

## **DIVISION 14 - CONVEYING EQUIPMENT**

### **14 00 00 CONVEYING EQUIPMENT**

- .1 This Agreement, between CONTRACTOR and SUMMIT COUNTY shall pertain to the vertical transportation equipment at the following properties:
  - .1.0 Attached, Appendix A, listing of buildings and equipment to be included in this specification and agreement.

### **1401 20 OPERATION AND MAINTENANCE OF ELEVATORS**

#### **.1 INTENT**

Pro-Active Preventive Maintenance program of equipment listed in .1 above by these specifications. Provide the intended service to accomplish the following: .1.0 Consistent safe operation of equipment

- .1.1 Maximize operational performance of equipment
- .1.2 Maximize beneficial usage of equipment
- .1.3 Maximize life cycles of equipment

#### **.2 ACKNOWLEDGEMENT OF EXPERTISE**

Contractor expressly acknowledges that Summit County is relying on Contractor's professional expertise in performance of Services to achieve and maintain Contract intent.

#### **.3 SERVICES PROVIDED BY CONTRACTOR**

Services shall include, all labor, transportation, supplies, materials, parts, tools, scaffolding, machinery, hoists, employee safety equipment, equipment, lubricants, supervision, and all other work and materials expressly required under this Contract or reasonably inferred whether or not expressly stated herein .

- .3.1 Services shall be performed in accordance with the specifications, legal statutes, national, state and local codes and OEM standards.
- .3.2 Comply with Summit County rules, policies, regulations, and requirements while working on properties.

**SUMMIT COUNTY -PREVENTATIVE  
MAINTENANCE SPECIFICATIONS**

- .3.3 Perform all require preventative maintenance and repairs by qualified, careful and efficient employees in conformity with best industry practices. Diligently and in a first class, complete work in a workmanlike manner, free of defect or deficiency. While performing duties contractor's employees shall minimize any annoyance, interference, or disruption to employees of the properties and their invitees and comply with all Summit County policies.

**.4 EMPLOYEES' OF CONTRACTOR**

Contractor shall be responsible for the supervision and execution of Services by its employee.

- .4.0 Contractor agrees each of its employees is properly qualified and will use reasonable care in the performance of Services. If in the Summit County's sole opinion, determines, for any reason, that the qualifications, actions or conduct of any particular Contractor employee has violated this Contract by performing unsatisfactory Services, interfering with operation of Property, bothering or annoying any occupants, other contractors or subcontractors then at Property, or that such actions or conduct is otherwise detrimental to Summit County, then upon receipt of Summit County's written notice, Contractor shall immediately provide qualified replacement person and/or persons .
- .4.1 Contractor shall have sole responsibility for methods, techniques, procedures, safety instructions and safety precautions in connection with performance of Services.
- .4.2 Contractor shall not employ any subcontractors or other parties to perform Elevator Services. Contractor may employ subcontractors for work other than preventative maintenance (i.e., motor repairs, machine work, machine testing, certified welding, etc.). Summit County's acceptance of subcontractors or other parties shall not relieve, release or affect in any manner any of Contractor's duties, liabilities or obligations and Contractor shall at all times be and remain fully liable hereunder .

**. 5 SCHEDULES OF WORK**

Preventative maintenance and inspections shall be performed between the hours of 8:00 a.m. and 5:00 p.m. Monday through Friday.

**. 6 RESPONSE TIMES**

Normal hours of work as outlined in .5 above:

- .6.0 Non Emergency, within ninety (90) minutes from time of notification of equipment problem or failure by Summit County.
- .6.1 Emergencies, response to passenger entrapment calls within forty-five (45) minutes from time of notification by Summit County.

After normal hours of service outlined in .5 above:

## SUMMIT COUNTY -PREVENTATIVE MAINTENANCE SPECIFICATIONS

- .6.2 Non Emergencies, respond to callback service within ninety (90) minutes from the time of notification by Summit County.
- .6.3 Emergencies, response to passenger entrapment calls within sixty (60) minutes from time of notification by Summit County.

Callback is defined as any request for service or assistance by Summit County when any unit is not available for beneficial use due to equipment shutdown or malfunction.

