



City of Cleveland

Justin M. Bibb, Mayor

Department of Finance
Division of Purchases and Supplies
601 Lakeside Avenue, Room 128
Cleveland, Ohio 44114-1080
216/664-2620 Fax 216/664-2177
www.cleveland-oh.gov

September 15, 2026

ADDENDUM 1

BID TITLE: **File No. 92-2026 – Bridge Lubricant - Maintenance**

BID DUE: **Wednesday, September 23, 2026, at Noon**

Attention Bidders: We have been requested to issue this addendum to advise vendors of the following:

1. Revised Schedule of Items page. Please ensure that the version included in this addendum is used when submitting a response.
2. Remove Section C in its entirety and substitute it with the attached revised Section C.
3. Additional specification information related to the bridges included in this invitation to bid.

Please ensure that a copy of this addendum is included and returned with the bid specifications furnished to you by this office, as it will have the same force and effect as if it were part of the specifications originally issued.

Signature of Potential Bidder & Name of Company

Today's Date

Thank you,

Steven Decker

Steven Decker
Purchases & Supplies
CC: Attachments

ADDENDUM #1

BID — SCHEDULE OF ITEMS

City of Cleveland Division of Purchases And Supplies 128 City Hall Cleveland, Ohio 44114			BID PAGE <u> 1 </u> OF <u> 1 </u> BIDDER MUST COMPLETE & SIGN BELOW	
TITLE OF BID: Bridge Maintenance / Lubrication & Structural Repairs			NAME OF FIRM	
			STREET ADDRESS	
ORDINANCE NO. 467-2026	PASSED May 11, 2026	SIGNED	CITY	STATE ZIP CODE
DEPARTMENT: Department of Public Works		DIVISION: Division of Streets		AUTHORIZED SIGNATURE
CITY RECORD ADVERTISEMENT DATES		☐ STANDARD CONTRACT BID ☒ REQUIREMENT CONTRACT BID		DATE
BUYER:		BID OPENING		
DESCRIPTION ITEM 1 – C-2 – Lubrication Services ITEM 2 – C-3 – Millwright Services ITEM 2: - C-4 – Lubricants, not to exceed \$40,000 SIGN, DATE, AND COMPLETE THIS PAGE; SEE LUBRICATION SPECIFICATIONS PAGES FOR ADDITIONAL DIBBING INFORMATION ALL ITEMS ARE APPROXIMATE QUANTITIES Term of the contract is one year, with two options to renew for an additional one-year period.		QUANTITY 480 Hours 240 Hours LUMP	UNIT PRICE \$ 40,000.00	EXTENSION \$ 40,000.00
ALL OF THIS BOUND INFORMATION MUST BE KEPT INTACT AND, TOGETHER WITH ANY ADDENDA ISSUED, MUST BE RETURNED WITH THE BID. OTHERWISE, THE BID MAY BE CONSIDERED INFORMAL.			DELIVERY (Days)	PAYMENT DISCOUNT % Days
		FOR PURCHASING USE ONLY		

BRIDGE LUBRICANT SPECIFICATIONS

C-1 SCOPE OF WORK

The scope of the work is to supplement the City of Cleveland Division of Streets workforce for the lubrication of the Movable bridges within the City limits. Contractor will furnish labor, equipment and incidental materials to lubricate the Six Movable bridges in accordance with the Bridge lubrication schedules.

Carter Road Lift Bridge	1700 Carter Road	216-664-4767
Center Street Swing Bridge	1200 Center Street	216-664-3253
Columbus Road Lift Bridge	1905 Columbus Road	216-664-3254
West 3 rd Street Lift Bridge	2150 West Third Street	216-664-6250
Willow Ave Lift Bridge	1210 River Road	216-664-3109
North Coast Harbor Bascule Bridge	1012 East 8 th Street	216-664-3247

C-2 LUBRICATION SERVICES

The Lubrication services cover the lubrication of all mechanical fittings, cables, machinery and appurtenances on Lift and Swing Bridges according to the attached schedules. City will supply lubricant for the bridges. In the event, City's supply is exhausted then contractor will purchase additional lubricants at the City's direction. The work crew shall consist of 1 or more members to be paid by the hour regardless of the size of the crew. Each bridge is not to exceed 80 hours. The bid item is for "lubrication Services" is paid by the hour. The Lubrication to be performed regularly (Monthly, Quarterly, Semi-Annual, Annual) per the lubrication schedule.

Lift rental and associated costs are to be included as incidental to installing the work.

One lane of traffic shall be maintained at all times by use of part width construction, which will be considered incidental to the work.

C-3 MILLWRIGHT SERVICES

Millwright services shall include the installation, maintenance, repair, alignment, relocation, and commissioning of industrial machinery and mechanical equipment.

Addendum #1

The scope may include:

- Installation and assembly of pumps, motors, conveyors, gearboxes, compressors, and other industrial equipment.
- Precision alignment, leveling, positioning, and equipment setup.
- Rigging, lifting, moving, dismantling, and relocation of machinery.
- Preventive and corrective mechanical maintenance and repairs.
- Replacement of bearings, belts, chains, couplings, seals, shafts, and related components.
- Conveyor installation, repair, tracking, and adjustment.
- Shutdown, turnaround, and emergency maintenance support.
- Minor mechanical fabrication and equipment modifications.
- Equipment inspection, testing, startup assistance, and commissioning.

C-4 LUBRICANTS, NOT TO EXCEED \$40,000

If the city exhausts its current contract this item will be authorized to purchase additional lubricants as deemed necessary by the City. All lubricants shall be in compliance with the lubricants approved in the City Requirement Contract.

C-5 CLEAN UP

Clean up and disposal of all greases, oils and miscellaneous debris shall be disposed of by the contractor, which will be incidental to the work items.

