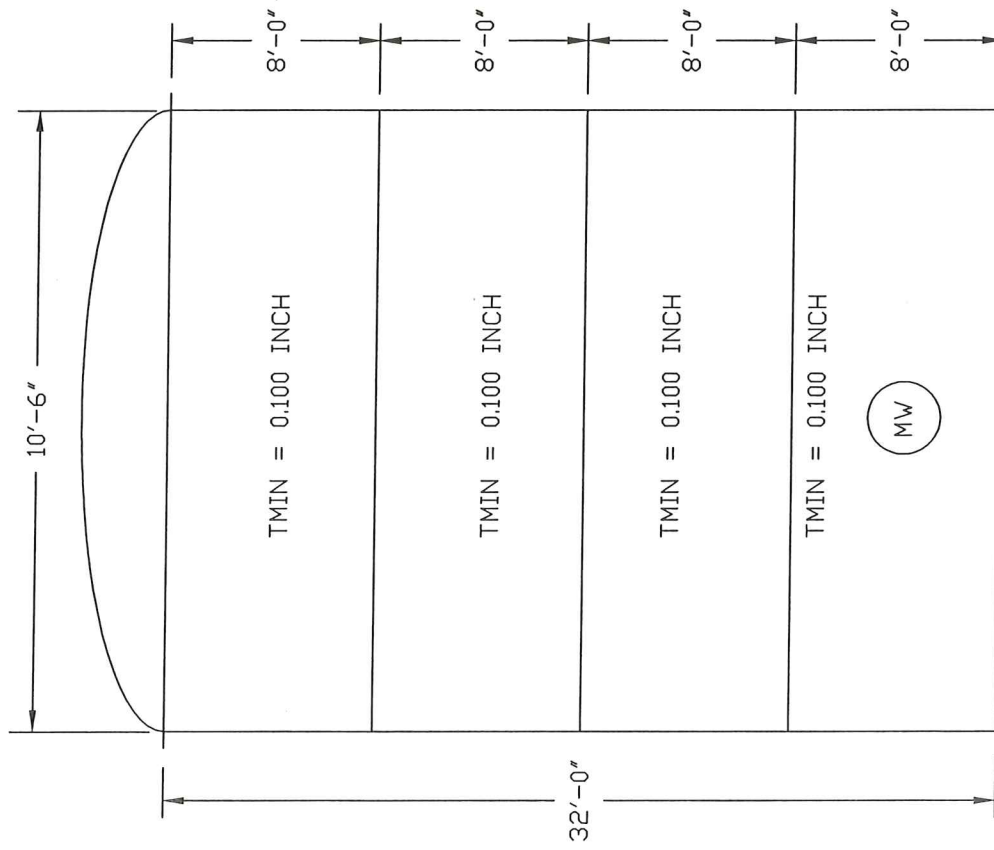
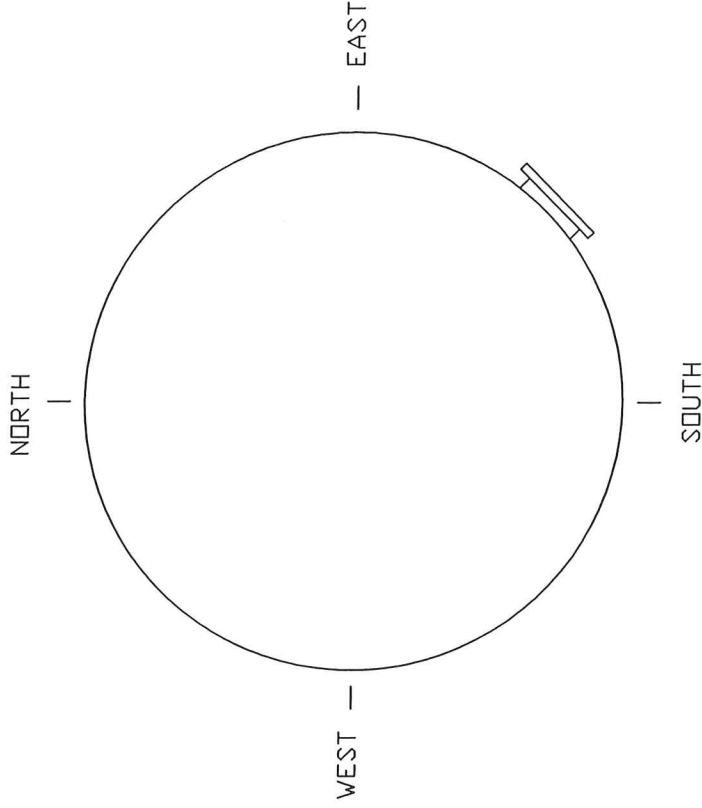


## Section 7



TMINS BASED ON FULL  
HYDROSTATIC LOAD OF 32 FEET



INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
JACKSONVILLE, FL

**LAW**  
LAWGIBB Group Member

**TANK 7P**  
**GENERAL ARRANGEMENT**

JOB NO.: 40563-1-0225 DWG. NO.: 0225-7P-01

C4	.261	.265	.259	.265
	.264	.262	.260	.262
	.262	.257	.261	.257
	.260	.248	.254	.247
C3	.251	.260	.257	.254
	.258	.262	.263	.260
	.256	.256	.261	.256
	.248	.248	.248	.247
C2	.269	.260	.258	.259
	.264	.263	.264	.263
	.257	.260	.257	.260
	.248	.248	.245	.249
C1	.269	.266	.266	.267
	.274	.273	.279	.271
	.272	.274	.281	.274
	.270	.279	.283	.281



NOTES:

1. DRAWING NOT TO SCALE.
2. NOZZLES HAVE NO INSIDE DIAMETER WELDING.
3. SEE ATTACHED NOZZLE SHEET FOR NOZZLE UT READINGS.

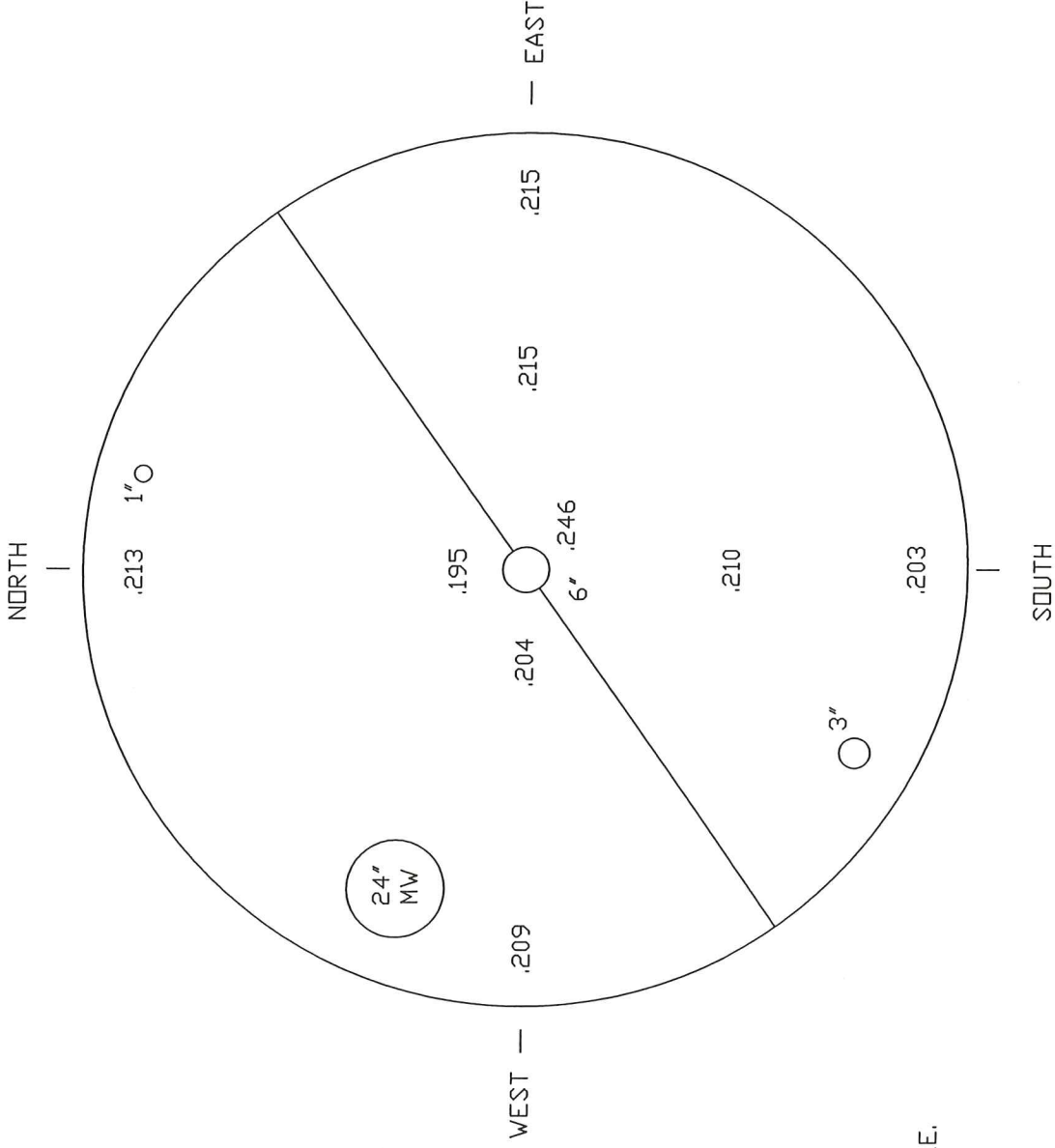
INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
JACKSONVILLE, FL



