

2/21/20 13:28 THORNBROWN E:\DATA\CURRENT PROJECTS\MTDC-1116 WATER BAG\NTPD-1116_01.DWG :

UNLESS OTHERWISE SPECIFIED

TOLERANCES:
UNDER .5-INCH ± .0625
.5 TO 2-INCHES ± .125
2 TO 6-INCHES ± .25
OVER 6 INCHES ± .5

DIMENSIONS ARE IN INCHES

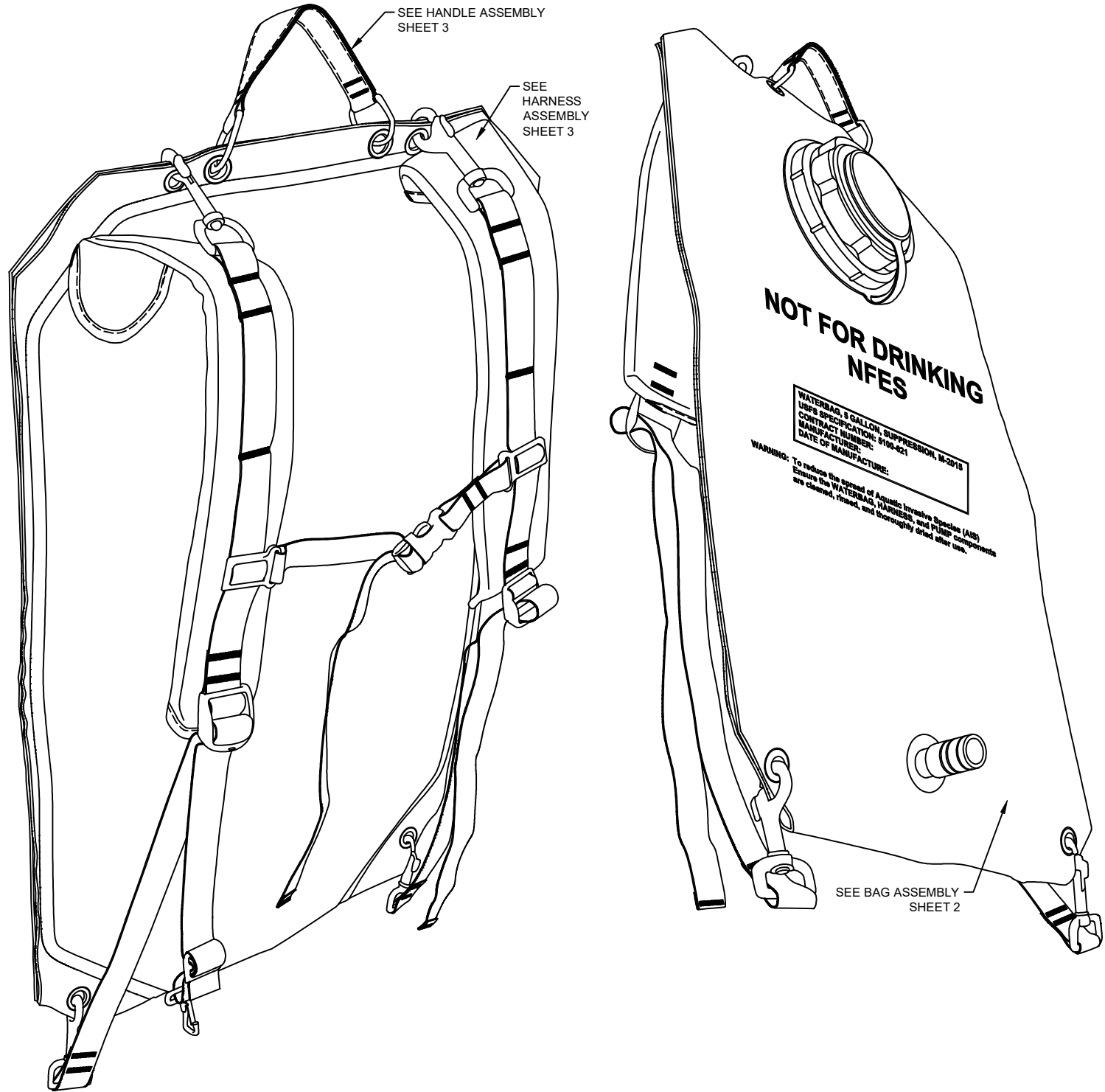
FILLER NECK ASSEMBLY TOLERANCES
UNLESS OTHERWISE SPECIFIED

TOLERANCES:
UNDER .5-INCH ± .010
.5 TO 2-INCHES ± .020
2 TO 6-INCHES ± .031
OVER 6 INCHES ± .125

DIMENSIONS ARE IN INCHES

REVISION DETAIL				
SHEET	REV	DESCRIPTION	APPROVED BY	DATE
1	1	MISC MINOR CORRECTIONS TO MATERIALS LIST	G. APUZZO	05/2019
1, 2	1	MARKINGS ADDED	G. APUZZO	05/2019
1	1	EDITS TO NOTES	G. APUZZO	05/2019
2	1	CHANGES TO MARKING DIMENSIONS BAG ASSEMBLY	G. APUZZO	05/2019
3	1	MISC MINOR CORRECTIONS TO SECTIONS	G. APUZZO	05/2019
3	1	MODIFY DIMENSIONS SECTION - BB	G. APUZZO	05/2019
5-10	2	ADD FILLER CAP ASSEMBLY SHEETS 05-10 TO SET	G. APUZZO	09/2019
ALL	2	GLOBAL CHANGE DIMENSIONS	G. APUZZO	02/2020


DECIMAL TO FRACTION	
.015625	1/64
.03125	1/32
.0625	1/16
.09375	3/32
.125	1/8
.15625	5/32
.1875	3/16
.21875	7/32
.25	1/4
.28125	9/32
.3125	5/16
.34375	11/32
.375	3/8
.40625	13/32
.4375	7/16
.46875	15/32
.5	1/2
.53125	17/32
.5625	9/16
.59375	19/32
.625	5/8
.65625	21/32
.6875	11/16
.71875	23/32
.75	3/4
.78125	25/32
.8125	13/16
.84375	27/32
.875	7/8
.90625	29/32
.9375	15/16
.96875	31/32
1	1



# MATERIAL LIST				
NO	PART NAME	REQD	MATERIAL-DESCRIPTION	SHEET
1	MAIN PANEL	1	POLYVINYL CHLORIDE, 100% POLYESTER REINFORCED	4
			SCRIM, MATTE EMBOSSED, COLOR YELLOW,	
			ABC INDUSTRIES.NET OR EQUAL	
2	FILLER NECK	1		2
3	FILLER NECK WASHER	1		2
4	FILLER NECK NUT	1	SEE SPEC 5100-621	2
5	FILLER NECK CAP	1		2
6	FILLER NECK TETHER	1		2
7	FILLER NECK O-RING	1		
8	GROMMET	6	0.815 OD, .37 ID, BRASS, STIMPSON CO. PART NO. 2G	2
			WASHER 0.835 OD, BRASS STIMPSON CO. PART NO. 2W	
			OR EQUAL	
9	QUICK COUPLING	1	.375-NPT MALE THREAD, QUICK CONNECT FITTING	2
			FEMALE, SEE SPEC 5100-621	
10	WASHER	3	1.50 OD X .688 ID X .05 THICK FLAT WASHER, GALV.	2
11	GASKET	1	SEE SPEC 5100-621	2
12	LOCKNUT	1	.375 NPT, FEMALE LOCKNUT, SIMMONS PART NO. 18225	2
			OR EQUAL	
13	HANDLE STRAP	1	1-INCH X 20, WEBBING, NYLON, CLASS 2, MIL-W-17337	3
			COLOR BLACK	
14	D-RING	2	0.136 DIA. X 1.44 WIDE X 1.14 HIGH, SPLIT TYPE D	3
			RING, LINAL PART NO. 175758 OR EQUAL	
15	THREAD	AR	THREAD, NYLON, TYPE II, CLASS A, A-A-59826, SIZE "E"	3
			COLOR BLACK	
16	PAD COVER	2	3 X 17.5 TUBULAR WEBBING, NYLON,	4
			SEE SPEC 5100-621, COLOR BLACK	
17	PAD	2	0.375 X 2.5 X 13.25, CLOSED CELL ETHAFOAM	4
			PAD, COLOR WHITE	
18	BINDING TAPE	AR	.75-INCH NYLON, TYPE III, MIL-PRF-5038, COLOR BLACK	3
19	CHEST STRAP	1	.75-INCH X 24 } WEBBING, NYLON, CLASS 2,	3
20	CHEST CHAPE	1	.75-INCH X 6 } MIL-W-17337, COLOR BLACK	3
21	HARNESS STRAP	2	1-INCH X 36 } WEBBING, NYLON, CLASS 2,	3
22	HARNESS CHAPE	2	1-INCH X 16.5 } MIL-W-17337, COLOR BLACK	3
23	SNAP HOOK (SWIVEL)	4	STRAP-EYE SLIDE-BOLT SPRING SNAP, SWIVEL, NICKEL-	3
			PLATED ZINC, .375-INCH SNAP OPENING, 1-INCH STRAP	
			WIDTH, McMASTER-CARR PART NO. 3902T24 OR EQUAL	
24	BUCKLE (FEMALE)	1	} BUCKLE NYLON, SIZE .75-INCH COLOR BLACK	3
25	BUCKLE (MALE)	1	} SEE SPEC 5100-621	3
26	LADDER LOCK	2	NYLON, 1-INCH HEAVY DUTY DOUBLE BAR BUCKLE,	3
			COLOR BLACK, SEE SPEC 5100-621	
27	TRI-GLIDE, STERNUM	2	NYLON, 1-INCH COLOR BLACK - SEE SPEC 5100-621	3
	ADJUSTER			
28	BAR SLIDE	1	NYLON, 1-INCH COLOR BLACK - SEE SPEC 5100-621	3
29	SNAP HOOK	1	NICKEL-PLATED ZINC LIGHT DUTY SPRING SNAP,	3
			.4375-INCH SNAP OPENING, 1-INCH STRAP WIDTH	
			McMASTER-CARR PART NO. 3900T22 OR EQUAL	

NOTES:

1. THE GLOSSY/EMBOSSED FINISH SIDE OF THE FABRIC SHALL FACE THE OUTSIDE.
2. THE ENDS OF WEBBING SHALL BE FUSED TO PREVENT FRAYING. THERE SHALL BE NO ROUGH EDGES.
3. THREAD FOR ALL STITCHING SHALL BE SIZE "E" UNLESS OTHERWISE SPECIFIED.
4. THREAD FOR BARTACKS SHALL BE SIZE "E".
5. ALL STITCHING SHALL CONFORM TO ASTM D 6193, TYPE 301, 6-8 STITCHES PER INCH.
6. UNLESS OTHERWISE SPECIFIED STITCH MARGINS SHALL BE 1/8 INCH.
7. LOCATION MARKS MAY BE DRILLED PROVIDING THE DRILL HOLES ARE COVERED IN THE FINISHED ITEM MAXIMUM DRILL DIAMETER SHALL BE 0.076 INCH.
8. ALL DIMENSIONS EXCEPT PATTERN SIZES ARE FINISHED DIMENSIONS UNLESS OTHERWISE SPECIFIED.
9. THE WORKING PATTERNS SHALL BE IDENTICAL TO THE GOVERNMENT FURNISHED PATTERNS SHOWING SIZE, SHAPE, PLACEMENT OF COMPONENT PARTS AND LOCATION LINES FOR CUTTING, MARKING, AND FOLDING. NEITHER THE GOVERNMENT PATTERNS NOR THE WORKING PATTERNS SHALL BE ALTERED IN ANY WAY.
10. IF CONFLICT OCCURS BETWEEN THE DRAWING AND THE SPECIFICATION, THE SPECIFICATION SHALL GOVERN.
11. THE WATERBAG SHALL BE MARKED ACCORDING TO SPECIFICATIONS 5100-621.
12. UNLESS OTHERWISE SPECIFIED BARTACKS SHALL BE
1 ± 1/16 INCH LONG X 1/8 ± 1/32 INCH WIDE WITH 42 STITCHES
3/4 ± 1/16 INCH LONG X 1/8 ± 1/32 INCH WIDE WITH 34 STITCHES
3/8 ± 1/16 INCH LONG X 1/8 ± 1/32 INCH WIDE WITH 28 STITCHES
13. ENDS OF ALL 301 STITCHING SHALL BE BACKSTITCHED 1-INCH MINIMUM. STITCHING DEFECTS SHALL BE OVERSTITCHED NOT LESS THAN 1-INCH PAST ENDS OF DEFECTS.
14. THREAD TENSION ON TYPE 301 STITCHING SHALL BE MAINTAINED SO THAT THE LOCK SHALL BE EMBEDDED IN THE MATERIALS SEWN.
15. ALL THREAD ENDS SHALL BE TRIMMED TO A MAXIMUM OF 1/4-INCH.
16. PARTS SHALL BE LOCATED WITHIN 1/8-INCH OF LOCATIONS SHOWN ON THE PATTERNS.



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STAMPS, LOGOS, AND SEALS		
2	SEE REVISION DETAIL - SHEET 01	
NO.	REVISION / ISSUE	DATE

PROJECT NAME

WATERBAG
5 GALLON
SUPPRESSION
M-2015

NATIONAL TECHNOLOGY
& DEVELOPMENT
PROGRAM

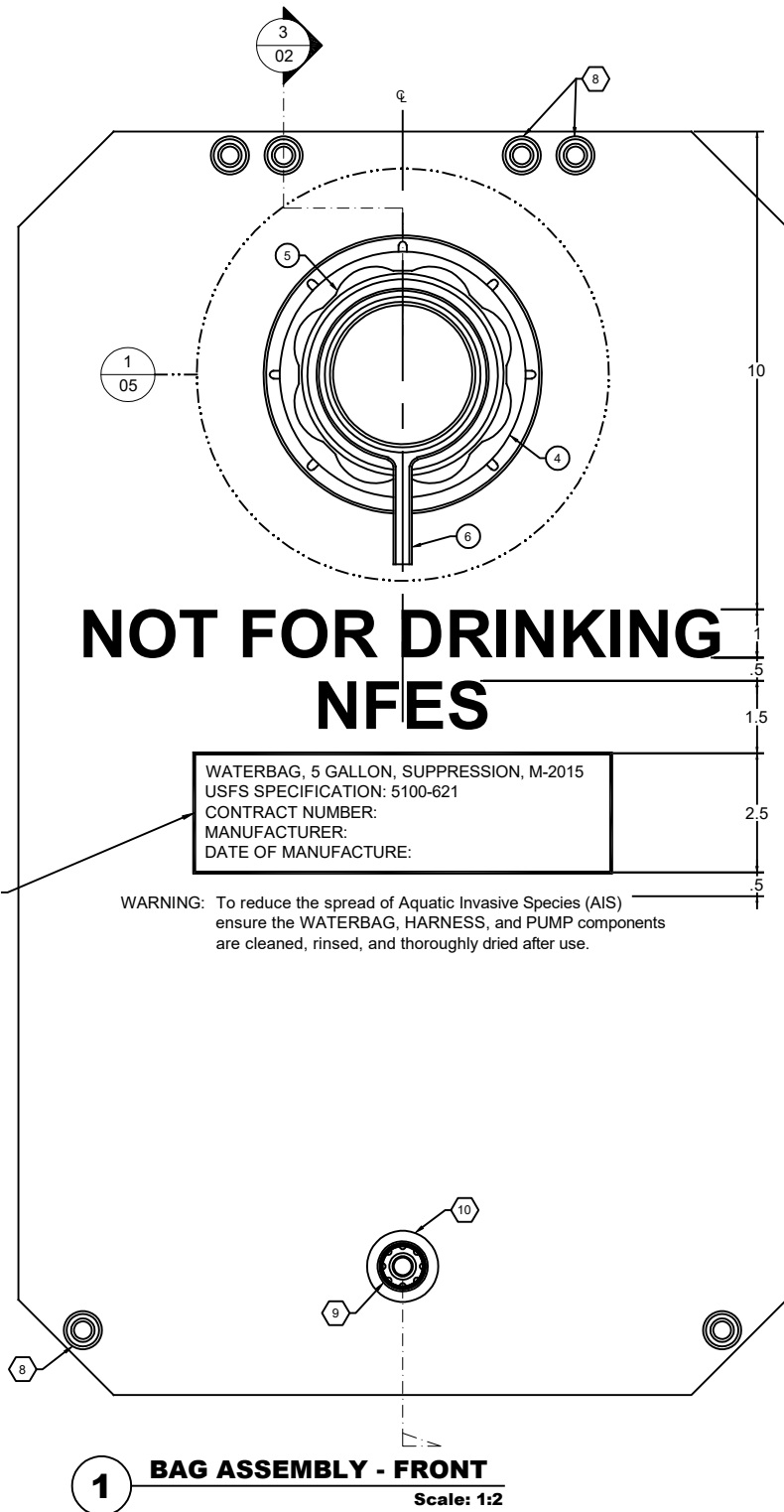
MISSOULA, MONTANA

DRAWING TITLE

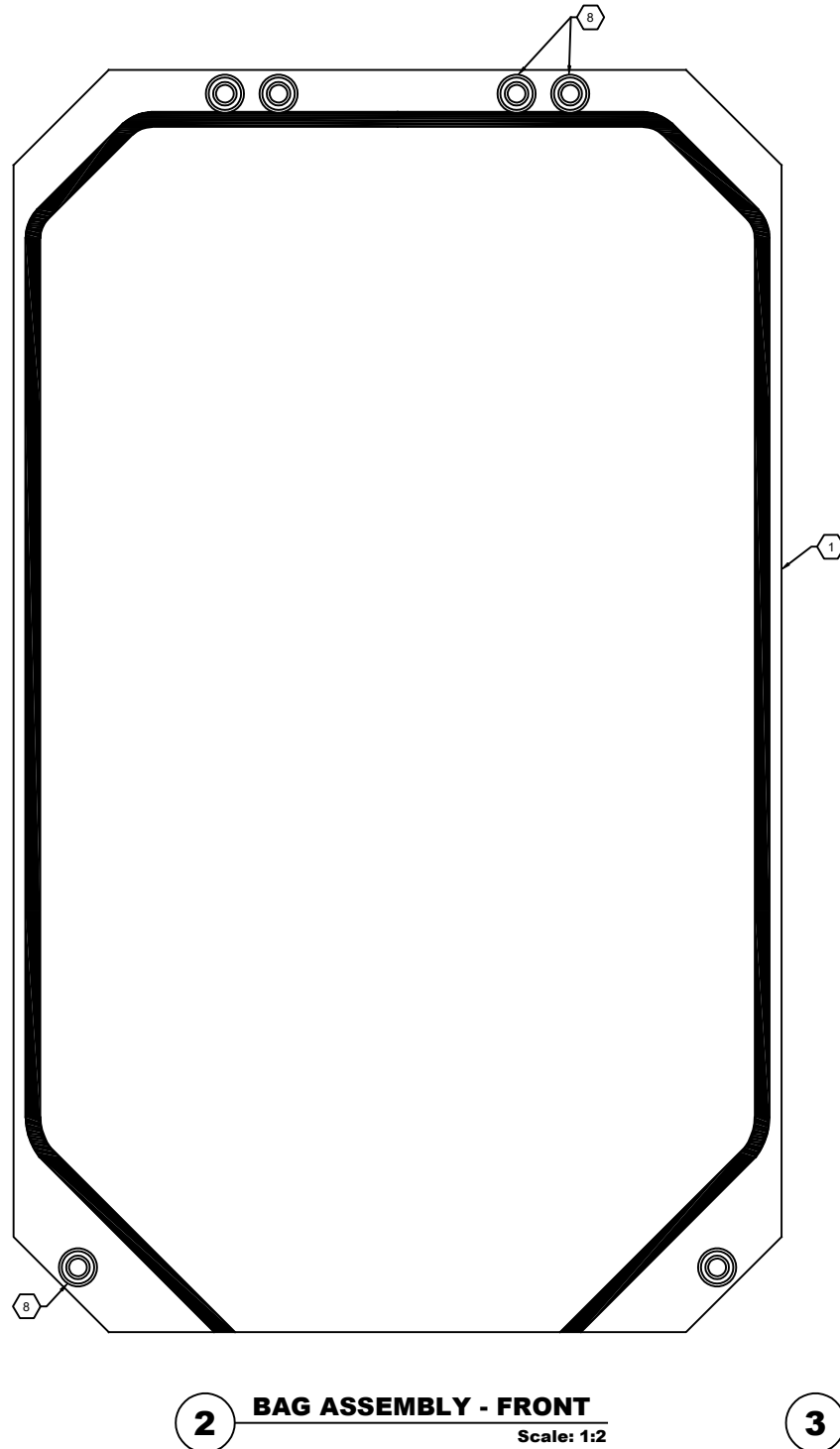
TITLE
MATERIAL NOTES
& ASSEMBLY

DATE 02/21/2020	ARCHIVE NO. MTDC-1116_01.DWG	DRAWING SHEET NO. 01
DESIGNER G.APUZZO	DRAWING SHEET NO.	
DRAWN T.BROWN		
CHECKED C.HARDING		
APPROVED G.APUZZO	SHEET 01 OF 10	
PROJECT NO. MTDC-1116		