### 7 EXECUTION OF SERVICES

Routinely and systematically examine, clean, lubricate, adjust, and as conditions warrant, repair or replace all equipment covered under this specification. Consistently maintain machine rooms, hoistways, pits, car tops and equipment in or on these areas in a clean condition.

- .7.0 Lubricate equipment at intervals recommended by Original Equipment Manufacturer.
- .7.1 When, as a result of preventative maintenance examination or testing and adjusting of the equipment, Contractor identifies corrective action is required, Contractor shall proceed to make required repairs, replacements, and adjustments. If Contractor believes such work is not Contractor's responsibility, a written report signed by Contractor shall be delivered to Summit County for further action with exception of a safety or potential safety situation, where upon, Contractor shall correct the problem immediately and notify Summit County.

### 8 MATERIAL USED IN THE SERVICING OF EQUIPMENT

The term "materials" are goods, parts, or otherwise for cleaning, replacement, repairs or adjustments, of performance, reliability and safety of units. All such materials shall be:

- .8.0 New and of best quality and suitable for their intended uses.
- .8.1 All lubricants shall be suitable for purpose intended and shall meet or exceed minimum requirements specified by original equipment manufacturer of equipment to which the lubricant is applied.
- .8.2 Lubricants, cleaning fluids and all combustible liquids shall be stored in a metal cabinet in machine room and shall be disposed of in accordance with Federal or local jurisdiction guidelines. An approved metal can with lid shall be provided in each machine room for temporary storage of oily rags.

SUMMIT COUNTY -PREVENTATIVE  
MAINTENANCE SPECIFICATIONS

9 SERVICES AND/OR EQUIPMENT NOT INCLUDED IN THIS AGREEMENT

Contractor shall not be responsible for the following items. Contractor shall provide written notice and proposal to Summit County within ten (10) working days of work and/or repairs required during normal servicing.

Items excluded shall apply except to those arising from or caused by the negligence of the Contractor, his employees, agents, subcontractors, or others for whom he is responsible.

- 9.0 Installation of new attachments or performance of newly mandated tests recommended or directed by inspecting entities; insurance companies; and federal, state or municipal governmental authorities from date of this agreement.

10 COMPLIANCE WITH LAWS AND REGULATIONS

Comply with all existing laws, codes, rules and regulations set forth by appropriate authorities having jurisdiction (AHJ).

Schedule, coordinate and complete statutory and other equipment tests including, but not limited to;

- 10.0 Annual no load slow speed test of car safeties, governors and buffers .
- 10.1 5-year, full load, full speed test of car safeties, governors and buffers .
- 10.2 Affix metal tags to the tested devices and provide Summit County with written documentation clearly indicating the type of test, date of test, Contractor performing test, and applicable Code rule.

Provide Summit County with a minimum of five (5) working days prior notification of tests so that a Representative of the Summit County may witness all tests. Submit written reports to Summit County within ten (10) working days of completion of tests, confirming findings including corrective actions required and taken.

11 PENALTIES FOR NON-COMPLIANCE TO SPECIFICATIONS

Average time between callbacks as described in .5 above:

- 11.1 Contractor's failure to execute statutory tests mandated by either national Codes or local jurisdictions or regulations within 30 calendar days of required time constraint shall subject Contractor to a \$100.00 per calendar day penalty on each unit for each infraction beginning on the 30th day subsequent to the required date and continuing until Summit County receives written notification from Contractor of satisfactory completion of required test. Statutory tests include, but are not limited to .9 above. Contractor shall attempt to schedule tests in the presence of local enforcing authority and/or persons designated by Summit County.

## SUMMIT COUNTY -PREVENTATIVE MAINTENANCE SPECIFICATIONS

Scheduling difficulties shall not exempt Contractor from performing tests in compliance with applicable Code or regulatory requirements.

### 12 SPECIAL CONDITIONS

- .12.0 Upon arrival and departure from property, ALL Contractor employees shall report to service center and manually sign a log book indicating name of person, time of arrival/departure, purpose of visit, i.e. callback, preventive maintenance, scheduled repair, Supervisor's inspection, etc., a brief description of work accomplished, including car and/or group designation, and time of departure. Manual log provided by Summit County.
- .12.1 Conspicuously post Preventive Maintenance Schedule and work log in each machine room for each elevator unit. Alternately, collect preventive maintenance history and testing logs electronically. Data shall be accessible by Summit County via manual log or web access and hard copy printout at all times.
- .12.2 Quarterly provide summary and review of all callbacks and unit downtime with Summit County. The review is to minimize callbacks by developing consistent communication between the Contractor and Summit County relative to callback trends, unit downtime and their causes.
- .12.3 Contractor shall not, in the course of performance of this Contract, or thereafter, use or permit the use of Summit County in any advertising, promotional or other materials prepared by or on behalf of Contractor without the prior written approval of Summit County.

