

Proposal Date:	5/26/16	Quote Number:	09-1325-5
Customor		Comico	
Customer Name:	The City of Emeryville	Service Location:	Childrens Center
Address:	1333 Park Ave	Address:	1220 53rd Street
City, State,	1333 Laik Ave	City, State,	1220 331 d Street
Zip:	Emeryville, CA 94608	Zip:	Emeryville, CA 94608
Phone:	(510) 508-9895	Phone:	(707) 280-3596
Attn:	Rich Cunningham	Contact:	Jody Clark
The maintenance is Maintenance (Attach page 2 of this agreen • Check in v • Check and • Check ger	to consist of lubrication and necessament 'A'). The maintenance will lenent. General Maintenance Tasswith Customer upon arrival. I report any unusual noise or vibral leral operation and condition of equipment.	ssary inspection as describ be performed by a trained ks to include the following tions and repair if minor.	ed in the Specifications for Periodic HVAC technician as outlined in
Notify cusCheck out	work performed on both in-house stomer of services or materials req- with customer when leaving the p intenance customer you are enti-	uired to maintain systems premises.	in proper operating condition.
Dispatching Service	: We are available 24 hours a day	y, 7 days a week.	
	e make every effort to provide a (2 rs (Monday through Friday, 8 am		
	rantee: Any work performed by eriod of 30 days for labor and 90 oxpense.		
Service Frequency: Monthly	Bi-Monthly √ Quarterly [☐Tri-Annually ☐Semi-	Annually Annually
Comments:			
The owner agree	s to pay: \$ 8288	Per year, to be invoiced a	at: \$ 2072 Quarterly
Presented By:	Matrix HG, Inc.	Accepted By:	
Signed:	Cameron Edwards	Signadi	
Name:	Cameron Edwards	Nama:	
Title:	Service Estimator	Title:	
Date:	6/8/15	Date:	

Customer Signature is Acceptance of Terms and Conditions. If date of commencement is not completed by customer, maintenance schedule will begin the first of the month following date of acceptance

Heating • Air Conditioning Energy Management CA Lic# 812232



Proposal Date:	:5	5/26/16	Quote Number: _	09-13	325-5
		SCOPE OF S	ERVICES		
☐ Heat Pumps ☐ Air Handlers ☐ Condensing U ☐ Water Pumps ☐ Pneumatic / F	✓ Roofi ☐Fan C Jnits ✓ Boile ☐Cooli Electric Controls g Air/Water-Coolec	ERATING INSPECTION top Package Units Coils rs/Hot Water Heaters and Towers Compressors/Chillers	☐ Stand Alone In☐ Central Station☐ Furnaces	n & Exhaust Fans uency Drives	
Boilers (included Boilers (excl	SERVICED - AND udes water side) udes water side) SERVICED – CO	NUAL INSPECTIONS Cooling To	Helio	rifugal Chillers cal-Rotary Chillers er: Condenser Tub	
	replaced by Matrix	x HG, Inc. ced by Matrix HG, Inc.			
Type:	Disposable	✓ High Efficie	ncy Bag	Туре	Charcoal Type
Frequency:	☐Monthly☐Bi-Monthly☐Quarterly☐Tri-Annually☐Semi-Annuall☐	☐ Monthly☐ Bi-Monthly☐ Quarterly☐ Tri-Annually☐ Semi-Annually☐ Annually	Quai yTri-A ıllySem	Monthly Briterly CAnnually Ti-Annually S	Monthly Bi-Monthly Quarterly Pri-Annually Bemi-Annually
☐Not included	in contract	Comments:			
BELTS Matrix HG, Inc.	will inspect condit	ion and replace when nec	essary as:		
☐ Included in c	contract price	Extra to contract price	e		
WATER TREA Matrix HG, Inc. water cooled con	will inspect the ch	emical feed system servii will add chemicals when	ng the cooling tower necessary as:	r, boiler, and/or	
☐ Included in c	contract price	Extra to contract price	ee Not	required for this co	ontract
	OIL CLEANING will chemically cle	ean the condenser and/or	evaporator coils ann	nually as described	below:
Condenser Co	oils	Evaporator coils			
Extra to contr		✓Extra to contract pric ☐Included in contract price			



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TERMS AND CONDITIONS

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This Agreement shall run from year-to-year; however, it may be cancelled or amended by either party upon thirty (30) days' written notice and is subject to the annual revision of prices.

No other Agreement expressed or implied oral or written, shall limit or qualify the terms of this Agreement unless evidenced by an additional written Agreement signed by both parties.

A delinquent charge of 1.5% per month will be applied on any past due amounts. In the event collections action is taken, the Customer shall be obligated for collection costs including reasonable attorney's fees and court costs.

This proposal is subject to credit approval by the Matrix HG Accounting Department.		
Service Shall Commence:	Customer Initials:	
	To be Completed by Customer	

CONDITIONS

All maintenance work will be scheduled by MATRIX HG, INC. at its discretion.

If a request for service or additional maintenance is made by Customer, Customer will be charged at standard labor rate per hour during normal working hours (8:00 - 4:30 p.m.) Monday through Friday) and standard premium rate per hour for overtime, plus transportation charges and expenses.

Customer agrees to pay for any parts required under this Agreement other that those specifically included under Periodic Maintenance Service. The standard Company guarantee shall apply to all replacements parts. No warranty is made for loss refrigerant.

Customer shall provide effective air filter service and water treatment service if not included as Optional Maintenance Functions under this agreement.

It is further understood that reasonable access will be provided to equipment. Any modifications necessary to provide access to equipment will be at Customer's expense.

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HEAT PUMPS

Check cooling operation.

Check heating operation.

Check condenser surface, report on condition.

Check evaporator surface, report on condition.

Inspect condensate pan and drain trap if accessible. Blow out trap if cleanout is provided. Check supply fan or blower.

Check condenser fans.

Lubricate all accessible bearings as required.

Inspect and adjust drive belts, as needed. Inspect pulleys for wear.

Check refrigerant charge.

Check voltage, amperage and electrical connections.

Check crankcase heater for proper operation.

Check controls, contactors and safeties.

Make sure all panels are securely installed.

Check return and supply air temperature.

Check filters, clean or replace as per contract.

Visually check system for signs of leaks and piping integrity.

Check economizer operation, if applicable.

Check duct connections.

Check reversing valve operation

Check defrost controls and operation.

ROOF TOP PACKAGE UNITS

Check cooling operation.

Check heating operation.

Check condenser surface, report on condition.

Check evaporator surface, report on condition.

Check supply fan or blower.

Check condenser fans.

Lubricate all accessible bearings as required.

Inspect and adjust drive belts, as needed. Inspect pulleys for wear.

Check refrigerant charge.

Check voltage, amperage and electrical connections.

Check crankcase heater for proper operation.

Check controls, contactors and safeties.

Make sure all panels are securely installed.

Check return and supply air temperature.

Check filters, clean or replace as per contract.

Visually check system for signs of leaks and piping integrity.

Check economizer operation, if applicable.

Check pilot igniter operation.

Check heat exchanger, visually.

Check safety controls.

Check vent motor.

Inspect fan wheel(s), if accessible.

Inspect fan unit mountings.

Inspect and clean drain pan if accessible. Blow out drain trap if cleanout is provided.

Inspect all exterior panels for correct installation and fit.



	STAND ALONE INDOOR AIR CONDITIONING UNIT
	Check cooler operation.
	Brush coil surfaces as needed.
	Check evaporator surface, report on condition.
	Check supply fan.
	Check condenser fans, if applicable.
	Check condenser pump, if applicable.
	Lubricate all accessible bearings, as required.
	Inspect and adjust drive belts, as needed. Inspect pulleys for wear.
	Check refrigerant charge.
	Check voltage, amperage and electrical connections.
	Check crankcase heater for proper operation.
	Check controls, contactors, and safeties.
	Make sure all panels are securely installed.
	Check return and supply air temperature.
	Check filters, clean or replace as per contract.
	Visually check system for signs of leaks and piping integrity.
	Check condensate pans if accessible. Blow out drain trap if cleanout is provided.
	Check reheat/humidifier assembly for proper operation.
	Check flow switch if applicable.
	11
	AIR HANDLERS/FAN COIL UNITS
	Inspect fan unit mountings.
	Inspect drive belts and adjust as required. Inspect fan pulleys for wear.
	Inspect and clean condensate pan and drain trap if accessible. Blow out trap if cleanout is provided.
	Check evaporator surface, report on condition.
	Check supply fan or blower. Lube bearings when accessible, as required.
	Check voltage, amperage and electrical connections.
	Make sure all panels are securely installed
	Check return and supply air temperature.
	Check filters, clean or replace as per contract.
	Visually check system for signs of leaks and piping integrity.
	Check duct connections.
\neg	FAN-POWERED VAV BOXES
	Replace air filters as per contract.
	Test operations of controls, actuators, etc. Inspect contactors and relays.
	Lubricate motor bearings as required.
	Inspect fan wheels for cleanliness. Report on condition.
	Inspect mounting bushings for wear.
	Check and tighten electrical connections. Check voltages and amperages.
	Chook and against electrical commentation. Chook votages and uniperages.
	CENTRAL-STATION UNITS
	Lube bearings - as required.
	Inspect fan wheel(s), if accessible
	Inspect fan unit mountings.
	Inspect unit flex connectors.
	Inspect drive belts and adjust as required. Inspect fan pulleys for wear.
	Inspect starters, contactors and controls.
	Inspect condensate pan and drain trap if accessible. Blow out trap if cleanout is provided.
	Check voltage, amperages and electrical connections.



	Condensing Units Check cooling and heating operation. Check condenser surface, report on condition. Check condenser fans. Lubricate all accessible bearings as required. Check refrigerant charge. Check voltage, amperage and electrical connections. Check crankcase heater for proper operation. Check controls, contactors and safeties. Make sure all panels are securely installed. Visually check system for signs of leaks and piping integrity. Check safety controls.
	BOILERS - HOT WATER/STEAM - OPERATING INSPECTION
✓	Blow down boiler. Check the auto-feeder. Check the feeder strainer, clean if necessary. Check and clean the gauge glass. Check the low water device. Blow down as needed. Inspect the pilot operation and safety controls. Inspect the main burner condition and operation. Check boiler time clock if applicable. Check the safety relief valve. Visually inspect boiler room piping. Inspect water make-up and PRV. Check boiler temperature and pressure. Inspect the gas valves. Inspect the flue and stack condition. Log boiler service record.
√	FURNACES Check operation. Visually inspect accessible areas of heat exchanger. Report on condition. Check burners - clean if necessary. Check controls and safeties. Check filters - change as per contract. Check blower motor. Lubricate blower and motor. Check and clean pilot and igniters. Check accessible flue stack and cap.
	WATER PUMPS Lubricate bearings as required. Check reservoir oil level, add oil as required. Check for water leaks. Inspect pump coupling for wear and alignment. Check mountings.

Corporate Office: 115 Mason Circle, Suite B Concord, CA 94520 PH: (925) 459-9200 • FX: (925) 459-9220

Check pump operating pressures as required. Check for abnormal vibration or noise.

Check voltages and amperages.

Check motor starter and tighten electrical connections.



	COOLING TOWERS - OPERATING INSPECTION
	Check fan and motor bearings, lubricate as necessary.
	Check belt tension and adjust if necessary.
	Check and clean sump strainer screen.
	Check spray distribution system.
	Check spray eliminators for biological growth and rust.
	Check operating water level in the pan and adjust float valve if required.
	Check bleed-off rate and adjust if necessary.
	Check fans and air inlet screens and remove any dirt or debris.
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	SUPPLY, RETURN, AND EXHAUST FANS
	Lube bearings - as required.
	Inspect fan wheel(s), if accessible
	Inspect fan unit mountings.
	Inspect unit flex connectors.
	Inspect drive belts and adjust as required.
	Inspect fan pulleys for wear.
	Inspect and clean drain pan if accessible and applicable.
	Check motor starters and electrical connections.
	Check voltages and amperages.
	RECIPROCATING WATER/AIR-COOLED COMPRESSOR/CHILLERS-OPERATING INSPECTION
	Check oil level.
	Check refrigerant charge.
	Check operation.
	Visually inspect for refrigerant leaks, check integrity of accessible refrigerant coils and lines.
	Visually inspect integrity of accessible piping.
	Log pressures, amperages, and temperatures.
	Check operation of high and low pressure controls.
	Check operation of safety controls.
	Make adjustments as needed.
_	WELLOW DOTARY CHANGE OF THE WAY WAS TO SELECT
	HELICAL-ROTARY CHILLERS - OPERATING INSPECTION
	Visually inspect starters and electrical connections.
	Start chiller and monitor operation.
	Check starter operations.
	Check operating voltages and motor amperages.
	Check the operation of the oil sump heaters and oil cooler circuit as applicable.
	Check refrigerant and oil levels.
	Log operating conditions and set point parameters.
	CENTRIFUGAL CHILLERS - OPERATING INSPECTION
	Test purge operation.
	Visually inspect starters and electrical connections.
	Check oil sump heaters and oil cooler as applicable.
	Start chiller and monitor operation.
	Check starter operations and timing devices.
	Check operating voltages and motor amperages.
	Check refrigerant and oil levels.
	Log operating conditions and set point parameters.