CENTER STREET SWING BRIDGE LUBRICATION SCHEDULE

Center Street	Item Name	Location	Drawing Number	Primary Type of Lubricant	Application Method	How Often	Cap.	Cap. Unit	Quantity of Lubricant added/replaced (OZ.)	Quantity of Lubricant added/replaced unit	Comments
Operating Machinery	Right Angle Reducers EARLE	North Side of Operating Machinery	10314-L2	Mobil SHC 629 or Mobilgear 600 XP 320, AGMA #6EP	Fill with Oil	Change Once a Year*	76 Gal	Gal			
Operating Machinery	Right Angle Reducers EARLE	South Side of Operating Machinery	10314-L2	Mobil SHC 629 or Mobilgear 600 XP 320, AGMA #6EP	Fill with Oil	Change Once a Year*	76 Gal	Gal			
Operating Machinery	Main Gear Reducer	Center of Operating Machinery	10314-L2	Mobil SHC 629 or Mobilgear 600 XP 320, AGMA #6EP	Fill with Oil	Change Once a Year*	36 Gal	Gal			
Operating Machinery	Top Reducer Bearing	Top of North Right Angle Reducers	10314-L2	Mobilux EP 2, NLGI #2	Grease Gun	3 Months					
Operating Machinery	Top Reducer Bearing	Top of South Right Angle Reducers	10314-L2	Mobilux EP 2, NLGI #2	Grease Gun	3 Months					
Operating Machinery	Reducer Lower Oil Seal	Below North Right Angle Reducers	10314-L2	Mobilux EP 2, NLGI #2	Grease Gun	3 Months					
Operating Machinery	Reducer Lower Oil Seal	Below South Right Angle Reducers	10314-L2	Mobilux EP 2, NLGI #2	Grease Gun	3 Months					
Operating Machinery	Exterior Bearings Pinion Bearings	3 Fittings Below North Right Angle Reducer	10314-L2	Mobilux EP 2, NLGI #2	Brush or Swab	3 Months					
Operating Machinery	Exterior Bearings Pinion Bearings	3 Fittings Below south Right Angle Reducer	10314-L2	Mobilux EP 2, NLGI #2	Brush or Swab	3 Months					
Operating Machinery	Slewing Bearings	48 Fittings around Operating Machinery	10314-L2	Mobilux EP 2, NLGI #2	Brush or Swab	Monthly					
Operating Machinery	Rack and Pinion	Around perimeter of Operating Machinery	10314-L2	Swepep 162, NLGI #2	Brush or Swab	Monthly					
Operating Machinery	Couplings	North Angle Reducer Inside Ring	10314-L2	Mobilux EP 0, NLGI #0	Grease Gun	Every 6 Months	1.03 lbs.	lbs.			
Operating Machinery	Couplings	North Angle Reducer under reducer	10314-L2	Mobilux EP 0, NLGI #0	Grease Gun	Every 6 Months	6.3 lbs.	lbs.			

CENTER STREET SWING BRIDGE LUBRICATION SCHEDULE

Center Street	Item Name	Location	Drawing Number	Primary Type of Lubricant	Application Method	How Often	Cap.	Cap. Unit	Quantity of Lubricant added/replaced (OZ.)	Quantity of Lubricant added/replaced unit	Comments
Operating Machinery	Couplings	South Angle Reducer Inside Ring	10314-L2	Mobilux EP 0, NLGI #0	Grease Gun	Every 6 Months	1.03 lbs.	lbs.			
Operating Machinery	Couplings	South Angle Reducer under reducer	10314-L2	Mobilux EP 0, NLGI #0	Grease Gun	Every 6 Months	6.3 lbs.	lbs.			
Operating Machinery	Couplings	North Main Gear Reducer	10314-L2	Mobilux EP 0, NLGI #0	Grease Gun	Every 6 Months	1.03 lbs.	lbs.			
Operating Machinery	Couplings	South Main Gear Reducer	10314-L2	Mobilux EP 0, NLGI #0	Grease Gun	Every 6 Months	1.03 lbs.	lbs.			
Operating Machinery	Brake Thrusters	Motor Brake (East)	10314-L2	Texaco Capella Oil WF 32		Change Every 2 Years					
Operating Machinery	Brake Thrusters	Machinery Brake (West)	10314-L2	Texaco Capella Oil WF 32		Change Every 2 Years					
Jacks	Actuator Gear Unit	NE Unit per Jack	10314-L3	Non-Required							
Jacks	Actuator Gear Unit	SE Unit per Jack	10314-L3	Non-Required							
Jacks	Actuator Gear Unit	NW Unit per Jack	10314-L3	Non-Required							
Jacks	Actuator Gear Unit	SE Unit per Jack	10314-L3	Non-Required							
Jacks	Actuator Thrust Rod	Three Fittings NE Jack	10314-L3	Non-Required							
Jacks	Actuator Thrust Rod	Three Fittings SE Jack	10314-L3	Non-Required							
Jacks	Actuator Thrust Rod	Three Fittings NW Jack	10314-L3	Non-Required							

CENTER STREET SWING BRIDGE LUBRICATION SCHEDULE

Center Street	Item Name	Location	Drawing Number	Primary Type of Lubricant	Application Method	How Often	Cap.	Cap. Unit	Quantity of Lubricant added/replaced (OZ.)	Quantity of Lubricant added/replaced unit	Comments
Jacks	Actuator Thrust Rod	Three Fittings SW Jack	10314-L3	Non-Required							
Jacks	Cylinder Shoe	NE Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every Month					
Jacks	Cylinder Shoe	SE Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every Month					
Jacks	Cylinder Shoe	NW Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every Month					
Jacks	Cylinder Shoe	SW Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every Month					
Jacks	Roller Stop Pin	Four Fittings NE Jack at end of each Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every Month					
Jacks	Roller Stop Pin	Four Fittings NE Jack at end of each Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every Month					
Jacks	Roller Stop Pin	Four Fittings NE Jack at end of each Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every Month					
Jacks	Roller Stop Pin	Four Fittings NE Jack at end of each Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every Month					
Jacks	Truss Bearing	Two Fittings NE Jack at end of each Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every 3 Months					
Jacks	Truss Bearing	Two Fittings SE Jack at end of each Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every 3 Months					
Jacks	Truss Bearing	Two Fittings NW Jack at end of each Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every 3 Months					
Jacks	Truss Bearing	Two Fittings SW Jack at end of each Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every 3 Months					

CENTER STREET SWING BRIDGE LUBRICATION SCHEDULE

Center Street	Item Name	Location	Drawing Number	Primary Type of Lubricant	Application Method	How Often	Cap.	Cap. Unit	Quantity of Lubricant added/replaced (OZ.)	Quantity of Lubricant added/replaced unit	Comments
Jacks	Track Frame	One per NE Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every Month					
Jacks	Track Frame	One per SE Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every Month					
Jacks	Track Frame	One per NW Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every Month					
Jacks	Track Frame	One per SW Jack	10314-L3	Mobilux EP 2, NLGI #2	Grease Gun	Every Month					

COLUMBUS ROAD LIFT BRIDGE

Columbus Road Lift Bridge	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Span Drive Machinery	Primary Reducer		G4373-101	Mobilgear 600XP220	Reservoir	Semi-Annual	21 Gal.					
Span Drive Machinery	Primary Reducer (Seals)		G4373-101	Citgo Lithoplex RT 2	Giant Buttonhead	Monthly or as Needed	Pump to Purge					
Span Drive Machinery	Reducer Breather (Descase DC-2)		G4373-101		Replace	Desiccant turns Pink						
Span Drive Machinery	Secondary Reducer	1R/1L	G4373-101	Mobil gear 600XP680	Reservoir	Semi-Annual	200 gal. each					
Span Drive Machinery	Secondary Reducer (Seals)	1R/1L	G4373-101	Citgo Lithoplex RT 2	Giant Buttonhead	Monthly or as Needed	Pump to Purge					
Span Drive Machinery	Reducer Breather (Descase DC-3)	1R/1L	G4373-101		Replace	Desiccant turns Pink						
Span Drive Machinery	Machinery Brakewell Coupling	2	G4373-101	Mobilux EP 0	Giant Buttonhead	annual	1 lb. each					
Span Drive Machinery	Floating Shaft Reducer Coupling	4	G4373-101	Mobilux EP 0	Giant Buttonhead	Semi-Annual	5 lbs. each					
Span Drive Machinery	floating Shaft Oper. Drum Coupling	4	G4373-101	Mobilux EP 0	Giant Buttonhead	Semi-Annual	5 lbs. each					
Span Drive Machinery	Motor Coupling	2	G4373-101	Falk Long Term Grease	1/8" Standard Fitting	Annual	.94 Lb. each					
Span Drive Machinery	Operator Drum Bearing - Float	4	G4371-104L & R	SKF LGHB 2	3/8" Giant Button Fitting	Semi-Annual	16 lbs. each					
Span Drive Machinery	Operator Drum Bearing - Fixed	4	G4373-104L & R	SKF LGHB 2	3/8" Giant Button Fitting	Semi-Annual	16 lbs. each					
Span Drive Machinery	Operating Drum	2R/2L	G4373-104L & R	Vitalife 400	Spray Can	Monthly or as Needed	Spray Coat					
Span Drive Machinery	Span Drive Motor	2	G4373-104L & R	Citgo Lithoplex RT 2	Grease Zerk	Annual	1.5 Fl. Oz					
Operating Rope System	Deflector Pin	4	G4373-201	Citgo Lithoplex RT 2	3/8" Giant Button Fitting	Monthly or as Needed	Pump to Purge					
Operating Rope System	Guide Pin	4	G4373-203	Citgo Lithoplex RT 2	3/8" Giant Button Fitting	Monthly or as Needed	Pump to Purge					
Counterweight Sheave Assembly	Counterweight Sheave Bearing	8	G4373-300	SKF LGHB 2	3/8" Giant Button Fitting	Semi-Annual	57.5 lbs. each					