### 13 EQUIPMENT PERFORMANCE

- .13.0 Equipment listing and type car performance requirements are covered under Appendix B of this specification. Equipment performance requirements indicated are the minimum standard, and are not the sole criteria for judging Contractor's performance.

### 14 CONTRACT PRICE ADJUSTMENTS

During the term of this agreement, Summit County shall pay Contractor a monthly sum for the performance of Contracted Services subject to the following:

- .14.0 If straight time work is required outside scope of work, hourly rates below apply. If overtime work is required, within the scope of work, Summit County will pay only difference between straight time and overtime labor at hourly rates indicated below. If overtime work is required outside scope of work, straight time rate plus applicable overtime premium will be basis for hourly charges. Contractor may adjust rates in accordance with .13.0. above, labor portion only.

**SUMMIT COUNTY -PREVENTATIVE  
MAINTENANCE SPECIFICATIONS**

<u>BILLING RATES</u>	<u>MECHANIC</u>	<u>HELPER</u>	<u>CREW</u>
----------------------	-----------------	---------------	-------------

Straight Time

Overtime Premium (1.7 Time)

Overtime Premium (Double  
Time)

**15 CONTRACT CANCELLATION**

- .15.0 Summit County shall have the right to cancel this Contract at the end of its initial term or at the end of any subsequent term upon thirty (30) calendar day's prior written notice to Contractor.
- .15.1 Contractor shall advise Summit County of pending Contract expiration a minimum of six (6) months in advance.
- .15.2 If Contractor violates any provision or fails to properly provide work required by this Contract, Summit County shall advise Contractor of deficiencies and shall allow Contractor a reasonable period, thirty (30) working days unless otherwise agreed, to correct deficiencies at Contractor's expense and to Summit County's sole satisfaction. If Contractor fails to comply in allotted time, Summit County shall have right to cancel Contract upon thirty (30) calendar days written notice to Contractor, or Summit County, after an additional ten (10) calendar days written notice to Contractor, may perform or cause to be performed all or any part of work and Contractor agrees that it will reimburse Summit County for any expense incurred.
- .15.3 Summit County reserves the right to make audits and tests whenever necessary to ascertain that work is being fulfilled. Deficiencies noted shall be submitted, in writing, to the Contractor. Contractor shall correct deficiencies within thirty (30) working days at its expense.
- .15.4 Summit County may choose to modernize all or a portion of units during term of this agreement. Modernization is defined as replacement of elevator motion and supervisory control systems. If Contractor is considered in compliance with terms of this Contract, Contractor shall be one of the Elevator Contractors requested to submit a modernization proposal. If Contractor is not the selected Modernization Contractor, Contract shall suspend work and billing, on unit and/or units, upon written notice by Summit County to Contractor.

**16 NOTICES**

All notices which are required to be given hereunder shall be in writing and shall be sent to the address of the parties to Contract or such other address as the parties may designate by notice given in accordance with the provisions of this clause. Any such notice may be delivered personally or by first-class pre-paid letter, email or

SUMMIT COUNTY -PREVENTATIVE  
MAINTENANCE SPECIFICATIONS

facsimile transmission, and shall be deemed to have been served by hand when delivered, if by first class mail forty-eight (48) hours after posting, and if by email or facsimile transmission when dispatched, provided that a confirming copy is sent by first class pre-paid post to the other party at the address specified within twenty-four (24) hours after transmission.

Each party will notify the other when they become aware of the death or injury to any person or damage to property arising from the use of the equipment.

.17 EXTENT OF LAW

This Contract shall be interpreted in accordance with the laws of the State of Ohio.