	ELECTRIC CONTROLS
	Check economizer damper system, lube as necessary.
	Check static pressure relief damper operation and adjust.
	Inspect electrical connections. Tighten as required.
\neg	PNEUMATIC CONTROLS
	Check economizer damper system, lube as necessary.
	Check static pressure relief damper operation.
	Check system temperature and pressure controls.
	AIR COMPRESSORS
	Check operating cycle
	Inspect belts and pulleys, adjust belts as needed.
	Check oil level.
	Check all air intake and main air filters at air station.
	Test relief valve in low pressure line.
	Test relief valve for high pressure tank.
	Inspect motor starter contacts.
	Check and tighten electrical connections. Check voltages and amperages.
	REFRIGERATED AIR DRYER/AIR FILTRATION STATION
	Check refrigeration unit.
	Check condenser coil, clean as required.
	Check operating temperature, adjust as necessary.
	Check automatic drain unit, clean as required.
	Check electrical connections.
\neg	VARIABLE FREQUENCY DRIVES (VFD'S)
	Inspect field electrical connections.
	Inspect internal cooling fans.
	Inspect and clean internal air filters and inlet grills.
	Check system operation.
	Verify proper ventilation and operating temperatures.
	Verify proper operation of set point controller and set points.
	Verify proper operation of control input transmitter.
	Verify proper sequencing of digital/analog outputs.
	Measure voltage and amperage.
	Test manual bypass option for proper operation.
	BOILERS - ANNUAL INSPECTION
	Inspect feed water strainers and clean as needed.
	Test operation of low water safety controls (float assemblies inspected only if waterside is opened).
	Check boiler circulating pump. Lubricate bearings if applicable.
	Check expansion and sight glass.
	Test operation of operating and high limit controls, flow switches, safety controls, gas valves, etc.
	Check accuracy of controls, thermometers and gauges.
	Blow down the boiler and low water controls.
	Perform visual inspection of external areas of heat exchange surfaces. Blow out with compressed
	air. Report on condition if severely sooted.
	Inspect burners and refractory. Clean burners as required.



	STEET TEXTIONS FOR LERIODIC MAINTENANCE
	BOILERS - ANNUAL INSPECTION (Continued) Inspect and clean or replace combustion air filters as applicable. Inspect combustion and stack fan wheels for cleanliness. Clean as needed. Inspect flue stack condition and for obstructions. Check condition of pilot assemblies and/or hot surface igniters. Clean pilot orifices as required. Measure HSI resistances and amperages. Measure flame signal and adjust for optimal flame detection. Check and tighten electrical connections. Start boiler and test operation. Check gas, draft and air pressures as required per boiler manufacturer's specifications.
	Perform combustion analysis.
	HELICAL DOTADY/DECIDDOCATING CHILLED ANNUAL
Ш	HELICAL ROTARY/RECIPROCATING CHILLER ANNUAL
	Obtain an oil sample for laboratory oil analysis. Report to follow. Remove condenser end plate and inspect tubes if applicable (additional cost if not included in contract). Inspect air cooled condenser and condenser fan assemblies if applicable. Leak test refrigerant and oil circuits. Visually inspect chiller waterside for leaks. Check the operation of the lubrication and oil recovery system as applicable. Check oil filter(s) pressure drop. Report findings. Check the operation of the oil sump heaters and oil cooler circuit as applicable. Check, calibrate and set all safety and operating controls. Megohm test compressor motor. Inspect motor starter contacts. Inspect VFD. Inspect and tighten electrical connections. Start chiller and monitor operation. check starter operations. Check operating voltages and motor amperages. Check refrigerant and oil levels. Log operating conditions and set point parameters.
	CENTRIFUGAL CHILLERS - ANNUAL INSPECTION Obtain an oil sample for laboratory oil analysis. Report to follow. Change oil and oil filter (additional cost if not included in contract). Service purge unit and test operations as applicable. Remove condenser end plate and inspect tubes (additional cost if not included). Mechanically clean condenser tubes (additional cost if not included).

Pressurize chiller (if necessary) and leak test refrigerant and oil circuits.

Visually inspect chiller waterside for leaks.

Replace refrigerant filter/drier cores as necessary.

Check the operation of the lubrication and oil recovery system as applicable.

Check the operation of the oil sump heaters and oil cooler circuit as applicable.

Lubricate vane shaft seals and linkages as necessary.

Check, calibrate and set all safety and operating controls.

Megohm test compressor and oil pump motor windings.

Inspect motor starter contacts/VFD, inspect and tighten electrical connections.

Start chiller and monitor operation.

Check starter operations, overloads and timing devices.

Check operating voltages and motor amperages.

Check refrigerant and oil levels, log operating conditions and set point parameters.



COOLING TOWERS - ANNUAL INSPECTION

Inspect and clean as necessary:

Sumps, spray nozzles and distribution system, strainers, heat transfer surfaces and mist eliminators.

Inspect interior surfaces for excessive corrosion and deterioration.

Inspect make up water system; valves, controls, etc. Check and adjust water level in sump if necessary.

Mechanical equipment inspections:

Inspect belts, bearings and sheaves. Tighten set screws on locking collars if applicable.

Adjust belt tension if necessary and check drive alignment.

Lubricate fan shaft bearings and motor adjustment bolts.

Check oil levels in gearboxes and split bearings if applicable.

Check the general condition of the fan blades or wheels as needed.

Electrical inspections:

Megger motors.

Check motor voltage, amperage and current.

Inspect starter contacts and/or variable frequency drives. Check and tighten high voltage electrical connections.



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Customer		Service			
Name:	The City of Emeryville	Location:	C	ivic Center	
Address:	1333 Park Ave	Address:		33 Park Av	
City, State,	1333 1 411 1110	City, State,	15.	33 T ulik 71V	
Zip:	Emeryville, CA 94608	Zip:	Emery	ville, CA 9	4608
Phone:	(510) 508-9895	Phone:		7) 280-359	
Attn:	Rich Cunningham	Contact:		ody Clark	
Fhe maintenance is Maintenance (Attach page 2 of this agreer Check in Check and Check ger Maintain Report all	sto consist of lubrication and necement 'A'). The maintenance will ment. General Maintenance Tas with Customer upon arrival. If report any unusual noise or vibrateral operation and condition of excleanliness of equipment. work performed on both in-house stomer of services or materials required with customer when leaving the part of the condition of the part of the	ssary inspection as describ be performed by a trained sks to include the following ations and repair if minor. quipment.	ed in the S HVAC tec g: c orders.	Specificatio Chnician as	outlined in
Dispatching Service Response Time: W	intenance customer you are enti- e: We are available 24 hours a day fe make every effort to provide a (2) rs (Monday through Friday, 8 am	y, 7 days a week. 2) hour response time on e	mergency		
nours and holidays. Workmanship Gua	arantee: Any work performed by period of 30 days for labor and 90	Matrix HG, Inc. is guarant	eed to be f	free from d	efects in
Service Frequency: Monthly	Bi-Monthly Quarterly	☐Tri-Annually ☐Semi-	Annually	∏Annu	ıally
Comments:					
The owner agree		Per year, to be invoiced a		2348	Quarterly
Presented By:	Matrix HG, Inc.	C: 1.			
Signed:	Cameron Edwards	Signed:			
Name:	Cameron Edwards	Name:			

Customer Signature is Acceptance of Terms and Conditions. If date of commencement is not completed by customer, maintenance schedule will begin the first of the month following date of acceptance

Title: Service Estimator

5/26/16

Title:

Date:

Heating • Air Conditioning Energy Management CA Lic# 812232



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		SCOPE OF	SERVICES	8	
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✓ Boilers (inc ☐ Boilers (exc	SERVICED - AND ludes water side) cludes water side) SERVICED - CO	NUAL INSPECTION Cooling T MMENTS:		Centrifugal Chill Helical-Rotary (Chiller: Condens	
	d replaced by Matrix	x HG, Inc. bed by Matrix HG, Inc.			
Type:	Disposable	✓ High Effic	eiency	☐Bag Type	Charcoal Type
Frequency:	☐Monthly ☐Bi-Monthly ☐Quarterly ☐Tri-Annually ☐ Semi-Annuall	☐Monthly☐Bi-Monthly☐Quarterly☐Tri-Annua y☐Gemi-Ann☐Annually	ılly	☐ Monthly ☐ Bi-Monthly ☐ Quarterly ☐ Tri-Annually ☐ Semi-Annually ☐ Annually	☐Monthly ☐Bi-Monthly ☐Quarterly ☐Tri-Annually ☐Semi-Annually ☐Annually
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<u>BELTS</u> Matrix HG, Inc	. will inspect condit	ion and replace when n	ecessary as:		
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	. will inspect the che	emical feed system serv will add chemicals who			//or
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	COIL CLEANING will chemically cle	ean the condenser and/o	or evaporator c	oils annually as des	cribed below:
☐Condenser C	Coils	☐Evaporator coils			
Extra to cont	tract price	✓Extra to contract pr ☐Included in contrac			



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HEAT PUMPS

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Check heating operation.

Check condenser surface, report on condition.

Check evaporator surface, report on condition.

Inspect condensate pan and drain trap if accessible. Blow out trap if cleanout is provided. Check supply fan or blower.

Check condenser fans.

Lubricate all accessible bearings as required.

Inspect and adjust drive belts, as needed. Inspect pulleys for wear.

Check refrigerant charge.

Check voltage, amperage and electrical connections.

Check crankcase heater for proper operation.

Check controls, contactors and safeties.

Make sure all panels are securely installed.

Check return and supply air temperature.

Check filters, clean or replace as per contract.

Visually check system for signs of leaks and piping integrity.

Check economizer operation, if applicable.

Check duct connections.

Check reversing valve operation

Check defrost controls and operation.

ROOF TOP PACKAGE UNITS

Check cooling operation.

Check heating operation.

Check condenser surface, report on condition.

Check evaporator surface, report on condition.

Check supply fan or blower.

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Visually check system for signs of leaks and piping integrity.

Check economizer operation, if applicable.

Check pilot igniter operation.

Check heat exchanger, visually.

Check safety controls.

Check vent motor.

Inspect fan wheel(s), if accessible.

Inspect fan unit mountings.

Inspect and clean drain pan if accessible. Blow out drain trap if cleanout is provided.

Inspect all exterior panels for correct installation and fit.



	STAND ALONE INDOOR AIR CONDITIONING UNIT
	Check cooler operation.
	Brush coil surfaces as needed.
	Check evaporator surface, report on condition.
	Check supply fan.
	Check condenser fans, if applicable.
	Check condenser pump, if applicable.
	Lubricate all accessible bearings, as required.
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\checkmark	AIR HANDLERS/FAN COIL UNITS
	Inspect fan unit mountings.
	Inspect drive belts and adjust as required. Inspect fan pulleys for wear.
	Inspect and clean condensate pan and drain trap if accessible. Blow out trap if cleanout is provided.
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\neg	EAN DOWEDED VAN DOVES
	FAN-POWERED VAV BOXES Deployed in filters as man contract
	Replace air filters as per contract. Test operations of controls, actuators, etc. Inspect contactors and relays.
	Lubricate motor bearings as required.
	Inspect fan wheels for cleanliness. Report on condition.
	Inspect mounting bushings for wear.
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	Inspect fan unit mountings.
	Inspect unit flex connectors.
	Inspect drive belts and adjust as required. Inspect fan pulleys for wear.
	Inspect starters, contactors and controls.
	Inspect condensate pan and drain trap if accessible. Blow out trap if cleanout is provided.
	Check voltage, amperages and electrical connections.



CONDENSING UNITS

Check cooling and heating operation.

Check condenser surface, report on condition.

Check condenser fans.

Lubricate all accessible bearings as required.

Check refrigerant charge.

Check voltage, amperage and electrical connections.

Check crankcase heater for proper operation.

Check controls, contactors and safeties.

Make sure all panels are securely installed.

Visually check system for signs of leaks and piping integrity.

Check safety controls.

BOILERS - HOT WATER/STEAM - OPERATING INSPECTION

Blow down boiler.

Check the auto-feeder.

Check the feeder strainer, clean if necessary.

Check and clean the gauge glass.

Check the low water device. Blow down as needed.

Inspect the pilot operation and safety controls.

Inspect the main burner condition and operation.

Check boiler time clock if applicable.

Check the safety relief valve.

Visually inspect boiler room piping.

Inspect water make-up and PRV.

Check boiler temperature and pressure.

Inspect the gas valves.

Inspect the flue and stack condition.

Log boiler service record.

FURNACES

Check operation.

Visually inspect accessible areas of heat exchanger. Report on condition.

Check burners - clean if necessary.

Check controls and safeties.

Check filters - change as per contract.

Check blower motor.

Lubricate blower and motor.

Check and clean pilot and igniters.

Check accessible flue stack and cap.

WATER PUMPS

Lubricate bearings as required.

Check reservoir oil level, add oil as required.

Check for water leaks.

Inspect pump coupling for wear and alignment.

Check mountings.

Check pump operating pressures as required.

Check for abnormal vibration or noise.

Check motor starter and tighten electrical connections.

Check voltages and amperages.



