



underwater screening services

Advanced Engineering Report : AER477C

1015 Wyoming Ave. Forty-Fort, PA. 18704 PHONES: 888-219-DIVE (3483) FAX (570) 718-0762

Visit our website: www.uwscreening.com

Sluice Gate - 2000 series

Select Sluice Gate Type

Rodney Hunt	Waterman	Caldwell Willcox	Crane	Hydro X	Record	Chapman
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Customer Name: New Jersey Water Supply Authority
 Address: South Bound Brook Lock
 City, State: South Bound Brook, New Jersey
 Zip Code: 08880
 Dive Job Reference No.: 13681
 Inspection Date & Gate No.: March 22nd, 2022
Gate # 3 or "River Side"

Field Code Only!	
Code	Description
G	Good
F	Fair
R	Replace
R/A	Repair or Replace as Required

Field Code Only!

Site Observations: Circle & Fill In Requested Information

Overhead Crane	Yes No	Tonnage:	Hook Height:	Hook Travel:
Hole In Roof	Yes No	Overhead Obstructions:		
General Arrangement Available During Inspection	Yes No	Client to Mail Drawings: Yes No		
Photos Taken	Operator Assembly	Obstructions	Damaged Components	Access

Unit Specifications (use back of page as required)

Overall Depth of Basin: 15'- 00" (approx.)		Overall Water Depth : 08'-00" (approx..)	
Height of Operator: 34"	Operator Construction: Cast Steel	Operator Drive: Hand	
Operating Stem dia.: 2"	Operating Stem Construction: A36	Operating Stem Threads: Acme 4/1	
Sluice Gate Size: 48" x 48"	Sluice Gate Construction: Cast Iron	Wall Thimble or Glyda-seal Mounted	

*****Please List All Quantities Inspected*****



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Revision 05-2001
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Specification: 2.2-2.1.0

ELECTRIC DRIVEN OPERATOR SPECIFICATION

MANUFACTURER:

UNIT:

RATIO:
OUTPUT RPM (APPROX.) :

MOTOR SPECIFICATION

MANUFACTURER:

HORSEPOWER:

EFFICIENCY:

FREQUENCY:

MOUNTING:

ENCLOSURE:

INSULATION (MIN.):

NEMA DESIGN:

SERVICE FACTOR:

CONDUIT BOX SIZE:

FRAME:

STANDARD

50 HERTZ

FOOTLESS

ODP

TEFC

A

B (STANDARD)

1

STANDARD: \

OR APPROVED
EQUIVALENT:

VOLTAGE:

ENERGY EFFICIENCY

60 HERTZ

C- FACE FOOTLESS

SEVER DUTY

TENV

B

C

1.15

OVERSIZE:

RPM:

MINIMUM GUARANTEED EFF

PHASE: SINGLE THREE

TOTALLY ENCLOSED

EXPLOSION PROOF: CLASS GROUP DIV.

F

H

D

OTHER: \

REMARKS:

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Field Crew Section

Total Qty.	Series Number	Part Description	Dimensional Characteristics	Code Number First Inspection	Comments
1	2007	Safety Stop Collar		G	
	2006	Stem Cover Indicator			
	2010	Dial Position Indicator			
	2012	Pedestal			
	2013	Mechanical Seal			
	2011	Tapered Roller Bearing			
1	2009	Hand Crank		G	
	2027	Needle Bearing & Oil Seal			
1	2007	Cut Spur Gear		G	
1	2006	Bevel Gear		G	
1	2010	Lubrication Fittings		G	
	2012	Bronze Thrust Nut			
1	2013	Threaded Stem (1)	12'-10 1/8" total length	G	
	2011	Hoisting Stem (2)			
	2009	Hoisting Stem (3)			
	2027	Hoisting Stem (4)			
	2016	Hoisting Stem (5)			
	2086	Wall Brackets			
		Stem Guide "Solid"			
	2017	Stem Guide "Split"			
	2086	Babbitt Bushing			
		Bronze Bushing			
	2032	Stem Coupler "Pinned"			
		Stem Coupler "threaded and Keyed"			
1	2485	Gate Disc	Width: 51 1/4" Length: 51 1/4"	G	
1	2041	Wall Thimble	Cast Iron	G	
2		Gate Guides	Cast Iron	G	
4		Bronze Seals	Top: Sides: Bottom:		(Not inspected)
2	2002	Top Adjustment Wedges	Cast Bronze	G	
3	2003	LH Adjustment Wedges	Cast Bronze	G	
3	2641	RH Adjustment Wedges	Cast Bronze	G	
2	2040	Bottom Adjustment Wedges	Cast Bronze	G	
1		Bronze Thrust Nut	Cast Bronze	G	
1		Thrust Nut Key		G	

