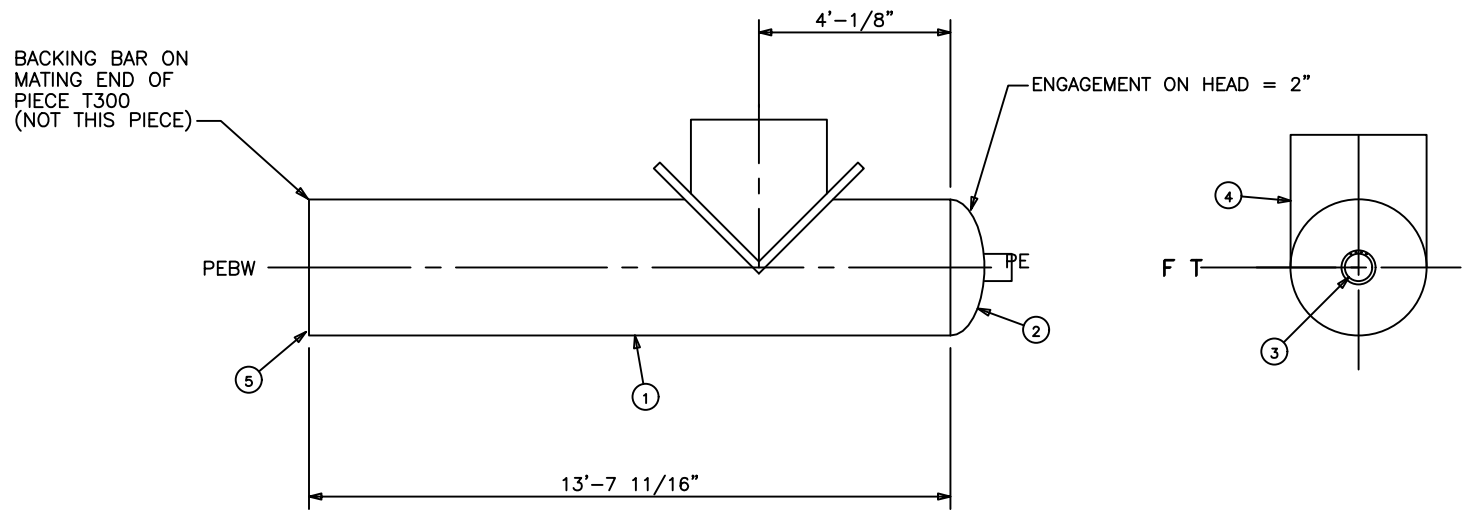
66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

PEBW	HOLDBACK	GRIND
INTERIOR	4.0	
EXTERIOR	6.0	

PE	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	67.666" OD x 0.625" x 13'-7 11/16" ROLLED CYL	
2	1	66.291" OD x 0.276" SEMI-ELLIPTICAL HEAD	D22-A
3	1	24" FED OUTLET	D17-A
4	1	66" PE RADIAL OUTLET	D16-A
5	1	PEBW END	D12-A
	1	PE END	



CAD File: 200036-S38.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

Lining: C210 Epoxy, 5/8"
 Coating: C222 Polyurethane, 25 MILS
 Class: 150-19-0.625

T301
L16

CS# 22

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		CHECKED		QUOTE: 131014-158	200036	S38
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66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

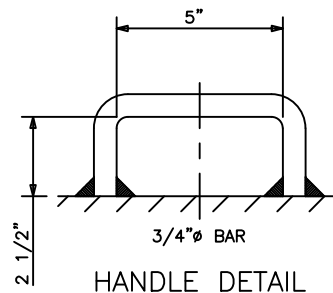
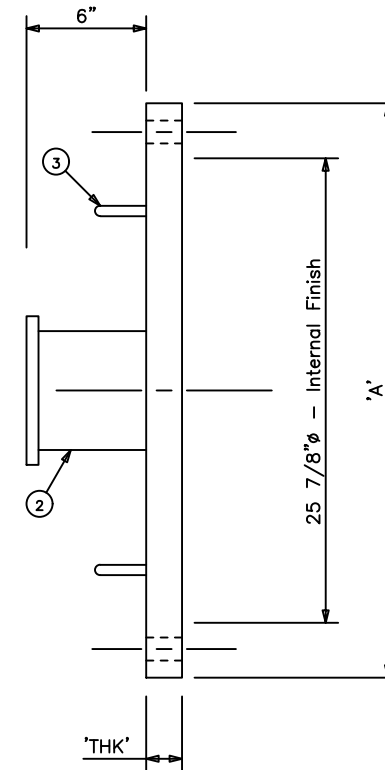
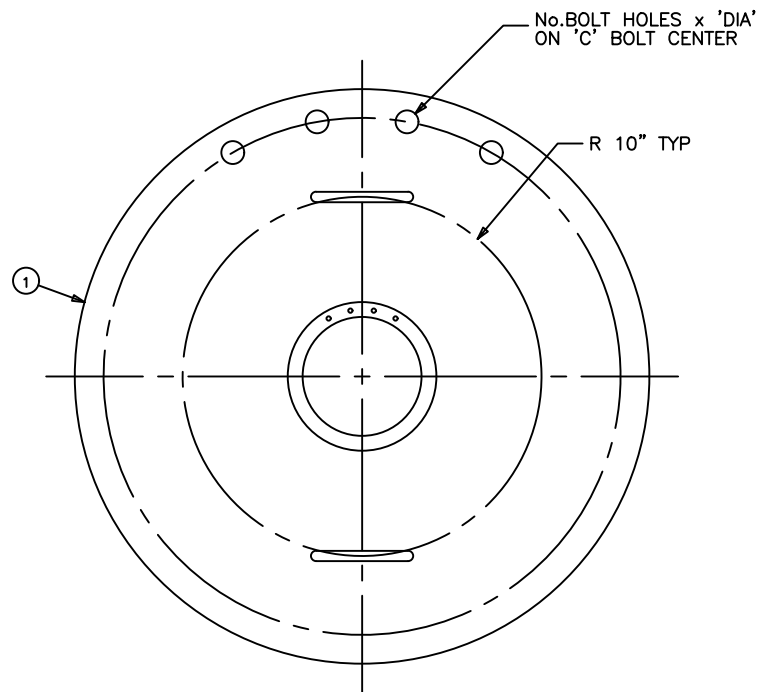
REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

FLANGE DATA

CLASS	NOM	'A'	No. BOLT HOLES	'C'	'DIA'	'THK'
D	24	32.000	20	29.500	1.375	1.661

ITEM No	QTY	DESCRIPTION	REF SHEET
1	2	24" CLASS D BLIND FLANGE	
2	2	6" FE150 OUTLET	D14-B
3	4	LIFTING HANDLE	

Piece No.	Ref Sheet
BF301A	L16
BF501A	L19



Internal Finish: C210 Epoxy
 External Finish: C222 Polyurethane
 Machined Face: Shop Primer

CAD File: 200036-S39.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:51 PM

NO.	REVISION	DATE	BY	CHK

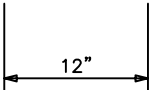
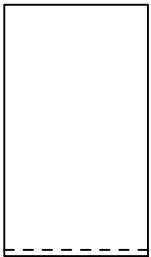
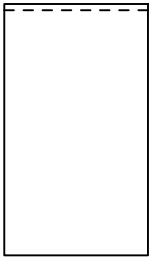
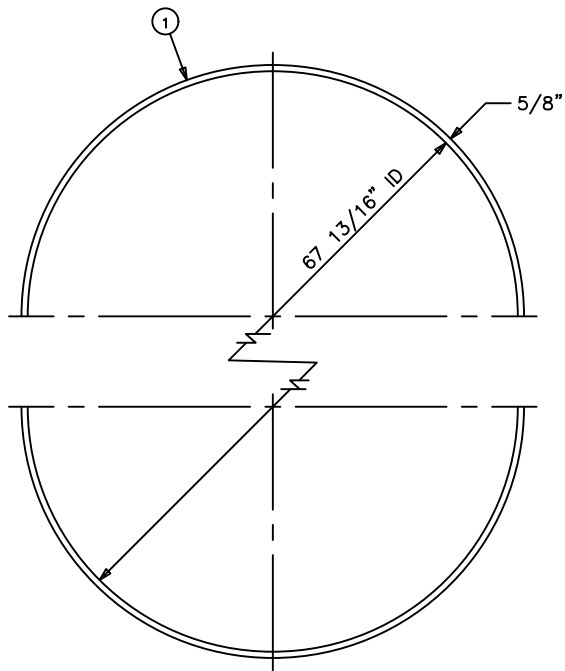


66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX		QUOTE: 131014-158	200036	S39
SCALE: NONE	DRAWN: MD	CHECKED: 9/10/20		