	COOLING TOWERS - OPERATING INSPECTION
	Check fan and motor bearings, lubricate as necessary.
	Check belt tension and adjust if necessary.
	Check and clean sump strainer screen.
	Check spray distribution system.
	Check spray eliminators for biological growth and rust.
	Check operating water level in the pan and adjust float valve if required.
	Check bleed-off rate and adjust if necessary.
	Check fans and air inlet screens and remove any dirt or debris.
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	SUPPLY, RETURN, AND EXHAUST FANS
	Lube bearings - as required.
	Inspect fan wheel(s), if accessible
	Inspect fan unit mountings.
	Inspect unit flex connectors.
	Inspect drive belts and adjust as required.
	Inspect fan pulleys for wear.
	Inspect and clean drain pan if accessible and applicable.
	Check motor starters and electrical connections.
	Check voltages and amperages.
	RECIPROCATING WATER/AIR-COOLED COMPRESSOR/CHILLERS-OPERATING INSPECTION
	Check oil level.
	Check refrigerant charge.
	Check operation.
	Visually inspect for refrigerant leaks, check integrity of accessible refrigerant coils and lines.
	Visually inspect integrity of accessible piping.
	Log pressures, amperages, and temperatures.
	Check operation of high and low pressure controls.
	Check operation of safety controls.
	Make adjustments as needed.
_	WELLOW DOTARY CHANGE OF THE WAY WAS TO SELECT
	HELICAL-ROTARY CHILLERS - OPERATING INSPECTION
	Visually inspect starters and electrical connections.
	Start chiller and monitor operation.
	Check starter operations.
	Check operating voltages and motor amperages.
	Check the operation of the oil sump heaters and oil cooler circuit as applicable.
	Check refrigerant and oil levels.
	Log operating conditions and set point parameters.
	CENTRIFUGAL CHILLERS - OPERATING INSPECTION
	Test purge operation.
	Visually inspect starters and electrical connections.
	Check oil sump heaters and oil cooler as applicable.
	Start chiller and monitor operation.
	Check starter operations and timing devices.
	Check operating voltages and motor amperages.
	Check refrigerant and oil levels.
	Log operating conditions and set point parameters.



	ELECTRIC CONTROLS
_	Check economizer damper system, lube as necessary.
	Check static pressure relief damper operation and adjust.
	Inspect electrical connections. Tighten as required.
	PNEUMATIC CONTROLS
	Check economizer damper system, lube as necessary.
	Check static pressure relief damper operation.
	Check system temperature and pressure controls.
П	AIR COMPRESSORS
	Check operating cycle
	Inspect belts and pulleys, adjust belts as needed.
	Check oil level.
	Check all air intake and main air filters at air station.
	Test relief valve in low pressure line.
	Test relief valve for high pressure tank.
	Inspect motor starter contacts.
	Check and tighten electrical connections. Check voltages and amperages.
	REFRIGERATED AIR DRYER/AIR FILTRATION STATION
	Check refrigeration unit.
	Check condenser coil, clean as required.
	Check operating temperature, adjust as necessary.
	Check automatic drain unit, clean as required.
	Check electrical connections.
	VARIABLE FREQUENCY DRIVES (VFD'S)
	Inspect field electrical connections.
	Inspect internal cooling fans.
	Inspect and clean internal air filters and inlet grills.
	Check system operation.
	Verify proper ventilation and operating temperatures.
	Verify proper operation of set point controller and set points.
	Verify proper operation of control input transmitter.
	Verify proper sequencing of digital/analog outputs.
	Measure voltage and amperage.
	Test manual bypass option for proper operation.
√	BOILERS - ANNUAL INSPECTION
	Inspect feed water strainers and clean as needed.
	Test operation of low water safety controls (float assemblies inspected only if waterside is opened).
	Check boiler circulating pump. Lubricate bearings if applicable.
	Check expansion and sight glass.
	Test operation of operating and high limit controls, flow switches, safety controls, gas valves, etc.
	Check accuracy of controls, thermometers and gauges.
	Blow down the boiler and low water controls.
	Perform visual inspection of external areas of heat exchange surfaces. Blow out with compressed
	air. Report on condition if severely sooted.
	Inspect burners and refractory. Clean burners as required.



BOILERS - ANNUAL INSPECTION (Continued)

Inspect and clean or replace combustion air filters as applicable.

Inspect combustion and stack fan wheels for cleanliness. Clean as needed. Inspect flue stack condition and for obstructions.

Check condition of pilot assemblies and/or hot surface igniters. Clean pilot orifices as required.

Measure HSI resistances and amperages. Measure flame signal and adjust for optimal flame detection.

Check and tighten electrical connections.

Start boiler and test operation.

Check gas, draft and air pressures as required per boiler manufacturer's specifications.

Perform combustion analysis.

HELICAL ROTARY/RECIPROCATING CHILLER ANNUAL

Obtain an oil sample for laboratory oil analysis. Report to follow.

Remove condenser end plate and inspect tubes if applicable (additional cost if not included in contract).

Inspect air cooled condenser and condenser fan assemblies if applicable.

Leak test refrigerant and oil circuits.

Visually inspect chiller waterside for leaks.

Check the operation of the lubrication and oil recovery system as applicable.

Check oil filter(s) pressure drop. Report findings.

Check the operation of the oil sump heaters and oil cooler circuit as applicable.

Check, calibrate and set all safety and operating controls.

Megohm test compressor motor.

Inspect motor starter contacts. Inspect VFD.

Inspect and tighten electrical connections.

Start chiller and monitor operation.

check starter operations.

Check operating voltages and motor amperages.

Check refrigerant and oil levels.

Log operating conditions and set point parameters.

CENTRIFUGAL CHILLERS - ANNUAL INSPECTION

Obtain an oil sample for laboratory oil analysis. Report to follow.

Change oil and oil filter (additional cost if not included in contract).

Service purge unit and test operations as applicable.

Remove condenser end plate and inspect tubes (additional cost if not included).

Mechanically clean condenser tubes (additional cost if not included).

Pressurize chiller (if necessary) and leak test refrigerant and oil circuits.

Visually inspect chiller waterside for leaks.

Replace refrigerant filter/drier cores as necessary.

Check the operation of the lubrication and oil recovery system as applicable.

Check the operation of the oil sump heaters and oil cooler circuit as applicable.

Lubricate vane shaft seals and linkages as necessary.

Check, calibrate and set all safety and operating controls.

Megohm test compressor and oil pump motor windings.

Inspect motor starter contacts/VFD, inspect and tighten electrical connections.

Start chiller and monitor operation.

Check starter operations, overloads and timing devices.

Check operating voltages and motor amperages.

Check refrigerant and oil levels, log operating conditions and set point parameters.



COOLING TOWERS - ANNUAL INSPECTION

Inspect and clean as necessary:

Sumps, spray nozzles and distribution system, strainers, heat transfer surfaces and mist eliminators.

Inspect interior surfaces for excessive corrosion and deterioration.

Inspect make up water system; valves, controls, etc. Check and adjust water level in sump if necessary.

Mechanical equipment inspections:

Inspect belts, bearings and sheaves. Tighten set screws on locking collars if applicable.

Adjust belt tension if necessary and check drive alignment.

Lubricate fan shaft bearings and motor adjustment bolts.

Check oil levels in gearboxes and split bearings if applicable.

Check the general condition of the fan blades or wheels as needed.

Electrical inspections:

Megger motors.

Check motor voltage, amperage and current.

Inspect starter contacts and/or variable frequency drives. Check and tighten high voltage electrical connections.



Proposal Date:	5/26/16	Quote Number:		09-1325-1
Customer		Service		
Name:	The City of Emeryville	Location:	Fire	e Station #34
Address:	1333 Park Ave	Address:	2333	Powell Street
City, State,		City, State,		
Zip:	Emeryville, CA 94608	Zip:	Emery	ville, CA 94608
Phone:	(510) 508-9895	Phone:	(70	7) 280-3596
Attn:	Rich Cunningham	Contact:	J	ody Clark
Γ he maintenance is	GREEMENT FOR PERIO	essary inspection as describ	ed in the S	pecifications for Periodic
	nment 'A'). The maintenance will ment. General Maintenance Tas			hnician as outlined in
Check gerMaintainReport allNotify cusCheck out	I report any unusual noise or vibra neral operation and condition of eccleanliness of equipment. work performed on both in-house stomer of services or materials req with customer when leaving the particles.	quipment. e log sheet and signed work quired to maintain systems premises.	in proper c	operating condition.
Dispatching Service	e: We are available 24 hours a day	y, 7 days a week.		
	re make every effort to provide a (rs (Monday through Friday, 8 am			
	crantee: Any work performed by period of 30 days for labor and 90 expense.			
Service Frequency: Monthly	Bi-Monthly Quarterly	☐Tri-Annually ☐Semi-	Annually	Annually
Comments:				
The owner agree	rs to pay: \$ 3,988	Per year, to be invoiced a	at: \$	997 Quarterly
D 4 15	Maring I	4 . 15		
Presented By:		Accepted By:		
Signed:		Signed:		
Name:	Cameron Edwards Service Estimator	Name: Title:		
rane.	Service Estimator	i itie:		

Customer Signature is Acceptance of Terms and Conditions. If date of commencement is not completed by customer, maintenance schedule will begin the first of the month following date of acceptance

Date:

5/26/16

Heating • Air Conditioning Energy Management CA Lic# 812232



Proposal Date:	:	5/26/16	Quote Number:	09-1325-1
		SCOPE OF S	ERVICES	
☐ Heat Pumps ☐ Air Handlers ☐ Condensing U ☐ Water Pumps ☐ Pneumatic / E		ERATING INSPECTION top Package Units Coils ers/Hot Water Heaters ing Towers d Compressors/Chillers	Stand Alone In Central Station Furnaces	n & Exhaust Fans uency Drives
Boilers (included Boilers (excl	SERVICED - AND udes water side) udes water side) SERVICED – CO	NUAL INSPECTIONS Cooling To MMENTS:	Helio	rifugal Chillers cal-Rotary Chillers er: Condenser Tube Brushing
	replaced by Matrix	x HG, Inc. ced by Matrix HG, Inc.		
Type:	Disposable	✓ High Efficie	ncy Bag	Type Charcoal Type
Frequency:	☐Monthly☐Bi-Monthly☐Quarterly☐Tri-Annually☐Semi-Annuall☐	☐ Monthly ☐ Bi-Monthly ☑ Quarterly ☐ Tri-Annually ☐ Semi-Annually ☐ Annually	Quai yTri- <i>I</i> ıllySem	thly Monthly Monthly Bi-Monthly Quarterly Tri-Annually Semi-Annually Annually Annually Annually
☐Not included	in contract	Comments:		
BELTS Matrix HG, Inc.	will inspect condit	ion and replace when nec	essary as:	
☐ Included in c	contract price	Extra to contract price	e	
WATER TREA Matrix HG, Inc. water cooled con	will inspect the ch	emical feed system serving will add chemicals when	ng the cooling tower necessary as:	, boiler, and/or
☐ Included in c	contract price	Extra to contract price	ee Not	required for this contract
	OIL CLEANING will chemically cle		evaporator coils ann	nually as described below:
Condenser Co	oils	Evaporator coils		
Extra to contr		✓Extra to contract pric ☐Included in contract price		



Proposal Date:	5/26/16	Quote Number:	09-1325-1
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TERMS AND CONDITIONS

TERMS

This Agreement shall run from year-to-year; however, it may be cancelled or amended by either party upon thirty (30) days' written notice and is subject to the annual revision of prices.

No other Agreement expressed or implied oral or written, shall limit or qualify the terms of this Agreement unless evidenced by an additional written Agreement signed by both parties.

A delinquent charge of 1.5% per month will be applied on any past due amounts. In the event collections action is taken, the Customer shall be obligated for collection costs including reasonable attorney's fees and court costs.

This proposal is subject to cred	lit approval by the Matrix HG Accounting Department.	
Service Shall Commence:	Customer Initials:	
To be Completed by Customer		

CONDITIONS

All maintenance work will be scheduled by MATRIX HG, INC. at its discretion.

If a request for service or additional maintenance is made by Customer, Customer will be charged at standard labor rate per hour during normal working hours (8:00 - 4:30 p.m.) Monday through Friday) and standard premium rate per hour for overtime, plus transportation charges and expenses.

Customer agrees to pay for any parts required under this Agreement other that those specifically included under Periodic Maintenance Service. The standard Company guarantee shall apply to all replacements parts. No warranty is made for loss refrigerant.

Customer shall provide effective air filter service and water treatment service if not included as Optional Maintenance Functions under this agreement.

It is further understood that reasonable access will be provided to equipment. Any modifications necessary to provide access to equipment will be at Customer's expense.

MATRIX HG, Inc. will not be responsible for alterations, additions, adjustments or repairs by others.

MATRIX HG, Inc. is not responsible for loss of business, food spoilage, delays or repairs caused or necessitated by damage due to freezing, flooding, fire, willful abuse, accidents, unusual weather exposure, strikes, lock-outs, acts of God or acts of Government.

Cost of corrections in the design or installation of equipment will be at Customer's expense.

MATRIX HG, Inc. is not responsible for labor, material and/or equipment required, or recommended by insurance companies, governmental agencies or codes, or union regulations.



HEAT PUMPS

Check cooling operation.

Check heating operation.

Check condenser surface, report on condition.

Check evaporator surface, report on condition.

Inspect condensate pan and drain trap if accessible. Blow out trap if cleanout is provided. Check supply fan or blower.

Check condenser fans.

Lubricate all accessible bearings as required.

Inspect and adjust drive belts, as needed. Inspect pulleys for wear.

Check refrigerant charge.

Check voltage, amperage and electrical connections.

Check crankcase heater for proper operation.

Check controls, contactors and safeties.

Make sure all panels are securely installed.

Check return and supply air temperature.

Check filters, clean or replace as per contract.

Visually check system for signs of leaks and piping integrity.

Check economizer operation, if applicable.

Check duct connections.

Check reversing valve operation

Check defrost controls and operation.

ROOF TOP PACKAGE UNITS

Check cooling operation.

Check heating operation.

Check condenser surface, report on condition.

Check evaporator surface, report on condition.

Check supply fan or blower.

Check condenser fans.

Lubricate all accessible bearings as required.

Inspect and adjust drive belts, as needed. Inspect pulleys for wear.

Check refrigerant charge.

Check voltage, amperage and electrical connections.

Check crankcase heater for proper operation.

Check controls, contactors and safeties.

Make sure all panels are securely installed.

Check return and supply air temperature.

Check filters, clean or replace as per contract.

Visually check system for signs of leaks and piping integrity.