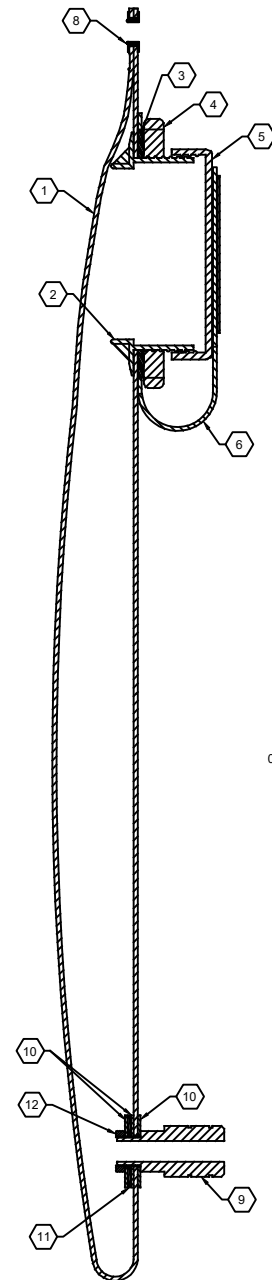
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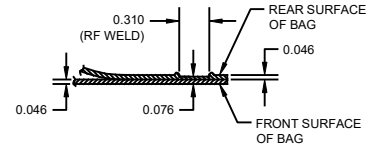
1 BAG ASSEMBLY - FRONT
Scale: 1:2



2 BAG ASSEMBLY - FRONT
Scale: 1:2



3 BAG ASSEMBLY - SECTION
Scale: 1:2



4 TYPICAL WELD
SCALE: N.T.S.

**NOT FOR DRINKING
NFES**

WATERBAG, 5 GALLON, SUPPRESSION, M-2015
USFS SPECIFICATION: 5100-621
CONTRACT NUMBER:
MANUFACTURER:
DATE OF MANUFACTURE:

CONTRACT
INFORMATION
LABEL LOCATION
8.75" X 2.5"

WARNING: To reduce the spread of Aquatic Invasive Species (AIS)
ensure the WATERBAG, HARNESS, and PUMP components
are cleaned, rinsed, and thoroughly dried after use.

UNLESS OTHERWISE SPECIFIED

TOLERANCES:
UNDER .5-INCH $\pm .0625$
.5 TO 2-INCHES $\pm .125$
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OVER 6 INCHES $\pm .5$

DIMENSIONS ARE IN INCHES



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STAMPS, LOGOS, AND SEALS

2	SEE REVISION DETAIL - SHEET 01	
NO.	REVISION / ISSUE	DATE

PROJECT NAME

**WATERBAG
5 GALLON
SUPPRESSION
M-2015**

NATIONAL TECHNOLOGY
AND DEVELOPMENT
PROGRAM

MISSOULA, MONTANA


DRAWING TITLE

BAG ASSEMBLY

DATE 02/21/2020	ARCHIVE NO. MTDC-1116_02.DWG	DRAWING SHEET NO. 02
DESIGNER G. APUZZO		
DRAWN T. BROWN		
CHECKED G. APUZZO		
PROJECT NO. MTDC-1116		SHEET 02 OF 10

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**WATERBAG
5 GALLON
SUPPRESSION
M-2015**

**NATIONAL TECHNOLOGY
& DEVELOPMENT
PROGRAM**

MISSOULA, MONTANA

DRAWING TITLE

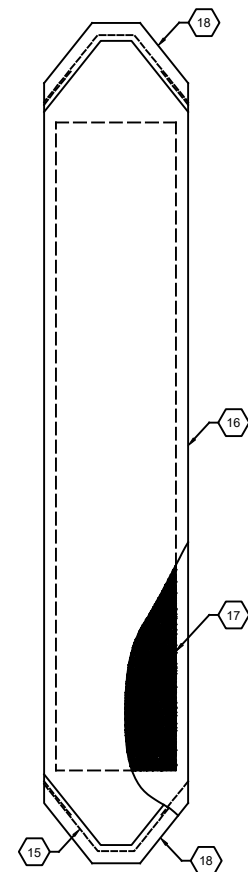
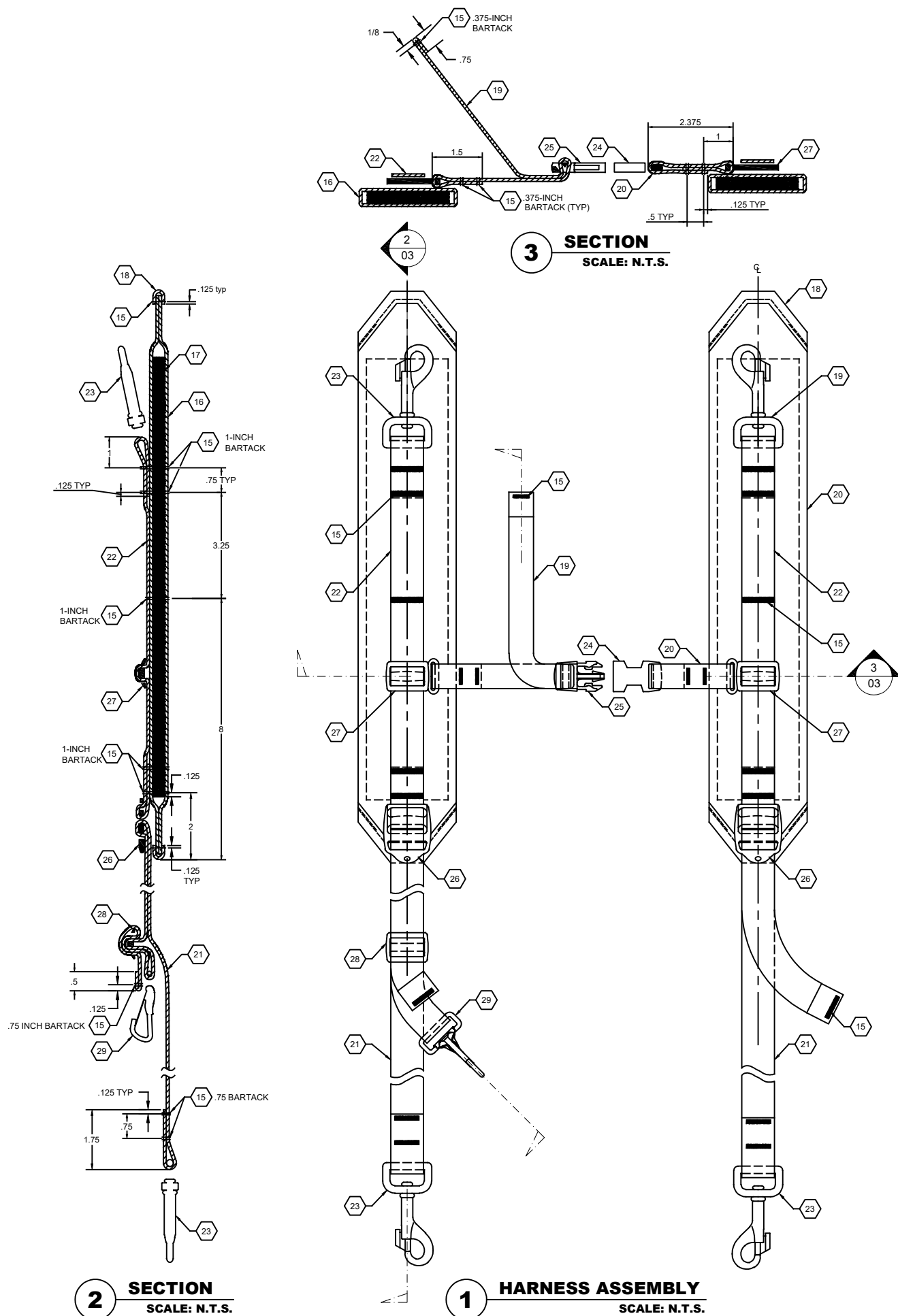
HARNESS ASSEMBLY & DETAILS

DATE 02/21/2020	ARCHIVE NO. MTDC-1116_03.DWG	
DESIGNER G.APUZZO	DRAWING SHEET NO. 03	
DRAWN T.BROWN		
CHECKED C.HARDING		
APPROVED G.APUZZO		
PROJECT NO. MTDC-1116	SHEET 03 OF 10	

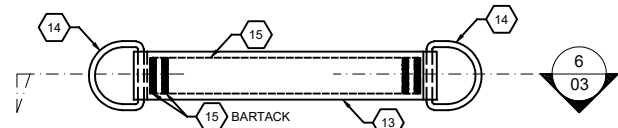
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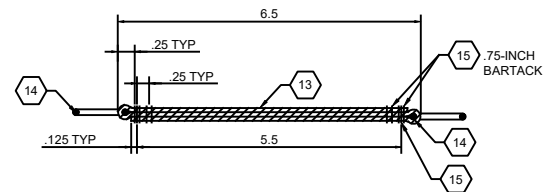
DIMENSIONS ARE IN INCHES