## APPENDIX ONE

### ELEVATOR PM SCHEDULE

#### Traction and Hydraulic Elevators

<b><u>On Each Visit</u></b>	(At least one hour per unit)
	(1) Contact responsible building personnel regarding elevator complaint(s). Correct all complaints.
	(2) Ride cars, checking for unusual noise or operation.
	(3) Correct any malfunctions noted.
<b><u>Controller</u></b>	(These are minimum requirements. Elevator Service Company is to meet or exceed this work.)
Monthly	(1) Observe dispatching, times, and relays for proper operation.
Quarterly	(2) Clean and check all controller and supervisory relays, contacts, and printed circuit boards.
Quarterly	(3) Check settings and operation of overloads.
Quarterly	(4) Check controller voltages.
Quarterly	(5) Check resistor tubes, grids and condensers.
Semi-Annually	(6) Clean and check fuses and fuse holders.
Semi-Annually	(7) Check and tighten all controller connections and components.
<b><u>Selector</u></b>	
Monthly	(1) Adjust and/or replace selector brushes and contracts.
Quarterly	(2) Lubricate selector cable sheaves. Clean/adjust electronic selectors.
Semi-Annual	(3) Clean and lubricate selector chains, guides, drives and drums.



### **Hoist Machine**

- |               |      |   |
|---------------|------|---|
| Monthly       | (1)  | Clean dirt and dust from exterior surface of machines.  |
| Monthly       | (2)  | Check sleeve bearing oil.   |
| Monthly       | (3)  | Renew or reseal brushes as required.  |
| Quarterly     | (4)  | Observe worms and gears for end play, back lash, thrust, and any bearing wear.  |
| Quarterly     | (5)  | Clean and/or turn and undercut commutator.  |
| Semi-Annual   | (6)  | Inspect brake, brake drum, drive sheave, remove, clean and lubricate DC brake cores. Clean or replace brake shoes if necessary. Check pivot pins for free movement. |
| Semi-Annual   | (7)  | Grease roller bearings.   |
| Semi-Annual   | (8)  | Check motor connections.  |
| Semi-Annually | (9)  | Change sleeve bearing oil.  |
| Semi-Annually | (10) | Check armature or rotor clearance – Record measurements in thousandths on Check Charts.   |
| Semi-Annually | (11) | Check hoist machine drive sheave, regroove when required by Owner or designated representatives.  |
| Annually      | (12) | Blow out machine with air pressure.   |

### **MG Sets/Motor Drive**

- |             |     |  |
|-------------|-----|--|
| Monthly     | (1) | Clean dirt and dust from exterior.                             |
| Monthly     | (2) | Renew or reseal brushes as required. Surface of MD sets.       |
| Quarterly   | (3) | Clean and/or turn and undercut commutators.                    |
| Semi-Annual | (4) | Grease roller bearings.  |
| Semi-Annual | (5) | Check MG/Motor Drive set connections and tighten if necessary. |

- Semi-Annually (6) Blow out machine with air pressure.
- Semi-Annually (7) Check armature or rotor clearance, record measurements in thousandths on Check Charts.
- Semi-Annually (8) Clean dirt and carbon dust from the interior around fields and windings.
- Annual (9) Change oil in sleeve bearings.

**Signal and Dispatching**

- Monthly (1) Replace any burned out lamps in the starters control indicator panel, car operating panel, etc.
- Monthly (2) Observe operation of car arrival lanterns and gongs. Correct any malfunctions noted.
- Monthly (3) Observe dispatching, dispatching intervals, high and low call reversal circuits. Make corrections where necessary.

**Emergency Operation**

- Monthly (1) Activate fireman's recall system, Phases I and II. Minimum one floor operation on Phase II. Record test in log.
- Quarterly (2) Test car emergency lights.
- Semi-Annual (3) Test each elevator's emergency service, if provided.
- Semi-Annual (4) Activate emergency hospital service systems and any special circuits, if provided.
- Semi-Annual (5) Test emergency power system, if provided.

**Governors**

- Semi-Annual (1) Clean, lubricate and test for free movement of all governors. Manually extend governor weights to make sure there is no restriction in motion.