Check economizer operation, if applicable.

Check pilot igniter operation.

Check heat exchanger, visually.

Check safety controls.

Check vent motor.

Inspect fan wheel(s), if accessible.

Inspect fan unit mountings.

Inspect and clean drain pan if accessible. Blow out drain trap if cleanout is provided.

Inspect all exterior panels for correct installation and fit.



	STAND ALONE INDOOR AIR CONDITIONING UNIT
	Check cooler operation.
	Brush coil surfaces as needed.
	Check evaporator surface, report on condition.
	Check supply fan.
	Check condenser fans, if applicable.
	Check condenser pump, if applicable.
	Lubricate all accessible bearings, as required.
	Inspect and adjust drive belts, as needed. Inspect pulleys for wear.
	Check refrigerant charge.
	Check voltage, amperage and electrical connections.
	Check crankcase heater for proper operation.
	Check controls, contactors, and safeties.
	Make sure all panels are securely installed.
	Check return and supply air temperature.
	Check filters, clean or replace as per contract.
	Visually check system for signs of leaks and piping integrity.
	Check condensate pans if accessible. Blow out drain trap if cleanout is provided.
	Check reheat/humidifier assembly for proper operation.
	Check flow switch if applicable.
	11
	AIR HANDLERS/FAN COIL UNITS
	Inspect fan unit mountings.
	Inspect drive belts and adjust as required. Inspect fan pulleys for wear.
	Inspect and clean condensate pan and drain trap if accessible. Blow out trap if cleanout is provided.
	Check evaporator surface, report on condition.
	Check supply fan or blower. Lube bearings when accessible, as required.
	Check voltage, amperage and electrical connections.
	Make sure all panels are securely installed
	Check return and supply air temperature.
	Check filters, clean or replace as per contract.
	Visually check system for signs of leaks and piping integrity.
	Check duct connections.
\neg	FAN-POWERED VAV BOXES
	Replace air filters as per contract.
	Test operations of controls, actuators, etc. Inspect contactors and relays.
	Lubricate motor bearings as required.
	Inspect fan wheels for cleanliness. Report on condition.
	Inspect mounting bushings for wear.
	Check and tighten electrical connections. Check voltages and amperages.
	Chook and against electrical commentation. Chook votages and uniperages.
	CENTRAL-STATION UNITS
	Lube bearings - as required.
	Inspect fan wheel(s), if accessible
	Inspect fan unit mountings.
	Inspect unit flex connectors.
	Inspect drive belts and adjust as required. Inspect fan pulleys for wear.
	Inspect starters, contactors and controls.
	Inspect condensate pan and drain trap if accessible. Blow out trap if cleanout is provided.
	Check voltage, amperages and electrical connections.



	CONDENSING UNITS Check cooling and heating operation.
	Check condenser surface, report on condition.
	Check condenser fans.
	Lubricate all accessible bearings as required.
	Check refrigerant charge.
	Check voltage, amperage and electrical connections.
	Check crankcase heater for proper operation.
	Check controls, contactors and safeties.
	Make sure all panels are securely installed.
	Visually check system for signs of leaks and piping integrity.
	Check safety controls.
	BOILERS - HOT WATER/STEAM - OPERATING INSPECTION
	Blow down boiler.
	Check the auto-feeder.
	Check the feeder strainer, clean if necessary.
	Check and clean the gauge glass.
	Check the low water device. Blow down as needed.
	Inspect the pilot operation and safety controls.
	Inspect the main burner condition and operation.
	Check boiler time clock if applicable.
	Check the safety relief valve.
	Visually inspect boiler room piping. Inspect water make-up and PRV.
	Check boiler temperature and pressure.
	Inspect the gas valves.
	Inspect the gas varves. Inspect the flue and stack condition.
	Log boiler service record.
	Log boller service record.
	<u>FURNACES</u>
	Check operation.
	Visually inspect accessible areas of heat exchanger. Report on condition.
	Check burners - clean if necessary.
	Check controls and safeties.
	Check filters - change as per contract.
	Check blower motor.
	Lubricate blower and motor.
	Check and clean pilot and igniters.
	Check accessible flue stack and cap.
	WATER PUMPS
_	Lubricate bearings as required.
	Check reservoir oil level, add oil as required.
	Check for water leaks.
	Inspect pump coupling for wear and alignment.
	Check mountings.
	Check pump operating pressures as required.
	Check for abnormal vibration or noise.
	Check motor starter and tighten electrical connections.
	Check voltages and amperages.



	COOLING TOWERS - OPERATING INSPECTION
	Check fan and motor bearings, lubricate as necessary.
	Check belt tension and adjust if necessary.
	Check and clean sump strainer screen.
	Check spray distribution system.
	Check spray eliminators for biological growth and rust.
	Check operating water level in the pan and adjust float valve if required.
	Check bleed-off rate and adjust if necessary.
	Check fans and air inlet screens and remove any dirt or debris.
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	SUPPLY, RETURN, AND EXHAUST FANS
	Lube bearings - as required.
	Inspect fan wheel(s), if accessible
	Inspect fan unit mountings.
	Inspect unit flex connectors.
	Inspect drive belts and adjust as required.
	Inspect fan pulleys for wear.
	Inspect and clean drain pan if accessible and applicable.
	Check motor starters and electrical connections.
	Check voltages and amperages.
	RECIPROCATING WATER/AIR-COOLED COMPRESSOR/CHILLERS-OPERATING INSPECTION
	Check oil level.
	Check refrigerant charge.
	Check operation.
	Visually inspect for refrigerant leaks, check integrity of accessible refrigerant coils and lines.
	Visually inspect integrity of accessible piping.
	Log pressures, amperages, and temperatures.
	Check operation of high and low pressure controls.
	Check operation of safety controls.
	Make adjustments as needed.
_	WELLOW DOTARY CHANGE OF THE WAY WAS TO SELECT
	HELICAL-ROTARY CHILLERS - OPERATING INSPECTION
	Visually inspect starters and electrical connections.
	Start chiller and monitor operation.
	Check starter operations.
	Check operating voltages and motor amperages.
	Check the operation of the oil sump heaters and oil cooler circuit as applicable.
	Check refrigerant and oil levels.
	Log operating conditions and set point parameters.
	CENTRIFUGAL CHILLERS - OPERATING INSPECTION
	Test purge operation.
	Visually inspect starters and electrical connections.
	Check oil sump heaters and oil cooler as applicable.
	Start chiller and monitor operation.
	Check starter operations and timing devices.
	Check operating voltages and motor amperages.
	Check refrigerant and oil levels.
	Log operating conditions and set point parameters.



П	ELECTRIC CONTROLS
_	Check economizer damper system, lube as necessary.
	Check static pressure relief damper operation and adjust.
	Inspect electrical connections. Tighten as required.
	PNEUMATIC CONTROLS
	Check economizer damper system, lube as necessary.
	Check static pressure relief damper operation.
	Check system temperature and pressure controls.
П	AIR COMPRESSORS
ш	Check operating cycle
	Inspect belts and pulleys, adjust belts as needed.
	Check oil level.
	Check all air intake and main air filters at air station.
	Test relief valve in low pressure line.
	Test relief valve for high pressure tank.
	Inspect motor starter contacts.
	Check and tighten electrical connections. Check voltages and amperages.
\Box	REFRIGERATED AIR DRYER/AIR FILTRATION STATION
ш	Check refrigeration unit.
	Check condenser coil, clean as required.
	Check operating temperature, adjust as necessary.
	Check automatic drain unit, clean as required.
	Check electrical connections.
	VARIABLE FREQUENCY DRIVES (VFD'S)
	Inspect field electrical connections.
	Inspect internal cooling fans.
	Inspect and clean internal air filters and inlet grills.
	Check system operation.
	Verify proper ventilation and operating temperatures.
	Verify proper operation of set point controller and set points.
	Verify proper operation of control input transmitter.
	Verify proper sequencing of digital/analog outputs.
	Measure voltage and amperage.
	Test manual bypass option for proper operation.
П	BOILERS - ANNUAL INSPECTION
_	Inspect feed water strainers and clean as needed.
	Test operation of low water safety controls (float assemblies inspected only if waterside is opened).
	Check boiler circulating pump. Lubricate bearings if applicable.
	Check expansion and sight glass.
	Test operation of operating and high limit controls, flow switches, safety controls, gas valves, etc.
	Check accuracy of controls, thermometers and gauges.
	Blow down the boiler and low water controls.
	Perform visual inspection of external areas of heat exchange surfaces. Blow out with compressed
	air. Report on condition if severely sooted.
	Inspect burners and refractory. Clean burners as required.



BOILERS - ANNUAL INSPECTION (Continued) Inspect and clean or replace combustion air filters as applicable. Inspect combustion and stack fan wheels for cleanliness. Clean as needed. Inspect flue stack condition and for obstructions. Check condition of pilot assemblies and/or hot surface igniters. Clean pilot orifices as required. Measure HSI resistances and amperages. Measure flame signal and adjust for optimal flame detection. Check and tighten electrical connections. Start boiler and test operation. Check gas, draft and air pressures as required per boiler manufacturer's specifications. Perform combustion analysis. HELICAL ROTARY/RECIPROCATING CHILLER ANNUAL Obtain an oil sample for laboratory oil analysis. Report to follow. Remove condenser end plate and inspect tubes if applicable (additional cost if not included in contract). Inspect air cooled condenser and condenser fan assemblies if applicable. Leak test refrigerant and oil circuits. Visually inspect chiller waterside for leaks. Check the operation of the lubrication and oil recovery system as applicable. Check oil filter(s) pressure drop. Report findings. Check the operation of the oil sump heaters and oil cooler circuit as applicable. Check, calibrate and set all safety and operating controls. Megohm test compressor motor. Inspect motor starter contacts. Inspect VFD. Inspect and tighten electrical connections. Start chiller and monitor operation. check starter operations. Check operating voltages and motor amperages. Check refrigerant and oil levels. Log operating conditions and set point parameters. **CENTRIFUGAL CHILLERS - ANNUAL INSPECTION** Obtain an oil sample for laboratory oil analysis. Report to follow. Change oil and oil filter (additional cost if not included in contract). Service purge unit and test operations as applicable. Remove condenser end plate and inspect tubes (additional cost if not included).

Mechanically clean condenser tubes (additional cost if not included).

Pressurize chiller (if necessary) and leak test refrigerant and oil circuits.

Visually inspect chiller waterside for leaks.

Replace refrigerant filter/drier cores as necessary.

Check the operation of the lubrication and oil recovery system as applicable.

Check the operation of the oil sump heaters and oil cooler circuit as applicable.

Lubricate vane shaft seals and linkages as necessary.

Check, calibrate and set all safety and operating controls.

Megohm test compressor and oil pump motor windings.

Inspect motor starter contacts/VFD, inspect and tighten electrical connections.

Start chiller and monitor operation.

Check starter operations, overloads and timing devices.

Check operating voltages and motor amperages.

Check refrigerant and oil levels, log operating conditions and set point parameters.



COOLING TOWERS - ANNUAL INSPECTION

Inspect and clean as necessary:

Sumps, spray nozzles and distribution system, strainers, heat transfer surfaces and mist eliminators.

Inspect interior surfaces for excessive corrosion and deterioration.

Inspect make up water system; valves, controls, etc. Check and adjust water level in sump if necessary.

Mechanical equipment inspections:

Inspect belts, bearings and sheaves. Tighten set screws on locking collars if applicable.

Adjust belt tension if necessary and check drive alignment.

Lubricate fan shaft bearings and motor adjustment bolts.

Check oil levels in gearboxes and split bearings if applicable.

Check the general condition of the fan blades or wheels as needed.

Electrical inspections:

Megger motors.

Check motor voltage, amperage and current.

Inspect starter contacts and/or variable frequency drives. Check and tighten high voltage electrical connections.