4 HARNESS PAD ASSEMBLY

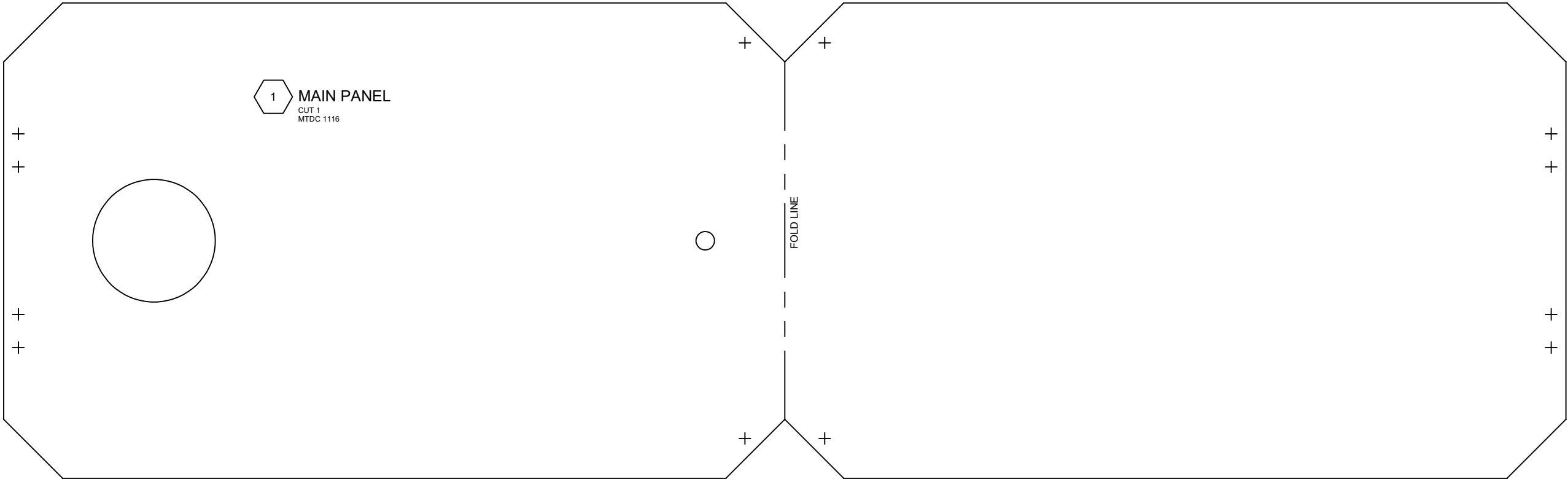


5 HANDLE ASSEMBLY
HANDLE ASSEMBLY
SCALE: N.T.S.



6 SECTION
SCALE: N.T.S.

2/21/20 13:30 THORNBROWN E:\DATA\CURRENT PROJECTS\MTDC-1116 WATER BAG\DP-1116_04.DWG ;



(REF 16.125 X 53)

1 MAIN PANEL
SCALE: N.T.S.



(REF 2.5 X 13.5)

2 PAD
SCALE: N.T.S.



(REF 3 X 17.5)

3 PAD COVER
SCALE: N.T.S.



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**WATERBAG
5 GALLON
SUPPRESSION
M-2015**

**NATIONAL TECHNOLOGY
& DEVELOPMENT
PROGRAM**

MISSOULA, MONTANA

DRAWING TITLE

**MAIN PANEL, PAD
& PAD COVER
PATTERNS**

DATE 02/21/2020	ARCHIVE NO. MTDC-1116_04.DWG	DRAWING SHEET NO. 04
DESIGNER G.APUZZO	SHEET 04 OF 10	
DRAWN T.BROWN		
CHECKED C.HARDING		
APPROVED G.APUZZO		
PROJECT NO. MTDC-1116		

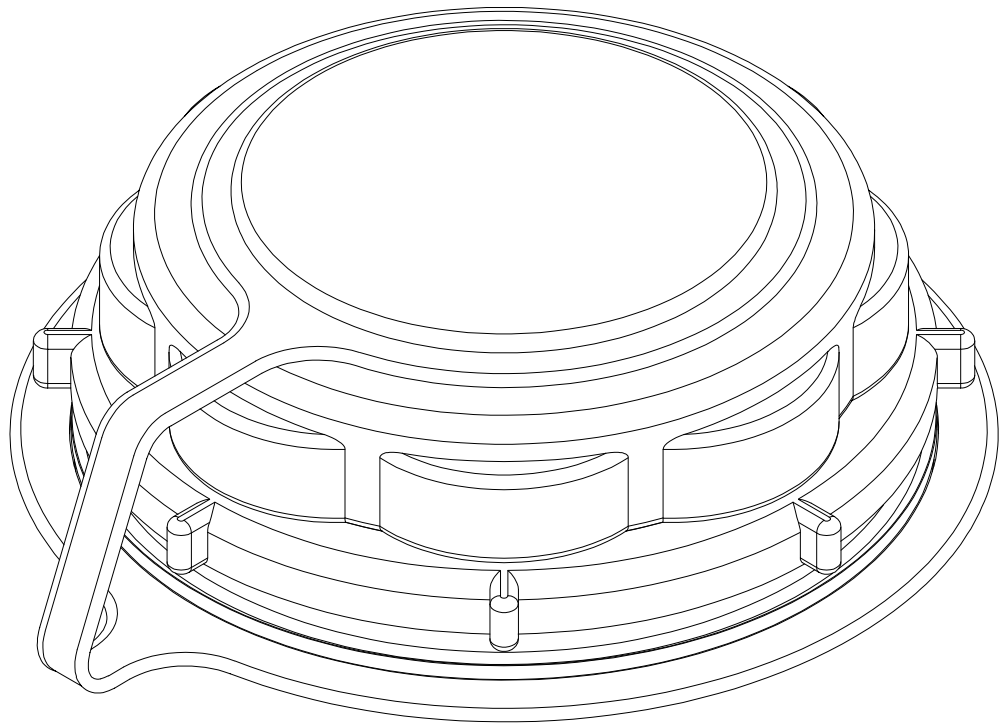
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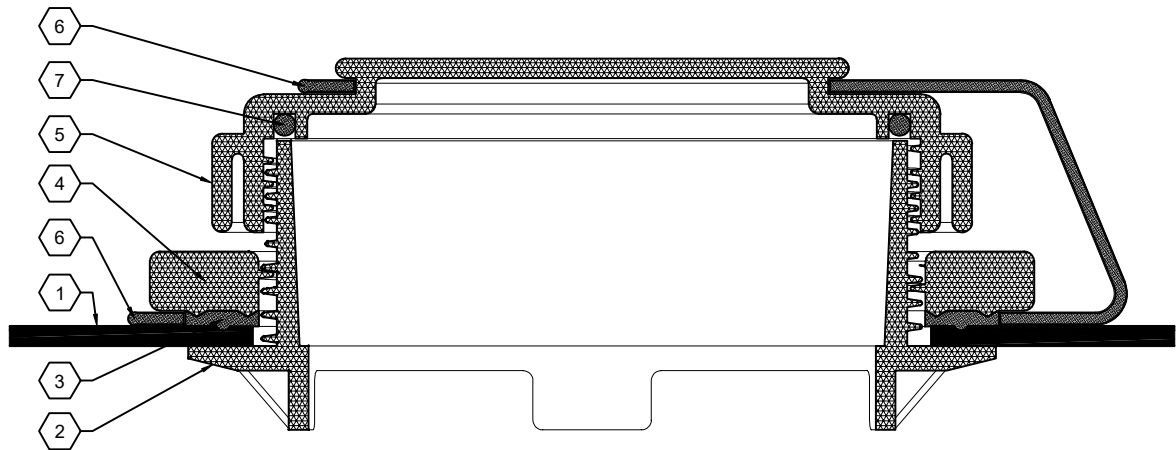
DIMENSIONS ARE IN INCHES

2/21/20 13:31 THORNBROWN E:\DATA\CURRENT PROJECTS\MTDC-1116 WATER BAG\TDP-1116_05.DWG ;

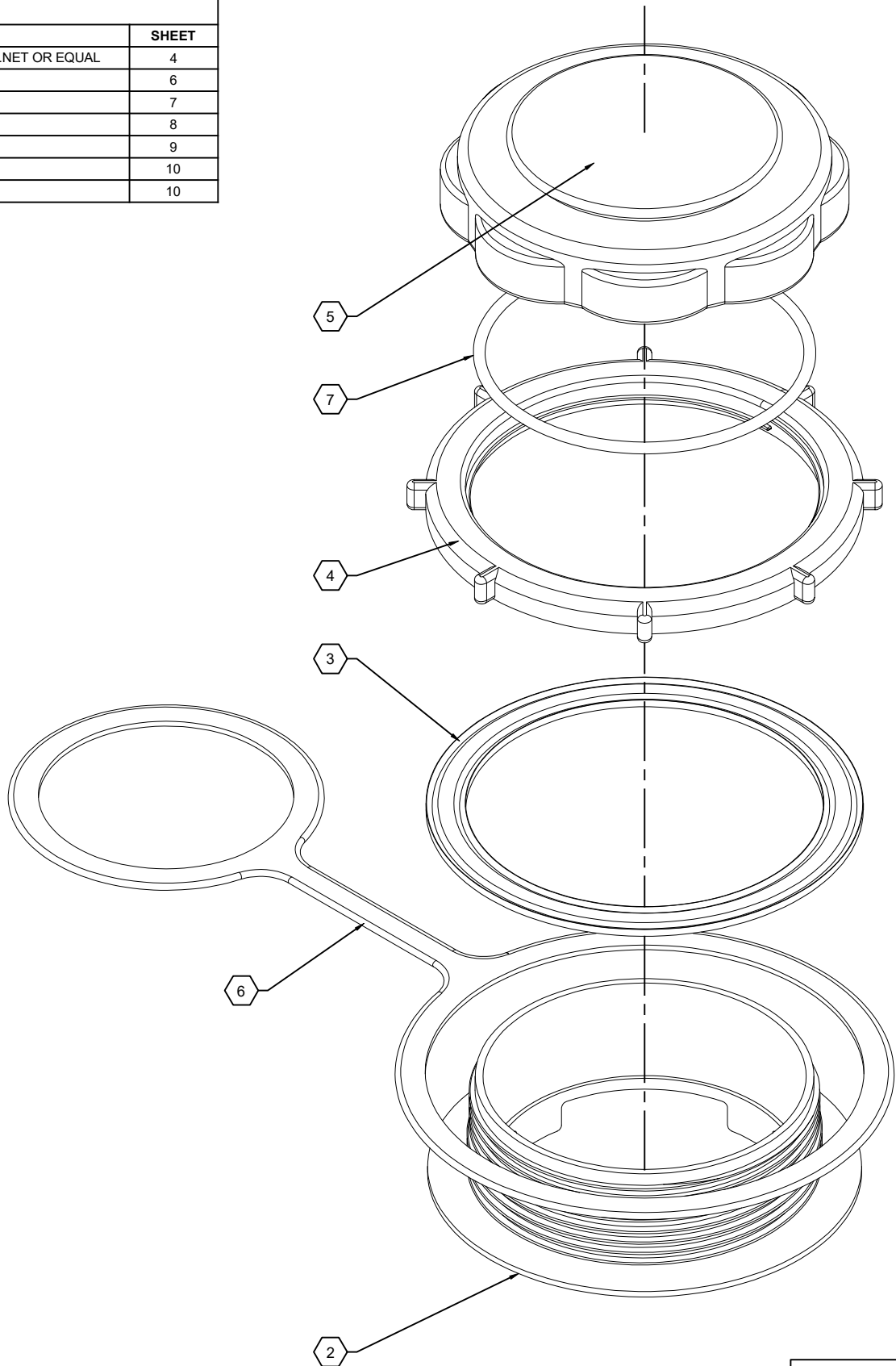
# MATERIAL LIST				
NO	PART NAME	REQD	MATERIAL DESCRIPTION	SHEET
1	MAIN PANEL	1	POLYVINYL CHLORIDE, 100% POLYESTER REINFORCED SCRIM, MATTE EMBOSSED, COLOR YELLOW, ABC INDUSTRIES.NET OR EQUAL	4
2	FILLER NECK	1	20% GLASS FILLED BLACK POLYPROPYLENE COPOLYMER	6
3	FILLER NECK WASHER	1	10% GLASS FILLED BLACK POLYPROPYLENE COPOLYMER	7
4	FILLER NECK NUT	1	10% GLASS FILLED BLACK POLYPROPYLENE COPOLYMER	8
5	FILLER NECK CAP	1	20% GLASS FILLED BLACK POLYPROPYLENE COPOLYMER	9
6	FILLER NECK TETHER	1	LOW DENSITY POLYETHYLENE WITH A SHORE "D" HARDNESS OF 50+/-5 DUROMETER	10
7	FILLER NECK O-RING	1	BUNA-N RUBBER WITH A SHORE "A" HARDNESS OF 70 +/- 5 DUROMETER	10