COLUMBUS ROAD LIFT BRIDGE

Columbus Road Lift Bridge	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Counterweight Sheave Assembly	Split Labyrinth Seal	8	G4373-300	SKF LGHB 2	1/4" Giant Buttonhead	Monthly or as Needed	Pump to Purge					
Counterweight Sheave Assembly	Counterweight Sheave Rope Grooves	4	G4373-300	Vitalife 400	Spray Can	Monthly or as Needed	Spray Coat					
Counterweight Rope Assembly	Span Deflector	4	G4373-400-05	Vitalife 400	Spray Can	Monthly or as Needed	Spray Coat					
Counterweight Rope Assembly	Span Splay	8	G4373-400-06	Vitalife 400	Spray Can	Monthly or as Needed	Spray Coat					
Auxiliary Counterweight Assembly	Auxiliary Counterweight Sheave Pin	4	G4373-500	Citgo Lithoplex RT 2	1/4" Giant Buttonhead	Monthly or as Needed	Pump to Purge					
Auxiliary Counterweight Assembly	Auxiliary Counterweight Span Connector	4	G4373-502	Citgo Lithoplex RT 2	1/4" Giant Buttonhead	Monthly or as Needed	Pump to Purge					
Span Lock Assembly	Span Lock Reducer	2	G4373-600	Mobilgear 600XP220	Reservoir	Semi-Annual	6.5 gal. each					
Span Lock Assembly	Span Lock Reducer (Seals)	2	G4373-600	Citgo Lithoplex RT 2	Giant Buttonhead	Monthly or as Needed	Pump to Purge					
Span Lock Assembly	Reducer Breather (descase DC-4)	2	G4373-600		Replace	Desiccant turns Pink						
Span Lock Assembly	Span Lock Shaft Coupling	4	G4373-600	Mobilux EP 0	1/8" Fittings	Semi-Annual	.8 lb. each					
Span Lock Assembly	Span Lock Reducer Shaft Coupling	4	G4373-600	Mobilux EP 0	1/8" Fittings	Semi-Annual	.8 lb. each					
Span Lock Assembly	Span Lock Reducer Reducer Coupling	2	G4373-600	Falk Long Term Grease	1/8" Fittings	annual	.12 lb each					
Span Lock Assembly	Span Lock Bearing fixed	8	G4373-600	SKF LGHB 2	1/4" Giant Buttonhead	Semi-Annual	1 lb. each					
Span Lock Assembly	Span Lock Bearing Float	8	G4373-600	SKF LGHB 2	1/4" Giant Buttonhead	Semi-Annual	1 lb. each					
Span Lock Assembly	Spherical Plain Bearing	8	G4373-600	SKF LGHB 2	1/4" Giant Buttonhead	Semi-Annual	20 grams each					
Span Lock Assembly	Guide Wear Plate	16	G4373-600	Citgo Lithoplex RT 2	3/8" Giant Button Fitting	Monthly or as Needed	Pump to Purge					
Span Lock Assembly	Lock Bar Reciever	4	G4373-600	Citgo Lithoplex RT 2	Hand Apply	Monthly or as Needed	As required					

COLUMBUS ROAD LIFT BRIDGE

Columbus Road Lift Bridge	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Span Lock Assembly	Span Lock Motor	2	G4373-600	Citgo Lithoplex RT 2	Grease Zerk	Annual	1.5 Fl. Oz.					
Span Guide Rollers	Type 1 Transverse Roller Shaft	6	G4373-700	Citgo Lithoplex RT 2	1/4" Giant Buttonhead	Monthly or as Needed	Pump to Purge					
Span Guide Rollers	Type 2 Transverse Roller Shaft	2	G4373-702	Citgo Lithoplex RT 2	1/4" Giant Buttonhead	Monthly or as Needed	Pump to Purge					
Span Guide Rollers	Longitudinal Roller Shaft	4	G4373-704	Citgo Lithoplex RT 2	1/4" Giant Buttonhead	Monthly or as Needed	Pump to Purge					
Counterweight Guide Rollers	B1 Bushing	8		Citgo Lithoplex RT 2	1/2" Giant buttonhead	Monthly or as Needed	Pump to Purge					
Counterweight Guide Rollers	B2 Bushing	8		Citgo Lithoplex RT 2	1/2" Giant buttonhead	Monthly or as Needed	Pump to Purge					
Live Load Support	Expansion Rocker	2	G4373-900	Citgo Lithoplex RT 2	1/4" Giant Buttonhead	Monthly or as Needed	Pump to Purge					
Live Load Support	Upper Shoe	2	G4373-900	Citgo Lithoplex RT 2	1/4" Giant Buttonhead	Monthly or as Needed	Pump to Purge					
Live Load Support	Fixed Upper Support	2	G4373-900	Citgo Lithoplex RT 2	1/4" Giant Buttonhead	Monthly or as Needed	Pump to Purge					
Air Buffer Assembly	Air Buffer Piston Rod	4	G4373-1000	Citgo Lithoplex RT 2	1/4" Giant Buttonhead	Monthly or as Needed	Pump to Purge					
Air Buffer Assembly	Electro-Luber Automatic Lubricator	4		10W30		Monthly or as Needed	4 Oz.					
Wire Ropes	1 7/8" 6 x 25	48	F3690	Vitalife 400	Spray Can	Monthly or as Needed	Spray Coat					
Wire Ropes	1 1/8" 6 x 25	16	F3690	Vitalife 400	Spray Can	Monthly or as Needed	Spray Coat					
Wire Ropes	5/8" 6 x 25	8	F3690	Vitalife 400	Spray Can	Monthly or as Needed	Spray Coat					

COLUMBUS ROAD LIFT BRIDGE

Columbus Road Lift Bridge	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments