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

ITEM No	QTY	DESCRIPTION	REF SHEET
1	2	12" x 5/8" x 214 15/16" LONG BUTTSTRAP	D11-A

Piece No.	Ref Sheet
BS400A	L17
BS416A	L18



CAD File: 200036-S40.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

NO.	REVISION	DATE	BY	CHK



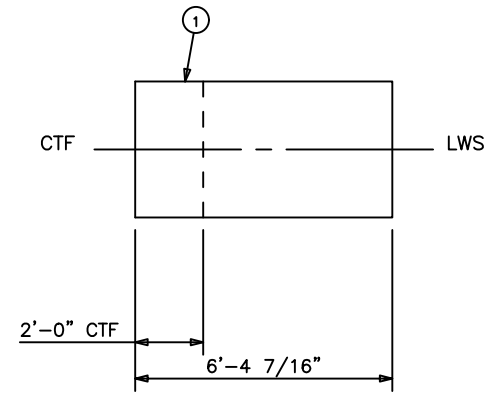
66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX					
SCALE: NONE	DRAWN CHECKED	MD	9/10/20	QUOTE: 131014-158	200036 S40

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

CTF	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 6'-4 7/16"	D4-A
	1	CTF END	D11-A
	1	LWS END	D6-A



CAD File: 200036-S41.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

Lining: C210 Epoxy
 Coating: C222 Polyurethane
 Class: 150-19-0.333

A400
L17

CS# 14

NO.	REVISION	DATE	BY	CHK



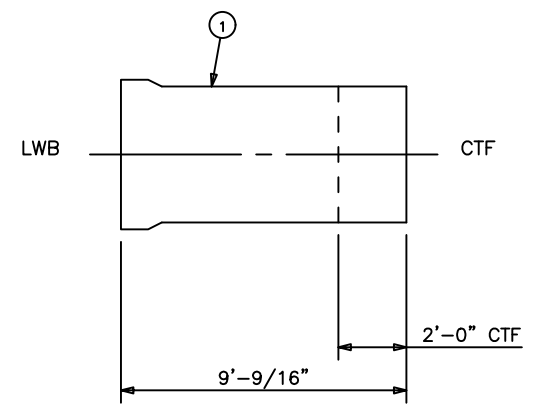
SCALE: NONE		DRAWN MD 9/10/20		66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX	
				QUOTE: 131014-158	200036

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	4.03.0
EXTERIOR	6.0	

CTF	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 9'-9/16"	D4-A
	1	LWB END	D6-A
	1	CTF END	D11-A



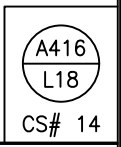
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NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158	200036	S42
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Lining: C210 Epoxy
Coating: C222 Polyurethane
Class: 150-19-0.333



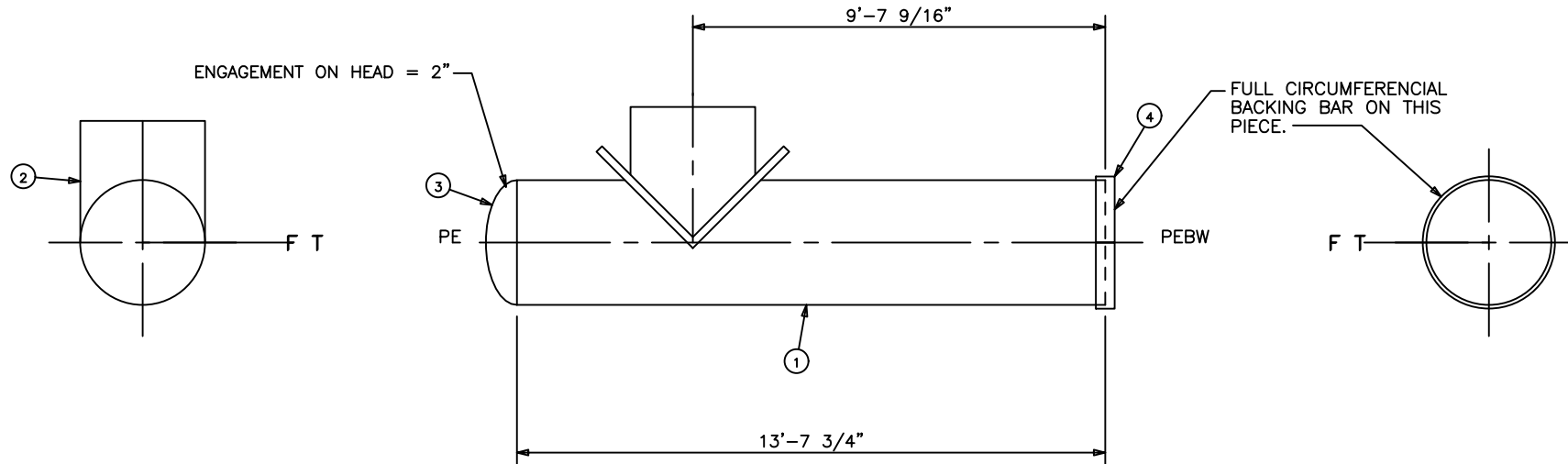
66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

PE	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0

PEBW	HOLDBACK	GRIND
INTERIOR	4.0	
EXTERIOR	6.0	

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	67.666" OD x 0.625" x 13'-7 3/4" ROLLED CYL	
2	1	66" PE RADIAL OUTLET	D16-A
3	1	66.291" OD x 0.276" SEMI-ELLIPTICAL HEAD	D22-A
	1	PE END	
4	1	PEBW END	D12-A



CAD File: 200036-S43.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

Lining: C210 Epoxy, 5/8"
 Coating: C222 Polyurethane, 25 MILS
 Class: 150-19-0.625

T500
L19

CS# 23

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN	MD	9/10/20	CHECKED	QUOTE:	200036	S43
						131014-158		

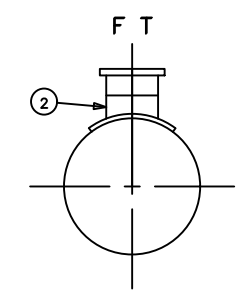
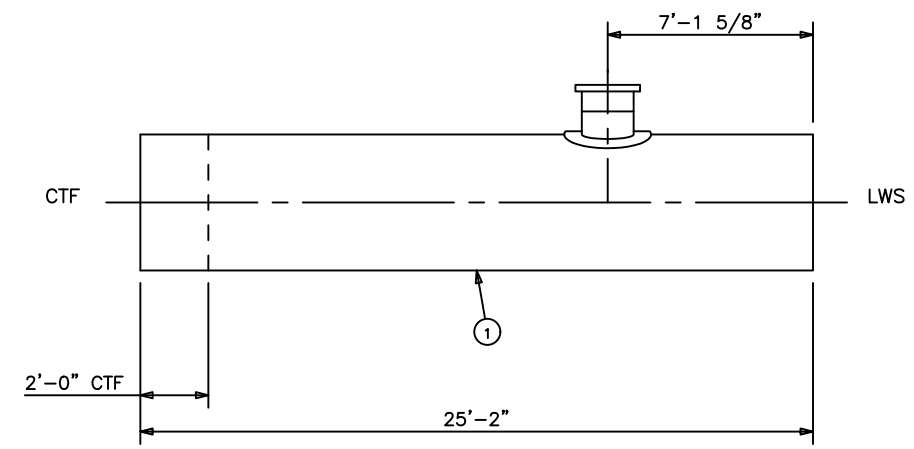
66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

CTF	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 25'-2"	D3-A
2	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-A
	1	CTF END	D10-A
	1	LWS END	D5-A



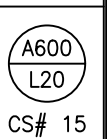
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NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S45	
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Lining: C205 Cement Mortar
Coating: C222 Polyurethane
Class: 150-19-0.333