1 FILLER NECK ASSEMBLY - CAP ON
SCALE: N.T.S.



3 FILLER NECK ASSEMBLY - SECTION
SCALE: N.T.S.



2 FILLER NECK ASSEMBLY
SCALE: N.T.S.

FILLER NECK ASSEMBLY TOLERANCES UNLESS OTHERWISE SPECIFIED	
TOLERANCES:	
UNDER .5-INCH ± .010	
.5 TO 2-INCHES ± .020	
2 TO 6-INCHES ± .031	
OVER 6 INCHES ± .125	
DIMENSIONS ARE IN INCHES	

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STAMPS, LOGOS, AND SEALS		
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WATERBAG
5 GALLON
SUPPRESSION
M-2015

NATIONAL TECHNOLOGY
& DEVELOPMENT
PROGRAM

MISSOULA, MONTANA

DRAWING TITLE

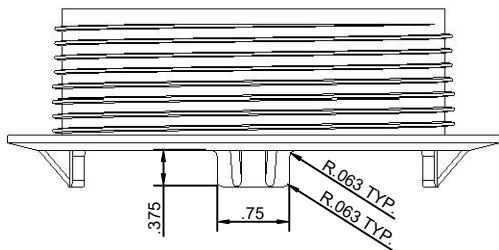
FILLER NECK ASSEMBLY
COMPONENTS

DATE 02/21/2020	ARCHIVE NO. MTDC-1116_05.DWG	
DESIGNER G.APUZZO	DRAWING SHEET NO. 05	
DRAWN T.BROWN		
CHECKED C.HARDING		
APPROVED G.APUZZO		
PROJECT NO. MTDC-1116	SHEET 05 OF 10	

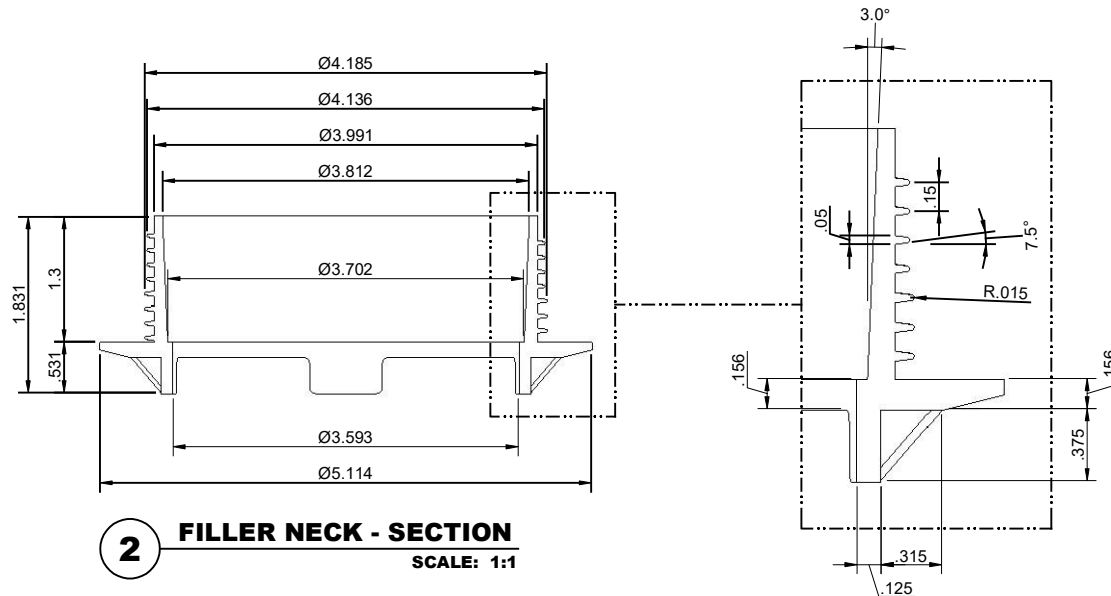
NOTES:

PHYSICAL REQUIREMENTS OF FILLER NECK

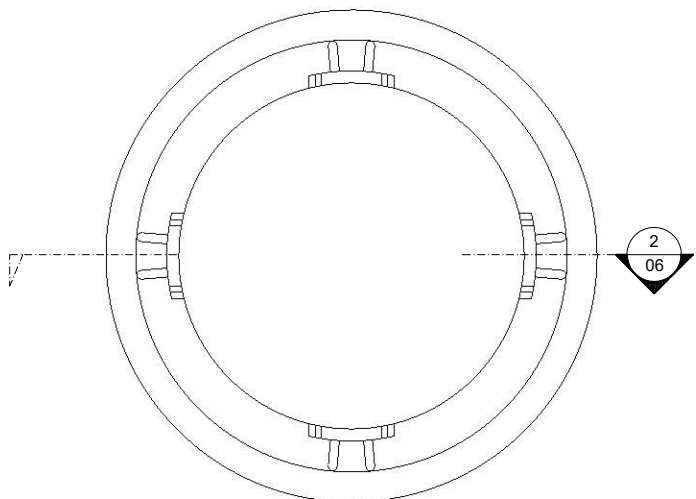
1. THE FILLER NECK SHALL BE INJECTION MOLDED FROM 20% GLASS FILLED BLACK POLYPROPYLENE COPOLYMER. THE NECK SHALL HAVE A 3.812-INCH DIAMETER OPENING WITH A 5.114-INCH DIAMETER FLANGE SEAL SURFACE. THE NECK SHALL HAVE MOLDED-IN THREADS WITH A 0.150-INCH THREAD PITCH AND THE BOTTOM (3) THREADS SHOULD HAVE A MAJOR DIAMETER OF 4.185 INCHES AND A MINOR DIAMETER OF 3.991 INCHES. THE TOP THREADS SHOULD HAVE A MAJOR DIAMETER OF 4.136 INCHES AND A MINOR DIAMETER OF 3.991 INCHES. THE THREAD THICKNESS ON THE NECK SHALL BE 0.050 INCHES WITH A 7.50° ANGLE AND 0.015-INCH RADII. THE NECK SHALL BE FOUNTAINHEAD GROUP, INC. (FGI) PART NUMBER 181862-B OR EQUAL. PER SPEC 5100-621B.
2. MAX DRAFT OF 5° ALLOWED. MAX DRAFT ANGLE TO BE DETERMINED BY FORM, FIT, AND FUNCTION OF THE PARTS.



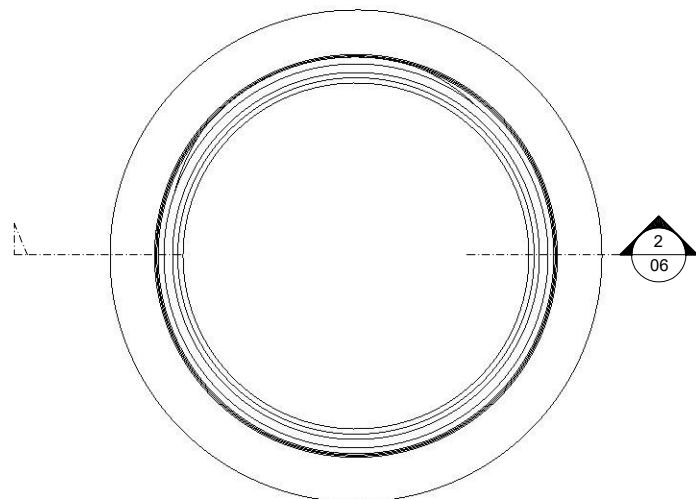
1 FILLER NECK - SIDE VIEW
SCALE: 1:1



2 FILLER NECK - SECTION
SCALE: 1:1



3 FILLER NECK - BOTTOM VIEW
SCALE: 1:1



4 FILLER NECK - TOP VIEW
SCALE: 1:1

FILLER NECK ASSEMBLY TOLERANCES
UNLESS OTHERWISE SPECIFIED

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.5 TO 2-INCHES ± .020
2 TO 6-INCHES ± .031
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STAMPS, LOGOS, AND SEALS

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**WATERBAG
5 GALLON
SUPPRESSION
M-2015**