**TANK 7P**  
**SHELL LAYOUT AND UT DATA**

TMIN = 0.090 INCH



INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
JACKSONVILLE, FL



**TANK 7P**  
**ROOF LAYOUT AND UT DATA**

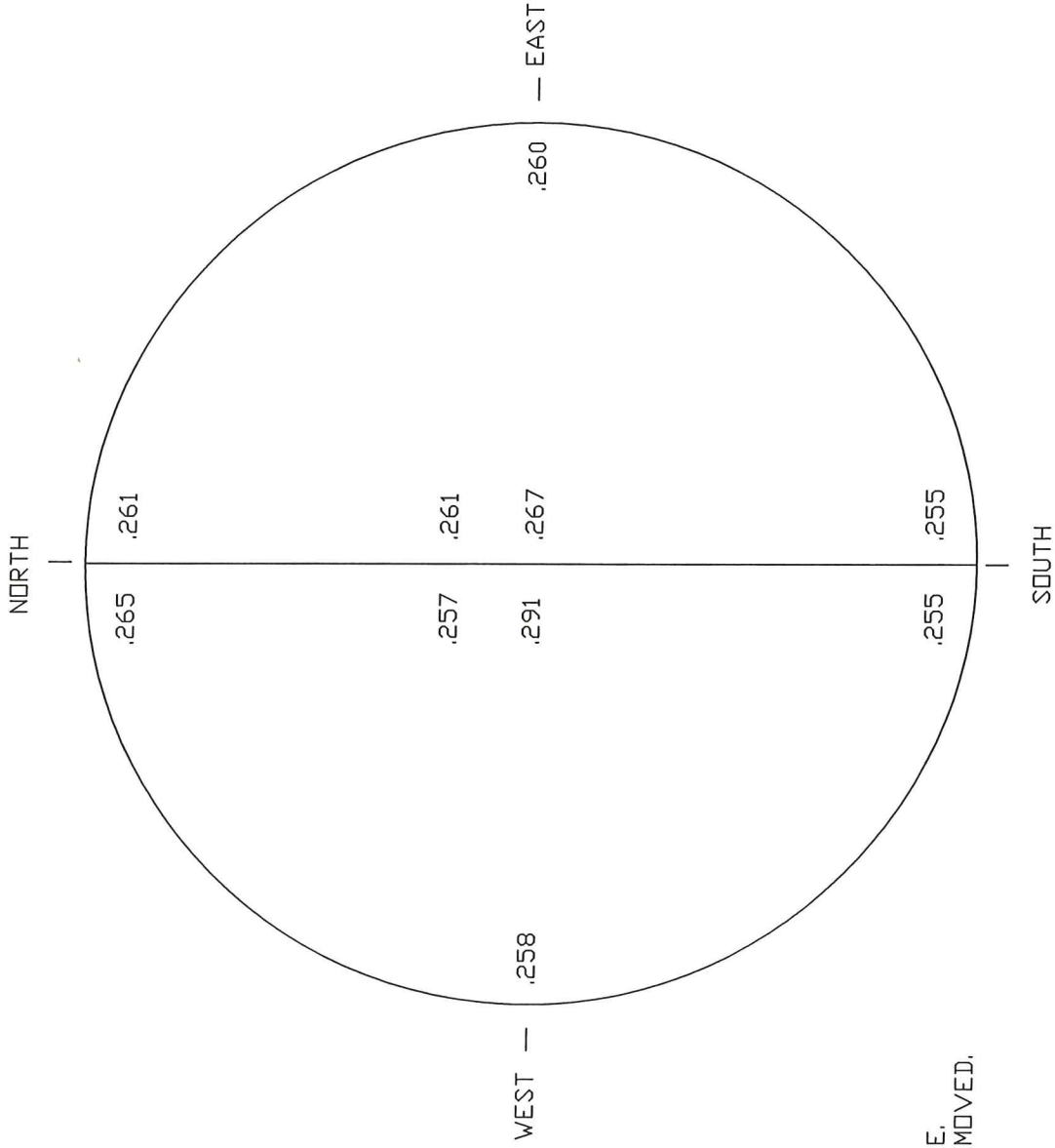
JOB NO.: 40563-1-0225 DWG. NO.: 0225-7P-02

NOTES:

1. DRAWING NOT TO SCALE.



TMIN = 0.100 INCH



NOTES:

1. DRAWING NOT TO SCALE.
2. BAFFLE PARTIALLY REMOVED.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
**JACKSONVILLE, FL**




**TANK 7P**  
**FLOOR LAYOUT AND UT DATA**  
JOB NO.: 40563-1-0225 DWG. NO.: 0225-7P-03

**TANK 7P**  
**MANWAY/NOZZLE UT READINGS**  
**WATER RECOVERY, INC.**

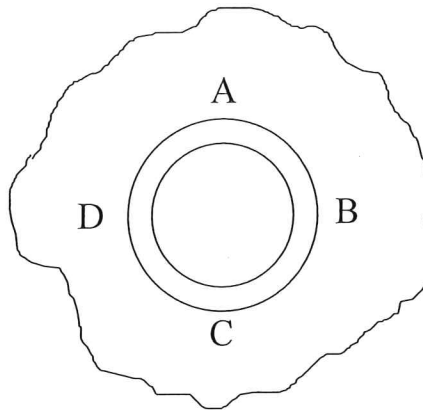
LAW Project Number: 40563-1-0225

**LAW**

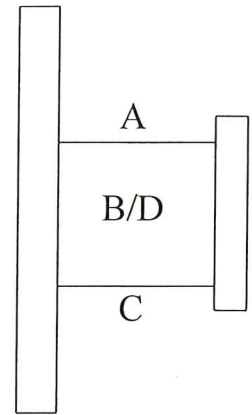
LAWGIBB Group Member 

Law Engineering and Environmental Services  
 1000 Business Center Drive, Suite 90  
 Savannah, Georgia 31405

Date: JAN-01  
 Technicians: MG/JC/BS/AN



**SHELL VIEW**



**NECK VIEW**

NOZZLES	SIZE	SHELL PLATE THICKNESS				NOZZLE PIPE THICKNESS				REPAD THICKNESS
		A	B	C	D	A	B	C	D	
N1	3'	NA	.280	NA	NA	NA	.198	NA	NA	NA
N2	3"	NA	.282	NA	NA	NA	.242	NA	NA	NA
N3	4"	NA	.279	NA	NA	NA	NA	NA	NA	.270
N4	4"	NA	.285	NA	NA	NA	NA	NA	NA	.320
MW	24"	.282	.278	NA	.285	.276	.267	.257	NA	NA

NOTES:

1. Readings are in inches.
2. NA = Not Applicable.
3. Repad on N3 did not have a weep hole.

## EXTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.CLIENT REFERENCE NO.: TANK 7PINSPECTORS: MG/JC/BS/ANLAW PROJECT NO.: 40563-1-0225DATE OF INSPECTION: JAN-01

## FOUNDATION

CONCRETE PAD	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Spalling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ANCHOR BOLTS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Distortion	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HOUSE KEEPING	<input type="checkbox"/>	Trash	<input type="checkbox"/>	Vegetation	<input type="checkbox"/>	Inflammables	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FOUNDATION	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Settlement	<input type="checkbox"/>	Erosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GROUNDING STRAP			<input type="checkbox"/>	Loose	<input checked="" type="checkbox"/>	Missing	<input type="checkbox"/>	Attached	<input type="checkbox"/>	N/A
CATHODIC PROTECTION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BOTTOM-TO-FOUNDATION SEAL			<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
DIKE CONDITION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FOUNDATION DRAINAGE			<input checked="" type="checkbox"/>	Poor	<input type="checkbox"/>	Adequate	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A

## STRUCTURAL AND WELD CONDITIONS

STAIRS AND WALKWAYS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CATWALK / PLATFORMS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HANDRAILS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

## SHELL, ROOF AND APPURTENANCES

FLANGE CONNECTIONS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
NOZZLES & MANWAYS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input checked="" type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
INSULATION	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
BOTTOM EXTERNAL LIP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SAMPLE HATCH	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AUTOGAUGE	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CONSERVATION VENT			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GOOSE NECK VENT	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Clogging	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FLAME ARRESTER			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MIXER & MOTORS	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MANWAY DAVIT ARM			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

NOTES: NONE

**INTERNAL VISUAL INSPECTION CHECKLIST**

CLIENT NAME: WATER RECOVERY, INC.  
INSPECTORS: MG/JC/BS/AN  
DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 7P  
LAW PROJECT NO.: 40563-1-0225

**STRUCTURAL AND WELD CONDITIONS**

LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BAFFLE PLATES	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR-TO-SHELL SEAM	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

**SHELL, ROOF AND APPURTENANCES**

NOZZLE PROTRUSIONS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good (1)	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
LINER	<input type="checkbox"/>	Tearing	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
PIPING SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AGITATOR SHAFT/BLADES	<input type="checkbox"/>	Broken	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
DOWNCOMERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
COILS/HEATERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SUMP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

**NOTES:**

1. SOME OF THE NOZZLES WERE NOT WELDED ON INNER DIAMETER.



## TMIN CALCULATIONS PER API 653 - TANK 7P

HEIGHT, H	32 FEET	CORROSION ALLOWANCE:	0.000 INCHES
DIAMETER, D	10.5 FEET	YIELD STRENGTH:	30000 PSI
SPECIFIC GRAVITY, G	1	TENSILE STRENGTH:	55000 PSI
JOINT EFFICIENCY, E	70 %		
# COURSES	4		

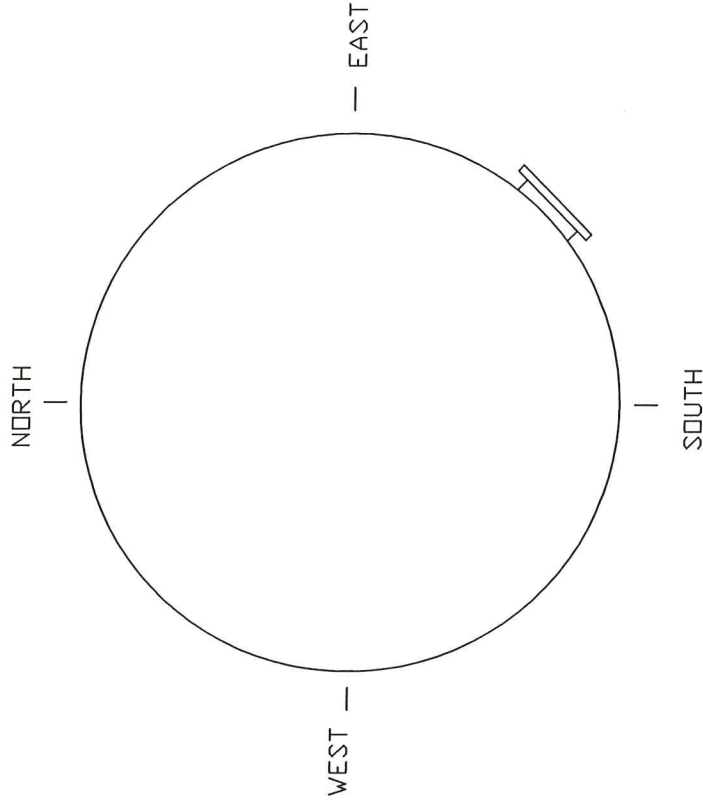
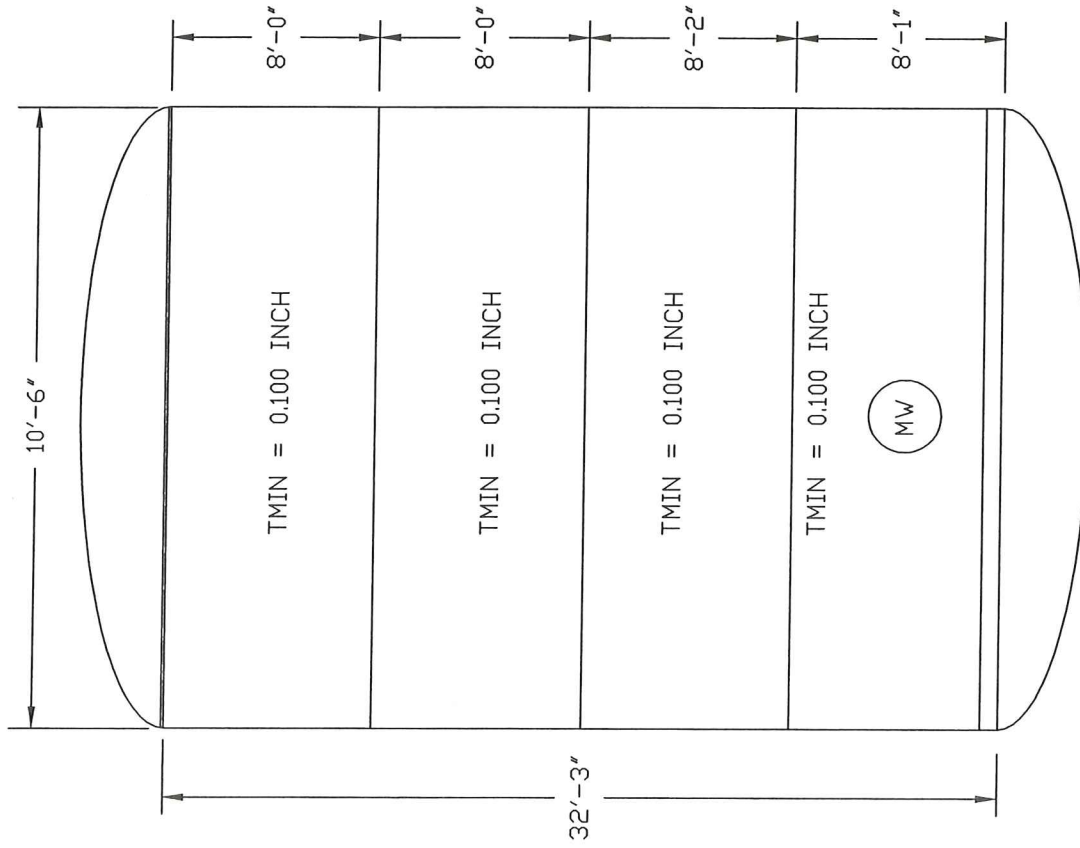
COURSE	H	S	TMIN (CALC)	TMIN	CA	TORIG	TFLAG
ROOF		25960	0.090	<b>0.100</b>	0.000	UNK	<b>0.100</b>
1	32	23595	0.053	<b>0.100</b>	0.000	UNK	<b>0.100</b>
2	24	23595	0.040	<b>0.100</b>	0.000	UNK	<b>0.100</b>
3	16	25960	0.024	<b>0.100</b>	0.000	UNK	<b>0.100</b>
4	8	25960	0.012	<b>0.100</b>	0.000	UNK	<b>0.100</b>
FLOOR		25960	0.100	<b>0.100</b>	0.000	UNK	<b>0.100</b>