Proposal Date:		5/26/16	Quote Number:		09-1325-6
Customer			Service		
Name:	The City o	of Emeryville	Location:	Fire	Station #35
Address:		Park Ave	Address:		303 Hollis
City, State,	1000		City, State,		700 1101110
Zip:	Emeryvill	e, CA 94608	Zip:	Emeryy	ville, CA 94608
Phone:		508-9895	Phone:		7) 280-3596
Attn:	Rich Cu	ınningham	Contact:	Jo	ody Clark
Maintenance (At page 2 of this agr Check Check Check Mainta Report Notify	in with Customer and report any ur general operation ain cleanliness of	te maintenance val Maintenance val Maintenance value upon arrival. The transport of transport of the transport of the transport of the transport of transport of the transport of the transport of the transport of transport of the transport of the transport of transport	ouse log sheet and signed w required to maintain syster	ed HVAC techning: r. ork orders.	hnician as outlined in
As a preventive	maintenance cus	stomer you are	entitled to the following se	ervices:	
Dispatching Ser	vice: We are ava	ilable 24 hours a	a day, 7 days a week.		
	hours (Monday th		e a (2) hour response time of am to 5 pm) and a (4) hour		
	a period of 30 da		by Matrix HG, Inc. is guar 90 days for parts. Labor at		
Service Frequent Monthly	e cy: ☐Bi-Monthly	✓ Quarterly	☐Tri-Annually ☐Sen	ni-Annually	□Annually

Customer Signature is Acceptance of Terms and Conditions. If date of commencement is not completed by customer, maintenance schedule will begin the first of the month following date of acceptance

5,504

Service Estimator

5/26/16

Per year, to be invoiced at: \$ 1,376

Title:

Accepted By:

Signed:

Name:

Date:

The owner agrees to pay: \$

Title:

Date: _____

Presented By: Matrix HG, Inc.
Signed: Cameron Edwards

Name: Cameron Edwards

Comments:

Quarterly

Heating • Air Conditioning Energy Management CA Lic# 812232



Proposal Date		5/26/16	Quote Nu	ımber:	09-1325-6
		SCOPE O	F SERVICI	ES	
Heat Pumps Air Handlers Condensing U Water Pumps Pneumatic / I Reciprocating Centrifugal C	✓Roof ☐Fan (☐Inits ☐Boile ☐Cool ☐Electric Controls ☐ Air/Water-Coole ☐Chillers	ERATING INSPECTOP Package Units Coils Ers/Hot Water Heaters Ing Towers Compressors/Chille	TIONS Stand Centis Furna Supp Varia Helic	l Alone Indoor AC Ural Station Units	Fans s
Boilers (excl	Boilers (excludes water side) Helical-Rotary Chillers Chiller: Condenser Tube Brushing EQUIPMENT SERVICED – COMMENTS:				
Provided by		ced by Matrix HG, In			_
Type:	Disposable	✓ High Ef	ficiency	☐Bag Type	Charcoal Type
Frequency:	☐ Monthly ☐ Bi-Monthly ☐ Quarterly ☐ Tri-Annually ☐ Semi-Annual ☐ Annually	☐Monthly☐Bi-Mont ☐Quarterl☐Tri-Ann☐Semi-Ai☐Annuall	thly y ually nnually	☐ Monthly ☐ Bi-Monthly ☐ Quarterly ☐ Tri-Annually ☐ Semi-Annually ☐ Annually	☐Monthly ☐Bi-Monthly ☐Quarterly ☐Tri-Annually ☐Semi-Annually ☐Annually
☐Not included	in contract	Comments:			
BELTS Matrix HG, Inc.	will inspect condit	ion and replace when	necessary as:		
☐ Included in o	contract price	✓ Extra to contract	price		
	will inspect the ch	emical feed system so will add chemicals w			/or
☐ Included in o	contract price	✓ Extra to contract	price	☐ Not required for	this contract
	COIL CLEANING will chemically cle	ean the condenser and	d/or evaporator	coils annually as des	cribed below:
Condenser C	oils	Evaporator coils			
Extra to conti		Extra to contract Included in contr			



oposal Date:	5/26/16	Quote Number:	09-1325-6
oposal Date:	5/26/16	Quote Number:	09-1325-6

TERMS AND CONDITIONS

TERMS

This Agreement shall run from year-to-year; however, it may be cancelled or amended by either party upon thirty (30) days' written notice and is subject to the annual revision of prices.

No other Agreement expressed or implied oral or written, shall limit or qualify the terms of this Agreement unless evidenced by an additional written Agreement signed by both parties.

A delinquent charge of 1.5% per month will be applied on any past due amounts. In the event collections action is taken, the Customer shall be obligated for collection costs including reasonable attorney's fees and court costs.

This proposal is subject to credit approval by the Matrix HG Accounting Department.			
Service Shall Commence:	Customer Initials:		
	To be Completed by Customer		

CONDITIONS

All maintenance work will be scheduled by MATRIX HG, INC. at its discretion.

If a request for service or additional maintenance is made by Customer, Customer will be charged at standard labor rate per hour during normal working hours (8:00 - 4:30 p.m.) Monday through Friday) and standard premium rate per hour for overtime, plus transportation charges and expenses.

Customer agrees to pay for any parts required under this Agreement other that those specifically included under Periodic Maintenance Service. The standard Company guarantee shall apply to all replacements parts. No warranty is made for loss refrigerant.

Customer shall provide effective air filter service and water treatment service if not included as Optional Maintenance Functions under this agreement.

It is further understood that reasonable access will be provided to equipment. Any modifications necessary to provide access to equipment will be at Customer's expense.

MATRIX HG, Inc. will not be responsible for alterations, additions, adjustments or repairs by others.

MATRIX HG, Inc. is not responsible for loss of business, food spoilage, delays or repairs caused or necessitated by damage due to freezing, flooding, fire, willful abuse, accidents, unusual weather exposure, strikes, lock-outs, acts of God or acts of Government.

Cost of corrections in the design or installation of equipment will be at Customer's expense.

MATRIX HG, Inc. is not responsible for labor, material and/or equipment required, or recommended by insurance companies, governmental agencies or codes, or union regulations.



HEAT PUMPS

Check cooling operation.

Check heating operation.

Check condenser surface, report on condition.

Check evaporator surface, report on condition.

Inspect condensate pan and drain trap if accessible. Blow out trap if cleanout is provided. Check supply fan or blower.

Check condenser fans.

Lubricate all accessible bearings as required.

Inspect and adjust drive belts, as needed. Inspect pulleys for wear.

Check refrigerant charge.

Check voltage, amperage and electrical connections.

Check crankcase heater for proper operation.

Check controls, contactors and safeties.

Make sure all panels are securely installed.

Check return and supply air temperature.

Check filters, clean or replace as per contract.

Visually check system for signs of leaks and piping integrity.

Check economizer operation, if applicable.

Check duct connections.

Check reversing valve operation

Check defrost controls and operation.

ROOF TOP PACKAGE UNITS

Check cooling operation.

Check heating operation.

Check condenser surface, report on condition.

Check evaporator surface, report on condition.

Check supply fan or blower.

Check condenser fans.

Lubricate all accessible bearings as required.

Inspect and adjust drive belts, as needed. Inspect pulleys for wear.

Check refrigerant charge.

Check voltage, amperage and electrical connections.

Check crankcase heater for proper operation.

Check controls, contactors and safeties.

Make sure all panels are securely installed.

Check return and supply air temperature.

Check filters, clean or replace as per contract.

Visually check system for signs of leaks and piping integrity.

Check economizer operation, if applicable.

Check pilot igniter operation.

Check heat exchanger, visually.

Check safety controls.

Check vent motor.

Inspect fan wheel(s), if accessible.

Inspect fan unit mountings.

Inspect and clean drain pan if accessible. Blow out drain trap if cleanout is provided.

Inspect all exterior panels for correct installation and fit.



	STAND ALONE INDOOR AIR CONDITIONING UNIT
	Check cooler operation.
	Brush coil surfaces as needed.
	Check evaporator surface, report on condition.
	Check supply fan.
	Check condenser fans, if applicable.
	Check condenser pump, if applicable.
	Lubricate all accessible bearings, as required.
	Inspect and adjust drive belts, as needed. Inspect pulleys for wear.
	Check refrigerant charge.
	Check voltage, amperage and electrical connections.
	Check crankcase heater for proper operation.
	Check controls, contactors, and safeties.
	Make sure all panels are securely installed.
	Check return and supply air temperature.
	Check filters, clean or replace as per contract.
	Visually check system for signs of leaks and piping integrity.
	Check condensate pans if accessible. Blow out drain trap if cleanout is provided.
	Check reheat/humidifier assembly for proper operation.
	Check flow switch if applicable.
	11
	AIR HANDLERS/FAN COIL UNITS
	Inspect fan unit mountings.
	Inspect drive belts and adjust as required. Inspect fan pulleys for wear.
	Inspect and clean condensate pan and drain trap if accessible. Blow out trap if cleanout is provided.
	Check evaporator surface, report on condition.
	Check supply fan or blower. Lube bearings when accessible, as required.
	Check voltage, amperage and electrical connections.
	Make sure all panels are securely installed
	Check return and supply air temperature.
	Check filters, clean or replace as per contract.
	Visually check system for signs of leaks and piping integrity.
	Check duct connections.
\neg	FAN-POWERED VAV BOXES
	Replace air filters as per contract.
	Test operations of controls, actuators, etc. Inspect contactors and relays.
	Lubricate motor bearings as required.
	Inspect fan wheels for cleanliness. Report on condition.
	Inspect mounting bushings for wear.
	Check and tighten electrical connections. Check voltages and amperages.
	Check and agreen electrical connections. Check voltages and uniperages.
	CENTRAL-STATION UNITS
	Lube bearings - as required.
	Inspect fan wheel(s), if accessible
	Inspect fan unit mountings.
	Inspect unit flex connectors.
	Inspect drive belts and adjust as required. Inspect fan pulleys for wear.
	Inspect starters, contactors and controls.
	Inspect condensate pan and drain trap if accessible. Blow out trap if cleanout is provided.
	Check voltage, amperages and electrical connections.
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	CONDENSING UNITS Check cooling and heating operation. Check condenser surface, report on condition. Check condenser fans.
	Lubricate all accessible bearings as required. Check refrigerant charge. Check voltage, amperage and electrical connections. Check crankcase heater for proper operation.
	Check controls, contactors and safeties. Make sure all panels are securely installed. Visually check system for signs of leaks and piping integrity. Check safety controls.
	BOILERS - HOT WATER/STEAM - OPERATING INSPECTION Blow down boiler. Check the auto-feeder.
	Check the feeder strainer, clean if necessary. Check and clean the gauge glass. Check the low water device. Blow down as needed. Inspect the pilot operation and safety controls. Inspect the main burner condition and operation. Check boiler time clock if applicable. Check the safety relief valve. Visually inspect boiler room piping. Inspect water make-up and PRV. Check boiler temperature and pressure. Inspect the gas valves. Inspect the flue and stack condition. Log boiler service record.
√	FURNACES Check operation. Visually inspect accessible areas of heat exchanger. Report on condition. Check burners - clean if necessary. Check controls and safeties. Check filters - change as per contract. Check blower motor. Lubricate blower and motor. Check and clean pilot and igniters. Check accessible flue stack and cap.
	WATER PUMPS Lubricate bearings as required. Check reservoir oil level, add oil as required. Check for water leaks. Inspect pump coupling for wear and alignment. Check mountings. Check pump operating pressures as required. Check for abnormal vibration or noise. Check motor starter and tighten electrical connections. Check voltages and amperages.



	COOLING TOWERS - OPERATING INSPECTION
	Check fan and motor bearings, lubricate as necessary.
	Check belt tension and adjust if necessary.
	Check and clean sump strainer screen.
	Check spray distribution system.
	Check spray eliminators for biological growth and rust.
	Check operating water level in the pan and adjust float valve if required.
	Check bleed-off rate and adjust if necessary.
	Check fans and air inlet screens and remove any dirt or debris.
	enous une une un motorios and rome to une adottor
	SUPPLY, RETURN, AND EXHAUST FANS
	Lube bearings - as required.
	Inspect fan wheel(s), if accessible
	Inspect fan unit mountings.
	Inspect unit flex connectors.
	Inspect drive belts and adjust as required.
	Inspect fan pulleys for wear.
	Inspect and clean drain pan if accessible and applicable.
	Check motor starters and electrical connections.
	Check voltages and amperages.
	RECIPROCATING WATER/AIR-COOLED COMPRESSOR/CHILLERS-OPERATING INSPECTION
	Check oil level.
	Check refrigerant charge.
	Check operation.
	Visually inspect for refrigerant leaks, check integrity of accessible refrigerant coils and lines.
	Visually inspect integrity of accessible piping.
	Log pressures, amperages, and temperatures.
	Check operation of high and low pressure controls.
	Check operation of safety controls.
	Make adjustments as needed.
_	WELLOW DOTARY CHANGE OF THE WAY WAS TO SELECT
	HELICAL-ROTARY CHILLERS - OPERATING INSPECTION
	Visually inspect starters and electrical connections.
	Start chiller and monitor operation.
	Check starter operations.
	Check operating voltages and motor amperages.
	Check the operation of the oil sump heaters and oil cooler circuit as applicable.
	Check refrigerant and oil levels.
	Log operating conditions and set point parameters.
	CENTRIFUGAL CHILLERS - OPERATING INSPECTION
	Test purge operation.
	Visually inspect starters and electrical connections.
	Check oil sump heaters and oil cooler as applicable.
	Start chiller and monitor operation.
	Check starter operations and timing devices.
	Check operating voltages and motor amperages.
	Check refrigerant and oil levels.
	Log operating conditions and set point parameters.



	ELECTRIC CONTROLS
	Check economizer damper system, lube as necessary.
	Check static pressure relief damper operation and adjust.
	Inspect electrical connections. Tighten as required.
\neg	PNEUMATIC CONTROLS
	Check economizer damper system, lube as necessary.
	Check static pressure relief damper operation.
	Check system temperature and pressure controls.
	AIR COMPRESSORS
	Check operating cycle
	Inspect belts and pulleys, adjust belts as needed.
	Check oil level.
	Check all air intake and main air filters at air station.
	Test relief valve in low pressure line.
	Test relief valve for high pressure tank.
	Inspect motor starter contacts.
	Check and tighten electrical connections. Check voltages and amperages.
	REFRIGERATED AIR DRYER/AIR FILTRATION STATION
	Check refrigeration unit.
	Check condenser coil, clean as required.
	Check operating temperature, adjust as necessary.
	Check automatic drain unit, clean as required.
	Check electrical connections.
\neg	VARIABLE FREQUENCY DRIVES (VFD'S)
	Inspect field electrical connections.
	Inspect internal cooling fans.
	Inspect and clean internal air filters and inlet grills.
	Check system operation.
	Verify proper ventilation and operating temperatures.
	Verify proper operation of set point controller and set points.
	Verify proper operation of control input transmitter.
	Verify proper sequencing of digital/analog outputs.
	Measure voltage and amperage.
	Test manual bypass option for proper operation.
	BOILERS - ANNUAL INSPECTION
	Inspect feed water strainers and clean as needed.
	Test operation of low water safety controls (float assemblies inspected only if waterside is opened).
	Check boiler circulating pump. Lubricate bearings if applicable.
	Check expansion and sight glass.
	Test operation of operating and high limit controls, flow switches, safety controls, gas valves, etc.
	Check accuracy of controls, thermometers and gauges.
	Blow down the boiler and low water controls.
	Perform visual inspection of external areas of heat exchange surfaces. Blow out with compressed
	air. Report on condition if severely sooted.
	Inspect burners and refractory. Clean burners as required.