WILLOW AVENUE LIFT BRIDGE

Willow Ave.	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Operating Machinery	Trunnion Bearings	NE Trunnion	2	Citgo Lithoplex RT 2 or Conoco Dynalife HT2	Grease Gun	Every 2 Months						
Operating Machinery	Trunnion Bearings	NW Trunnion	2	Citgo Lithoplex RT 2 or Conoco Dynalife HT2	Grease Gun	Every 2 Months						
Operating Machinery	Cables	NE Counterweight	2	Vitalife 400	Brush or Swab	Grease (SF) Twice a Year						
Operating Machinery	Cables	NW Counterweight	2	Vitalife 400	Brush or Swab	Grease (SF) Twice a Year						
Operating Machinery	Pinion shaft Bearings	NE Trunnion West	2	Citgo Lithoplex RT 2 or Conoco Dynalife HT2	Grease Gun	Every 2 Months						
Operating Machinery	Pinion shaft Bearings	NE Trunnion East	2	Citgo Lithoplex RT 2 or Conoco Dynalife HT2	Grease Gun	Every 2 Months						
Operating Machinery	Pinion Shaft Bearings	NW Trunnion West	2	Citgo Lithoplex RT 2 or Conoco Dynalife HT2	Grease Gun	Every 2 Months						
Operating Machinery	Pinion Shaft Bearings	NW Trunnion	2	Citgo Lithoplex RT 2 or Conoco Dynalife HT2	Grease Gun	Every 2 Months						
Operating Machinery	Brake Drum Couplings	East Coupling in North Tower	2	Chevron Coupling Grease	Grease Gun	Annually						
Operating Machinery	Brake Drum Couplings	West Coupling in North Tower	2	Chevron Coupling Grease	Grease Gun	Annually						
Operating Machinery	Pinion Shaft Couplings	East Coupling in North Tower	2	Citgo Lithoplex RT 2 or Conoco Dynalife HT2	Grease Gun	Every 2 Months						
Operating Machinery	Pinion shaft Couplings	West Coupling in North Tower	2	Citgo Lithoplex RT 2 or Conoco Dynalife HT2	Grease Gun	Every 2 Months						
Operating Machinery	Main Gear Reducer	North Tower	2	Mobil SHC 629	Oil Reservoir	Change Every 2 Years						
Operating Machinery	Operating Drum Gears	West gear in North Tower	2	Chevron Open Gear Lubricant	Brush or Swab	Every 2 Months						
Operating Machinery	Operating Drum Gears	East Gear in North Tower	2	Chevron Open Gear Lubricant	Brush or Swab	Every 2 Months						
Operating Machinery	Pinion Shaft Motors	West Motor in North Tower	2	10W30 Motor Oil	Maintain Oil Level	Change as needed						
Operating Machinery	Pinion Shaft Motors	East Motor in North Tower	2	10W30 Motor Oil	Maintain Oil Level	Change as needed						
Operating Machinery	Brake Thrusters	West Brake Thruster North Tower	2	Texaco Capella Oil WF 32	Maintain Oil Level	Change as needed						
Operating Machinery	Brake Thrusters	East Brake Thruster North Tower	2	Texaco Capella Oil WF 32	Maintain Oil Level	Change as needed						
Guides	Counterweight Guides	West Guide at North End of Span		Benalene 370	Brush or Swab	Every 2 Months						
Guides	Counterweight Guides	East Guide at North End of Span		Benalene 370	Brush or Swab	Every 2 Months						

WILLOW AVENUE LIFT BRIDGE

Willow Ave.	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Guides	Span Guides	NW Guide at Tower		Benalene 370	Brush or Swab	Every 2 Months						
Guides	Span Guides	NE Guide at Tower		Benalene 370	Brush or Swab	Every 2 Months						
Span Supports	Fixed Span Shoe Fitting	West Shoe at North End		Benalene 370	Brush or Swab	Every 2 Months						
Span Supports	Fixed Span Shoe Fitting	East Shoe at North End		Benalene 370	Brush or Swab	Every 2 Months						
Span Supports	Expansion Span Shoe Fitting	West Shoe at North End		Benalene 370	Brush or Swab	Every 2 Months						
Span Supports	Expansion Span Shoe Rocker	East Shoe at North End		Benalene 370	Brush or Swab	Every 2 Months						
Span Supports	Expansion Span Shoe Rocker	West Shoe at North End		Shell Alvania EP LF Grease #1	Grease Gun	Every 2 Months						
Span Supports	Expansion Span Shoe Rocker	East Shoe at North End		Shell Alvania EP LF Grease #1	Grease Gun	Every 2 Months						
Span Supports	Centering Device	North Pier		Benalene 370	Brush or Swab	Every 2 Months						
Span Supports	Air Buffer (Piston)	NW End of Span		Shell Tellus	Fill with Oil	Every 2 Months						
Span Supports	Air Buffer (Piston)	NE End of Span		Shell Tellus	Fill with Oil	Every 2 Months						
Operating Machinery	Trunnion Bearings	SE Trunnion	2	Citgo Lithoplex RT 2 or Conoco Dynalife HT2	Grease Gun	Every 2 Months						
Operating Machinery	Trunnion Bearings	SW Trunnion	2	Citgo Lithoplex RT 2 or Conoco Dynalife HT2	Grease Gun	Every 2 Months						
Operating Machinery	Cables	NE Counterweight	2	Vitalife 400	Brush or Swab	Grease (SF) Twice a Year						
Operating Machinery	Cables	NW Counterweight	2	Vitalife 400	Brush or Swab	Grease (SF) Twice a Year						
Operating Machinery	Pinion shaft Bearings	SE Trunnion West	2	Citgo Lithoplex RT 2 or Conoco Dynalife HT2	Grease Gun	Every 2 Months						
Operating Machinery	Pinion shaft Bearings	SE Trunnion East	2	Citgo Lithoplex RT 2 or Conoco Dynalife HT2	Grease Gun	Every 2 Months						
Operating Machinery	Pinion Shaft Bearings	SW Trunnion West	2	Citgo Lithoplex RT 2 or Conoco Dynalife HT2	Grease Gun	Every 2 Months						
Operating Machinery	Pinion Shaft Bearings	SW Trunnion East	2	Citgo Lithoplex RT 2 or Conoco Dynalife HT2	Grease Gun	Every 2 Months						
Operating Machinery	Brake Drum Couplings	East Coupling in South Tower	2	Shell Alvania EP LF Grease #1	Grease Gun	Annually						
Operating Machinery	Brake Drum Couplings	West Coupling in South Tower	2	Shell Alvania EP LF Grease #1	Grease Gun	Annually						