### NOTES:

1. 1ST AND 2ND COURSE, ALLOWABLE STRESS LESSER OF 80% YIELD OR 42.9% TENSILE
2. REMAINING COURSES, ALLOWABLE STRESS LESSER OF 88% YIELD OR 47.2% TENSILE

## Section 8

TMINS BASED ON FULL  
HYDROSTATIC LOAD OF 32 FEET 3 INCHES



INSPECTED/DATE: JC/MG/BS/AN-JAN-01

**WATER RECOVERY, INC.**  
JACKSONVILLE, FL

**LAW**  
LAWGIBB Group Member

**TANK 8P**  
**GENERAL ARRANGEMENT**

JOB NO.: 40563-1-0225 DWG. NO.: 0225-8P-01

C4	.261	.259	.254	.259
	.263	.268	.258	.268
	.260	.262	.254	.256
	.257	.253	.246	.252
C3	.261	.259	.254	.258
	.265	.266	.257	.266
	.269	.267	.256	.269
	.258	.261	.249	.259
C2	.265	.267	.259	.270
	.276	.277	.268	.276
	.271	.273	.267	.277
	.267	.264	.259	.265
C1	.258	.261	.254	.257
	.272	.262	.261	.254
	.253	.263	3" ON1	.258
	.270	.255	3" ON2	.257



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NOTES:

1. DRAWING NOT TO SCALE.
2. NOZZLES HAVE NO INSIDE DIAMETER WELDING.
3. SEE ATTACHED NOZZLE SHEET FOR NOZZLE UT READINGS.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

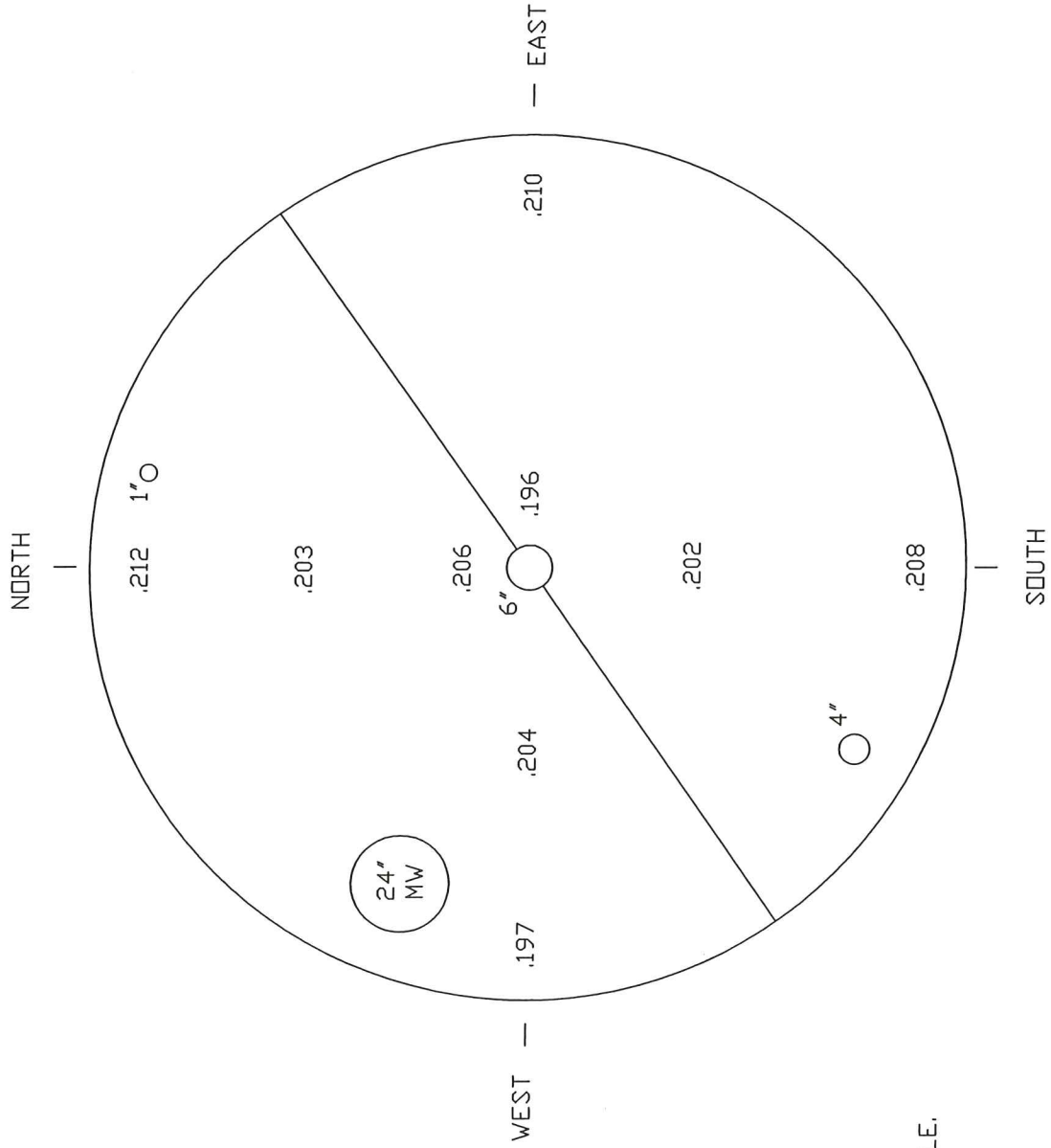
**WATER RECOVERY, INC.**  
JACKSONVILLE, FL



**TANK 8P**  
**SHELL LAYOUT AND UT DATA**



TMIN = 0.100 INCH



NOTES:

1. DRAWING NOT TO SCALE.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
JACKSONVILLE, FL

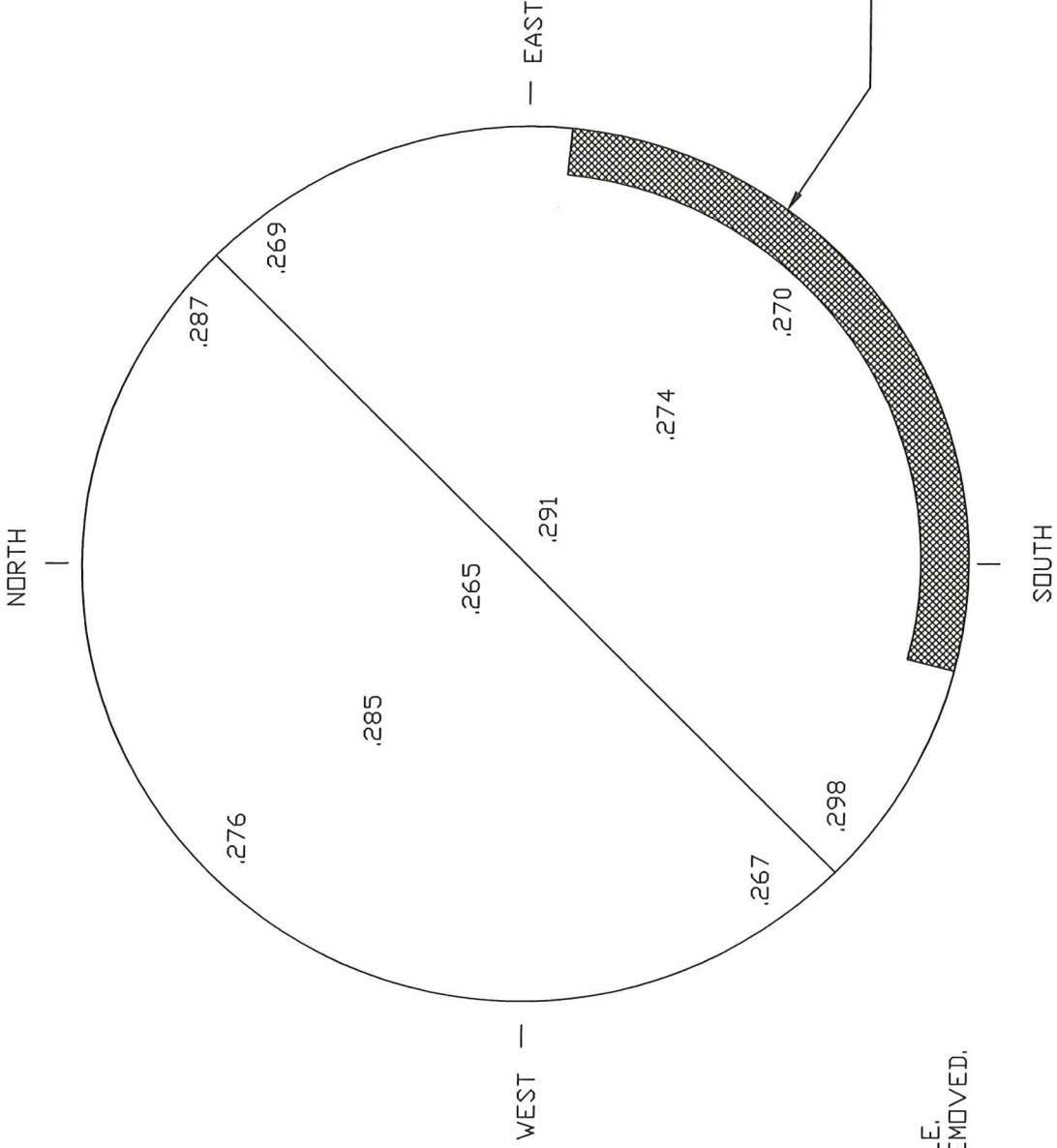


**TANK 8P**

**TOP LAYOUT AND UT DATA**

JOB NO.: 40563-1-0225 DWG. NO.: 0225-8P-02

TMIN = 0.125 INCH



NOTES:

1. DRAWING NOT TO SCALE.
2. BAFFLE PARTIALLY REMOVED.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
**JACKSONVILLE, FL**



**TANK 8P**

**BOTTOM LAYOUT AND UT DATA**


JOB NO.: 40563-1-0225 DWG. NO.: 0225-8P-03

# TANK 8P

## MANWAY/NOZZLE UT READINGS WATER RECOVERY, INC.

LAW Project Number: 40563-1-0225

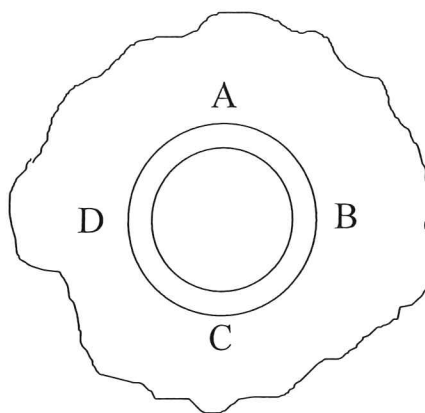
# LAW

LAWGIBB Group Member 

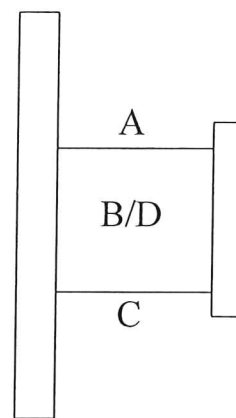
Law Engineering and Environmental Services  
1000 Business Center Drive, Suite 90  
Savannah, Georgia 31405

Date: JAN-01

Technicians: MG/JC/BS/AN



SHELL VIEW



NECK VIEW

NOZZLES	SIZE	SHELL PLATE THICKNESS				NOZZLE PIPE THICKNESS				REPAD THICKNESS
		A	B	C	D	A	B	C	D	
N1	3'	NA	.267	NA	NA	NA	.209	NA	NA	NA
N2	3"	NA	.259	NA	NA	NA	.222	NA	NA	NA
N3	3"	NA	.272	NA	NA	NA	NA	NA	NA	.260
N4	1"	NA	.275	NA	NA	TC	TC	TC	TC	NA
N5	4"	NA	.293	NA	NA	NA	NA	NA	NA	.276
MW	20"	.271	.273	NA	.266	.276	.270	.263	NA	NA

### NOTES:

1. Readings are in inches.
2. NA = Not Applicable.
3. TC = Threaded Coupling

## EXTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.  
 INSPECTORS: MG/JC/BS/AN  
 DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 8P  
 LAW PROJECT NO.: 40563-1-0225

## FOUNDATION

CONCRETE PAD	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Spalling	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ANCHOR BOLTS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Distortion	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HOUSE KEEPING	<input checked="" type="checkbox"/>	Trash	<input type="checkbox"/>	Vegetation	<input type="checkbox"/>	Inflammables	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FOUNDATION	<input checked="" type="checkbox"/>	Cracking	<input type="checkbox"/>	Settlement	<input type="checkbox"/>	Erosion	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GROUNDING STRAP			<input type="checkbox"/>	Loose	<input checked="" type="checkbox"/>	Missing	<input type="checkbox"/>	Attached	<input type="checkbox"/>	N/A
CATHODIC PROTECTION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BOTTOM-TO-FOUNDATION SEAL			<input type="checkbox"/>	Leakage	<input checked="" type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
DIKE CONDITION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FOUNDATION DRAINAGE			<input checked="" type="checkbox"/>	Poor	<input type="checkbox"/>	Adequate	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A

## STRUCTURAL AND WELD CONDITIONS

STAIRS AND WALKWAYS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CATWALK / PLATFORMS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HANDRAILS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

## SHELL, ROOF AND APPURTENANCES

FLANGE CONNECTIONS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
NOZZLES & MANWAYS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input checked="" type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
INSULATION	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
BOTTOM EXTERNAL LIP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input checked="" type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SAMPLE HATCH	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AUTOGAUGE	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CONSERVATION VENT			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
GOOSE NECK VENT	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Clogging	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FLAME ARRESTER			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MIXER & MOTORS	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MANWAY DAVIT ARM			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

NOTES: NONE



**INTERNAL VISUAL INSPECTION CHECKLIST**

CLIENT NAME: WATER RECOVERY, INC.  
INSPECTORS: MG/JC/BS/AN  
DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 8P  
LAW PROJECT NO.: 40563-1-0225

**STRUCTURAL AND WELD CONDITIONS**

LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BAFFLE PLATES	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR-TO-SHELL SEAM	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

**SHELL, ROOF AND APPURTENANCES**

NOZZLE PROTRUSIONS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good (1)	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
LINER	<input type="checkbox"/>	Tearing	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
PIPING SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AGITATOR SHAFT/BLADES	<input type="checkbox"/>	Broken	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
DOWNCOMERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
COILS/HEATERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SUMP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

**NOTES:**

1. NOZZLES WERE NOT WELDED ON INNER DIAMETER.

## TMIN CALCULATIONS PER API 653 - TANK 8P

HEIGHT, H	32.25 FEET	CORROSION ALLOWANCE:	0.000 INCHES
DIAMETER, D	10.5 FEET	YIELD STRENGTH:	30000 PSI
SPECIFIC GRAVITY, G	1	TENSILE STRENGTH:	55000 PSI
JOINT EFFICIENCY, E	70 %		
# COURSES	4		

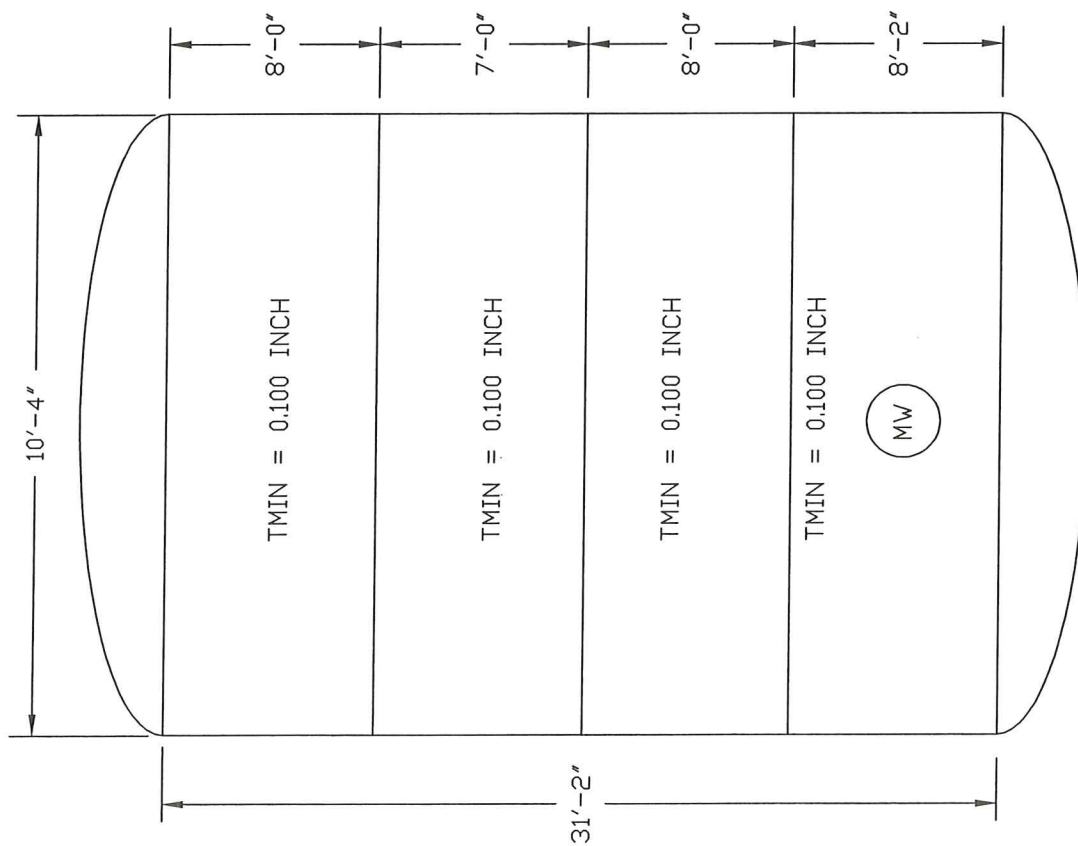
COURSE	H	S	TMIN (CALC)	TMIN	CA	TORIG	TFLAG
TOP		25960	0.100	<b>0.100</b>	0.000	UNK	<b>0.100</b>
1	32.25	23595	0.053	<b>0.100</b>	0.000	UNK	<b>0.100</b>
2	24.1666667	23595	0.040	<b>0.100</b>	0.000	UNK	<b>0.100</b>
3	16	25960	0.024	<b>0.100</b>	0.000	UNK	<b>0.100</b>
4	8	25960	0.012	<b>0.100</b>	0.000	UNK	<b>0.100</b>
BOT		25960	0.125	<b>0.100</b>	0.000	UNK	<b>0.125</b>

### NOTES:

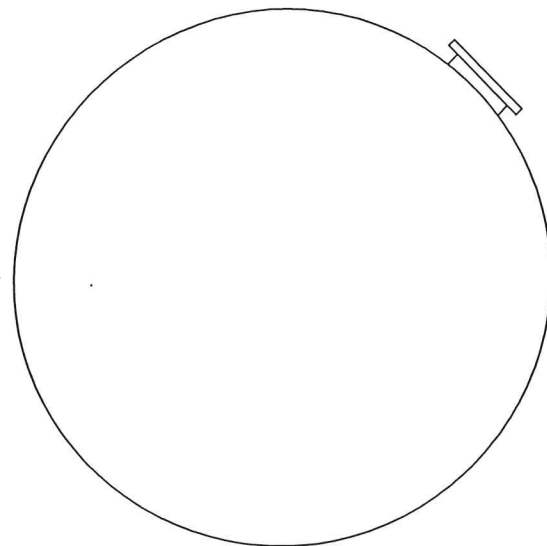
1. 1ST AND 2ND COURSE, ALLOWABLE STRESS LESSER OF 80% YIELD OR 42.9% TENSILE
2. REMAINING COURSES, ALLOWABLE STRESS LESSER OF 88% YIELD OR 47.2% TENSILE

## Section 9

TMINS BASED ON FULL  
HYDROSTATIC LOAD OF 31 FEET 2 INCHES



NORTH



WEST

EAST

SOUTH

MANUFACTURED BY METAL EQUIPMENT CO.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
JACKSONVILLE, FL

**LAW**  
LAWGIBB Group Member

**TANK 9P**  
**GENERAL ARRANGEMENT**

JOB NO.: 40563-1-0225 DWG. NO.: 0225-9P-01



C4	.267	.268	.264	.257
	.265	.267	.265	.254
	.256	.263	.259	.256
	.254	.259	.258	.253
C3	.268	.269	.264	.259
	.265	.272	.267	.268
	.267	.271	.272	.267
	.265	.270	.267	.264
C2	.254	.258	.252	.251
	.258	.267	.257	.257
	.257	.263	.254	.256
	.251	.261	.258	.258
C1	.281	.274	.263	.257
	.276	.282	.295	.258
	.276	.278	.291	.279
	.291	.268	.286	.266



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NOTES:

1. DRAWING NOT TO SCALE.
2. NOZZLES HAVE NO INSIDE DIAMETER WELDING.
3. SEE ATTACHED NOZZLE SHEET FOR NOZZLE UT READINGS.