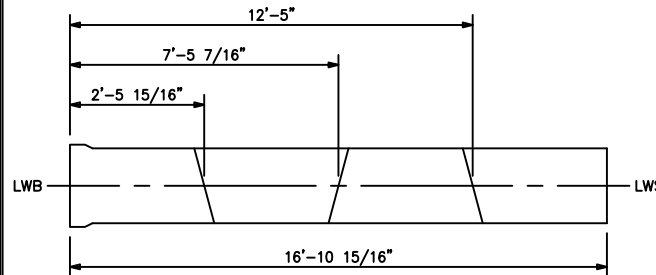
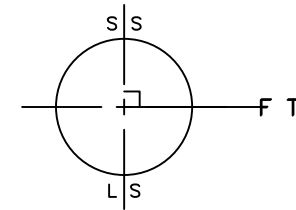
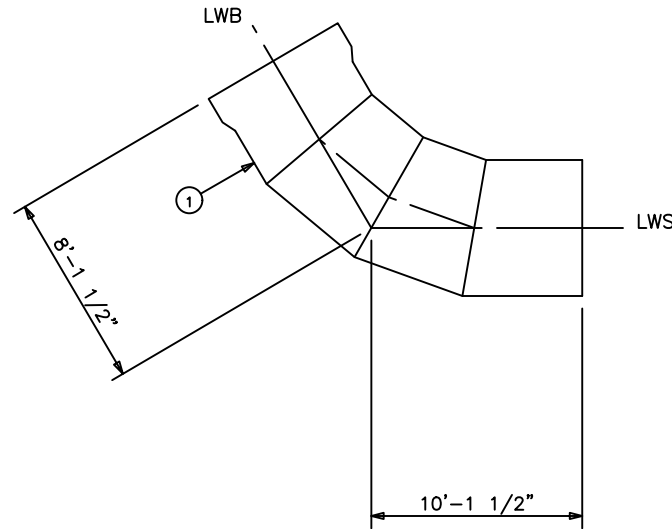
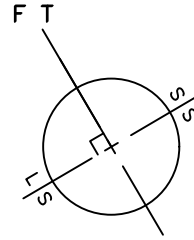
66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 16'-10 15/16"	D3-A
	1	LWB END	D5-A
	1	LWS END	D5-A



	CUT 1	CUT 2	CUT 3
1) 0"	24"	95 3/8"	143 1/16"
2) 26 9/16"	25 3/4"	93 5/8"	144 13/16"
3) 53 1/8"	29 15/16"	89 7/16"	149"
4) 79 11/16"	34 1/8"	85 1/4"	153 3/16"
5) 106 5/16"	35 7/8"	83 9/16"	154 15/16"

Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333
 Inflection: 59.59°
 Radius: 170.00"
 SS Chord: 13'-11/16"

B602
 L20
 CS# 16

CAD File: 200036-S46.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

NO.	REVISION	DATE	BY	CHK



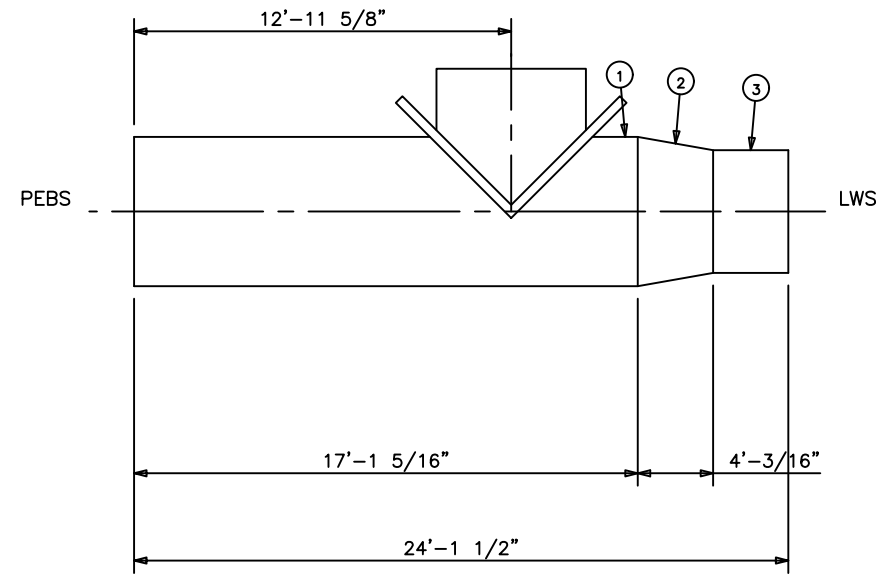
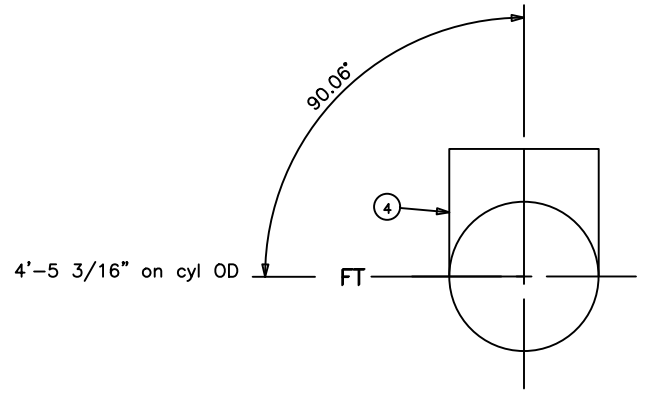
66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX		SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158	200036	S46
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REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

PEBS	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 17'-1 5/16"	D3-A
2	1	CONCENTRIC REDUCER: 67.666" x 55.625" x 0.333" x 4'-3/16"L	
3	1	55.625" OD x 0.313" x 3'-0" ROLLED CYL	
4	1	66" PE RADIAL OUTLET	D18-A
	1	PEBS END	D10-A
	1	LWS END	D5-B



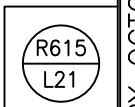
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NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S47	
		CHECKED							

Lining: C205 Cement Mortar
Coating: C222 Polyurethane
CS# 3&25



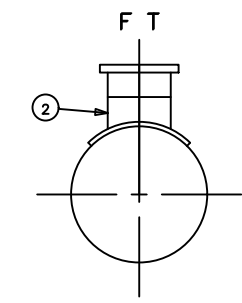
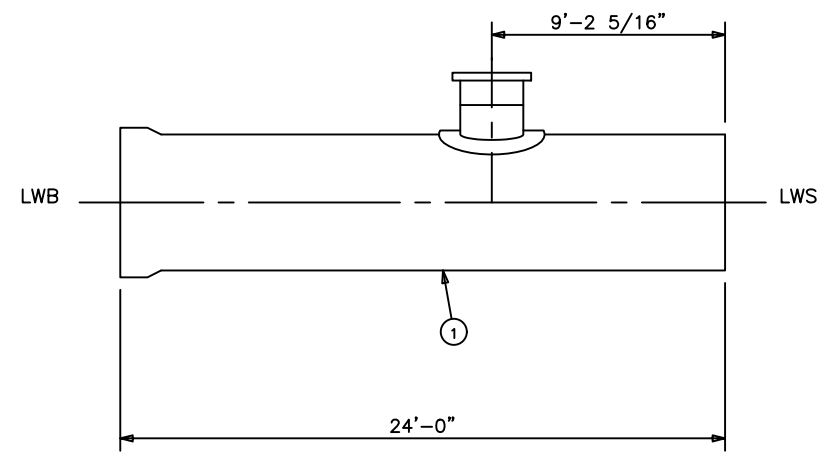
66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	55.625" OD x 0.313" x 24'-0" ROLLED CYL	
2	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-B
	1	LWB END	D5-B
	1	LWS END	D5-B



CAD File: 200036-S48.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

Lining: C205 Cement Mortar, 1/2"
Coating: C222 Polyurethane, 25 MILS
Class: 150-20-0.3125

A616
L21

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S48	
		CHECKED							

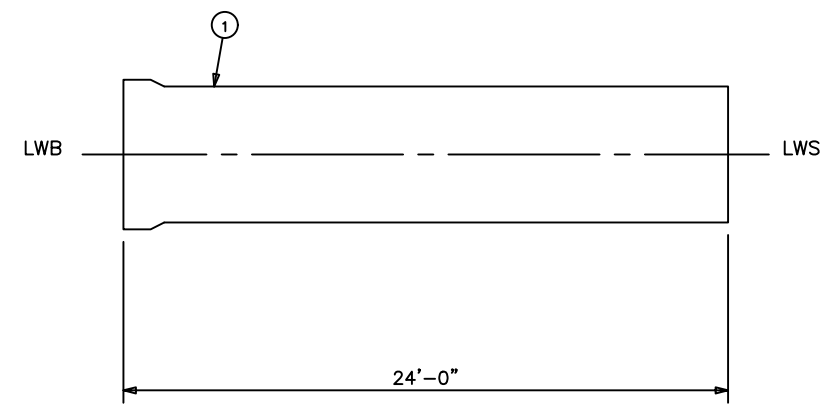
66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	3	55.625" OD x 0.313" x 24'-0" ROLLED CYL	
	3	LWB END	D5-B
	3	LWS END	D5-B



CAD File: 200036-S49.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN: MD		9/10/20		QUOTE: 131014-158		200036		S49	
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Lining: C205 Cement Mortar, 1/2"
Coating: C222 Polyurethane, 25 MILS
Class: 150-20-0.3125