WILLOW AVENUE LIFT BRIDGE

Willow Ave.	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Operating Machinery	Pinion Shaft Couplings	East Coupling in South Tower	2	Shell Alvania EP LF Grease #1	Grease Gun	Every 2 Months						
Operating Machinery	Pinion shaft Couplings	West coupling in South Tower	2	Shell Alvania EP LF Grease #1	Grease Gun	Every 2 Months						
Operating Machinery	Main Gear Reducer	South Tower	2	Mobil SHC 629	Oil Reservoir	Change Every 2 Years						
Operating Machinery	Operating Drum Gears	West Gear in South Tower	2	Chevron Open Gear Lubricant	Brush or Swab	Every 2 Months						
Operating Machinery	Operating Drum Gears	East Gear in South Tower	2	Chevron Open Gear Lubricant	Brush or Swab	Every 2 Months						
Operating Machinery	Pinion Shaft Motors	West Motor in South Tower	2	10W30 Motor Oil	Maintain Oil Level	Change as needed						
Operating Machinery	Pinion Shaft Motors	East Motor in South Tower	2	10W30 Motor Oil	Maintain Oil Level	Change as needed						
Operating Machinery	Brake Thrusters	West Brake Thruster South Tower	2	Texaco Capella Oil WF 32	Maintain Oil Level	Change as needed						
Operating Machinery	Brake Thrusters	East Brake Thruster South Tower	2	Texaco Capella Oil WF 32	Maintain Oil Level	Change as needed						
Guides	Counterweight Guides	West Guide at South End of Span		Benalene 370	Brush or Swab	Every 2 Months						
Guides	Counterweight Guides	East Guide at South End of Span		Benalene 370	Brush or Swab	Every 2 Months						
Guides	Span Guides	West Guide at South End of Span		Benalene 370	Brush or Swab	Every 2 Months						
Guides	Span Guides	East Guide at South End of Span		Benalene 370	Brush or Swab	Every 2 Months						
Span Supports	Fixed Span Shoe Fitting	West Shoe at South End		Benalene 370	Brush or Swab	Every 2 Months						
Span Supports	Fixed Span Shoe Fitting	East Shoe at South End		Benalene 370	Brush or Swab	Every 2 Months						
Span Supports	Expansion Span Shoe Fitting	West Shoe at South End		Benalene 370	Brush or Swab	Every 2 Months						
Span Supports	Expansion Span Shoe Fitting	East Shoe at South End		Benalene 370	Brush or Swab	Every 2 Months						
Span Supports	Expansion Span Shoe Rocker	West Shoe at South End		Shell Alvania EP LF Grease #1	Grease Gun	Every 2 Months						
Span Supports	Expansion Span Shoe Rocker	East Shoe at South Euclid		Shell Alvania EP LF Grease #1	Grease Gun	Every 2 Months						
Span Supports	Centering Device	South Pier		Benalene 370	Brush or Swab	Every 2 Months						
Span Supports	Air Buffer (Piston)	SW End of Span		Shell Tellus	Fill with Oil	Every 2 Months						

WILLOW AVENUE LIFT BRIDGE

Willow Ave.	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Span Supports	Air Buffer (Piston)	SE End of Span		Shell Tellus	Fill with Oil	Every 2 Months						

WEST 3RD STREET LIFT BRIDGE

West 3rd Street	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Sheaves	Counterweight Sheave Bearings	NE Tower Inner	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Counterweight Sheave Bearings	NE Tower Outer	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Counterweight Sheave Bearings	NW Tower Inner	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Counterweight Sheave Bearings	NW Tower Outer	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Counterweight Sheave Bearings	SE Tower Inner	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Counterweight Sheave Bearings	SE Tower Outer	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Counterweight Sheave Bearings	SW Tower Inner	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Counterweight Sheave Bearings	SW Tower Outer	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Auxiliary Counterweight Sheave Bearings	NE Tower Inner	E-0	10W30 Motor Oil	Spray/Oil Can	Every 2 Months						
Sheaves	Auxiliary Counterweight Sheave Bearings	NE Tower Outer	E-0	10W30 Motor Oil	Spray/Oil Can	Every 2 Months						
Sheaves	Auxiliary Counterweight Sheave Bearings	NW Tower Inner	E-0	10W30 Motor Oil	Spray/Oil Can	Every 2 Months						
Sheaves	Auxiliary Counterweight Sheave Bearings	NW Tower Outer	E-0	10W30 Motor Oil	Spray/Oil Can	Every 2 Months						
Sheaves	Auxiliary Counterweight Sheave Bearings	SE Tower Inner	E-0	10W30 Motor Oil	Spray/Oil Can	Every 2 Months						
Sheaves	Auxiliary Counterweight Sheave Bearings	SE Tower Outer	E-0	10W30 Motor Oil	Spray/Oil Can	Every 2 Months						
Sheaves	Auxiliary Counterweight Sheave Bearings	SW Tower Inner	E-0	10W30 Motor Oil	Spray/Oil Can	Every 2 Months						
Sheaves	Auxiliary Counterweight Sheave Bearings	SW Tower Outer	E-0	10W30 Motor Oil	Spray/Oil Can	Every 2 Months						
Sheaves	Deflector Sheave Bearings	NE Tower Inner	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Deflector Sheave Bearings	NE Tower Outer	E-0	Plexalene 725	Grease Gun	Every 2 Months						

WEST 3RD STREET LIFT BRIDGE

West 3rd Street	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Sheaves	Deflector Sheave Bearings	NW Tower Inner	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Deflector Sheave Bearings	NW Tower Outer	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Deflector Sheave Bearings	SE Tower Inner	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Deflector Sheave Bearings	SE Tower Outer	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Deflector Sheave Bearings	SW Tower Inner	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Deflector Sheave Bearings	SW Tower Outer	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Intermediate Sheave Bearings	NE Tower Inner	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Intermediate Sheave Bearings	NE Tower Outer	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Intermediate Sheave Bearings	NW Tower Inner	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Intermediate Sheave Bearings	NW Tower Outer	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Intermediate Sheave Bearings	SE Tower Inner	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Intermediate Sheave Bearings	SE Tower Outer	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Intermediate Sheave Bearings	SW Tower Inner	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Sheaves	Intermediate Sheave Bearings	SW Tower Outer	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Cables	Main Counter-Weight Cables	NE Tower	E-0	Vitalife 4006, Code 5001 AA	Brush or Swab	Grease (S/F) Twice a Year						
Cables	Main Counter-Weight Cables	NW Tower	E-0	Vitalife 4006, Code 5001 AA	Brush or Swab	Grease (S/F) Twice a Year						
Cables	Main Counter-Weight Cables	SE Tower	E-0	Vitalife 4006, Code 5001 AA	Brush or Swab	Grease (S/F) Twice a Year						
Cables	Main Counter-Weight Cables	SW Tower	E-0	Vitalife 4006, Code 5001 AA	Brush or Swab	Grease (S/F) Twice a Year						