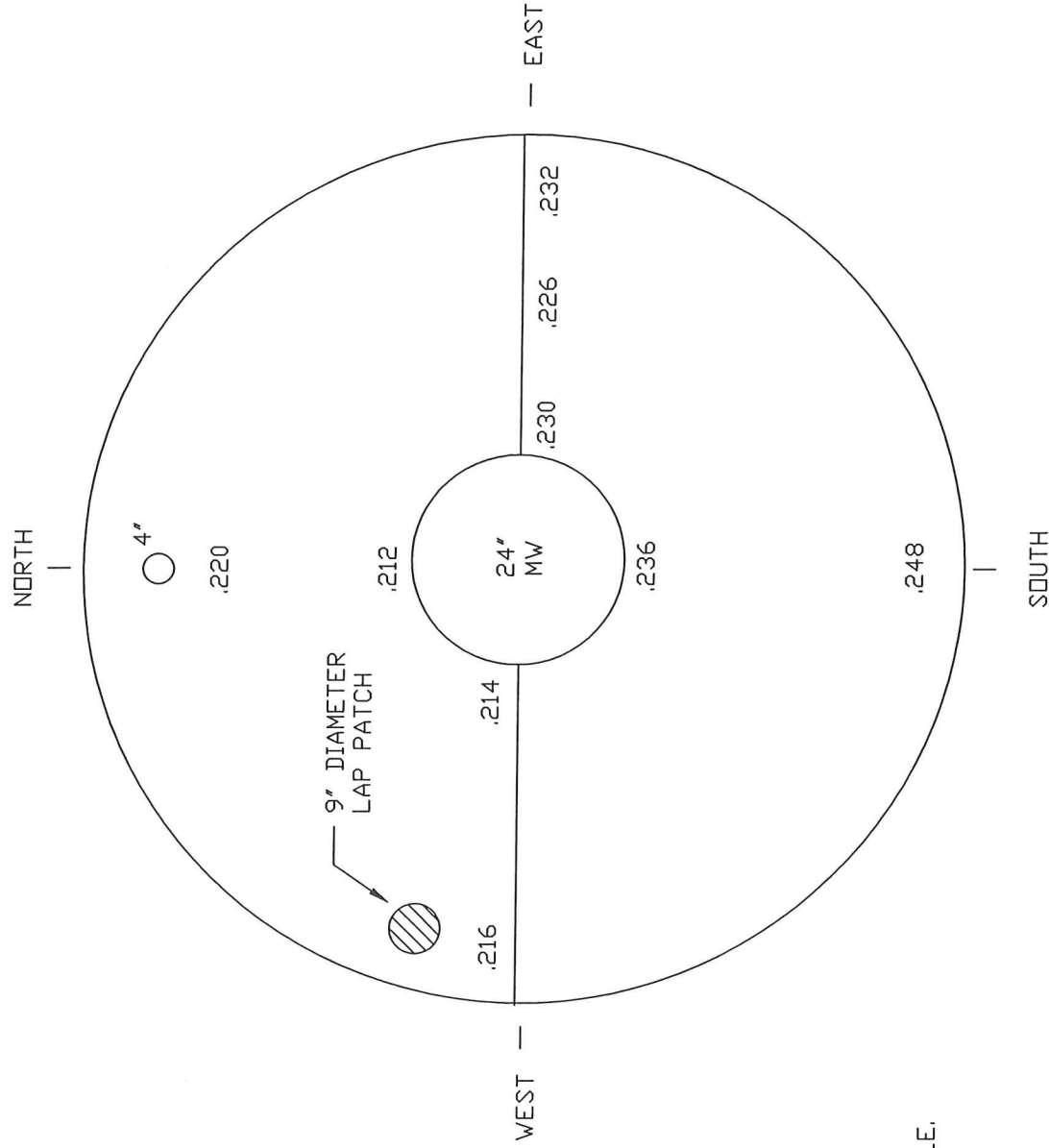
INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
JACKSONVILLE, FL



**TANK 9P**  
**SHELL LAYOUT AND UT DATA**

TMIN = 0.100 INCH



NOTES:

1. DRAWING NOT TO SCALE.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
JACKSONVILLE, FL

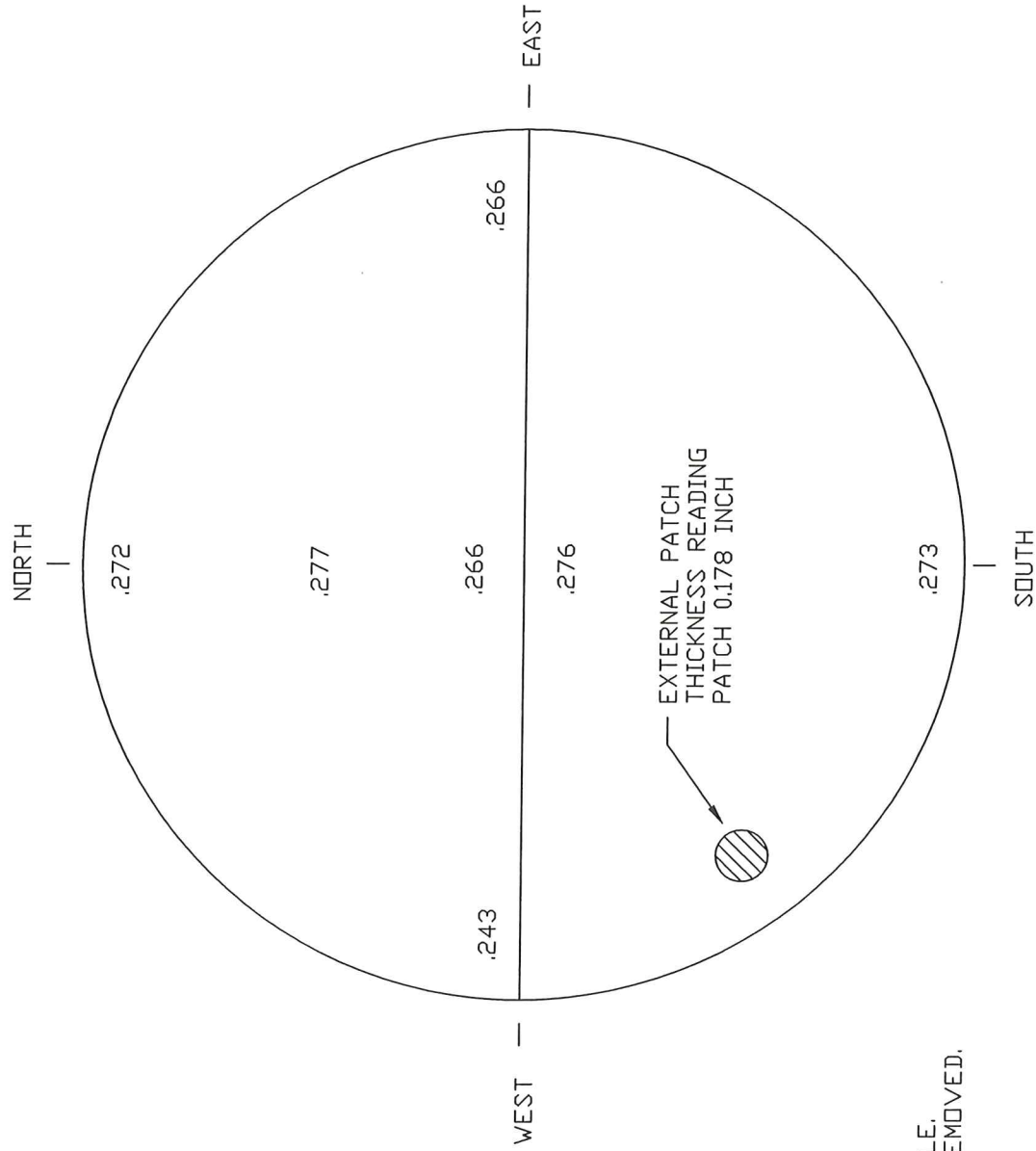


**TANK 9P**

**TOP LAYOUT AND UT DATA**

JOB NO.: 40563-1-0225 DWG. NO.: 0225-9P-02

TMIN = 0.125 INCH



NOTES:

1. DRAWING NOT TO SCALE.
2. BAFFLE PARTIALLY REMOVED.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
**JACKSONVILLE, FL**



**TANK 9P**

**BOTTOM LAYOUT AND UT DATA**


JOB NO.: 40563-1-0225 DWG. NO.: 0225-9P-03

# TANK 9P

## MANWAY/NOZZLE UT READINGS WATER RECOVERY, INC.

LAW Project Number: 40563-1-0225

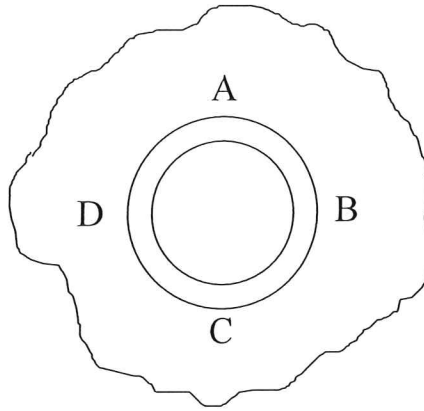
# LAW

LAWGIBB Group Member 

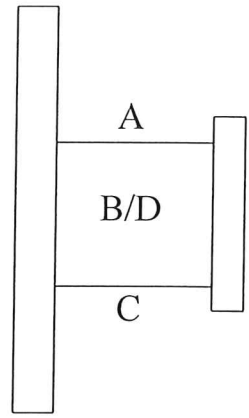
Law Engineering and Environmental Services  
1000 Business Center Drive, Suite 90  
Savannah, Georgia 31405

Date: JAN-01

Technicians: MG/JC/BS/AN



SHELL VIEW



NECK VIEW

NOZZLES	SIZE	SHELL PLATE THICKNESS				NOZZLE PIPE THICKNESS				REPAD THICKNESS
		A	B	C	D	A	B	C	D	
N1	3'	NA	.276	NA	NA	NA	.217	NA	NA	NA
N2	3"	NA	.280	NA	NA	NA	.211	NA	NA	NA
N3	1"	NA	.294	NA	NA	TC	TC	TC	TC	NA
N4	1"	NA	.291	NA	NA	TC	TC	TC	TC	NA
N5	1"	NA	.302	NA	NA	TC	TC	TC	TC	NA
MW	20"	.289	.287	NA	.297	.262	.266	.265	NA	NA

### NOTES:

1. Readings are in inches.
2. NA = Not Applicable.
3. TC = Threaded Coupling



## EXTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.  
 INSPECTORS: MG/JC/BS/AN  
 DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 9P  
 LAW PROJECT NO.: 40563-1-0225