NATIONAL TECHNOLOGY
& DEVELOPMENT
PROGRAM

MISSOULA, MONTANA

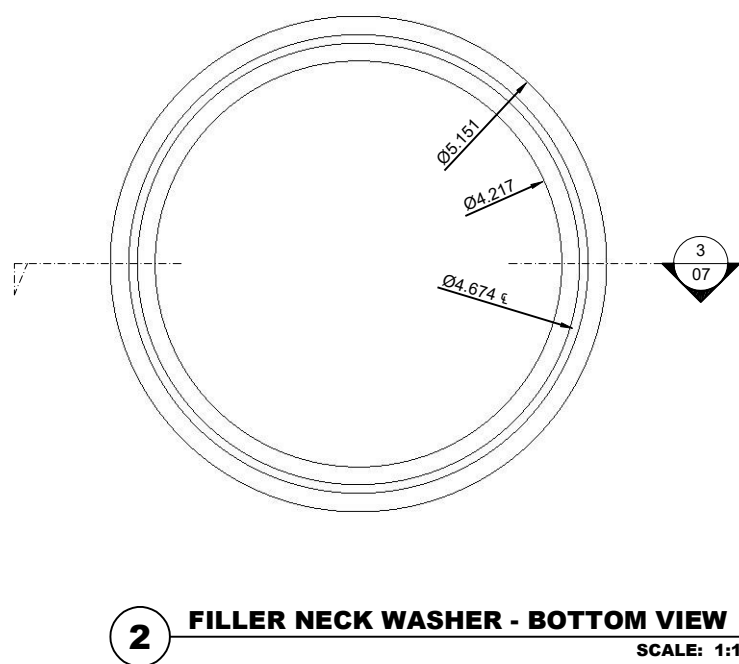
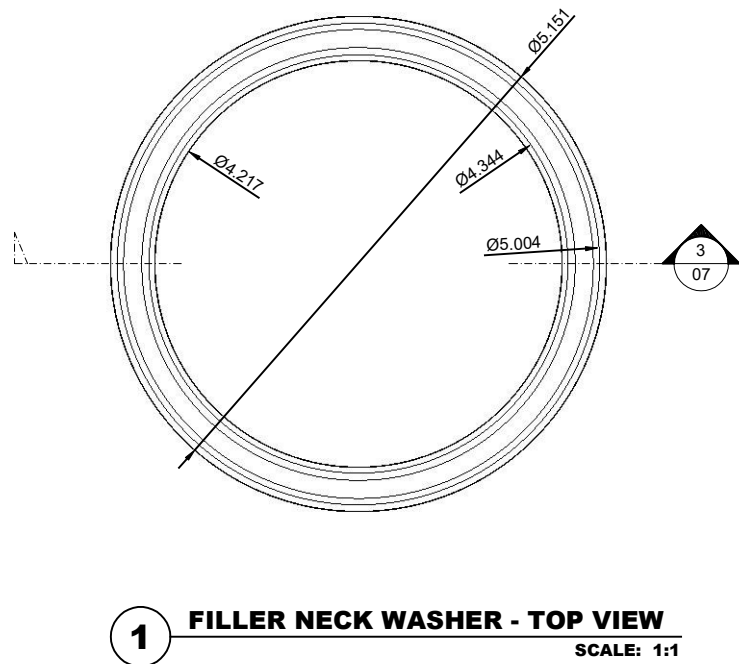
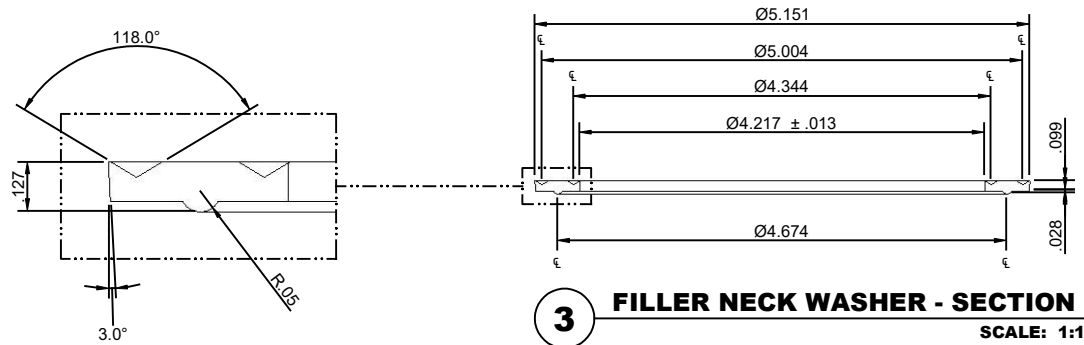
DRAWING TITLE
FILLER NECK DETAILS

DATE 02/21/2020	ARCHIVE NO. MTDC-1116_06.DWG	DRAWING SHEET NO. 06
DESIGNER G.APUZZO		
DRAWN T.BROWN		
CHECKED C.HARDING		
APPROVED G.APUZZO		
PROJECT NO. MTDC-1116		SHEET 06 OF 10

NOTES:

PHYSICAL REQUIREMENTS OF FILLER NECK WASHER

1. THE WASHER SHALL BE INJECTION MOLDED FROM 10% GLASS FILLED BLACK POLYPROPYLENE COPOLYMER. THE WASHER SHALL HAVE A 4.217 +/-0.013 INCH INSIDE DIAMETER THAT FITS OVER THE NECK THREADS AND IS 0.099 INCHES THICK. THE TOP SURFACE SHALL HAVE (2) 118° RADIAL "V" GROOVES THAT MATCH THE RADIAL "V"'S IN THE NECK ASSEMBLY NUT. THE BOTTOM WASHER SURFACE SHALL HAVE A MOLDED ENERGY DIRECTOR WITH A 0.05-INCH RADIUS ON A 4.674-INCH DIAMETER. THE WASHER SEAL SURFACES SHALL BE SMOOTH AND FLAT. THE WASHER SHALL BE FGI PART NUMBER 181864-C OR EQUAL. PER SPEC 5100-621B.
2. MAX DRAFT OF 5° ALLOWED. MAX DRAFT ANGLE TO BE DETERMINED BY FORM, FIT, AND FUNCTION OF THE PARTS.



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5 GALLON
SUPPRESSION
M-2015**

NATIONAL TECHNOLOGY
& DEVELOPMENT
PROGRAM

MISSOULA, MONTANA

DRAWING TITLE
**FILLER NECK
WASHER DETAILS**

**FILLER NECK ASSEMBLY TOLERANCES
UNLESS OTHERWISE SPECIFIED**

TOLERANCES:
UNDER .5-INCH ± .010
.5 TO 2-INCHES ± .020
2 TO 6-INCHES ± .031
OVER 6 INCHES ± .125

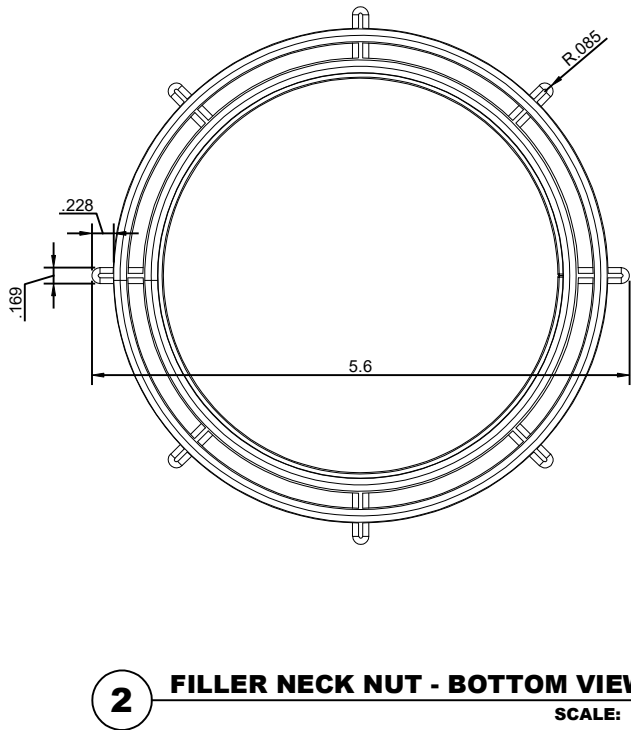
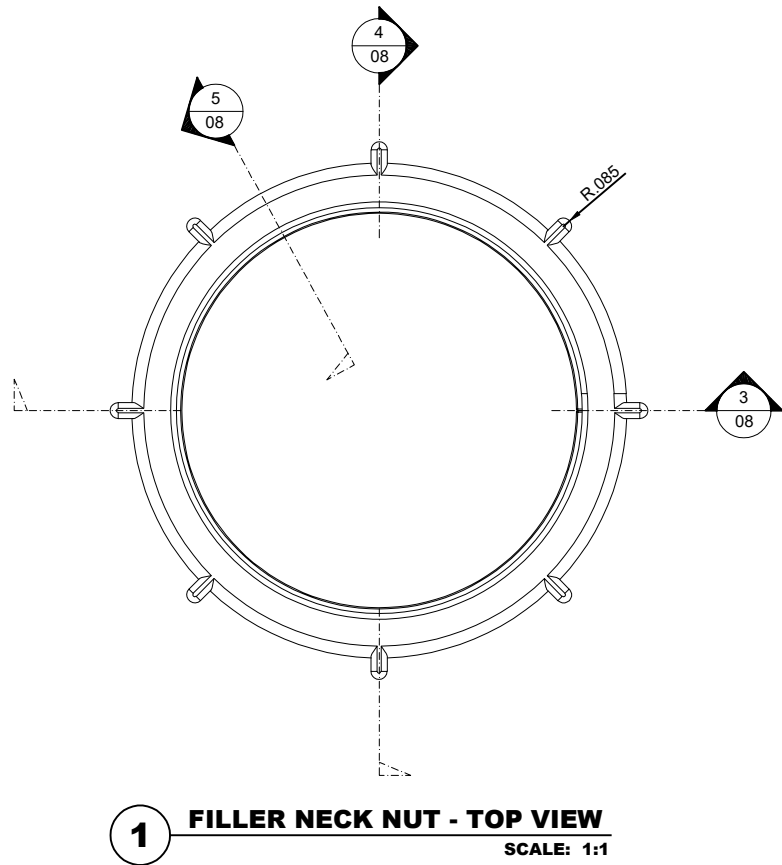
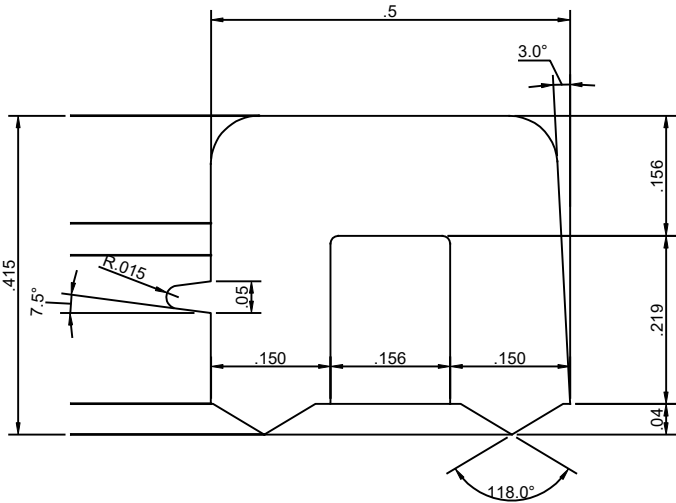
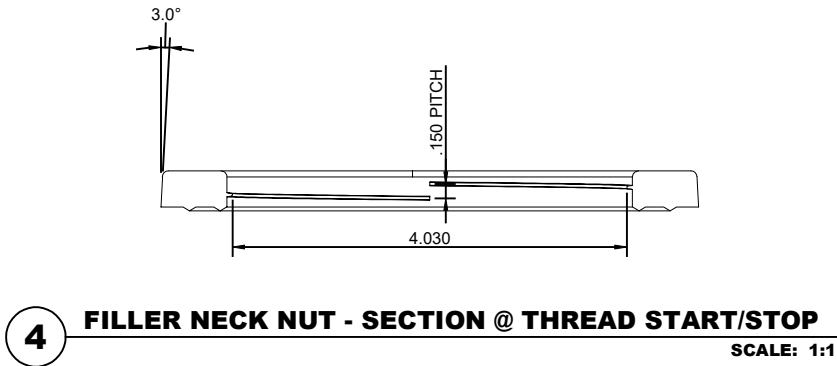
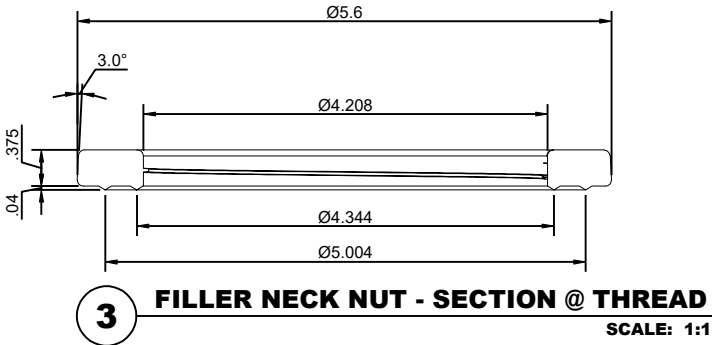
DIMENSIONS ARE IN INCHES