	STEET TEXTIONS FOR LERIODIC MAINTENANCE
	BOILERS - ANNUAL INSPECTION (Continued) Inspect and clean or replace combustion air filters as applicable. Inspect combustion and stack fan wheels for cleanliness. Clean as needed. Inspect flue stack condition and for obstructions. Check condition of pilot assemblies and/or hot surface igniters. Clean pilot orifices as required. Measure HSI resistances and amperages. Measure flame signal and adjust for optimal flame detection. Check and tighten electrical connections. Start boiler and test operation. Check gas, draft and air pressures as required per boiler manufacturer's specifications.
	Perform combustion analysis.
	HELICAL DOTADY/DECIDDOCATING CHILLED ANNUAL
Ш	HELICAL ROTARY/RECIPROCATING CHILLER ANNUAL
	Obtain an oil sample for laboratory oil analysis. Report to follow. Remove condenser end plate and inspect tubes if applicable (additional cost if not included in contract). Inspect air cooled condenser and condenser fan assemblies if applicable. Leak test refrigerant and oil circuits. Visually inspect chiller waterside for leaks. Check the operation of the lubrication and oil recovery system as applicable. Check oil filter(s) pressure drop. Report findings. Check the operation of the oil sump heaters and oil cooler circuit as applicable. Check, calibrate and set all safety and operating controls. Megohm test compressor motor. Inspect motor starter contacts. Inspect VFD. Inspect and tighten electrical connections. Start chiller and monitor operation. check starter operations. Check operating voltages and motor amperages. Check refrigerant and oil levels. Log operating conditions and set point parameters.
	CENTRIFUGAL CHILLERS - ANNUAL INSPECTION Obtain an oil sample for laboratory oil analysis. Report to follow. Change oil and oil filter (additional cost if not included in contract). Service purge unit and test operations as applicable. Remove condenser end plate and inspect tubes (additional cost if not included). Mechanically clean condenser tubes (additional cost if not included).

Pressurize chiller (if necessary) and leak test refrigerant and oil circuits.

Visually inspect chiller waterside for leaks.

Replace refrigerant filter/drier cores as necessary.

Check the operation of the lubrication and oil recovery system as applicable.

Check the operation of the oil sump heaters and oil cooler circuit as applicable.

Lubricate vane shaft seals and linkages as necessary.

Check, calibrate and set all safety and operating controls.

Megohm test compressor and oil pump motor windings.

Inspect motor starter contacts/VFD, inspect and tighten electrical connections.

Start chiller and monitor operation.

Check starter operations, overloads and timing devices.

Check operating voltages and motor amperages.

Check refrigerant and oil levels, log operating conditions and set point parameters.



COOLING TOWERS - ANNUAL INSPECTION

Inspect and clean as necessary:

Sumps, spray nozzles and distribution system, strainers, heat transfer surfaces and mist eliminators.

Inspect interior surfaces for excessive corrosion and deterioration.

Inspect make up water system; valves, controls, etc. Check and adjust water level in sump if necessary.

Mechanical equipment inspections:

Inspect belts, bearings and sheaves. Tighten set screws on locking collars if applicable.

Adjust belt tension if necessary and check drive alignment.

Lubricate fan shaft bearings and motor adjustment bolts.

Check oil levels in gearboxes and split bearings if applicable.

Check the general condition of the fan blades or wheels as needed.

Electrical inspections:

Megger motors.

Check motor voltage, amperage and current.

Inspect starter contacts and/or variable frequency drives. Check and tighten high voltage electrical connections.



Proposal Date:	5/26/16	Quote Number:	09-1325-8
Customer		Service	
Name:	The City of Emeryville	Location:	Police Station
Address:	1333 Park Ave	Address:	3310 Powell Street
City, State,		City, State,	
Zip:	Emeryville, CA 94608	Zip:	Emeryville, CA 94608
Phone:	(510) 508-9895	Phone:	(707) 280-3596
Attn:	Rich Cunningham	Contact:	Jody Clark
Fhe maintenance is Maintenance (Attack Dage 2 of this agreer) Check in Check and Check ges Maintain Report all	s to consist of lubrication and necember (A'). The maintenance will ment. General Maintenance Tas with Customer upon arrival. In the discount of equipment of equipment and condition of equipment of services or materials requipment of services or materials requipment to with customer when leaving the process.	ssary inspection as describe performed by a trained less to include the following tions and repair if minor. Juipment.	ed in the Specifications for Periodic HVAC technician as outlined in g:
•	intenance customer you are enti e: We are available 24 hours a day		ices:
	Te make every effort to provide a (2 ars (Monday through Friday, 8 am		
	arantee: Any work performed by beriod of 30 days for labor and 90 dexpense.		
Service Frequency: Monthly Comments:		□Tri-Annually □Semi-	Annually Annually
The owner agreed Presented By: Signed: Name:	Matrix HG, Inc. Cameron Edwards Cameron Edwards	Signed: Name:	at: \$ 1,929 Quarterly
Title:	Service Estimator	Title:	

Customer Signature is Acceptance of Terms and Conditions. If date of commencement is not completed by customer, maintenance schedule will begin the first of the month following date of acceptance

5/26/16

Date:

Heating • Air Conditioning Energy Management CA Lic# 812232



Proposal Date	:5	5/26/16	Quote Number:	09-1325-8		
SCOPE OF SERVICES						
EQUIPMENT SERVICED - OPERATING INSPECTIONS Heat Pumps						
Boilers (incl	EQUIPMENT SERVICED - ANNUAL INSPECTIONS Boilers (includes water side)					
	replaced by Matrix customer and replace	t HG, Inc. ced by Matrix HG, Inc.				
Type:	Disposable	✓ High Efficie	ncy Bag T	ype Charcoal Type		
Frequency:	☐Monthly☐Bi-Monthly☐Quarterly☐Tri-Annually☐Semi-Annuall☐Annually	☐ Monthly☐ Bi-Monthly☐ Quarterly☐ Tri-Annually☐ Semi-Annually☐ Annually		onthly Bi-Monthly erly Quarterly nnually Tri-Annually Annually Semi-Annually		
☐Not included	in contract	Comments:				
BELTS Matrix HG, Inc.	will inspect condit	ion and replace when nec	eessary as:			
☐ Included in o	☐ Included in contract price					
WATER TREATMENT Matrix HG, Inc. will inspect the chemical feed system serving the cooling tower, boiler, and/or water cooled condensing units and will add chemicals when necessary as:						
☐ Included in o	contract price	Extra to contract price	e Not re	quired for this contract		
CHEMICAL COIL CLEANING Matrix HG, Inc. will chemically clean the condenser and/or evaporator coils annually as described below:						
Condenser Co	oils	Evaporator coils				
Extra to control		✓Extra to contract pric ☐Included in contract price				



Proposal Date: Quote Number: 09-1325-8	-8
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TERMS AND CONDITIONS

TERMS

This Agreement shall run from year-to-year; however, it may be cancelled or amended by either party upon thirty (30) days' written notice and is subject to the annual revision of prices.

No other Agreement expressed or implied oral or written, shall limit or qualify the terms of this Agreement unless evidenced by an additional written Agreement signed by both parties.

A delinquent charge of 1.5% per month will be applied on any past due amounts. In the event collections action is taken, the Customer shall be obligated for collection costs including reasonable attorney's fees and court costs.

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Service Shall Commence: Customer Initials:					
To be Completed by Customer					

CONDITIONS

All maintenance work will be scheduled by MATRIX HG, INC. at its discretion.

If a request for service or additional maintenance is made by Customer, Customer will be charged at standard labor rate per hour during normal working hours (8:00 - 4:30 p.m.) Monday through Friday) and standard premium rate per hour for overtime, plus transportation charges and expenses.

Customer agrees to pay for any parts required under this Agreement other that those specifically included under Periodic Maintenance Service. The standard Company guarantee shall apply to all replacements parts. No warranty is made for loss refrigerant.

Customer shall provide effective air filter service and water treatment service if not included as Optional Maintenance Functions under this agreement.

It is further understood that reasonable access will be provided to equipment. Any modifications necessary to provide access to equipment will be at Customer's expense.

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MATRIX HG, Inc. is not responsible for loss of business, food spoilage, delays or repairs caused or necessitated by damage due to freezing, flooding, fire, willful abuse, accidents, unusual weather exposure, strikes, lock-outs, acts of God or acts of Government.

Cost of corrections in the design or installation of equipment will be at Customer's expense.

MATRIX HG, Inc. is not responsible for labor, material and/or equipment required, or recommended by insurance companies, governmental agencies or codes, or union regulations.



HEAT PUMPS

Check cooling operation.

Check heating operation.

Check condenser surface, report on condition.

Check evaporator surface, report on condition.

Inspect condensate pan and drain trap if accessible. Blow out trap if cleanout is provided. Check supply fan or blower.

Check condenser fans.

Lubricate all accessible bearings as required.

Inspect and adjust drive belts, as needed. Inspect pulleys for wear.

Check refrigerant charge.

Check voltage, amperage and electrical connections.

Check crankcase heater for proper operation.

Check controls, contactors and safeties.

Make sure all panels are securely installed.

Check return and supply air temperature.

Check filters, clean or replace as per contract.

Visually check system for signs of leaks and piping integrity.

Check economizer operation, if applicable.

Check duct connections.

Check reversing valve operation

Check defrost controls and operation.

ROOF TOP PACKAGE UNITS

Check cooling operation.

Check heating operation.

Check condenser surface, report on condition.

Check evaporator surface, report on condition.

Check supply fan or blower.

Check condenser fans.

Lubricate all accessible bearings as required.

Inspect and adjust drive belts, as needed. Inspect pulleys for wear.

Check refrigerant charge.

Check voltage, amperage and electrical connections.

Check crankcase heater for proper operation.

Check controls, contactors and safeties.

Make sure all panels are securely installed.

Check return and supply air temperature.

Check filters, clean or replace as per contract.

Visually check system for signs of leaks and piping integrity.

Check economizer operation, if applicable.

Check pilot igniter operation.

Check heat exchanger, visually.

Check safety controls.

Check vent motor.

Inspect fan wheel(s), if accessible.

Inspect fan unit mountings.

Inspect and clean drain pan if accessible. Blow out drain trap if cleanout is provided.

Inspect all exterior panels for correct installation and fit.



	STAND ALONE INDOOR AIR CONDITIONING UNIT
	Check cooler operation.
	Brush coil surfaces as needed.
	Check evaporator surface, report on condition.
	Check supply fan.
	Check condenser fans, if applicable.
	Check condenser pump, if applicable.
	Lubricate all accessible bearings, as required.
	Inspect and adjust drive belts, as needed. Inspect pulleys for wear.
	Check refrigerant charge.
	Check voltage, amperage and electrical connections.
	Check crankcase heater for proper operation.
	Check controls, contactors, and safeties.
	Make sure all panels are securely installed.
	Check return and supply air temperature.
	Check filters, clean or replace as per contract.
	Visually check system for signs of leaks and piping integrity.
	Check condensate pans if accessible. Blow out drain trap if cleanout is provided.
	Check reheat/humidifier assembly for proper operation.
	Check flow switch if applicable.
	11
	AIR HANDLERS/FAN COIL UNITS
	Inspect fan unit mountings.
	Inspect drive belts and adjust as required. Inspect fan pulleys for wear.
	Inspect and clean condensate pan and drain trap if accessible. Blow out trap if cleanout is provided.
	Check evaporator surface, report on condition.
	Check supply fan or blower. Lube bearings when accessible, as required.
	Check voltage, amperage and electrical connections.
	Make sure all panels are securely installed
	Check return and supply air temperature.
	Check filters, clean or replace as per contract.
	Visually check system for signs of leaks and piping integrity.
	Check duct connections.
\neg	FAN-POWERED VAV BOXES
	Replace air filters as per contract.
	Test operations of controls, actuators, etc. Inspect contactors and relays.
	Lubricate motor bearings as required.
	Inspect fan wheels for cleanliness. Report on condition.
	Inspect mounting bushings for wear.
	Check and tighten electrical connections. Check voltages and amperages.
	Chook and against electrical commentation. Chook votages and uniperages.
	CENTRAL-STATION UNITS
	Lube bearings - as required.
	Inspect fan wheel(s), if accessible
	Inspect fan unit mountings.
	Inspect unit flex connectors.
	Inspect drive belts and adjust as required. Inspect fan pulleys for wear.
	Inspect starters, contactors and controls.
	Inspect condensate pan and drain trap if accessible. Blow out trap if cleanout is provided.
	Check voltage, amperages and electrical connections.



CONDENSING UNITS Check cooling and heating operation. Check condenser surface, report on condition. Check condenser fans. Lubricate all accessible bearings as required. Check refrigerant charge. Check voltage, amperage and electrical connections. Check crankcase heater for proper operation. Check controls, contactors and safeties. Make sure all panels are securely installed. Visually check system for signs of leaks and piping integrity. Check safety controls.
BOILERS - HOT WATER/STEAM - OPERATING INSPECTION Blow down boiler. Check the auto-feeder. Check the feeder strainer, clean if necessary. Check and clean the gauge glass. Check the low water device. Blow down as needed. Inspect the pilot operation and safety controls. Inspect the main burner condition and operation. Check boiler time clock if applicable. Check the safety relief valve. Visually inspect boiler room piping. Inspect water make-up and PRV. Check boiler temperature and pressure. Inspect the gas valves. Inspect the flue and stack condition. Log boiler service record.
FURNACES Check operation. Visually inspect accessible areas of heat exchanger. Report on condition. Check burners - clean if necessary. Check controls and safeties. Check filters - change as per contract. Check blower motor. Lubricate blower and motor. Check and clean pilot and igniters. Check accessible flue stack and cap.
WATER PUMPS Lubricate bearings as required. Check reservoir oil level, add oil as required. Check for water leaks. Inspect pump coupling for wear and alignment. Check mountings. Check pump operating pressures as required. Check for abnormal vibration or noise. Check motor starter and tighten electrical connections. Check voltages and amperages.