### Ropes

- |           |     |  |
|-----------|-----|--|
| Quarterly | (1) | Check all ropes, grooves, hitches and equalize tension. Lubricate where necessary. Shorten ropes when requested. Replace ropes with "red rouge" showing. |
| Quarterly | (2) | Check rope, clamps and shackles.   |
| Quarterly | (3) | Check compensating chain or rope and hitches.  |

### Hydraulic Machines

#### Pumping Units

- |             |     |  |
|-------------|-----|--|
| Monthly     | (1) | Maintain oil tank at proper level.   |
| Monthly     | (2) | Check for excessive leakage around valves and pumps.                                 |
| Monthly     | (3) | Wipe up any oil residue around machine. Eliminate cause of leakage.                  |
| Quarterly   | (4) | Check tension and wear of V belts.   |
| Quarterly   | (5) | Inspect flexible hoses and connections. Replace when required by inspection or code. |
| Semi-Annual | (6) | Lubricate motor bearings.  |

### Jack Assembly

- |           |     |  |
|-----------|-----|--|
| Monthly   | (1) | Check packing gland for excessive oil leakage. Tighten or repack if necessary.                   |
| Monthly   | (2) | Check plunger for signs of leakage or deterioration. Report any oil leakage to Owner in writing. |
| Quarterly | (3) | Check platen bolts for cracks and tightness.   |

### Car

- |         |     |   |
|---------|-----|---|
| Monthly | (1) | Check alarm bell and communication system.          |
| Monthly | (2) | Inspect car door operator. Clean, adjust or replace |

pulleys, shifts, key ways, belts, cams, and motor brushes. Lubricate where required.

- |             |      |   |
|-------------|------|---|
| Monthly     | (3)  | Clean door guide channels.  |
| Monthly     | (4)  | Check leveling units.   |
| Quarterly   | (5)  | Check retiring cam devices, chain, dash pots, pivots, fastenings, etc.                |
| Quarterly   | (6)  | Check all reopening devices and obstruction timing devices.                           |
| Quarterly   | (7)  | Inspect and clean car door or gate and related parts.                                 |
| Semi-Annual | (8)  | Replace non-rechargeable emergency light batteries.                                   |
| Semi-Annual | (9)  | Check load weighing devices with weights in cars.                                     |
| Semi-Annual | (10) | Clean car tops and related hardware.  |
| Semi-Annual | (11) | Check and adjust car door up-thrusts.   |
| Semi-Annual | (12) | Inspect guide shoes and roller guides.  |
| Semi-Annual | (13) | Inspect broken tape or cable switches.  |
| Semi-Annual | (14) | Check and test all safety devices.  |
| Semi-Annual | (15) | Check clearance for car safety shoes.   |
| Semi-Annual | (16) | Check stile channels for bends or cracks. Also, car frame and supports.               |
| Semi-Annual | (17) | Check car operating panel, controls and switches. Clean and lubricate when necessary. |
| Annually    | (18) | Check car enclosure steadying device.   |

### Hoistway

- |           |     |   |
|-----------|-----|---|
| Monthly   | (1) | Check hall button operation.                    |
| Monthly   | (2) | Check leveling switches and leveling operation. |
| Quarterly | (3) | Lubricate sheave bearings.                      |

- |             |      |   |
|-------------|------|---|
| Quarterly   | (4)  | Check hoistway lighting. Replace bulbs where necessary.   |
| Semi-Annual | (5)  | Inspect limit switches, contacts, cam alignment.  |
| Semi-Annual | (6)  | Check sheave fastenings, grooves, lubricate grease type bearings.                                   |
| Semi-Annual | (7)  | Check stiles for cracks, bends, loose nuts, etc.  |
| Semi-Annual | (8)  | Clean door hangers, tracks and rollers. Adjust up-thrust.   |
| Semi-Annual | (9)  | Clean and inspect counter weights, counter weight rope fastenings, roller guides, guide shoes, etc. |
| Semi-Annual | (10) | Inspect hoistway door guides and door closers.  |
| Semi-Annual | (11) | Check wear and insulation on travel cables. Check junction box connections.                         |
| Semi-Annual | (12) | Clean hoistway, separator beams, guide rails, door guide channels, etc.                             |

**Pit**

- |             |     |  |
|-------------|-----|--|
| Monthly     | (1) | Clean pit, iron work located within the pit.                           |
| Monthly     | (2) | Empty drip pan(s).   |
| Semi-Annual | (3) | Clean and lubricate governor tail sheave. Adjust position as required. |
| Semi-Annual | (4) | Check oil levels in buffers.   |
| Semi-Annual | (5) | Clean and lubricate compensating sheave, selector tail sheave.         |