A623 L21
A622 L21
A617 L21

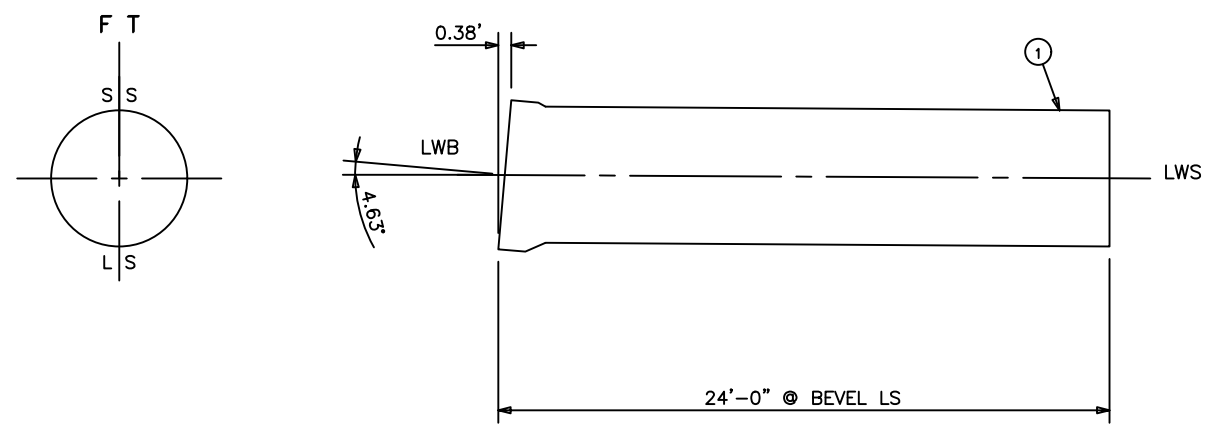
66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	55.625" OD x 0.313" x 24'-0" ROLLED CYL	
	1	LWB END	D5-B
	1	LWS END	D5-B



CAD File: 200036-S50.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

Lining: C205 Cement Mortar, 1/2"
 Coating: C222 Polyurethane, 25 MILS
 Class: 150-20-0.3125

A618
L21

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S50	
CHECKED									

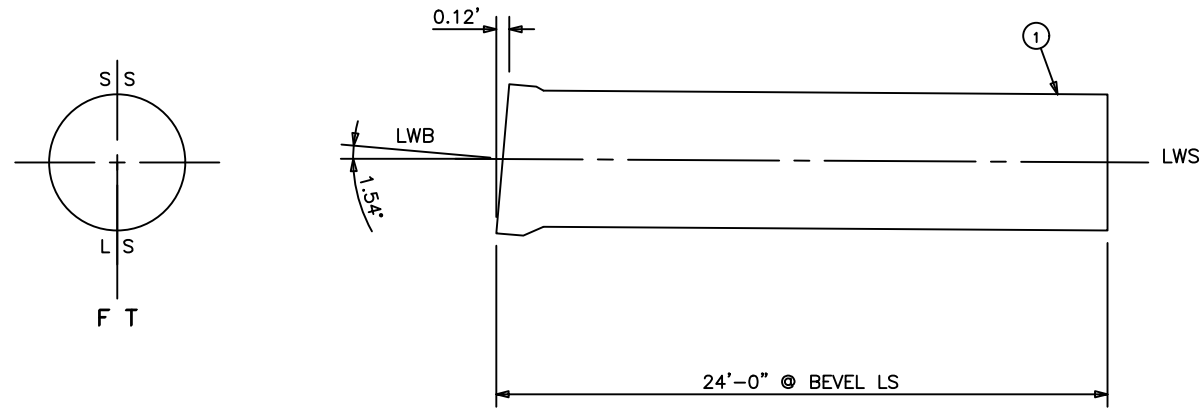
66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

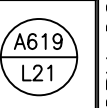
LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	55.625" OD x 0.313" x 24'-0" ROLLED CYL	
	1	LWB END	D5-B
	1	LWS END	D5-B



CAD File: 200036-S51.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

Lining: C205 Cement Mortar, 1/2"
 Coating: C222 Polyurethane, 25 MILS
 Class: 150-20-0.3125



66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

NO.	REVISION	DATE	BY	CHK



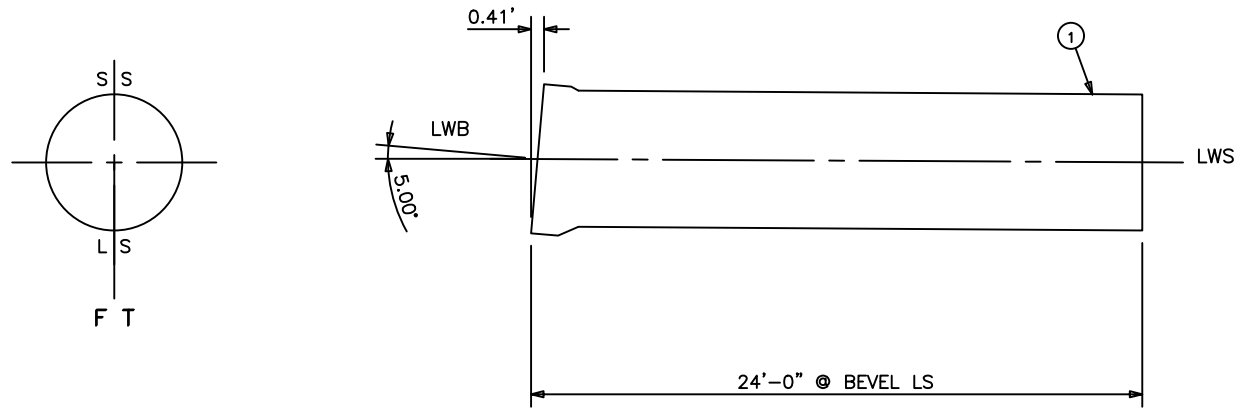
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158	200036	S51
CHECKED:					

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

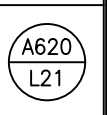
LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	55.625" OD x 0.313" x 24'-0" ROLLED CYL	
	1	LWB END	D5-B
	1	LWS END	D5-B



CAD File: 200036-S52.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

Lining: C205 Cement Mortar, 1/2"
 Coating: C222 Polyurethane, 25 MILS
 Class: 150-20-0.3125



66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

NO.	REVISION	DATE	BY	CHK



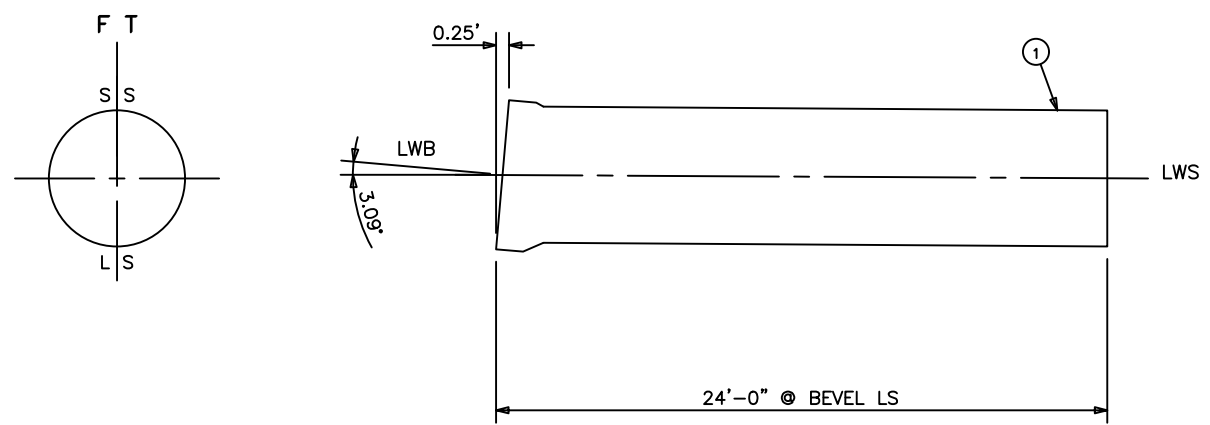
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158	200036	S52
CHECKED:					

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	55.625" OD x 0.313" x 24'-0" ROLLED CYL	
	1	LWB END	D5-B
	1	LWS END	D5-B



CAD File: 200036-S53.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

Lining: C205 Cement Mortar, 1/2"
 Coating: C222 Polyurethane, 25 MILS
 Class: 150-20-0.3125