WEST 3RD STREET LIFT BRIDGE

West 3rd Street	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Cables	Operating Cables	NE Span - Uphaul Cables	E-0	Vitalife 4006, Code 5001 AA	Brush or Swab	Grease (S/F) Twice a Year						
Cables	Operating Cables	NW Span - Uphaul Cables	E-0	Vitalife 4006, Code 5001 AA	Brush or Swab	Grease (S/F) Twice a Year						
Cables	Operating Cables	SE Span - Uphaul Cables	E-0	Vitalife 4006, Code 5001 AA	Brush or Swab	Grease (S/F) Twice a Year						
Cables	Operating Cables	SW Span - Uphaul Cables	E-0	Vitalife 4006, Code 5001 AA	Brush or Swab	Grease (S/F) Twice a Year						
Cables	Operating Cables	NE Span - Downhaul Cables	E-0	Vitalife 4006, Code 5001 AA	Brush or Swab	Grease (S/F) Twice a Year						
Cables	Operating Cables	NW Span - Downhaul Cables	E-0	Vitalife 4006, Code 5001 AA	Brush or Swab	Grease (S/F) Twice a Year						
Cables	Operating Cables	SE Span- Downhaul Cables	E-0	Vitalife 4006, Code 5001 AA	Brush or Swab	Grease (S/F) Twice a Year						
Cables	Operating Cables	SW Span - Downhaul Cables	E-0	Vitalife 4006, Code 5001 AA	Brush or Swab	Grease (S/F) Twice a Year						
Cables	Auxiliary Counter - Weight Cables	Towers	E-0	Vitalife 4006, Code 5001 AA	Brush or Swab	Grease (S/F) Twice a Year						
Operating Machinery	Operating Drum Bearings	East Drum, South Inner Bearing		Conoco Dynalife HT2	Grease Gun	Grease Gun Alemite Fittings						
Operating Machinery	Operating Drum Bearings	East Drum, Middle Inner Bearing		Conoco Dynalife HT3	Grease Gun	Grease Gun Alemite Fittings						
Operating Machinery	Operating Drum Bearings	East Drum, North Inner Bearings		Conoco Dynalife HT4	Grease Gun	Grease Gun Alemite Fittings						
Operating Machinery	Operating Drum Bearings	East Drum, South Outer Bearing		Conoco Dynalife HT5	Grease Gun	Grease Gun Alemite Fittings						
Operating Machinery	Operating Drum Bearings	East Drum, Middle Outer Bearing		Conoco Dynalife HT6	Grease Gun	Grease Gun Alemite Fittings						
Operating Machinery	Operating Drum Bearings	East Drum, North Outer Bearing		Conoco Dynalife HT7	Grease Gun	Grease Gun Alemite Fittings						
Operating Machinery	Operating Drum Bearings	West Drum, South Inner Bearing		Conoco Dynalife HT8	Grease Gun	Grease Gun Alemite Fittings						
Operating Machinery	Operating Drum Bearings	West Drum, Middle Inner Bearing		Conoco Dynalife HT9	Grease Gun	Grease Gun Alemite Fittings						
Operating Machinery	Operating Drum Bearings	West Drum, North Inner Bearing		Conoco Dynalife HT10	Grease Gun	Grease Gun Alemite Fittings						

WEST 3RD STREET LIFT BRIDGE

West 3rd Street	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Operating Machinery	Operating Drum Bearings	West Drum, South Outer Bearing		Conoco Dynalife HT11	Grease Gun	Grease Gun Alumite Fittings						
Operating Machinery	Operating Drum Bearings	West Drum, Middle Inner Bearing		Conoco Dynalife HT12	Grease Gun	Grease Gun Alumite Fittings						
Operating Machinery	Gear Couplings CL-2 Falk	East Drum		NLGI # EP2	Grease Gun	Every 2 Months						
Operating Machinery	Gear Couplings CL-2 Falk	West Drum		NLGI # EP2	Grease Gun	Every 2 Months						
Operating Machinery	Gear Couplings CL-3 Falk	East Earle Reducer		NLGI # EP2	Grease Gun	Every 2 Months						
Operating Machinery	Gear Couplings CL-3 Falk	East Earle Reducer		NLGI # EP2	Grease Gun	Every 2 Months						
Operating Machinery	Main Drive Reducer Earle	Middle of Drive Shaft		AGMA #6	Grease Gun		112	Gal		Gal		
Operating Machinery	Main Drive Reducer Earle - Seals CL-1	North East Earle Reducer		NLGI # EP2	Grease Gun							
Operating Machinery	Main Drive Reducer Earle - Seals CL-1	South East Earle Reducer		NLGI # EP2	Grease Gun							
Operating Machinery	Main Drive Reducer Earle - Seals CL-1	North West Earle Reducer		NLGI # EP2	Grease Gun							
Operating Machinery	Main Drive Reducer Earle - Seals CL-1	North West Earle Reducer		NLGI # EP2	Grease Gun							
Operating Machinery	Brake Thrusters	East Brake Thrusters in Operating Room West Brake Thrusters on Pieratong Deck		AERO-Shell Fluid 4	Maintain Oil Level	Change every 2 Years						
Operating Machinery	Brale Tjristers	Tjristers on Pieratong Deck		AERO-Shell Fluid 4	Maintain Oil Level	Change every 2 Years						
Rollers and Guides	Span Guide Roller Bearing	12 Roller Assemblies	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Rollers and Guides	Counterweight Guide Roller Bearing	4 Roller Assemblies per Counterweight	E-0	Plexalene 725	Grease Gun	Every 2 Months						
Rollers and Guides	Auxiliary Counterweight Guides	2 in Each Tower		Shell Alvania EPLF Grease #1	Brush or Swab	Grease (S/F) Twice a Year						
Span Supports	Expansion Span Shoe Rocker	2 Shoes at North		Plexalene 725	Grease Gun	Every 2 Months						
Span Supports	Centering Device	1 at Each End of Span		Chevron Open Gear Lubricant	Brush or Swab	Every 2 Months						

WEST 3RD STREET LIFT BRIDGE

West 3rd Street	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Span Supports	Air Buffer (Piston)	2 at Each End of Span	E-0	Shell tellus Oil 32	Fill with Oil	Every 2 Months						
Barrier Gates	Bearings	9 Locations on Each Barrier Gate		Plexalene 725	Grease Gun	Every 2 Months						
Barrier Gates	Chains	Both Sides of each Barrier Gate		10W30 Motor Oil	Spray/Oil Can	Every 2 Months						
Barrier Gates	Cables	Both Sides of each Barrier Gate		Vitalife 4006, Code 5001 AA	Brush or Swab	Every 2 Months						
Barrier Gates	Drive Housing chains	Drive Housing at each Gate		10W30 Motor Oil	Spray/Oil Can	Every 2 Months						
Barrier Gates	Drive Housing Idler Sprocket	Drive Housing at each Gate		10W30 Motor Oil	Spray/Oil Can	Every 2 Months						
Barrier Gates	Drive Housing Gear Motor	Drive Housing at each Gate		10W30 Motor Oil	Spray/Oil Can	Every 2 Months						
Barrier Gates	Drum Box Rollers	Drum Box at each Gate		10W30 Motor Oil	Spray/Oil Can	Every 2 Months						
Span A-Frame	Span Guide Roller Bearings											
Span A-Frame	Counterweight Guide Roller Bearing											
Span A-Frame	Auxiliary Counterweight Guiders											