## FOUNDATION

CONCRETE PAD	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Spalling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ANCHOR BOLTS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Distortion	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HOUSE KEEPING	<input type="checkbox"/>	Trash	<input type="checkbox"/>	Vegetation	<input type="checkbox"/>	Inflammables	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FOUNDATION	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Settlement	<input type="checkbox"/>	Erosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GROUNDING STRAP			<input type="checkbox"/>	Loose	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Attached	<input checked="" type="checkbox"/>	N/A
CATHODIC PROTECTION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BOTTOM-TO-FOUNDATION SEAL			<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good (2)	<input type="checkbox"/>	N/A
DIKE CONDITION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FOUNDATION DRAINAGE			<input type="checkbox"/>	Poor	<input type="checkbox"/>	Adequate	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

## STRUCTURAL AND WELD CONDITIONS

STAIRS AND WALKWAYS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CATWALK / PLATFORMS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HANDRAILS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

## SHELL, ROOF AND APPURTENANCES

FLANGE CONNECTIONS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
NOZZLES & MANWAYS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
INSULATION	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
BOTTOM EXTERNAL LIP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SAMPLE HATCH	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AUTOGAUGE	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CONSERVATION VENT			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
GOOSE NECK VENT	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Clogging	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FLAME ARRESTER			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MIXER & MOTORS	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MANWAY DAVIT ARM			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

## NOTES:

1. BOTTOM-TO-FOUNDATION SEAL ONLY ENCOMPASSES HALF OF TANK.

**INTERNAL VISUAL INSPECTION CHECKLIST**

CLIENT NAME: WATER RECOVERY, INC.  
INSPECTORS: MG/JC/BS/AN  
DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: TANK 9P  
LAW PROJECT NO.: 40563-1-0225

**STRUCTURAL AND WELD CONDITIONS**

LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BAFFLE PLATES	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR-TO-SHELL SEAM	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

**SHELL, ROOF AND APPURTENANCES**

NOZZLE PROTRUSIONS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Good (1)	<input type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
LINER	<input type="checkbox"/>	Tearing	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good (2)	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
PIPING SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AGITATOR SHAFT/BLADES	<input type="checkbox"/>	Broken	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
DOWNCOMERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
COILS/HEATERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SUMP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

**NOTES:**

1. NOZZLES WERE NOT WELDED ON INNER DIAMETER.
2. PATCH ON FLOOR.

## TMIN CALCULATIONS PER API 653 - TANK 9P

HEIGHT, H	31.16667 FEET	CORROSION ALLOWANCE:	0.000 INCHES
DIAMETER, D	10.3333 FEET	YIELD STRENGTH:	30000 PSI
SPECIFIC GRAVITY, G	1	TENSILE STRENGTH:	55000 PSI
JOINT EFFICIENCY, E	70 %		
# COURSES	4		

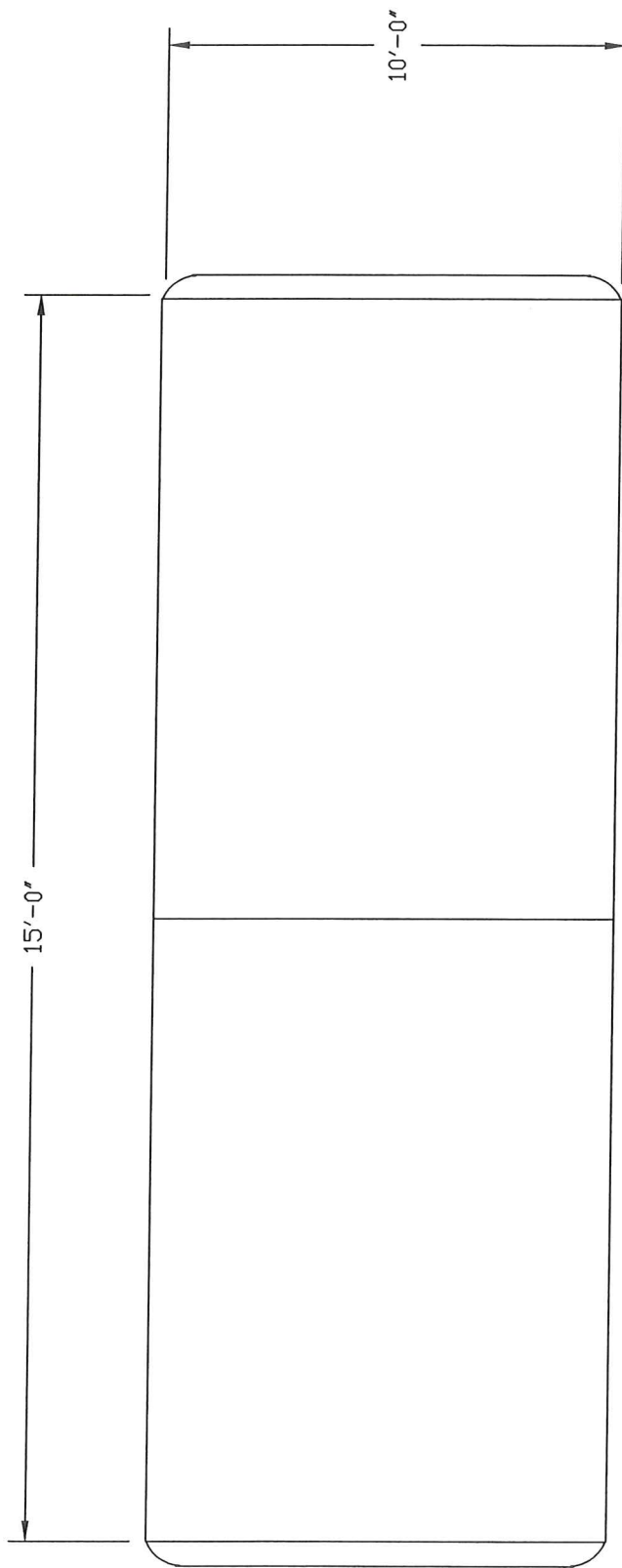
COURSE	H	S	TMIN (CALC)	TMIN	CA	TORIG	TFLAG
TOP		25960	0.1	<b>0.1</b>	0.000	UNK	<b>0.100</b>
1	31.166667	23595	0.051	<b>0.100</b>	0.000	UNK	<b>0.100</b>
2	23	23595	0.037	<b>0.100</b>	0.000	UNK	<b>0.100</b>
3	15	25960	0.022	<b>0.100</b>	0.000	UNK	<b>0.100</b>
4	8	25960	0.012	<b>0.100</b>	0.000	UNK	<b>0.100</b>
BOT		25960	0.125	<b>0.125</b>	0.000	UNK	<b>0.125</b>

### NOTES:

1. 1ST AND 2ND COURSE, ALLOWABLE STRESS LESSER OF 80% YIELD OR 42.9% TENSILE
2. REMAINING COURSES, ALLOWABLE STRESS LESSER OF 88% YIELD OR 47.2% TENSILE

## **Section 10**





MANUFACTURED BY: BUFFALO TANK CORPORATION

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
JACKSONVILLE, FL

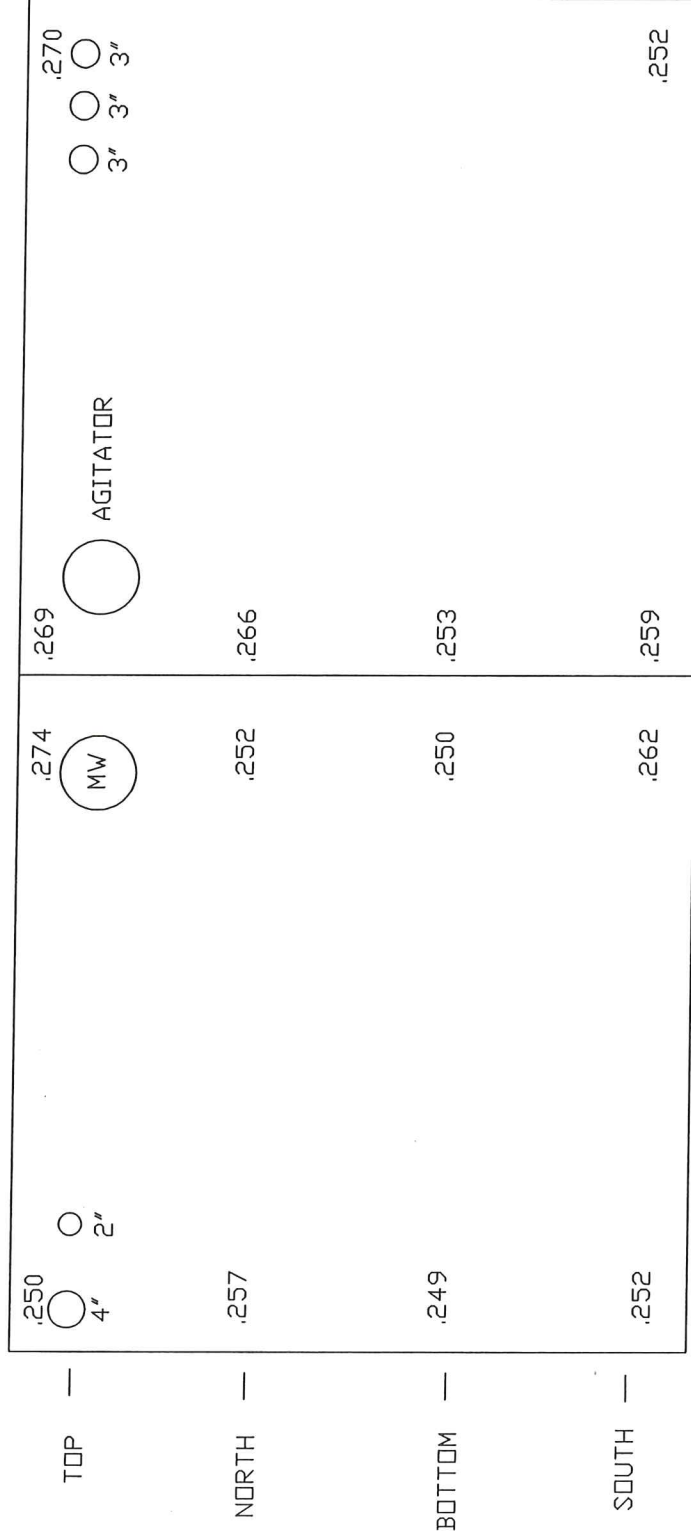


**TANK 10P**  
**GENERAL ARRANGEMENT**

JOB NO.: 40563-1-0225 DWG. NO.: 0225-10P-01

WEST

EAST



NOTES:

1. DRAWING NOT TO SCALE.
2. NO INTERNAL INSPECTION.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
JACKSONVILLE, FL