	COOLING TOWERS - OPERATING INSPECTION
	Check fan and motor bearings, lubricate as necessary.
	Check belt tension and adjust if necessary.
	Check and clean sump strainer screen.
	Check spray distribution system.
	Check spray eliminators for biological growth and rust.
	Check operating water level in the pan and adjust float valve if required.
	Check bleed-off rate and adjust if necessary.
	Check fans and air inlet screens and remove any dirt or debris.
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	SUPPLY, RETURN, AND EXHAUST FANS
	Lube bearings - as required.
	Inspect fan wheel(s), if accessible
	Inspect fan unit mountings.
	Inspect unit flex connectors.
	Inspect drive belts and adjust as required.
	Inspect fan pulleys for wear.
	Inspect and clean drain pan if accessible and applicable.
	Check motor starters and electrical connections.
	Check voltages and amperages.
	RECIPROCATING WATER/AIR-COOLED COMPRESSOR/CHILLERS-OPERATING INSPECTION
	Check oil level.
	Check refrigerant charge.
	Check operation.
	Visually inspect for refrigerant leaks, check integrity of accessible refrigerant coils and lines.
	Visually inspect integrity of accessible piping.
	Log pressures, amperages, and temperatures.
	Check operation of high and low pressure controls.
	Check operation of safety controls.
	Make adjustments as needed.
_	WELLOW DOTARY CHANGE OF THE WAY WAS TO SELECT
	HELICAL-ROTARY CHILLERS - OPERATING INSPECTION
	Visually inspect starters and electrical connections.
	Start chiller and monitor operation.
	Check starter operations.
	Check operating voltages and motor amperages.
	Check the operation of the oil sump heaters and oil cooler circuit as applicable.
	Check refrigerant and oil levels.
	Log operating conditions and set point parameters.
	CENTRIFUGAL CHILLERS - OPERATING INSPECTION
	Test purge operation.
	Visually inspect starters and electrical connections.
	Check oil sump heaters and oil cooler as applicable.
	Start chiller and monitor operation.
	Check starter operations and timing devices.
	Check operating voltages and motor amperages.
	Check refrigerant and oil levels.
	Log operating conditions and set point parameters.



	ELECTRIC CONTROLS
	Check economizer damper system, lube as necessary.
	Check static pressure relief damper operation and adjust.
	Inspect electrical connections. Tighten as required.
\neg	PNEUMATIC CONTROLS
	Check economizer damper system, lube as necessary.
	Check static pressure relief damper operation.
	Check system temperature and pressure controls.
	AIR COMPRESSORS
	Check operating cycle
	Inspect belts and pulleys, adjust belts as needed.
	Check oil level.
	Check all air intake and main air filters at air station.
	Test relief valve in low pressure line.
	Test relief valve for high pressure tank.
	Inspect motor starter contacts.
	Check and tighten electrical connections. Check voltages and amperages.
	REFRIGERATED AIR DRYER/AIR FILTRATION STATION
	Check refrigeration unit.
	Check condenser coil, clean as required.
	Check operating temperature, adjust as necessary.
	Check automatic drain unit, clean as required.
	Check electrical connections.
\neg	VARIABLE FREQUENCY DRIVES (VFD'S)
	Inspect field electrical connections.
	Inspect internal cooling fans.
	Inspect and clean internal air filters and inlet grills.
	Check system operation.
	Verify proper ventilation and operating temperatures.
	Verify proper operation of set point controller and set points.
	Verify proper operation of control input transmitter.
	Verify proper sequencing of digital/analog outputs.
	Measure voltage and amperage.
	Test manual bypass option for proper operation.
	BOILERS - ANNUAL INSPECTION
	Inspect feed water strainers and clean as needed.
	Test operation of low water safety controls (float assemblies inspected only if waterside is opened).
	Check boiler circulating pump. Lubricate bearings if applicable.
	Check expansion and sight glass.
	Test operation of operating and high limit controls, flow switches, safety controls, gas valves, etc.
	Check accuracy of controls, thermometers and gauges.
	Blow down the boiler and low water controls.
	Perform visual inspection of external areas of heat exchange surfaces. Blow out with compressed
	air. Report on condition if severely sooted.
	Inspect burners and refractory. Clean burners as required.



BOILERS - ANNUAL INSPECTION (Continued) Inspect and clean or replace combustion air filters as applicable. Inspect combustion and stack fan wheels for cleanliness. Clean as needed. Inspect flue stack condition and for obstructions. Check condition of pilot assemblies and/or hot surface igniters. Clean pilot orifices as required. Measure HSI resistances and amperages. Measure flame signal and adjust for optimal flame detection. Check and tighten electrical connections. Start boiler and test operation. Check gas, draft and air pressures as required per boiler manufacturer's specifications. Perform combustion analysis. HELICAL ROTARY/RECIPROCATING CHILLER ANNUAL Obtain an oil sample for laboratory oil analysis. Report to follow. Remove condenser end plate and inspect tubes if applicable (additional cost if not included in contract). Inspect air cooled condenser and condenser fan assemblies if applicable. Leak test refrigerant and oil circuits. Visually inspect chiller waterside for leaks. Check the operation of the lubrication and oil recovery system as applicable. Check oil filter(s) pressure drop. Report findings. Check the operation of the oil sump heaters and oil cooler circuit as applicable. Check, calibrate and set all safety and operating controls. Megohm test compressor motor. Inspect motor starter contacts. Inspect VFD. Inspect and tighten electrical connections. Start chiller and monitor operation. check starter operations. Check operating voltages and motor amperages. Check refrigerant and oil levels. Log operating conditions and set point parameters. **CENTRIFUGAL CHILLERS - ANNUAL INSPECTION** Obtain an oil sample for laboratory oil analysis. Report to follow. Change oil and oil filter (additional cost if not included in contract). Service purge unit and test operations as applicable. Remove condenser end plate and inspect tubes (additional cost if not included).

Mechanically clean condenser tubes (additional cost if not included).

Pressurize chiller (if necessary) and leak test refrigerant and oil circuits.

Visually inspect chiller waterside for leaks.

Replace refrigerant filter/drier cores as necessary.

Check the operation of the lubrication and oil recovery system as applicable.

Check the operation of the oil sump heaters and oil cooler circuit as applicable.

Lubricate vane shaft seals and linkages as necessary.

Check, calibrate and set all safety and operating controls.

Megohm test compressor and oil pump motor windings.

Inspect motor starter contacts/VFD, inspect and tighten electrical connections.

Start chiller and monitor operation.

Check starter operations, overloads and timing devices.

Check operating voltages and motor amperages.

Check refrigerant and oil levels, log operating conditions and set point parameters.



COOLING TOWERS - ANNUAL INSPECTION

Inspect and clean as necessary:

Sumps, spray nozzles and distribution system, strainers, heat transfer surfaces and mist eliminators.

Inspect interior surfaces for excessive corrosion and deterioration.

Inspect make up water system; valves, controls, etc. Check and adjust water level in sump if necessary.

Mechanical equipment inspections:

Inspect belts, bearings and sheaves. Tighten set screws on locking collars if applicable.

Adjust belt tension if necessary and check drive alignment.

Lubricate fan shaft bearings and motor adjustment bolts.

Check oil levels in gearboxes and split bearings if applicable.

Check the general condition of the fan blades or wheels as needed.

Electrical inspections:

Megger motors.

Check motor voltage, amperage and current.

Inspect starter contacts and/or variable frequency drives. Check and tighten high voltage electrical connections.



Proposal Date:	5/26/16	Quote Number:		09-1325-4	
Customer		Service			
Name:	The City of Emeryville	Location:	Ser	nior Center	
Address:	1333 Park Ave	Address:		Salem Street	
City, State,		City, State,			
Zip:	Emeryville, CA 94608	Zip:	Emeryv	rille, CA 94608	
Phone:	(510) 508-9895	Phone:	(707	7) 280-3596	
Attn:	Rich Cunningham	Contact:	Jo	ody Clark	
AGREEMENT FOR PERIODIC MAINTENANCE SERVICE The maintenance is to consist of lubrication and necessary inspection as described in the Specifications for Periodic Maintenance (Attachment 'A'). The maintenance will be performed by a trained HVAC technician as outlined in page 2 of this agreement. General Maintenance Tasks to include the following: Check in with Customer upon arrival. Check and report any unusual noise or vibrations and repair if minor. Check general operation and condition of equipment. Maintain cleanliness of equipment. Report all work performed on both in-house log sheet and signed work orders.					
• Check ou As a preventive ma	stomer of services or materials requ t with customer when leaving the pr nintenance customer you are entitle: We are available 24 hours a day,	remises.			
	Ve make every effort to provide a (2) ars (Monday through Friday, 8 am to				
	arantee: Any work performed by Moreiod of 30 days for labor and 90 days perpense.				
Service Frequency: ☐ Monthly ☐ Bi-Monthly ☐ Quarterly ☐ Tri-Annually ☐ Semi-Annually ☐ Annually					
Comments: Tis is for the Boiler Only because we do not know what units are being installed					
The owner agree	•	Per year, to be invoiced a	at: \$	370 Quarterly	
Presented By:	Matrix HG, Inc.	Accepted By:			
Signed:	Cameron Edwards	Signed:			
Name:	Cameron Edwards	Name:			
Title:	Title: Service Estimator Title:				

Customer Signature is Acceptance of Terms and Conditions. If date of commencement is not completed by customer, maintenance schedule will begin the first of the month following date of acceptance

5/26/16

Date:

Heating • Air Conditioning Energy Management CA Lic# 812232



Proposal Date	:5	5/26/16	Quote Number: _	0	09-1325-4
		SCOPE OF S	ERVICES		
☐ Heat Pumps ☐ Air Handlers ☐ Condensing U ☐ Water Pumps ☐ Pneumatic / H	☐Roofi ☐Fan (☐Inits ☐Boile ☐Cooli ☐Electric Controls ☐Air/Water-Coolec	ERATING INSPECTION top Package Units Coils rs/Hot Water Heaters ring Towers Compressors/Chillers	Stand Alone I Central Statio Furnaces	rn & Exhaust F juency Drives	
Boilers (incl	SERVICED - AND udes water side) ludes water side) SERVICED – CO	NUAL INSPECTIONS Cooling To	Heli	rifugal Chillers ical-Rotary Chi ler: Condenser	
	replaced by Matrix	k HG, Inc. ced by Matrix HG, Inc.			
Type:	Disposable	✓ High Efficie	ncy Bag	Туре	Charcoal Type
Frequency:	☐Monthly☐Bi-Monthly☐Quarterly☐Tri-Annually☐Semi-Annuall☐Annually	☐ Monthly☐ Bi-Monthly☐ Quarterly☐ Tri-Annually☐ Semi-Annually☐ Annually	□Bi-M □Qua y □Tri- lly □Sem	nthly Monthly orterly Annually ni-Annually nually	☐Monthly ☐Bi-Monthly ☐Quarterly ☐Tri-Annually ☐Semi-Annually ☐Annually
☐Not included	in contract	Comments:			
BELTS Matrix HG, Inc.	will inspect condit	ion and replace when nec	essary as:		
☐ Included in o	contract price	Extra to contract price	ee		
WATER TREAM Matrix HG, Inc. water cooled con	will inspect the ch	emical feed system servin will add chemicals when	ng the cooling towe necessary as:	r, boiler, and/o	r
☐ Included in o	contract price	Extra to contract price	ee 🗌 Not	required for th	is contract
	COIL CLEANING will chemically cle	ean the condenser and/or	evaporator coils and	nually as descr	ibed below:
Condenser Co	oils	Evaporator coils			
Extra to control		✓Extra to contract price Included in contract price			



Proposal Date:	5/26/16	Quote Number:	09-1325-4
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TERMS AND CONDITIONS

TERMS

This Agreement shall run from year-to-year; however, it may be cancelled or amended by either party upon thirty (30) days' written notice and is subject to the annual revision of prices.

No other Agreement expressed or implied oral or written, shall limit or qualify the terms of this Agreement unless evidenced by an additional written Agreement signed by both parties.

A delinquent charge of 1.5% per month will be applied on any past due amounts. In the event collections action is taken, the Customer shall be obligated for collection costs including reasonable attorney's fees and court costs.

This proposal is subject to cred	dit approval by the Matrix HG Accounting Department.	
Service Shall Commence:	Customer Initials:	
	To be Completed by Customer	

CONDITIONS

All maintenance work will be scheduled by MATRIX HG, INC. at its discretion.

If a request for service or additional maintenance is made by Customer, Customer will be charged at standard labor rate per hour during normal working hours (8:00 - 4:30 p.m.) Monday through Friday) and standard premium rate per hour for overtime, plus transportation charges and expenses.

Customer agrees to pay for any parts required under this Agreement other that those specifically included under Periodic Maintenance Service. The standard Company guarantee shall apply to all replacements parts. No warranty is made for loss refrigerant.

Customer shall provide effective air filter service and water treatment service if not included as Optional Maintenance Functions under this agreement.

It is further understood that reasonable access will be provided to equipment. Any modifications necessary to provide access to equipment will be at Customer's expense.