A621
L21

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN: MD		9/10/20		QUOTE: 131014-158		200036		S53	
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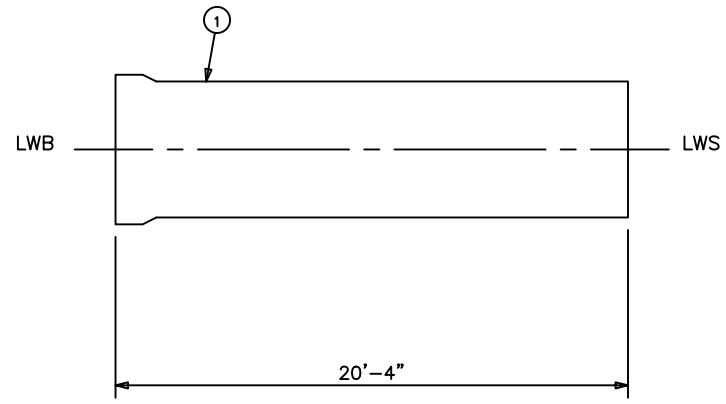
66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	55.625" OD x 0.313" x 20'-4" ROLLED CYL	
	1	LWB END	D5-B
	1	LWS END	D5-B



CAD File: 200036-S54.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

Lining: C205 Cement Mortar, 1/2"
 Coating: C222 Polyurethane, 25 MILS
 Class: 150-20-0.3125

A624
L21

CS# 25

NO.	REVISION	DATE	BY	CHK



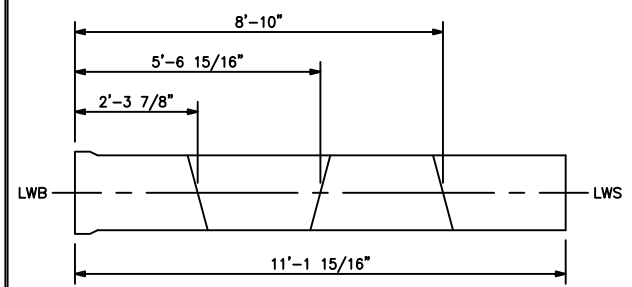
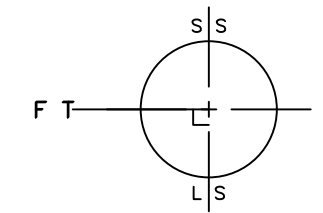
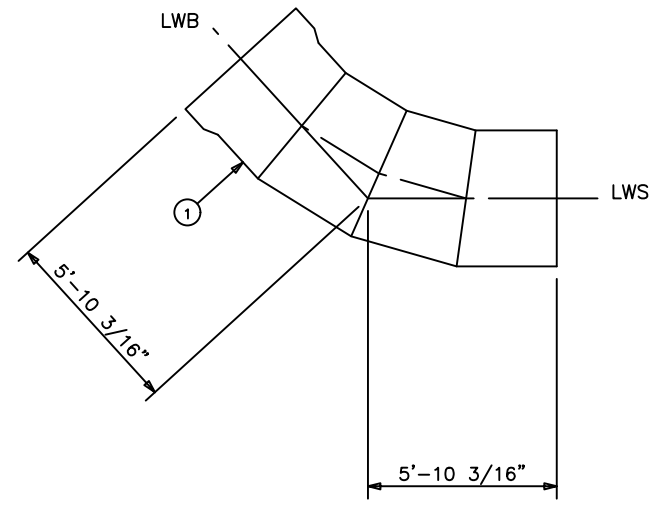
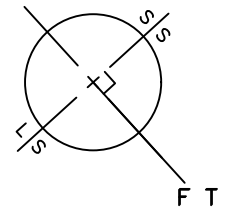
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						66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			

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LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	55.625" OD x 0.313" x 11'-1 15/16" ROLLED CYL	
	1	LWB END	D5-B
	1	LWS END	D5-B



	CUT 1	CUT 2	CUT 3
1) 0"	24"	70 13/16"	102 1/8"
2) 21 7/8"	25 1/8"	69 11/16"	103 5/16"
3) 43 11/16"	27 7/8"	66 15/16"	106"
4) 65 9/16"	30 5/8"	64 3/16"	108 3/4"
5) 87 3/8"	31 3/4"	63 1/16"	109 15/16"

Lining: C205 Cement Mortar, 1/2"
 Coating: C222 Polyurethane, 25 MILS
 Class: 150-20-0.3125
 Inflection: 47.67"
 Radius: 140.00"
 SS Chord: 8'-9 13/16"

B625
 L21
 CS# 26

CAD File: 200036-S55.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S55	
CHECKED									

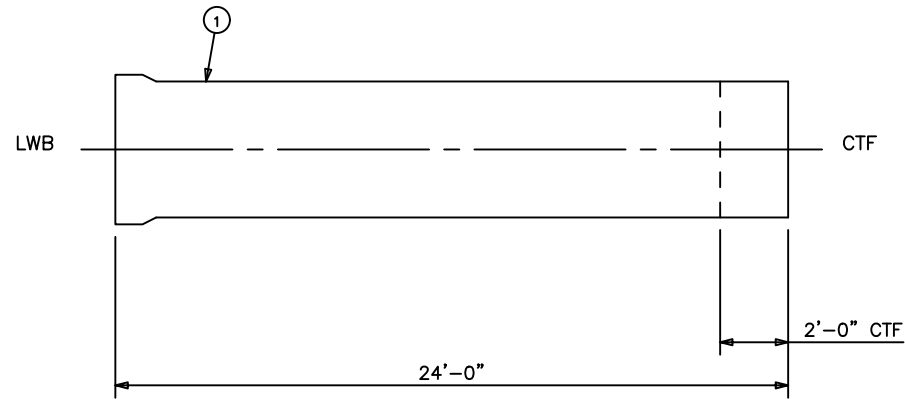
66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

CTF	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	55.625" OD x 0.313" x 24'-0" ROLLED CYL	
	1	LWB END	D5-B
	1	CTF END	D10-B



CAD File: 200036-S56.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

Lining: C205 Cement Mortar, 1/2"
 Coating: C222 Polyurethane, 25 MILS
 Class: 150-20-0.3125



66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

NO.	REVISION	DATE	BY	CHK

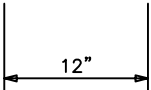
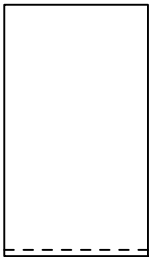
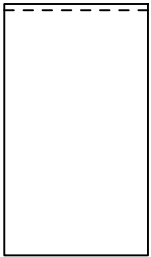
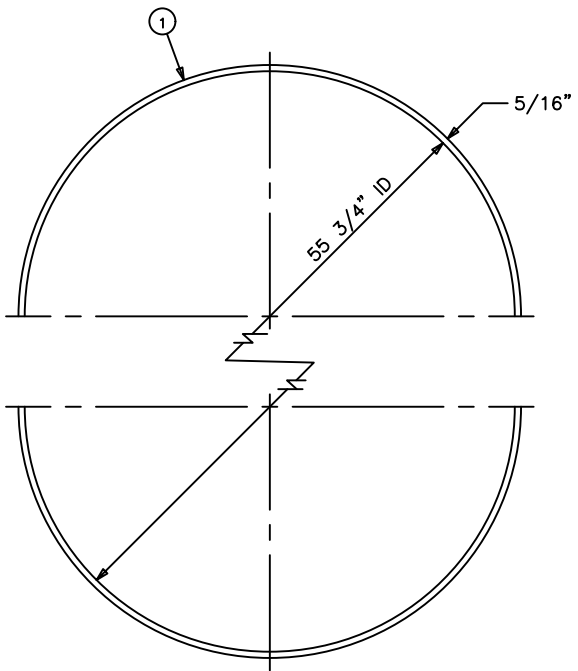