Field Code Descriptio

G-Good F-Fair R-Replace R/A-Repair or Replace as Required

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Notes Section

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Note/Code	Recommended Action
9.1	<p><u>CONCLUSION & RECOMMENDATIONS:</u></p> <ol style="list-style-type: none"> 1) The "REPLACE" designation denotes major/serious material loss in excess of 30% on wear surfaces & structural members. Failure to replace the components itemized will result in unit down time. 2) The designation "FAIR" refers to component material loss of less than 30% on wear surfaces & structural members. The unit must be re-inspected regularly within (12) twelve months to evaluate the progression of wear and replace parts as required. 3) The items listed as "GOOD" are to be re-inspected regularly within (18) eighteen months to (24) twenty-four months. 4) The items denoted by "N/A" indicates that no evaluation was possible based on the part not physically being on the unit. <p><u>SUMMATION:</u></p>
Notes	
9.2	<p><i>The overall condition is good; However, the neoprene rubber seal between the gate frame and the thimble or bulkhead has broken loose (see video) this seal does not appear to be damaged. This seal should be reinstalled as soon as possible to prevent the seal from being damaged or causing additional water leaks. This repair is typically done dry.</i></p>
9.3	
9.4	
9.5	

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Raw Water Intake Summary

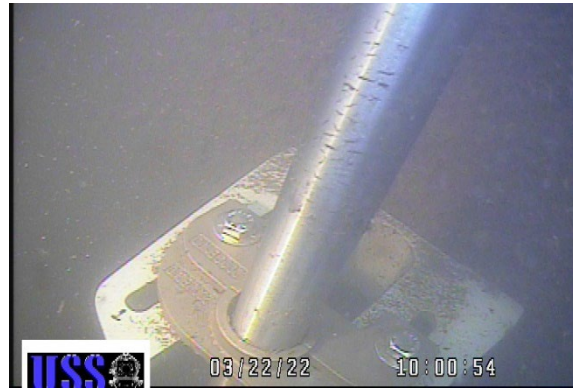
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Our diver did not observe a significant amount of accumulated silt or debris that would hinder the gates operation.





Stem & thrust nut



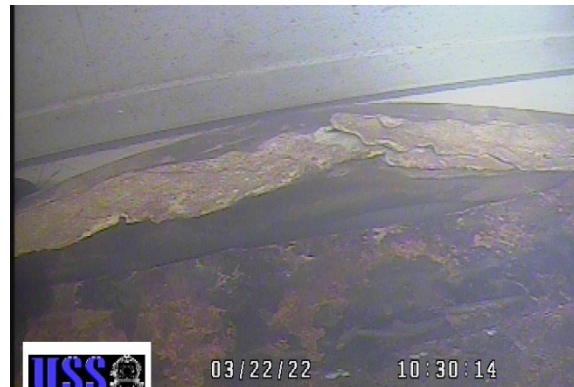
Wall bracket & stem guide



Sand bags under gate



Epoxy holding rubber seal in place



Seal broke free in the middle of gate



Seal broke free in the right corner

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