MATRIX HG, Inc. will not be responsible for alterations, additions, adjustments or repairs by others.

MATRIX HG, Inc. is not responsible for loss of business, food spoilage, delays or repairs caused or necessitated by damage due to freezing, flooding, fire, willful abuse, accidents, unusual weather exposure, strikes, lock-outs, acts of God or acts of Government.

Cost of corrections in the design or installation of equipment will be at Customer's expense.

MATRIX HG, Inc. is not responsible for labor, material and/or equipment required, or recommended by insurance companies, governmental agencies or codes, or union regulations.



HEAT PUMPS

Check cooling operation.

Check heating operation.

Check condenser surface, report on condition.

Check evaporator surface, report on condition.

Inspect condensate pan and drain trap if accessible. Blow out trap if cleanout is provided. Check supply fan or blower.

Check condenser fans.

Lubricate all accessible bearings as required.

Inspect and adjust drive belts, as needed. Inspect pulleys for wear.

Check refrigerant charge.

Check voltage, amperage and electrical connections.

Check crankcase heater for proper operation.

Check controls, contactors and safeties.

Make sure all panels are securely installed.

Check return and supply air temperature.

Check filters, clean or replace as per contract.

Visually check system for signs of leaks and piping integrity.

Check economizer operation, if applicable.

Check duct connections.

Check reversing valve operation

Check defrost controls and operation.

ROOF TOP PACKAGE UNITS

Check cooling operation.

Check heating operation.

Check condenser surface, report on condition.

Check evaporator surface, report on condition.

Check supply fan or blower.

Check condenser fans.

Lubricate all accessible bearings as required.

Inspect and adjust drive belts, as needed. Inspect pulleys for wear.

Check refrigerant charge.

Check voltage, amperage and electrical connections.

Check crankcase heater for proper operation.

Check controls, contactors and safeties.

Make sure all panels are securely installed.

Check return and supply air temperature.

Check filters, clean or replace as per contract.

Visually check system for signs of leaks and piping integrity.

Check economizer operation, if applicable.

Check pilot igniter operation.

Check heat exchanger, visually.

Check safety controls.

Check vent motor.

Inspect fan wheel(s), if accessible.

Inspect fan unit mountings.

Inspect and clean drain pan if accessible. Blow out drain trap if cleanout is provided.

Inspect all exterior panels for correct installation and fit.



	STAND ALONE INDOOR AIR CONDITIONING UNIT
	Check cooler operation.
	Brush coil surfaces as needed.
	Check evaporator surface, report on condition.
	Check supply fan.
	Check condenser fans, if applicable.
	Check condenser pump, if applicable.
	Lubricate all accessible bearings, as required.
	Inspect and adjust drive belts, as needed. Inspect pulleys for wear.
	Check refrigerant charge.
	Check voltage, amperage and electrical connections.
	Check crankcase heater for proper operation.
	Check controls, contactors, and safeties.
	Make sure all panels are securely installed.
	Check return and supply air temperature.
	Check filters, clean or replace as per contract.
	Visually check system for signs of leaks and piping integrity.
	Check condensate pans if accessible. Blow out drain trap if cleanout is provided.
	Check reheat/humidifier assembly for proper operation.
	Check flow switch if applicable.
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	AIR HANDLERS/FAN COIL UNITS
	Inspect fan unit mountings.
	Inspect drive belts and adjust as required. Inspect fan pulleys for wear.
	Inspect and clean condensate pan and drain trap if accessible. Blow out trap if cleanout is provided.
	Check evaporator surface, report on condition.
	Check supply fan or blower. Lube bearings when accessible, as required.
	Check voltage, amperage and electrical connections.
	Make sure all panels are securely installed
	Check return and supply air temperature.
	Check filters, clean or replace as per contract.
	Visually check system for signs of leaks and piping integrity.
	Check duct connections.
\neg	FAN-POWERED VAV BOXES
	Replace air filters as per contract.
	Test operations of controls, actuators, etc. Inspect contactors and relays.
	Lubricate motor bearings as required.
	Inspect fan wheels for cleanliness. Report on condition.
	Inspect mounting bushings for wear.
	Check and tighten electrical connections. Check voltages and amperages.
	Check and agreen electrical connections. Check voltages and uniperages.
	CENTRAL-STATION UNITS
	Lube bearings - as required.
	Inspect fan wheel(s), if accessible
	Inspect fan unit mountings.
	Inspect unit flex connectors.
	Inspect drive belts and adjust as required. Inspect fan pulleys for wear.
	Inspect starters, contactors and controls.
	Inspect condensate pan and drain trap if accessible. Blow out trap if cleanout is provided.
	Check voltage, amperages and electrical connections.
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	CONDENSING UNITS
	Check cooling and heating operation. Check condenser surface, report on condition.
	Check condenser fans.
	Lubricate all accessible bearings as required.
	Check refrigerant charge.
	Check voltage, amperage and electrical connections.
	Check crankcase heater for proper operation.
	Check controls, contactors and safeties.
	Make sure all panels are securely installed.
	Visually check system for signs of leaks and piping integrity. Check safety controls.
✓	BOILERS - HOT WATER/STEAM - OPERATING INSPECTION Blow down boiler.
	Check the auto-feeder.
	Check the feeder strainer, clean if necessary.
	Check and clean the gauge glass.
	Check the low water device. Blow down as needed.
	Inspect the pilot operation and safety controls.
	Inspect the main burner condition and operation.
	Check boiler time clock if applicable. Check the safety relief valve.
	Visually inspect boiler room piping.
	Inspect water make-up and PRV.
	Check boiler temperature and pressure.
	Inspect the gas valves.
	Inspect the flue and stack condition.
	Log boiler service record.
	FURNACES
	Check operation.
	Visually inspect accessible areas of heat exchanger. Report on condition. Check burners - clean if necessary.
	Check controls and safeties.
	Check filters - change as per contract.
	Check blower motor.
	Lubricate blower and motor.
	Check and clean pilot and igniters.
	Check accessible flue stack and cap.
	WATER PUMPS
	Lubricate bearings as required.
	Check reservoir oil level, add oil as required.
	Check for water leaks.
	Inspect pump coupling for wear and alignment. Check mountings.
	Check pump operating pressures as required.
	Check for abnormal vibration or noise.
	Check motor starter and tighten electrical connections.
	Check voltages and amperages.



	COOLING TOWERS - OPERATING INSPECTION
	Check fan and motor bearings, lubricate as necessary.
	Check belt tension and adjust if necessary.
	Check and clean sump strainer screen.
	Check spray distribution system.
	Check spray eliminators for biological growth and rust.
	Check operating water level in the pan and adjust float valve if required.
	Check bleed-off rate and adjust if necessary.
	Check fans and air inlet screens and remove any dirt or debris.
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	SUPPLY, RETURN, AND EXHAUST FANS
	Lube bearings - as required.
	Inspect fan wheel(s), if accessible
	Inspect fan unit mountings.
	Inspect unit flex connectors.
	Inspect drive belts and adjust as required.
	Inspect fan pulleys for wear.
	Inspect and clean drain pan if accessible and applicable.
	Check motor starters and electrical connections.
	Check voltages and amperages.
	RECIPROCATING WATER/AIR-COOLED COMPRESSOR/CHILLERS-OPERATING INSPECTION
	Check oil level.
	Check refrigerant charge.
	Check operation.
	Visually inspect for refrigerant leaks, check integrity of accessible refrigerant coils and lines.
	Visually inspect integrity of accessible piping.
	Log pressures, amperages, and temperatures.
	Check operation of high and low pressure controls.
	Check operation of safety controls.
	Make adjustments as needed.
_	WELLOW DOTARY CHANGE OF THE WAY WAS TO SELECT
	HELICAL-ROTARY CHILLERS - OPERATING INSPECTION
	Visually inspect starters and electrical connections.
	Start chiller and monitor operation.
	Check starter operations.
	Check operating voltages and motor amperages.
	Check the operation of the oil sump heaters and oil cooler circuit as applicable.
	Check refrigerant and oil levels.
	Log operating conditions and set point parameters.
_	
	CENTRIFUGAL CHILLERS - OPERATING INSPECTION
	Test purge operation.
	Visually inspect starters and electrical connections.
	Check oil sump heaters and oil cooler as applicable.
	Start chiller and monitor operation.
	Check starter operations and timing devices.
	Check operating voltages and motor amperages.
	Check refrigerant and oil levels.
	Log operating conditions and set point parameters.



	ELECTRIC CONTROLS
_	Check economizer damper system, lube as necessary.
	Check static pressure relief damper operation and adjust.
	Inspect electrical connections. Tighten as required.
	PNEUMATIC CONTROLS
	Check economizer damper system, lube as necessary.
	Check static pressure relief damper operation.
	Check system temperature and pressure controls.
	AIR COMPRESSORS
_	Check operating cycle
	Inspect belts and pulleys, adjust belts as needed.
	Check oil level.
	Check all air intake and main air filters at air station.
	Test relief valve in low pressure line.
	Test relief valve for high pressure tank.
	Inspect motor starter contacts.
	Check and tighten electrical connections. Check voltages and amperages.
	REFRIGERATED AIR DRYER/AIR FILTRATION STATION
	Check refrigeration unit.
	Check condenser coil, clean as required.
	Check operating temperature, adjust as necessary.
	Check automatic drain unit, clean as required.
	Check electrical connections.
	VARIABLE FREQUENCY DRIVES (VFD'S)
	Inspect field electrical connections.
	Inspect internal cooling fans.
	Inspect and clean internal air filters and inlet grills.
	Check system operation.
	Verify proper ventilation and operating temperatures.
	Verify proper operation of set point controller and set points.
	Verify proper operation of control input transmitter.
	Verify proper sequencing of digital/analog outputs.
	Measure voltage and amperage.
	Test manual bypass option for proper operation.
√	BOILERS - ANNUAL INSPECTION
	Inspect feed water strainers and clean as needed.
	Test operation of low water safety controls (float assemblies inspected only if waterside is opened).
	Check boiler circulating pump. Lubricate bearings if applicable.
	Check expansion and sight glass.
	Test operation of operating and high limit controls, flow switches, safety controls, gas valves, etc.
	Check accuracy of controls, thermometers and gauges.
	Blow down the boiler and low water controls.
	Perform visual inspection of external areas of heat exchange surfaces. Blow out with compressed
	air. Report on condition if severely sooted.
	Inspect burners and refractory. Clean burners as required.



BOILERS - ANNUAL INSPECTION (Continued)

Inspect and clean or replace combustion air filters as applicable.

Inspect combustion and stack fan wheels for cleanliness. Clean as needed. Inspect flue stack condition and for obstructions.

Check condition of pilot assemblies and/or hot surface igniters. Clean pilot orifices as required.

Measure HSI resistances and amperages. Measure flame signal and adjust for optimal flame detection.

Check and tighten electrical connections.

Start boiler and test operation.

Check gas, draft and air pressures as required per boiler manufacturer's specifications.

Perform combustion analysis.

HELICAL ROTARY/RECIPROCATING CHILLER ANNUAL

Obtain an oil sample for laboratory oil analysis. Report to follow.

Remove condenser end plate and inspect tubes if applicable (additional cost if not included in contract).

Inspect air cooled condenser and condenser fan assemblies if applicable.

Leak test refrigerant and oil circuits.

Visually inspect chiller waterside for leaks.

Check the operation of the lubrication and oil recovery system as applicable.

Check oil filter(s) pressure drop. Report findings.

Check the operation of the oil sump heaters and oil cooler circuit as applicable.

Check, calibrate and set all safety and operating controls.

Megohm test compressor motor.

Inspect motor starter contacts. Inspect VFD.

Inspect and tighten electrical connections.

Start chiller and monitor operation.

check starter operations.

Check operating voltages and motor amperages.

Check refrigerant and oil levels.

Log operating conditions and set point parameters.

CENTRIFUGAL CHILLERS - ANNUAL INSPECTION

Obtain an oil sample for laboratory oil analysis. Report to follow.

Change oil and oil filter (additional cost if not included in contract).

Service purge unit and test operations as applicable.

Remove condenser end plate and inspect tubes (additional cost if not included).

Mechanically clean condenser tubes (additional cost if not included).

Pressurize chiller (if necessary) and leak test refrigerant and oil circuits.

Visually inspect chiller waterside for leaks.

Replace refrigerant filter/drier cores as necessary.

Check the operation of the lubrication and oil recovery system as applicable.

Check the operation of the oil sump heaters and oil cooler circuit as applicable.

Lubricate vane shaft seals and linkages as necessary.

Check, calibrate and set all safety and operating controls.

Megohm test compressor and oil pump motor windings.

Inspect motor starter contacts/VFD, inspect and tighten electrical connections.

Start chiller and monitor operation.

Check starter operations, overloads and timing devices.

Check operating voltages and motor amperages.

Check refrigerant and oil levels, log operating conditions and set point parameters.



COOLING TOWERS - ANNUAL INSPECTION

Inspect and clean as necessary:

Sumps, spray nozzles and distribution system, strainers, heat transfer surfaces and mist eliminators.

Inspect interior surfaces for excessive corrosion and deterioration.

Inspect make up water system; valves, controls, etc. Check and adjust water level in sump if necessary.

Mechanical equipment inspections:

Inspect belts, bearings and sheaves. Tighten set screws on locking collars if applicable.

Adjust belt tension if necessary and check drive alignment.

Lubricate fan shaft bearings and motor adjustment bolts.

Check oil levels in gearboxes and split bearings if applicable.

Check the general condition of the fan blades or wheels as needed.

Electrical inspections:

Megger motors.

Check motor voltage, amperage and current.

Inspect starter contacts and/or variable frequency drives. Check and tighten high voltage electrical connections.