SCALE: NONE	DRAWN	MD	9/10/20	QUOTE: 131014-158	200036	S56
	CHECKED					

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

ITEM No	QTY	DESCRIPTION	REF SHEET
1	2	12" x 5/16" x 176 1/8" LONG BUTTSTRAP	D10-B

Piece No.	Ref Sheet
BS626A	L21
BS703A	L22



CAD File: 200036-S57.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN		MD	9/10/20	QUOTE:	131014-158	200036	S57
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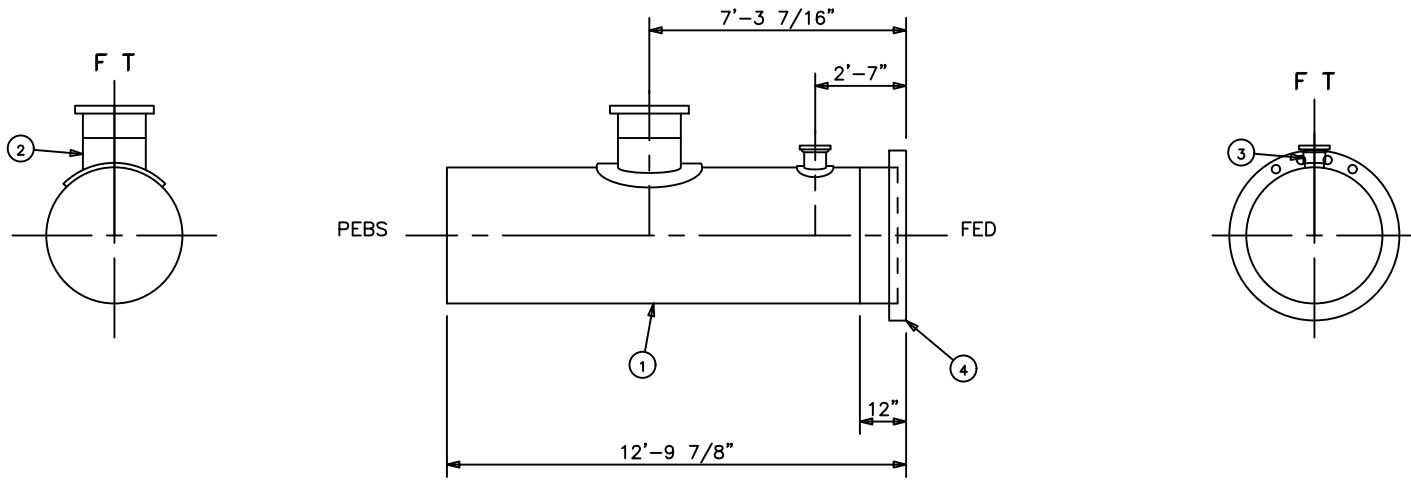
66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

PEBS	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0

FED	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	55.625" OD x 0.313" x 11'-9 7/8" ROLLED CYL	
2	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-B
3	1	4" FE150 RADIAL OUTLET w/7 3/4" CIRCUM. WIDTH x 7 1/2" LONG x 3/16" COLLAR	D15-B
	1	PEBS END	D10-B
4	1	FED SKIRTED FLANGE	D7-B



FLANGES TO BE TWO-HOLED ON FIELD TOP.
 FLG EDGE & BACK: C222 Polyurethane
 FLG MACHINED FACE: Shop Primer

CAD File: 200036-S58.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S58	
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Lining: C205 Cement Mortar, 1/2"
 Coating: C222 Polyurethane, 25 MILS
 Class: 150-20-0.3125



66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

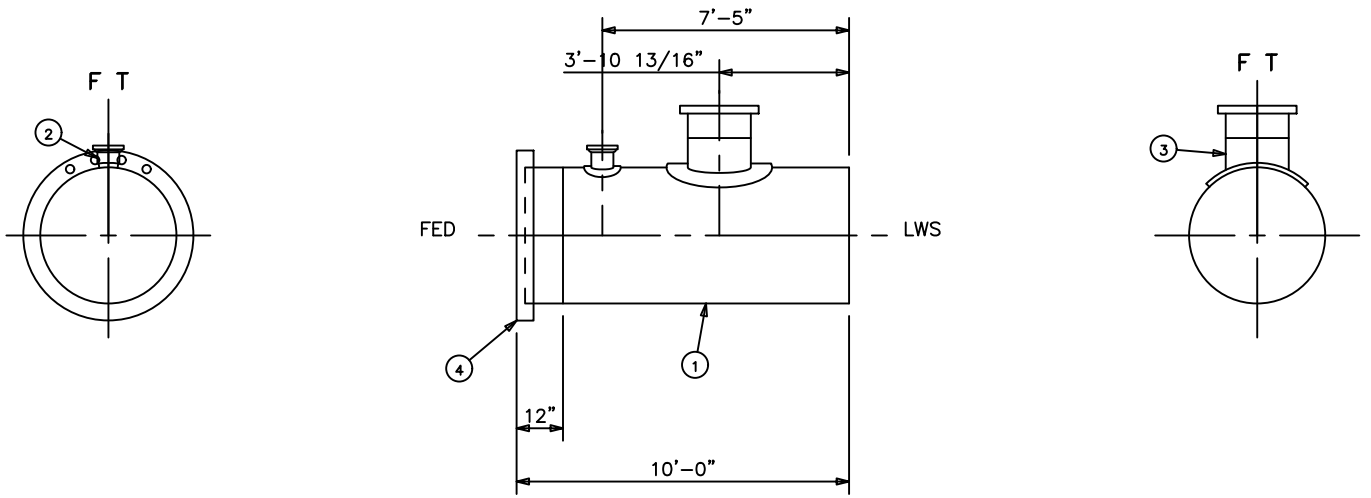
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FED	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	55.625" OD x 0.313" x 9'-0" ROLLED CYL	
2	1	4" FE150 RADIAL OUTLET w/7 3/4" CIRCUM. WIDTH x 7 1/2" LONG x 3/16" COLLAR	D15-B
3	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-B
4	1	FED SKIRTED FLANGE	D7-B
	1	LWS END	D5-B

FLANGES TO BE TWO-HOLED ON FIELD TOP.
 FLG EDGE & BACK: C222 Polyurethane
 FLG MACHINED FACE: Shop Primer



CAD File: 200036-S59.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

Lining: C205 Cement Mortar, 1/2"
 Coating: C222 Polyurethane, 25 MILS
 Class: 150-20-0.3125

A628
 L21
 CS# 27

NO.	REVISION	DATE	BY	CHK



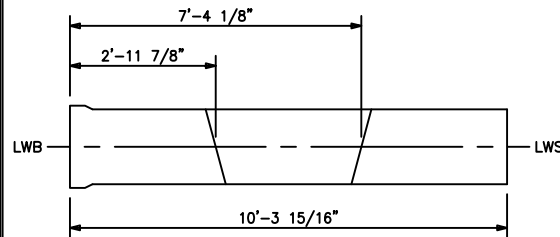
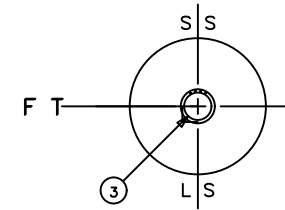
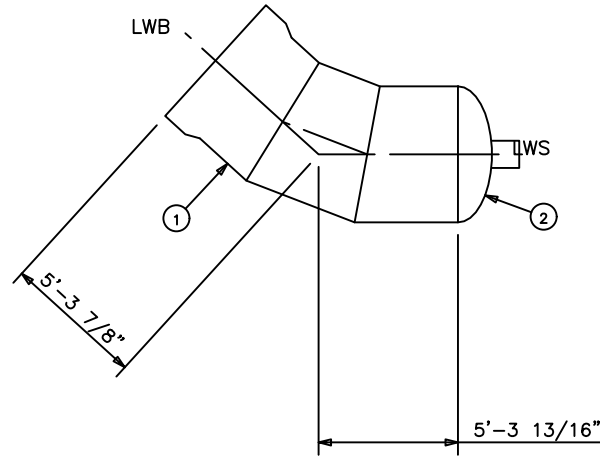
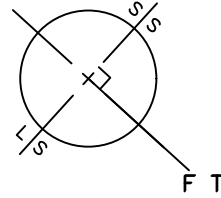
66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX		SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158	200036	S59
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LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	55.625" OD x 0.313" x 10'-3 15/16" ROLLED CYL	
2	1	54.875" OD x 0.66" SEMI-ELLIPTICAL HEAD	D23-A
3	1	6" FE150 OUTLET	D14-B
	1	LWB END	D5-B
	1	LWS END	D5-B



	CUT 1	CUT 2
1) 0"	30 11/16"	93 5/16"
2) 21 7/8"	32 3/16"	91 13/16"
3) 43 11/16"	35 7/8"	88 1/8"
4) 65 9/16"	39 9/16"	84 1/2"
5) 87 3/8"	41 1/16"	82 15/16"

Lining: C205 Cement Mortar, 1/2"
 Coating: C222 Polyurethane, 25 MILS
 Class: 150-20-0.3125
 Inflection: 42.30°
 Radius: 140.00"
 SS Chord: 8'-2 15/16"

B629
L21
 CS# 27

CAD File: 200036-S60.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

NO.	REVISION	DATE	BY	CHK



66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX			
SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158
CHECKED:			200036
			S60