**END OF SECTION**

**SUMMIT COUNTY – PREVENTATIVE  
MAINTENANCE SPECIFICATIONS**

**APPENDIX A  
EQUIPMENT INVENTORY  
SUMMIT COUNTY BOARD OF ELECTIONS**

BUILDING NAME	TYPE	PM Schedule		Estimated PM Hours
		Monthly	Quarterly	
Summit County Board of Elections	One (1) Hydraulic		One (1) Hour/Unit	Four (4) Hour/Annually
				Annual Safety Test

**Preventative Maintenance (PM) hours are inspection time only and DO NOT include callbacks, repairs, upgrades or code mandated testing. Estimated PM hours are minimum requirements for this agreement.**

**EQUIPMENT SUMMARY**

Unit No.	1
Type:	DOVER - Hydraulic Passenger Ohio Registration Cert: # 40048
Operation	Simplex Selective/Collective
Capacity	2500 lbs.
Stops	2 stops/ 2 front/ 0 rear
Installation Contractor	Dover Elevator Corporation
Door Type	Single Slide
Door Size	3'0" x 7'0"
Door Protection	IR Detector

**SUMMIT COUNTY – PREVENTATIVE  
MAINTENANCE SPECIFICATIONS**

**APPENDIX B  
EQUIPMENT PERFORMANCE**

Unit Type	One Floor Run Up or down (12"-0" floor to floor)	Rated Speed±	Leveling±	Accel/Decel
Hydraulic-100 fpm	15.0/15.5 Seconds	10%	¼	2.5 ft/sec <sup>2</sup>

**Floor to Floor Performance Time:** Measured from the instant the doors begin to close until doors are 3/4 open (1/2 open for side opening doors) and car is stopped at next successive floor under any loading condition or travel direction.

**Elevator Speed:** Elevator speed is measured with a tachometer while the elevator makes a full run through the hoistway with no load in the car. Contract speed (to be found on the governor rating plate or the cross head on the car) should be maintained within criteria range indicated on individual performance evaluations under any load condition or travel direction.

Unit Type	Door Opening	Door Closing	Closing Pressure	Car Call Dwell Time	Hall Car Dwell Time	Nudging
Hydraulic	2.0/2.5 Seconds	2.5/3.0 Seconds	Less Than 30 lbs.	3.0/3.5 Seconds	5.0/6.0 Seconds	20.0/25.0 Seconds

**Door Open Time:** Measured from the instant the doors begin to open until the doors are fully open. Door opening time should be as fast as possible to provide optimum adjustment of efficient elevator service. Our recommended door times are based on the door operator equipment installed while providing smooth operation and long equipment life.

## **SUMMIT COUNTY – PREVENTATIVE MAINTENANCE SPECIFICATIONS**

**Door Closing Time:** Measured from the instant the doors begin to close until the doors are fully closed. The ASME A17.1 Code limits door closing time by defining the level of kinetic energy generated during door closing operation. We indicate the closing time which approximates Code requirement based on average door weight.

**Door Closing Pressure:** Measured with a spring pressure gauge as the doors begin to close. The measured value is the force required to prevent the doors from closing under power. ASME A17.1 Code requires that the force required to stall the closing door be no more than 30 force pounds.

**Car Call Dwell Time:** Measured from the instant the doors are fully open until the doors begin to close when the car stops in response to a car call. It may also be reduced by re-registering a car call after the initial opening of the doors. Minimum time of 3 seconds is required by The Americans with Disabilities Act (A.D.A.).

**Long Door Hold Open Time:** Measured from the instant the doors are fully open until the doors begin to close when the car stops in response to a hall call. Minimum time of 5 seconds is required by The Americans with Disabilities Act (A.D.A.).

**Nudging:** Measured from the instant the doors reach the fully open position until the door buzzer sounds and the doors begin to close at reduced speed even though the door protective devices are interrupted.