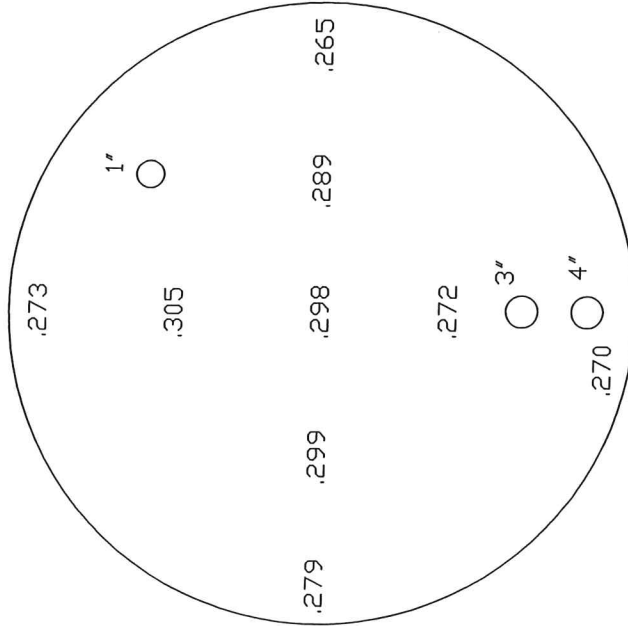
**TANK 10P**  
**SHELL LAYOUT AND UT DATA**

JOB NO.: 40563-1-0225 DWG. NO.: 0225-10P-02

WEST

TOP

|



NORTH

.279

.299

.298

.289

.265

SOUTH

SOUTH

.266

.289

.292

.287

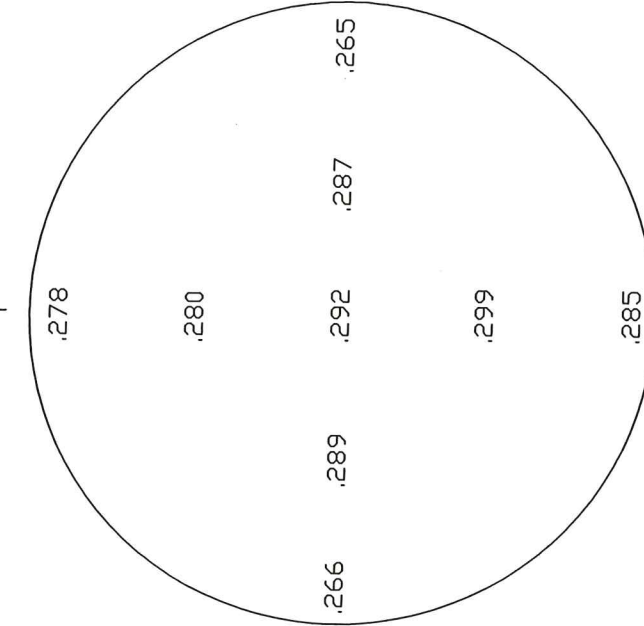
.265

NORTH

EAST

TOP

|



BOTTOM

NOTES:

1. DRAWING NOT TO SCALE.
2. NO INTERNAL INSPECTION.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**

**JACKSONVILLE, FL**

**LAW**

LAWGIBB Group Member



**TANK 10P**

**HEAD LAYOUT AND UT DATA**

JOB NO.: 40563-1-0225 DWG. NO.: 0225-10P-03

## Section 11

C5	.201	.211	.202	.204
	.204	.204	.198	.205
	.202	.204	.204	.204
	.196	.201	.202	.202
C4	.200	.207	.196	.196
	.206	.211	.198	.204
	.207	.213	.202	.193
	.201	.205	.201	.190
C3	.198	.202	.195	.191
	.204	.204	.201	.195
	.204	.201	.194	.197
	.198	.197	.204	.191
C2	.210	.193	.200	.189
	.210	.211	.204	.193
	.206	.204	.208	.204
	.204	.202	.201	.206
C1	.278	.292	.290	.284
	.285	.298	.294	.289
	.287	(MW) .295	.298	N4
	.292	.290	.291	N3
			4" O N2	O 3" N5
				.284 O 3" N7

NOTES:

1. DRAWING NOT TO SCALE.
2. SEE ATTACHED NOZZLE SHEET FOR NOZZLE UT READINGS.

INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
JACKSONVILLE, FL

**LAW**  
LAWGIBB Group Member

**TANK 1SW**  
**SHELL LAYOUT AND UT DATA**

JOB NO.: 40563-1-0225 DWG. NO.: 0225-1SW-01


# TANK 1SW

## MANWAY/NOZZLE UT READINGS

### WATER RECOVERY, INC.

LAW Project Number: 40563-1-0225

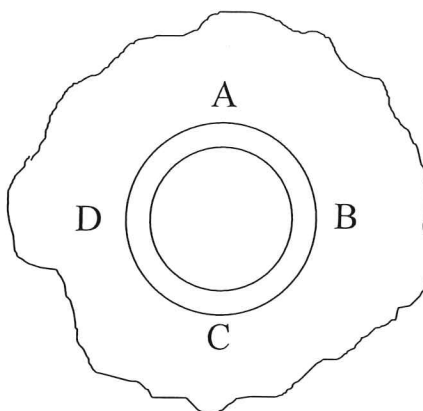
# LAW

LAWGIBB Group Member 

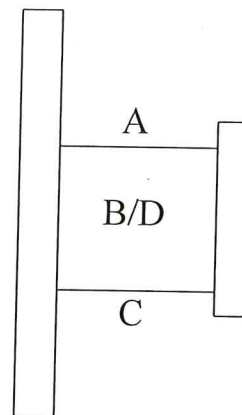
Law Engineering and Environmental Services  
1000 Business Center Drive, Suite 90  
Savannah, Georgia 31405

Date: JAN-01

Technicians: MG/JC/BS/AN



SHELL VIEW



NECK VIEW

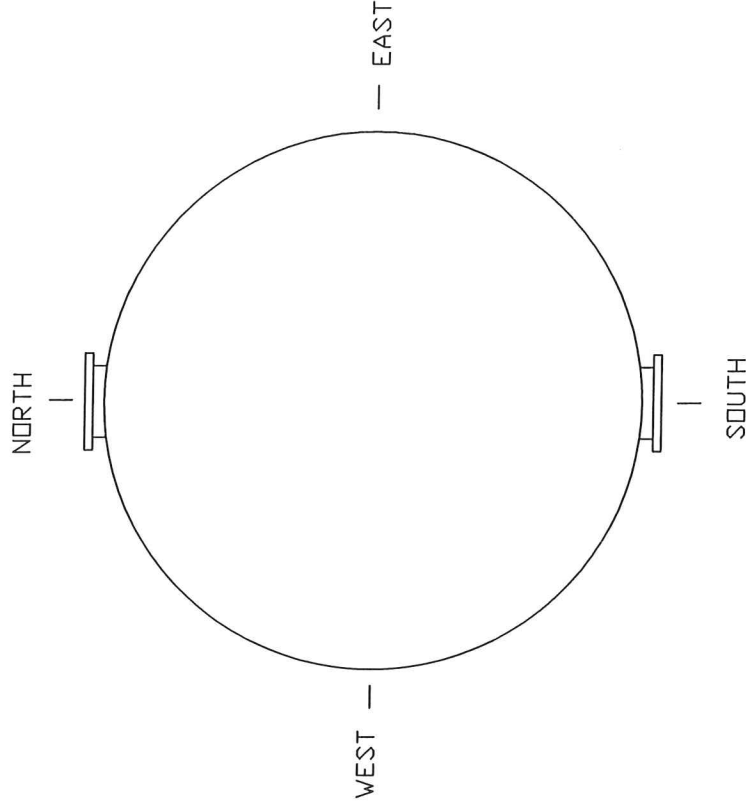
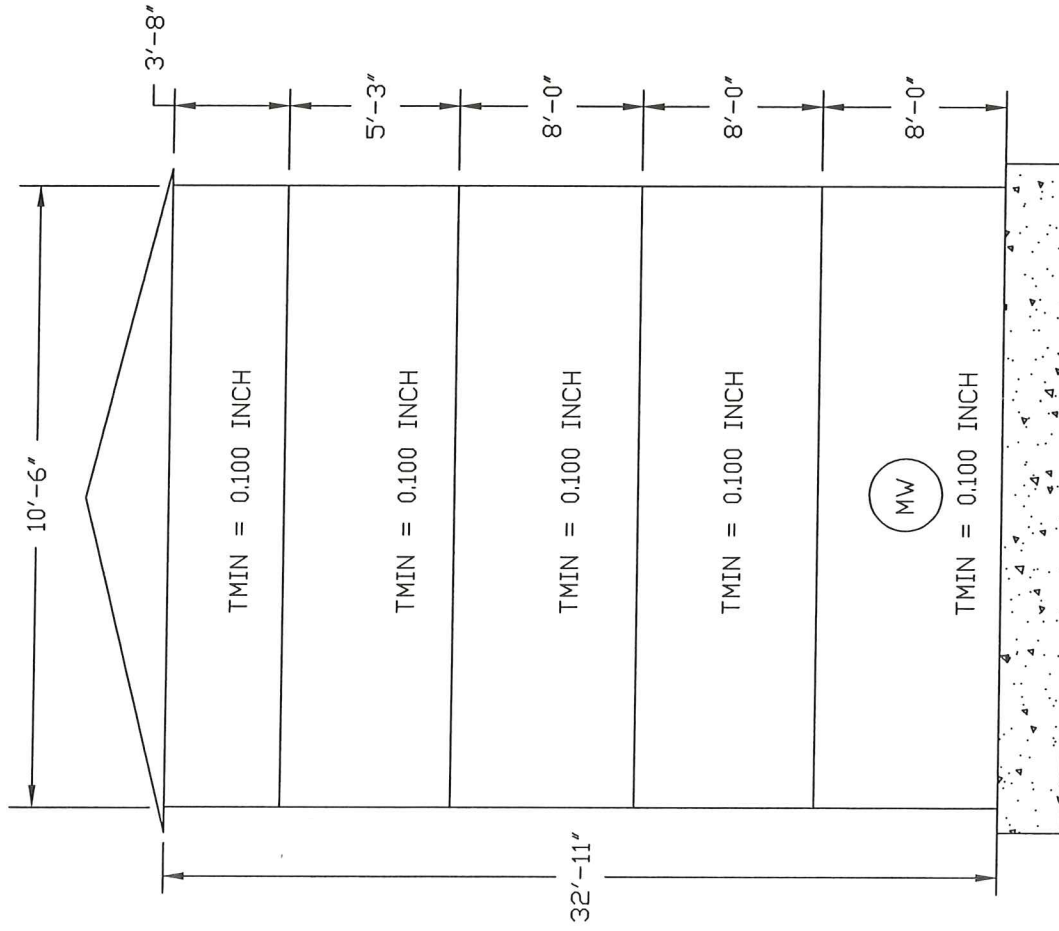
NOZZLES	SIZE	SHELL PLATE THICKNESS				NOZZLE PIPE THICKNESS				REPAD THICKNESS
		A	B	C	D	A	B	C	D	
N1	2'	NA	.296	NA	NA	NA	.162	NA	NA	NA
N2	4"	NA	.290	NA	NA	NA	.223	NA	NA	NA
N3	3"	NA	.291	NA	NA	NA	.204	NA	NA	NA
N4	3"	NA	.283	NA	NA	NA	.169	NA	NA	NA
N5	3"	NA	.277	NA	NA	NA	.205	NA	NA	NA
N6	3"	NA	.276	NA	NA	NA	.209	NA	NA	NA