CARTER ROAD VERTICAL LIFT BRIDGE

Carter Road Bridge	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Towers	Counterweight Sheave Bearings	North Tower NE Sheave outer Bearing	363-L4	Chevron Polyurea EP-0, NGLI #0	Grease Gun	Every 3 Months						
Towers	Counterweight Sheave Bearings	North Tower NE Sheave Inner Bearing	363-L4	Chevron Polyurea EP-0, NGLI #0	Grease Gun	Every 3 Months						
Towers	Counterweight Sheave Bearings	North Tower NW Sheave outer Bearing	363-L4	Chevron Polyurea EP-0, NGLI #0	Grease Gun	Every 3 Months						
Towers	Counterweight Sheave Bearings	North Tower NW Sheave Inner Bearing	363-L4	Chevron Polyurea EP-0, NGLI #0	Grease Gun	Every 3 Months						
Towers	Counterweight Sheave Bearings	North Tower SE Sheave outer Bearing	363-L4	Chevron Polyurea EP-0, NGLI #0	Grease Gun	Every 3 Months						
Towers	Counterweight Sheave Bearings	North Tower SE Sheave Inner Bearing	363-L4	Chevron Polyurea EP-0, NGLI #0	Grease Gun	Every 3 Months						
Towers	Counterweight Sheave Bearings	South Tower SW Sheave outer Bearing	363-L4	Chevron Polyurea EP-0, NGLI #0	Grease Gun	Every 3 Months						
Towers	Counterweight Sheave Bearings	South Tower SW Sheave Inner Bearing	363-L4	Chevron Polyurea EP-0, NGLI #0	Grease Gun	Every 3 Months						
Towers	Auxiliary Counter-Weight Sheave Bearings	North Tower Inner	363-L4	Chevron Polyurea EP-0, NGLI #0	Grease Gun	Every 3 Months						
Towers	Auxiliary Counter-Weight Bushing	North Tower Outer	363-L4	Chevron Polyurea EP-0, NGLI #0	Grease Gun	Every 3 Months						

CARTER ROAD VERTICAL LIFT BRIDGE

Carter Road Bridge	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Towers	Auxiliary Counter-Weight Sheave Bearings	South Tower Inner	363-L4	Chevron Polyurea EP-0, NGLI #0	Grease Gun	Every 3 Months						
Towers	Auxiliary Counter-Weight Bushing	South Tower Outer	363-L4	Shell Alvania EP LF Grease #1	Grease Gun	Every 3 Months						
Span	Deflector Sheave Bearings	NE Bridge	363-L2	Shell Alvania EP LF Grease #1	Grease Gun	Every 3 Months						
Span	Deflector Sheave Bearings	NW Bridge	363-L2	Shell Alvania EP LF Grease #1	Grease Gun	Every 3 Months						
Span	Deflector Sheave Bearings	SE Bridge	363-L2	Shell Alvania EP LF Grease #1	Grease Gun	Every 3 Months						
Span	Deflector Sheave Bearings	SW Bridge	363-L2	Shell Alvania EP LF Grease #1	Grease Gun	Every 3 Months						
Span	Intermediate Sheave	NE Bridge	363-L2	Shell Alvania EP LF Grease #1	Grease Gun	Every 3 Months						
Span	Intermediate Sheave	NW Bridge	363-L2	Shell Alvania EP LF Grease #1	Grease Gun	Every 3 Months						
Span	Intermediate Sheave	SE Bridge	363-L2	Shell Alvania EP LF Grease #1	Grease Gun	Every 3 Months						
Span	Intermediate Sheave	SW Bridge	363-L2	Shell Alvania EP LF Grease #1	Grease Gun	Every 3 Months						

CARTER ROAD VERTICAL LIFT BRIDGE

Carter Road Bridge	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Cables	Main Counter-Weight Cables	NE Tower	363-L1	Vitalife 400	Brush or Swab	Once a Year						
Cables	Main Counter-Weight Cables	NW Tower	363-L1	Vitalife 400	Brush or Swab	Once a Year						
Cables	Main Counter-Weight Cables	SE Tower	363-L1	Vitalife 400	Brush or Swab	Once a Year						
Cables	Main Counter-Weight Cables	SW Tower	363-L1	Vitalife 400	Brush or Swab	Once a Year						
Cables	Operating Cables	NE Span Uphaul (2)	363-L1	Vitalife 400	Brush or Swab	Once a Year						
Cables	Operating Cables	NW Span Uphaul (2)	363-L1	Vitalife 400	Brush or Swab	Once a Year						
Cables	Operating Cables	SE Span Uphaul (2)	363-L1	Vitalife 400	Brush or Swab	Once a Year						
Cables	Operating Cables	SW Span Uphaul (2)	363-L1	Vitalife 400	Brush or Swab	Once a Year						
Cables	Operating Cables	NE Span Down haul (2)	363-L1	Vitalife 400	Brush or Swab	Once a Year						
Cables	Operating Cables	NW Span Down haul (2)	363-L1	Vitalife 400	Brush or Swab	Once a Year						

CARTER ROAD VERTICAL LIFT BRIDGE

Carter Road Bridge	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Cables	Operating Cables	SE Span Down haul (2)	363-L1	Vitalife 400	Brush or Swab	Once a Year						
Cables	Operating Cables	SW Span Down haul (2)	363-L1	Vitalife 400	Brush or Swab	Once a Year						
Operating Machinery	Operating Drum Bearings	East Drum, 6 Bearings	363-L2	Chevron Polyurea EP-0, NGLI #0	Grease gun Alemite Fitting	Every 3 Months						
Operating Machinery	Operating Drum Bearings	West Drum, 6 Bearings	363-L2	Chevron Polyurea EP-0, NGLI #0	Grease gun Alemite Fitting	Every 3 Months						
Operating Machinery	Pillow Block Bearings	Auxiliary Generator East	363-L2	Chevron Polyurea EP-0, NGLI #0	Grease gun Alemite Fitting	Every 3 Months	0.94	lbs				
Operating Machinery	Pillow Block Bearings	Auxiliary Generator West	363-L2	Chevron Polyurea EP-0, NGLI #0	Grease gun Alemite Fitting	Every 3 Months	0.94	lbs				
Operating Machinery	Grid Couplings	Cutout Coupling auxiliary Generator at Reducer	363-L2	Mobilux #2, NLGI #2	Grease Gun	Every 6 months	2.06	lbs				
Operating Machinery	Grid Couplings	Coupling at Auxiliary Generator	363-L2	Mobilux #2, NLGI #2	Grease Gun	Every 6 months	0.38	lbs				
Operating Machinery	Grid Couplings	Coupling at North Motor	363-L2	Mobilux #2, NLGI #2	Grease Gun	Every 6 months	1.12	lbs				
Operating Machinery	Grid Couplings	Coupling at South Motor	363-L2	Mobilux #2, NLGI #2	Grease Gun	Every 6 months	1.12	lbs				