**SUMMIT COUNTY – PREVENTATIVE  
MAINTENANCE SPECIFICATIONS**

**APPENDIX A  
EQUIPMENT INVENTORY  
SUMMIT COUNTY JAIL**

BUILDING NAME	TYPE	PM Schedule		Estimated PM Hours
		Monthly	Quarterly	
Summit County Jail	One (1) Hydraulic		One (1) Hour/Unit	Four (4) Hour/Annually
				One (1) Safety Test

**Preventative Maintenance (PM) hours are inspection time only and DO NOT include callbacks, repairs, upgrades or code mandated testing. Estimated PM hours are minimum requirements for this agreement.**

**EQUIPMENT SUMMARY**

Unit No.	1
Type:	DOVER - Hydraulic Passenger  Ohio Registration Cert: # 31206
Operation	Simplex Selective/Collective
Capacity	3500 lbs.
Stops	2 stops/ 2 front/ 0 rear
Installation Contractor	Dover Elevator
Door Type	Single Slide
Door Size	3'0" x 7'0"
Door Protection	IR Detector

**SUMMIT COUNTY – PREVENTATIVE  
MAINTENANCE SPECIFICATIONS**

**APPENDIX B  
EQUIPMENT PERFORMANCE**

Unit Type	One Floor Run Up or down (12"-0" floor to floor)	Rated Speed±	Leveling±	Accel/Decel
Hydraulic-125fpm	15.0/15.5 Seconds	10%	¼	2.5 ft/sec <sup>2</sup>

**Floor to Floor Performance Time:** Measured from the instant the doors begin to close until doors are 3/4 open (1/2 open for side opening doors) and car is stopped at next successive floor under any loading condition or travel direction.

**Elevator Speed:** Elevator speed is measured with a tachometer while the elevator makes a full run through the hoistway with no load in the car. Contract speed (to be found on the governor rating plate or the cross head on the car) should be maintained within criteria range indicated on individual performance evaluations under any load condition or travel direction.

Unit Type	Door Opening	Door Closing	Closing Pressure	Car Call Dwell Time	Hall Car Dwell Time	Nudging
Hydraulic	2.0/2.5 Seconds	2.5/3.0 Seconds	Less Than 30 lbs.	3.0/3.5 Seconds	5.0/6.0 Seconds	20.0/25.0 Seconds

**Door Open Time:** Measured from the instant the doors begin to open until the doors are fully open. Door opening time should be as fast as possible to provide optimum adjustment of efficient elevator service. Our recommended door times are based on the door operator equipment installed while providing smooth operation and long equipment life.

## **SUMMIT COUNTY – PREVENTATIVE MAINTENANCE SPECIFICATIONS**

**Door Closing Time:** Measured from the instant the doors begin to close until the doors are fully closed. The ASME A17.1 Code limits door closing time by defining the level of kinetic energy generated during door closing operation. We indicate the closing time which approximates Code requirement based on average door weight.

**Door Closing Pressure:** Measured with a spring pressure gauge as the doors begin to close. The measured value is the force required to prevent the doors from closing under power. ASME A17.1 Code requires that the force required to stall the closing door be no more than 30 force pounds.

**Car Call Dwell Time:** Measured from the instant the doors are fully open until the doors begin to close when the car stops in response to a car call. It may also be reduced by re-registering a car call after the initial opening of the doors. Minimum time of 3 seconds is required by The Americans with Disabilities Act (A.D.A.).

**Long Door Hold Open Time:** Measured from the instant the doors are fully open until the doors begin to close when the car stops in response to a hall call. Minimum time of 5 seconds is required by The Americans with Disabilities Act (A.D.A.).

**Nudging:** Measured from the instant the doors reach the fully open position until the door buzzer sounds and the doors begin to close at reduced speed even though the door protective devices are interrupted.