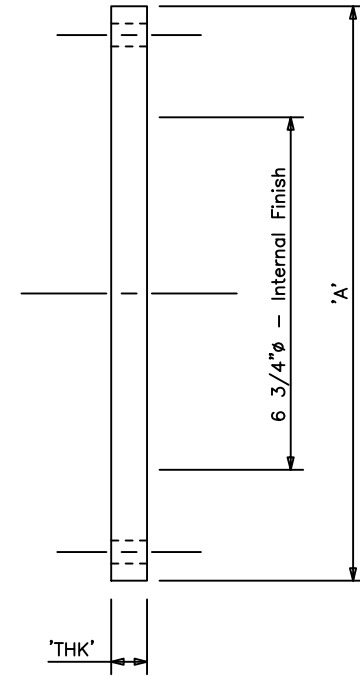
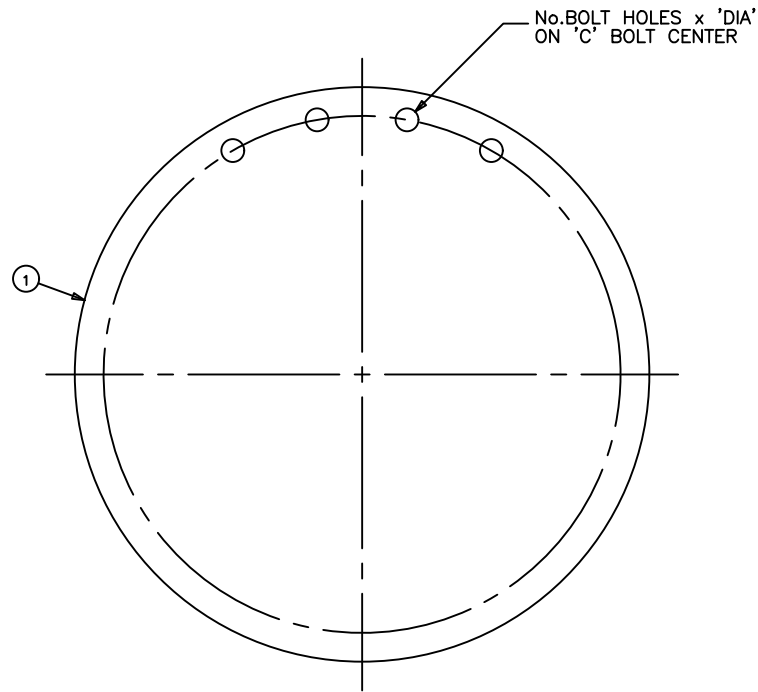
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FLANGE DATA

CLASS	NOM	'A'	No. BOLT HOLES	'C'	'DIA'	'THK'
150	6	11.000	8	9.500	0.875	1.000

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	6" CLASS 150 BLIND FLANGE	

Piece No.	Ref Sheet
BF629A	L21



Internal Finish: Shop Primer
 External Finish: C222 Polyurethane
 Machined Face: Shop Primer

CAD File: 200036-S61.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:52 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S61	
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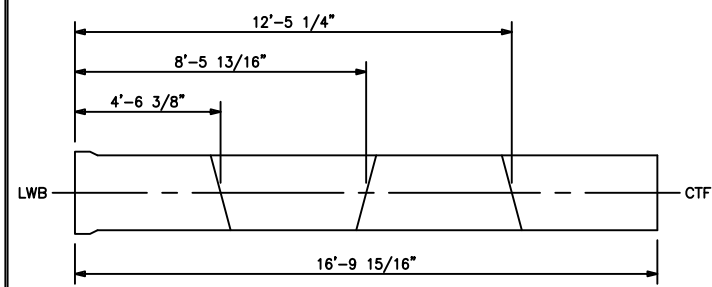
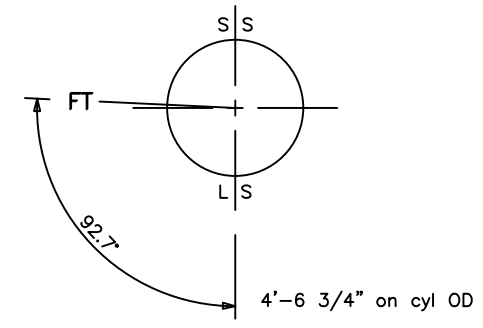
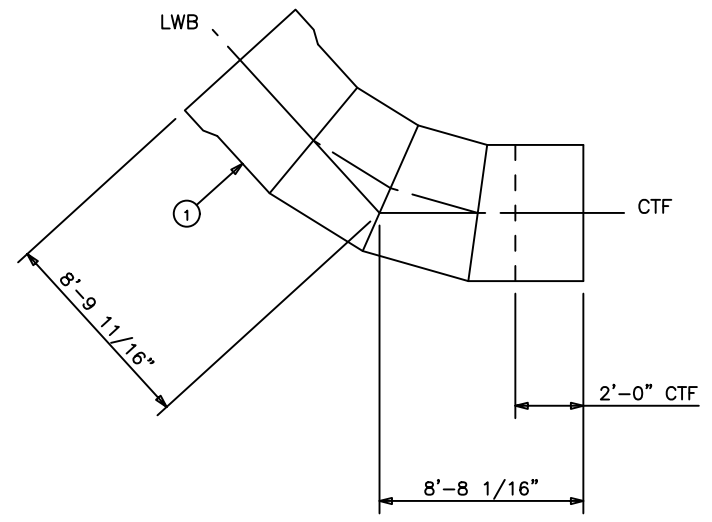
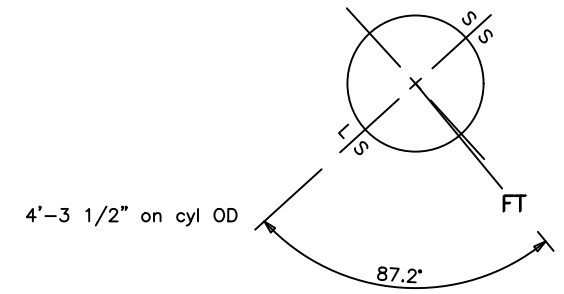
66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

PEBS	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 16'-9 15/16"	D3-A
	1	LWB END	D5-A
	1	PEBS END	D10-A



	CUT 1	CUT 2	CUT 3
1) 0"	49 5/8"	106 1/2"	144 1/2"
2) 26 9/16"	51"	105 1/8"	145 7/8"
3) 53 1/8"	54 3/8"	101 13/16"	149 1/4"
4) 79 11/16"	57 11/16"	98 7/16"	152 9/16"
5) 106 5/16"	59 1/16"	97 1/16"	153 15/16"

Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333
 Inflection: 47.66°
 Radius: 170.00"
 SS Chord: 13'-8 7/16"

B700
 L22
 CS# 18

CAD File: 200036-S62.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:53 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S62	
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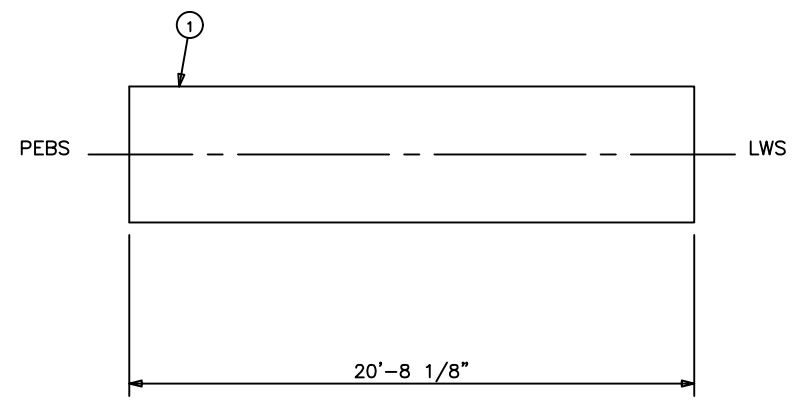
66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

PEBS	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 20'-8 1/8"	D3-A
	1	PEBS END	D10-A
	1	LWS END	D5-A



CAD File: 200036-S63.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:53 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN: MD		9/10/20		QUOTE: 131014-158		200036		S63	
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Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333