#### NOTES:

1. Readings are in inches.
2. NA = Not Applicable.

## **Section 12**

TMINS BASED ON FULL  
HYDROSTATIC LOAD OF 32 FEET 11 INCHES



INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
JACKSONVILLE, FL



**DISCHARGE TANK**  
**GENERAL ARRANGEMENT**

JOB NO.: 40563-1-0225 DWG. NO.: 0225-D-01



C5	.250 .243 .244	3" O	.249 .238 .245	.238 .240 .221	.228 .229 .232
C4	.217 .237 .235 .230		.230 .247 .248 .247	.221 .241 .235 .240	.236 .236 .227 .235
C3	.247 .268 .254 .225	2" O	.241 .251 .244 .229	.248 .251 .245 .235	.245 .250 .247 .236
C2	.252 .264 .252 .265	4" O	.238 .237 .237 .248	.243 .248 .244 .237	.235 .246 .238 .237
C1					

N

W

S

E

**NOTES:**

1. DRAWING NOT TO SCALE.

BOTTOM SECTION SCHEDULED  
TO BE REPLACED; NO THICKNESS  
READINGS TAKEN

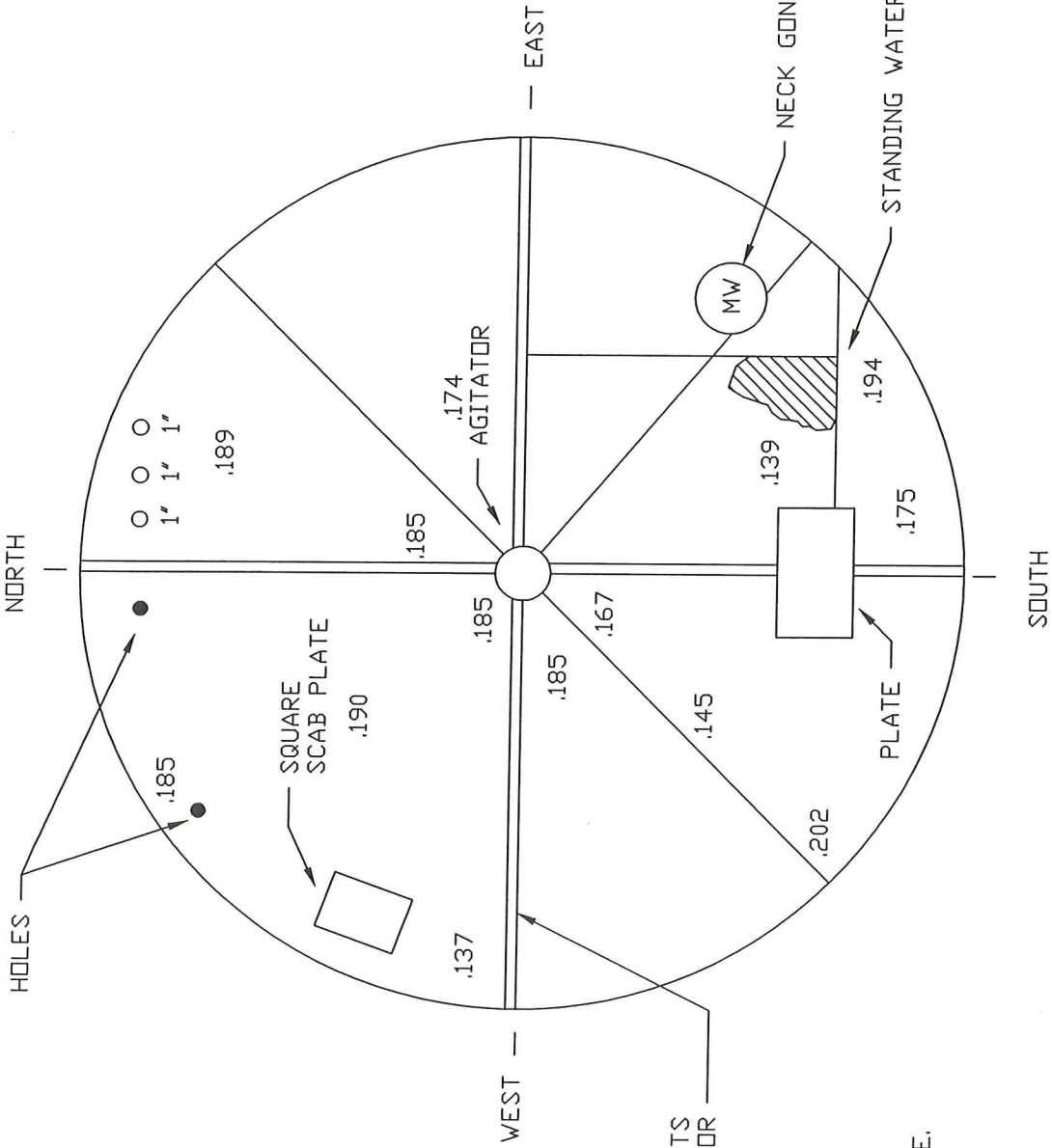
INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
**JACKSONVILLE, FL**



**DISCHARGE TANK**  
**SHELL LAYOUT AND UT DATA**

JOB NO.: 40563-1-0225 DWG. NO.: 0225-D-04



INSPECTED/DATE: JC/MG/BS/AN-JAN 01

**WATER RECOVERY, INC.**  
**JACKSONVILLE, FL**

**LAW**  
LAWGIBB Group Member

## DISCHARGE TANK ROOF LAYOUT AND UT DATA

JOB NO.: 40563-1-0225 DWG. NO.: 0225-D-02

## NOTES:

1. DRAWING NOT TO SCALE.

## EXTERNAL VISUAL INSPECTION CHECKLIST

CLIENT NAME: WATER RECOVERY, INC.CLIENT REFERENCE NO.: DISCHARGE TANKINSPECTORS: MG/JC/BS/ANLAW PROJECT NO.: 40563-1-0225DATE OF INSPECTION: JAN-01

## FOUNDATION

CONCRETE PAD	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Spalling	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ANCHOR BOLTS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Distortion	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
HOUSE KEEPING	<input checked="" type="checkbox"/>	Trash	<input type="checkbox"/>	Vegetation	<input type="checkbox"/>	Inflammables	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FOUNDATION	<input type="checkbox"/>	Cracking	<input type="checkbox"/>	Settlement	<input type="checkbox"/>	Erosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
GROUNDING STRAP			<input type="checkbox"/>	Loose	<input checked="" type="checkbox"/>	Missing	<input type="checkbox"/>	Attached	<input type="checkbox"/>	N/A
CATHODIC PROTECTION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BOTTOM-TO-FOUNDATION SEAL			<input type="checkbox"/>	Leakage	<input checked="" type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
DIKE CONDITION			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FOUNDATION DRAINAGE			<input type="checkbox"/>	Poor	<input type="checkbox"/>	Adequate	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

## STRUCTURAL AND WELD CONDITIONS

STAIRS AND WALKWAYS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CATWALK / PLATFORMS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
HANDRAILS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input checked="" type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A (1)
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A

## SHELL, ROOF AND APPURTENANCES

FLANGE CONNECTIONS	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
NOZZLES & MANWAYS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
INSULATION	<input type="checkbox"/>	Loose	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input checked="" type="checkbox"/>	Deterioration (4)	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
BOTTOM EXTERNAL LIP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SAMPLE HATCH	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AUTOGAUGE	<input type="checkbox"/>	Operational	<input checked="" type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
CONSERVATION VENT			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
GOOSE NECK VENT	<input checked="" type="checkbox"/>	Damage (3)	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Clogging	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLAME ARRESTER			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
MIXER & MOTORS	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
MANWAY DAVIT ARM			<input type="checkbox"/>	Damage	<input type="checkbox"/>	Operational	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

## NOTES:

1. FLOOR WELDS TO BE REMOVED WHEN FIRST COURSE IS REPLACED.
2. WITH EXCEPTION OF BOTTOM COURSE, WHICH IS TO BE REMOVED.
3. GOOSENECK VENT NOT CONNECTED
4. TWO HOLES IN ROOF.



**INTERNAL VISUAL INSPECTION CHECKLIST**

CLIENT NAME: WATER RECOVERY, INC.  
INSPECTORS: MG/JC/BS/AN  
DATE OF INSPECTION: JAN-01

CLIENT REFERENCE NO.: DISCHARGE TANK  
LAW PROJECT NO.: 40563-1-0225

**STRUCTURAL AND WELD CONDITIONS**

LADDERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
BAFFLE PLATES	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
ROOF WELDS CONDITION	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR-TO-SHELL SEAM	<input type="checkbox"/>	Undercut	<input type="checkbox"/>	Pinholes	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

**SHELL, ROOF AND APPURTENANCES**

NOZZLE PROTRUSIONS	<input type="checkbox"/>	Dimpling	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SURFACE COATING	<input type="checkbox"/>	Flaking	<input type="checkbox"/>	Blistering	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
LINER	<input type="checkbox"/>	Tearing	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SHELL	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input type="checkbox"/>	Out-of-Roundness	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
ROOF	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Buckling	<input checked="" type="checkbox"/>	Deterioration (1)	<input type="checkbox"/>	Good	<input type="checkbox"/>	N/A
FLOOR	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
ROOF SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
PIPING SUPPORTS	<input type="checkbox"/>	Missing	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
AGITATOR SHAFT/BLADES	<input type="checkbox"/>	Broken	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input checked="" type="checkbox"/>	Good	<input type="checkbox"/>	N/A
DOWNCOMERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
COILS/HEATERS	<input type="checkbox"/>	Corrosion	<input type="checkbox"/>	Leakage	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A
SUMP	<input type="checkbox"/>	Pitting	<input type="checkbox"/>	Damage	<input type="checkbox"/>	Deterioration	<input type="checkbox"/>	Good	<input checked="" type="checkbox"/>	N/A

**NOTES:**

1. HOLE IN SOUTH END OF ROOF.

## TMIN CALCULATIONS PER API 653 - DISCHARGE TANK

HEIGHT, H	32.91667 FEET	CORROSION ALLOWANCE:	0.000 INCHES
DIAMETER, D	10.5 FEET	YIELD STRENGTH:	30000 PSI
SPECIFIC GRAVITY, G	1	TENSILE STRENGTH:	55000 PSI
JOINT EFFICIENCY, E	70 %		
# COURSES	5		

COURSE	H	S	TMIN (CALC)	TMIN	CA	TORIG	TFLAG
ROOF		25960	0.090	<b>0.090</b>	0.000	UNK	<b>0.090</b>
1	32.916667	23595	0.054	<b>0.100</b>	0.000	UNK	<b>0.100</b>
2	24.916667	23595	0.041	<b>0.100</b>	0.000	UNK	<b>0.100</b>
3	16.916667	25960	0.025	<b>0.100</b>	0.000	UNK	<b>0.100</b>
4	8.9166667	25960	0.013	<b>0.100</b>	0.000	UNK	<b>0.100</b>
5	3.66667	25960	0.006	<b>0.100</b>	0.000	UNK	<b>0.100</b>
FLOOR	3.66667	25960	0.100	<b>0.100</b>	0.000	UNK	<b>0.100</b>

### NOTES:

1. 1ST AND 2ND COURSE, ALLOWABLE STRESS LESSER OF 80% YIELD OR 42.9% TENSILE
2. REMAINING COURSES, ALLOWABLE STRESS LESSER OF 88% YIELD OR 47.2% TENSILE