DATE 02/21/2020	ARCHIVE NO. MTDC-1116_07.DWG	DRAWING SHEET NO. 07
DESIGNER G.APUZZO		
DRAWN T.BROWN		
CHECKED C.HARDING		
APPROVED G.APUZZO		
PROJECT NO. MTDC-1116	SHEET 07 OF 10	

NOTES:

PHYSICAL REQUIREMENTS OF FILLER NECK NUT

1. THE NUT SHALL BE INJECTION MOLDED FROM 10% GLASS FILLED BLACK POLYPROPYLENE COPOLYMER. THE NUT SHALL HAVE ONE MOLDED IN THE THREAD (1 COMPLETE TURN) WITH A 0.150-INCH THREAD PITCH, A 4.030-INCH MINOR DIAMETER, AND 4.208-INCH MAJOR DIAMETER. THE THREAD THICKNESS ON THE NUT SHALL BE 0.050 INCHES WITH A 7.50° ANGLE AND 0.015 RADII. THE NUT SHALL HAVE (2) 242° “V” FEATURES ON 4.344 INCHES AND 5.004-INCH DIAMETERS TO MATCH THE “V” GROOVES IN THE WASHER. THE NUT SHALL ALSO HAVE (8) EVENLY SPACED RADIAL RIBS .169 INCH WIDE AND .228 INCHES LONG PROTRUDING FROM THE OUTSIDE DIAMETER OF THE NUT. THE NUT SHALL BE FGI PART NUMBER 181863-B OR EQUAL. PER SPEC 5100-621B.
2. MAX DRAFT OF 5° ALLOWED. MAX DRAFT ANGLE TO BE DETERMINED BY FORM, FIT, AND FUNCTION OF THE PARTS.



FILLER NECK ASSEMBLY TOLERANCES UNLESS OTHERWISE SPECIFIED	
TOLERANCES:	
UNDER .5-INCH ± .010	
.5 TO 2-INCHES ± .020	
2 TO 6-INCHES ± .031	
OVER 6 INCHES ± .125	
DIMENSIONS ARE IN INCHES	

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2	SEE REVISION DETAIL - SHEET 01	
NO.	REVISION / ISSUE	DATE

PROJECT NAME

WATERBAG
5 GALLON
SUPPRESSION
M-2015

NATIONAL TECHNOLOGY
& DEVELOPMENT
PROGRAM

MISSOULA, MONTANA

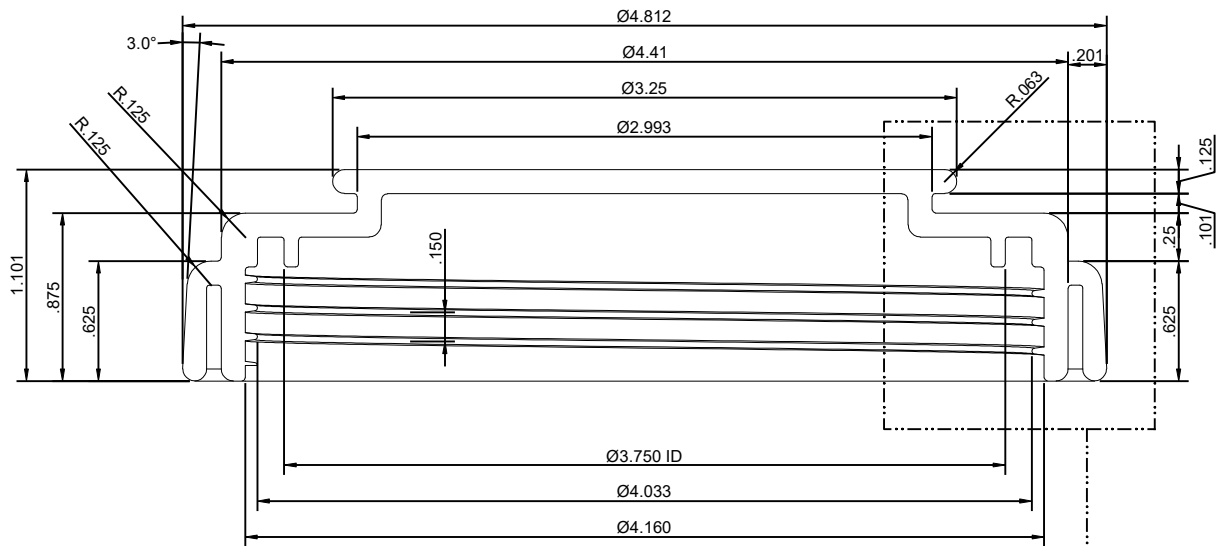
DRAWING TITLE
FILLER NECK NUT DETAILS

DATE 02/21/2020	ARCHIVE NO. MTDC-1116_08.DWG
DESIGNER G.APUZZO	DRAWING SHEET NO. 08
DRAWN T.BROWN	
CHECKED C.HARDING	
APPROVED G.APUZZO	
PROJECT NO. MTDC-1116	SHEET 08 OF 10

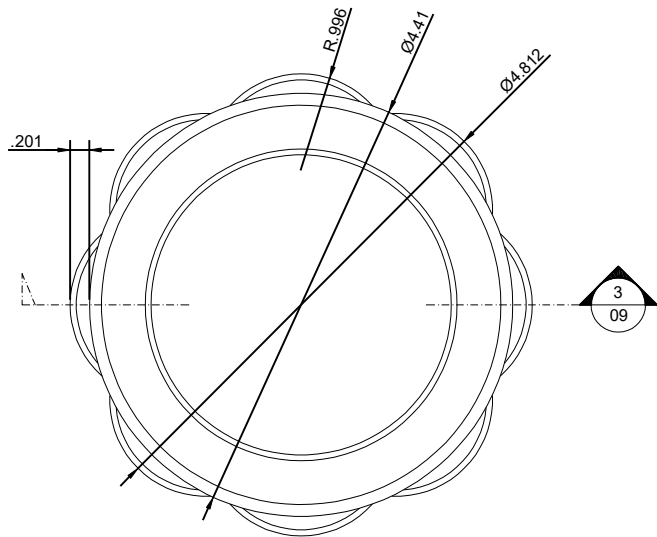
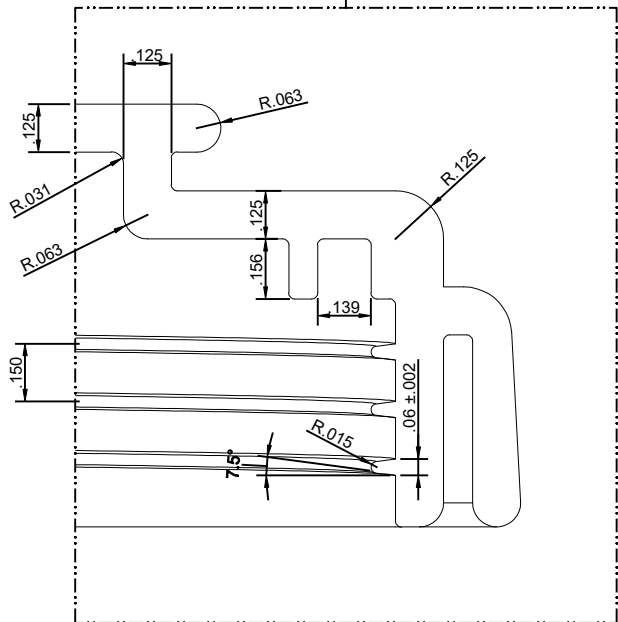
NOTES:

PHYSICAL REQUIREMENTS OF FILLER NECK CAP

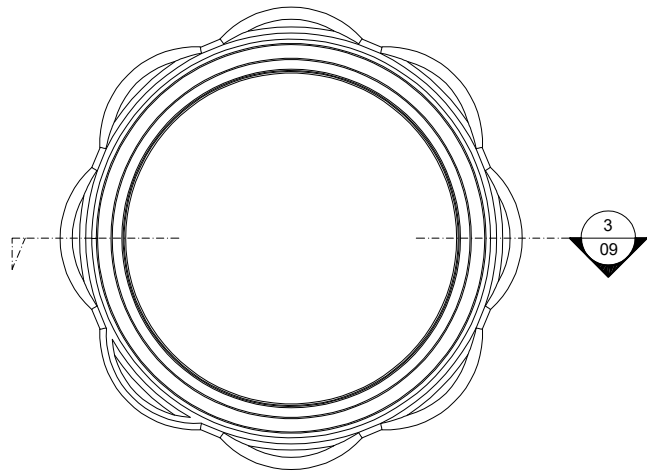
1. THE CAP SHALL BE INJECTION MOLDED FROM 20% GLASS FILLED BLACK POLYPROPYLENE COPOLYMER. THE CAP SHALL HAVE MOLDED-IN THREADS WITH A 0.150-INCH THREAD PITCH, 4.033-INCH THREAD MINOR DIAMETER, AND 4.160-INCH THREAD MAJOR DIAMETER. THE THREAD SHALL BE 0.060 +/-0.002 INCH THICK WITH A 0.015-INCH RADIUS AND 7.50° ANGLE. THE INSIDE OF THE CAP SHALL HAVE AN O-RING GROOVE MOLDED IN WITH A POLISHED SURFACE TO FIT A 3.708+/-0.015 INCH INSIDE DIAMETER X 0.139-INCH DIAMETER CROSS-SECTION O-RING. WHEN THE CAP IS INSTALLED ON THE NECK, THE CAP O-RING MATES WITH THE TOP OF THE NECK. THE TOP OF THE CAP HAS A 0.101-INCH WIDE X 2.993 INCH INSIDE DIAMETER GROOVE THAT ACCOMMODATES A CAP TETHER. THE CAP ALSO SHALL HAVE PROVISION FOR EITHER A MOLDED-IN LOGO OR HAVE A BLANK TOP SURFACE. THE OUTSIDE OF THE CAP SHALL HAVE (8) 0.201-INCH RADIUS SCALLOPS AROUND THE OUTSIDE DIAMETER OF 4.812 INCHES. THE CAP SHALL BE FGI PART NUMBER 181865-B WITH CAP O-RING OR EQUAL. PER SPEC 5100-621B.
2. MAX DRAFT ANGLE OF 5° ALLOWED. MAX DRAFT ANGLE TO BE DETERMINED BY FORM, FIT, AND FUNCTION OF THE PARTS.
3. UNSPECIFIED DETAILS OF SCALLOPS OPEN TO SUPPLIER PREFERENCE.



3 FILLER NECK CAP - SECTION
SCALE: 2:1



1 FILLER NECK CAP - TOP VIEW
SCALE: 1:1



2 FILLER NECK CAP - BOTTOM VIEW
SCALE: 1:1

FILLER NECK ASSEMBLY TOLERANCES UNLESS OTHERWISE SPECIFIED	
TOLERANCES:	
UNDER .5-INCH ± .010	
.5 TO 2-INCHES ± .020	
2 TO 6-INCHES ± .031	
OVER 6 INCHES ± .125	
DIMENSIONS ARE IN INCHES	



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PROJECT NAME
**WATERBAG
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SUPPRESSION
M-2015**

NATIONAL TECHNOLOGY
& DEVELOPMENT
PROGRAM

MISSOULA, MONTANA

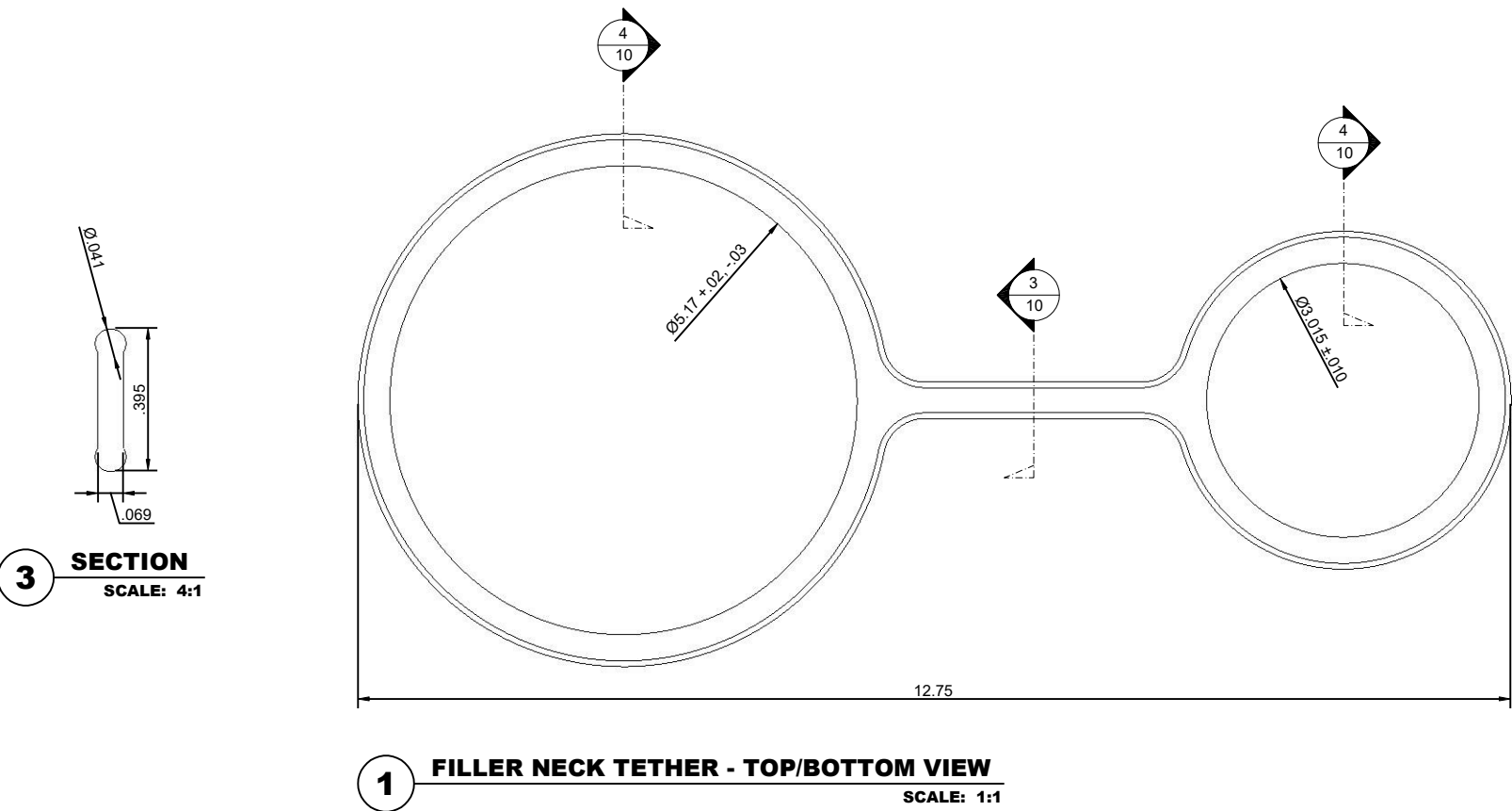
DRAWING TITLE
**FILLER NECK CAP
DETAILS**

DATE 02/21/2020	ARCHIVE NO. MTDC-1116_09.DWG	
DESIGNER G.APUZZO	DRAWING SHEET NO. 09	
DRAWN T.BROWN		
CHECKED C.HARDING		
APPROVED G.APUZZO		
PROJECT NO. MTDC-1116		SHEET 09 OF 10

NOTES:

PHYSICAL REQUIREMENTS OF FILLER NECK TETHER AND FILLER NECK O-RING

1. THE TETHER SHALL BE INJECTION MOLDED FROM LOW-DENSITY POLYETHYLENE WITH A SHORE "D" HARDNESS OF 50+/-5 DUROMETER. THE LARGE RING INSIDE DIAMETER SHALL BE 5.17 +0.02/-0.03 INCHES AND SHALL STRETCH OVER THE RIBS ON THE FILLER NECK NUT. THE SMALL RING INSIDE DIAMETER SHALL BE 3.015 +/-0.005 INCHES AND SHALL STRETCH OVER AND SNAP INTO THE FILLER NECK CAP GROOVE. THE CAP SHOULD TURN FREELY WITHIN THE TETHER AND THE TETHER SHOULD ALSO TURN FREELY AROUND THE NUT. THE TETHER SHALL BE FGI PART NUMBER 182213-F OR EQUAL. PER SPEC 5100-621.
2. THE CAP O-RING SHALL BE 3.708 +/-0.015 INCHES INSIDE DIAMETER X 0.139 +/-0.004 INCH CROSS-SECTION AND BE MADE FROM BUNA-N DARK GRAY RUBBER WITH A SHORE "A" HARDNESS OF 70 +/- 5 DUROMETER. PER SPEC 5100-621B



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PROJECT NAME

**WATERBAG
5 GALLON
SUPPRESSION
M-2015**

NATIONAL TECHNOLOGY
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PROGRAM

MISSOULA, MONTANA

DRAWING TITLE

**FILLER NECK TETHER &
FILLER NECK O-RING
DETAILS**

**FILLER NECK ASSEMBLY TOLERANCES
UNLESS OTHERWISE SPECIFIED**

TOLERANCES:
UNDER .5-INCH ± .010
.5 TO 2-INCHES ± .020
2 TO 6-INCHES ± .031
OVER 6 INCHES ± .125

DIMENSIONS ARE IN INCHES

DATE 02/21/2020	ARCHIVE NO. MTDC-1116_10.DWG	DRAWING SHEET NO. 10
DESIGNER G.APUZZO		
DRAWN T.BROWN		
CHECKED C.HARDING		
APPROVED G.APUZZO		
PROJECT NO. MTDC-1116	SHEET 10 OF 10	