A701
 L22
 CS# 19

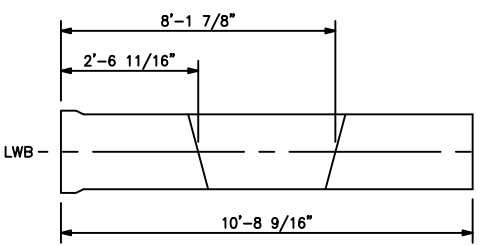
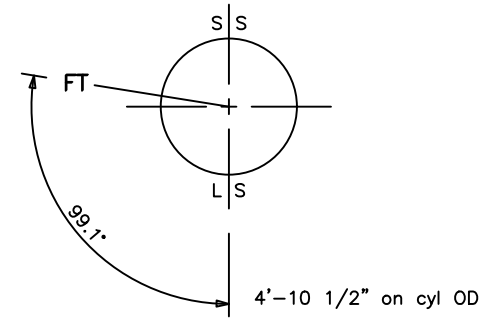
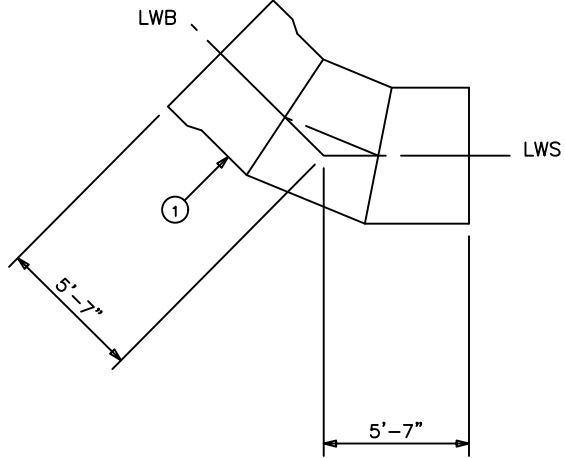
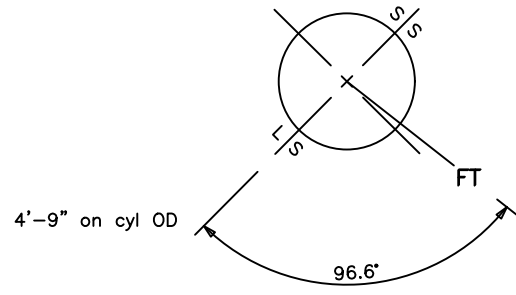
66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

LWS	HOLDBACK	GRIND
INTERIOR	2.0	
EXTERIOR	6.0	3.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 10'-8 9/16"	D3-A
	1	LWB END	D5-A
	1	LWS END	D5-A



	CUT 1	CUT 2
1) 0"	24"	104 9/16"
2) 26 9/16"	25 15/16"	102 5/8"
3) 53 1/8"	30 11/16"	97 7/8"
4) 79 11/16"	35 7/16"	93 3/16"
5) 106 5/16"	37 3/8"	91 3/16"

Lining: C205 Cement Mortar
 Coating: C222 Polyurethane
 Class: 150-19-0.333
 Inflection: 44.72°
 Radius: 170.00"
 SS Chord: 8'-2 1/16"

B702
 L22
 CS# 12

CAD File: 200036-S64.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:53 PM

NO.	REVISION	DATE	BY	CHK



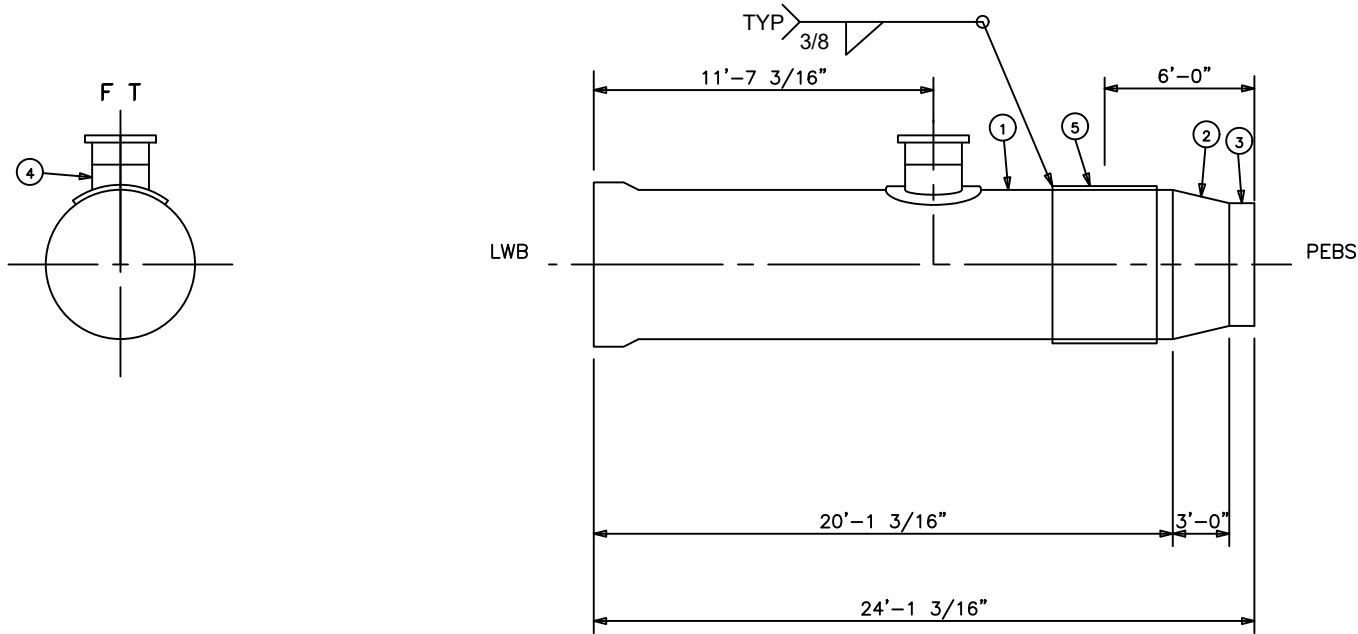
66-INCH WATER LINE INTERCONNECTION ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD. HOUSTON, TX		SCALE: NONE	DRAWN: MD	9/10/20	QUOTE: 131014-158	200036	S64
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LWB	HOLDBACK	GRIND
INTERIOR	6.0	3.0
EXTERIOR	6.0	

PEBS	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	66" S-200 x 0.333" x 20'-1 3/16"	D3-A
2	1	CONCENTRIC REDUCER: 67.666" x 55.625" x 0.333" x 3'-0"L	
3	1	55.625" OD x 0.313" x 1'-0" ROLLED CYL	
4	1	24" FED RADIAL OUTLET w/43 3/4" CIRCUM. WIDTH x 43 1/4" LONG x 3/16" COLLAR	D13-A
5	1	WRAPPER - 36" WIDE	D24-A
	1	LWB END	D5-A
	1	PEBS END	D10-B



CAD File: 200036-S65.dwg; Tab: MODEL; Last Saved: 10/15/2020 4:53 PM

NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S65	
CHECKED									

Lining: C205 Cement Mortar
Coating: C222 Polyurethane CS# 20&26

R703
L22

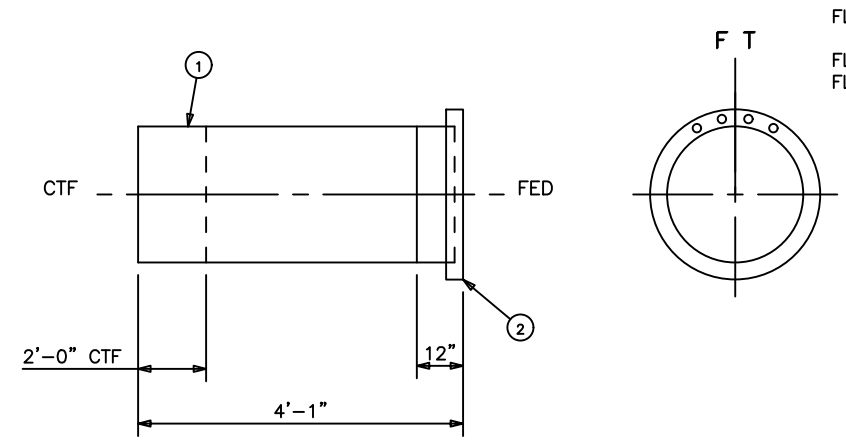
66-INCH WATER LINE INTERCONNECTION
ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
HOUSTON, TX

REVIEW COPY OCTOBER 15, 2020 - NOT FOR FABRICATION

CTF	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	6.0

FED	HOLDBACK	GRIND
INTERIOR	FLUSH	
EXTERIOR	6.0	

ITEM No	QTY	DESCRIPTION	REF SHEET
1	1	55.625" OD x 0.313" x 3'-1" ROLLED CYL	
	1	CTF END	D10-B
2	1	FED SKIRTED FLANGE	D7-B



FLANGES TO BE TWO-HOLED ON FIELD TOP.
 FLG EDGE & BACK: C222 Polyurethane
 FLG MACHINED FACE: Shop Primer

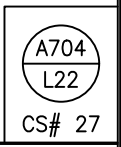
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NO.	REVISION	DATE	BY	CHK



SCALE: NONE		DRAWN MD 9/10/20		QUOTE: 131014-158		200036		S66	
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Lining: C205 Cement Mortar, 1/2"
 Coating: C222 Polyurethane, 25 MILS
 Class: 150-20-0.3125



66-INCH WATER LINE INTERCONNECTION
 ALONG W. HARDY RD FROM BELTWAY 8 TO GREENS RD.
 HOUSTON, TX

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