CARTER ROAD VERTICAL LIFT BRIDGE

Carter Road Bridge	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Operating Machinery	Grid Couplings	Coupling at West Drum	363-L2	Mobilux EP 111 or Falk Long Term Grease, NLGI #1	Grease Gun	Every 6 months	2.5	lbs				
Operating Machinery	Grid Couplings	Coupling at Main Gear Reducer West	363-L2	Mobilux EP 111 or Falk Long Term Grease, NLGI #1	Grease Gun	Every 6 months	2.5	lbs				
Operating Machinery	Grid Couplings	Coupling at Main Gear Reducer East	363-L2	Mobilux EP 111 or Falk Long Term Grease, NLGI #1	Grease Gun	Every 6 months	2.5	lbs				
Operating Machinery	Grid Couplings	Coupling at East Drum	363-L2	Mobilux EP 111 or Falk Long Term Grease, NLGI #1	Grease Gun	Every 6 months	2.5	lbs				
Operating Machinery	Main Gear Reducer	Operating Room	363-L2	Chevron AW Machine Oil 320, Mobil DTE AA, AGAM #6	Oil Reservoir	Every 6 months	55	Gal				
Operating Machinery	Operating Drum Gears & Pinions	East Drum, 6 Bearings	363-L2	Chevron Open Gear Lubricant	Brush or Swab	Every 3 Months						
Operating Machinery	Operating Drum Gears & Pinions	West Drum, 6 Bearings	363-L2	Chevron Open Gear Lubricant	Brush or Swab	Every 3 Months						
Operating Machinery	Brake Thrusters	4 Brake Thrusters Operating Room	363-L3	Texaco Capella Oil WF32	Fill with Oil	Every 6 months						
Guide Rollers	Span Guide Roller Bearing	NE Top Chord Type "C" Roller	363-L3	Chevron Polyurea EP-0, NGLI #1	Grease gun Alemite Fitting	Every 3 Months						
Guide Rollers	Span Guide Roller Bearing	NW Top Chord Type "C" Roller	363-L3	Chevron Polyurea EP-0, NGLI #1	Grease gun Alemite Fitting	Every 3 Months						

CARTER ROAD VERTICAL LIFT BRIDGE

Carter Road Bridge	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Guide Rollers	Span Guide Roller Bearing	SE Top Chord Type "CA" Roller	363-L3	Chevron Polyurea EP-0, NGLI #1	Grease gun Alenite Fitting	Every 3 Months						
Guide Rollers	Span Guide Roller Bearing	SW top Chord Type "CA" Roller	363-L3	Chevron Polyurea EP-0, NGLI #1	Grease gun Alenite Fitting	Every 3 Months						
Guide Rollers	Span Guide Roller Bearing	NE Bottom Chord Type "A" Roller	363-L3	Chevron Polyurea EP-0, NGLI #1	Grease gun Alenite Fitting	Every 3 Months						
Guide Rollers	Span Guide Roller Bearing	NW Bottom Chord type "A" Roller	363-L3	Chevron Polyurea EP-0, NGLI #1	Grease gun Alenite Fitting	Every 3 Months						
Guide Rollers	Span Guide Roller Bearing	SE Bottom Chord type "CA" Roller	363-L3	Chevron Polyurea EP-0, NGLI #1	Grease gun Alenite Fitting	Every 3 Months						
Guide Rollers	Span Guide Roller Bearing	SW Bottom Chord Type "CA" Roller	363-L3	Chevron Polyurea EP-0, NGLI #1	Grease gun Alenite Fitting	Every 3 Months						
Span Supports	Fixed Span Shoe	North East Abutment	363-L5	Chevron Open Gear Lubricant	Brush or Swab							
Span Supports	Fixed Span Shoe	North West Abutment	363-L5	Chevron Open Gear Lubricant	Brush or Swab							
Span Supports	Expansion Span Shoe Rocker	South East Abutment	363-L5	Chevron Open Gear Lubricant	Grease gun Alenite Fitting							
Span Supports	Expansion Span Shoe Rocker	South West Abutment	363-L5	Chevron Open Gear Lubricant	Grease gun Alenite Fitting							

CARTER ROAD VERTICAL LIFT BRIDGE

Carter Road Bridge	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Span Supports	Centering Device	North Abutment	363-L5	Chevron Open Gear Lubricant	Brush or Swab							
Span Supports	Centering Device	South Abutment	363-L5	Chevron Open Gear Lubricant	Brush or Swab							
Span Supports	Hydraulic Buffer	North East Abutment	363-L5	No Lubrication Required								
Span Supports	Hydraulic Buffer	North West Abutment	363-L5	No Lubrication Required								
Span Supports	Hydraulic Buffer	South East Abutment	363-L5	No Lubrication Required								
Span Supports	Hydraulic Buffer	South West Abutment	363-L5	No Lubrication Required								
Barrier Gates	Bearings	7 Locations Across the top of North Gate	363-L1	Shell Alvania EP LF Grease #1	Grease gun Alemite Fitting							
Barrier Gates	Bearings	7 Locations Across the top of South Gate	363-L1	Shell Alvania EP LF Grease #1	Grease gun Alemite Fitting							
Barrier Gates	Couplings	3 Locations Across the top of North Gate	363-L1	Shell Alvania EP LF Grease #1	Grease Gun							
Barrier Gates	Couplings	3 Locations Across the top of South Gate	363-L1	Shell Alvania EP LF Grease #1	Grease Gun							

CARTER ROAD VERTICAL LIFT BRIDGE

Carter Road Bridge	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Barrier Gates	Chains	Both Sides of North Gate	363-L1	10W30 Motor Oil	Brush or Swab							
Barrier Gates	Chains	Both Sides of South Gate	363-L1	10W30 Motor Oil	Brush or Swab							
Barrier Gates	Cables	Both Sides of North Gate	363-L1	Vitalife 4006, Code	Brush or Swab							
Barrier Gates	Drive Housing Chains	Both Sides of South Gate	363-L1	10W30 Motor Oil	Brush or Swab							
Barrier Gates	Drive Housing Idler Sprocket	Drive Housing at North Gate	363-L1	Shell Alvania EP	Grease gun Alenite Fitting							
Barrier Gates	Drive Housing Idler Sprocket	Drive Housing at South Gate	363-L1	Shell Alvania EP	Grease gun Alenite Fitting							
Barrier Gates	Drive Housing Idler Sprocket	Drive Housing at North Gate	363-L1	Shell Alvania EP	Grease gun Alenite Fitting							
Barrier Gates	Drive Housing Idler Sprocket	Drive Housing at South Gate	363-L1	Shell Alvania EP	Grease gun Alenite Fitting							
Barrier Gates	Drive Housing Gear Motor	Drive Housing at North Gate	363-L12	Mobil SHC 629	Oil Reservoir							
Barrier Gates	Drive Housing Gear Motor	Drive Housing at South Gate	363-L1	Mobil SHC 629	Oil Reservoir							

CARTER ROAD VERTICAL LIFT BRIDGE

Carter Road Bridge	Item Name	Location	Drawing Number	Type of Lubricant	Application Method	How Often	Capacity	Capacity Unit	Lubricant added/replaced (OZ.)	Lubricant added/replaced unit	Date Service Performed	Comments
Barrier Gates	Drum Box Rollers	2 in Drum Box at North Gate	363-L1	Shell Alvania EP LF Grease #1	Grease gun Alemite Fitting							
Barrier Gates	Drum Box Rollers	2 in Drum Box at South Gate	363-L1	Shell Alvania EP LF Grease #1	Grease gun Alemite Fitting							
Barrier Gates	Drum Box Brake Lever	2 in Drum Box at North Gate	363-L1	Shell Alvania EP LF Grease #1	Grease gun Alemite Fitting							
Barrier Gates	Drum Box Brake Lever	2 in Drum Box at South Gate	363-L1	Shell Alvania EP LF Grease #1	Grease gun Alemite Fitting							