**SUMMIT COUNTY – PREVENTATIVE  
MAINTENANCE SPECIFICATIONS**

**APPENDIX A  
EQUIPMENT INVENTORY  
SUMMIT COUNTY COURTHOUSE MAIN & ANNEX**

BUILDING NAME	TYPE	PM Schedule		Estimated PM Hours/Month
		Monthly		
Summit County Courthouse	Three (3) Traction	One (1) Hour/Unit		Three (3) Hours/Month
Total		Three (3) Hours	5 Yr. Load Test	Three (3) Hours/Month Plus (1) Annual Safety Test

**Preventative Maintenance (PM) hours are inspection time only and DO NOT include callbacks, repairs, upgrades or code mandated testing. Estimated PM hours are minimum requirements for this agreement.**

**EQUIPMENT SUMMARY**

Unit No.	1 & 2	3
Type:	Geared Overhead Traction – Passenger 350 fpm	Geared Overhead Traction – Passenger 200 fpm
Operation	Duplex – Motion Control Selective/Collective	Simplex – Motion Control Selective/Collective
Capacity	2500 lbs.	2500 lbs.
Stops	5 stops/ 5 front/ 0 rear	4 stops/ 4 front /0 rear
Installation Contractor	Schindler	Schindler
Door Type	Double Bypass	Double Bypass
Door Size	3'9" x 7'0"	3'9" x 7'0"
Door Protection	IR Detector	IR Detector

**SUMMIT COUNTY – PREVENTATIVE  
MAINTENANCE SPECIFICATIONS**

**APPENDIX B  
EQUIPMENT PERFORMANCE**

Unit Type	One Floor Run Up or down (12"-0" floor to floor)	Rated Speed±	Leveling±	Accel/Decel
Traction	10.0/10.5 Seconds	3%	¼	3.0 ft/sec <sup>2</sup>

**Floor to Floor Performance Time:** Measured from the instant the doors begin to close until doors are 3/4 open (1/2 open for side opening doors) and car is stopped at next successive floor under any loading condition or travel direction.

**Elevator Speed:** Elevator speed is measured with a tachometer while the elevator makes a full run through the hoistway with no load in the car. Contract speed (to be found on the governor rating plate or the cross head on the car) should be maintained within criteria range indicated on individual performance evaluations under any load condition or travel direction.

Unit Type	Door Opening	Door Closing	Closing Pressure	Car Call Dwell Time	Hall Car Dwell Time	Nudging
Traction	2.0/2.5 Seconds	2.5/3.0 Seconds	Less Than 30 lbs.	3.0/3.5 Seconds	5.0/6.0 Seconds	20.0/25.0 Seconds

**Door Open Time:** Measured from the instant the doors begin to open until the doors are fully open. Door opening time should be as fast as possible to provide optimum adjustment of efficient elevator service. Our recommended door times are based on the door operator equipment installed while providing smooth operation and long equipment life.

## **SUMMIT COUNTY – PREVENTATIVE MAINTENANCE SPECIFICATIONS**

**Door Closing Time:** Measured from the instant the doors begin to close until the doors are fully closed. The ASME A17.1 Code limits door closing time by defining the level of kinetic energy generated during door closing operation. We indicate the closing time which approximates Code requirement based on average door weight.

**Door Closing Pressure:** Measured with a spring pressure gauge as the doors begin to close. The measured value is the force required to prevent the doors from closing under power. ASME A17.1 Code requires that the force required to stall the closing door be no more than 30 force pounds.

**Car Call Dwell Time:** Measured from the instant the doors are fully open until the doors begin to close when the car stops in response to a car call. It may also be reduced by re-registering a car call after the initial opening of the doors. Minimum time of 3 seconds is required by The Americans with Disabilities Act (A.D.A.).

**Long Door Hold Open Time:** Measured from the instant the doors are fully open until the doors begin to close when the car stops in response to a hall call. Minimum time of 5 seconds is required by The Americans with Disabilities Act (A.D.A.).

**Nudging:** Measured from the instant the doors reach the fully open position until the door buzzer sounds and the doors begin to close at reduced speed even though the door protective devices are interrupted.

**SUMMIT COUNTY – PREVENTATIVE  
MAINTENANCE SPECIFICATIONS**

**APPENDIX A  
EQUIPMENT INVENTORY  
SUMMIT COUNTY PARKING DECK FACILITY**

BUILDING NAME	TYPE	PM Schedule		Estimated PM Hours/Month
		Annually	Monthly	
Summit County Parking Deck	Two (2) Hydraulic Two (2) Traction	One (1) Safety and 5 Year Load Test	One (1) Hour/Unit	Four(4) Hours/Month
Total	Four (4) Units		Four (4) Hours	Four (4) Hours/Month

**Preventative Maintenance (PM) hours for inspection time only and DO NOT include callbacks, repairs, upgrades or code mandated testing. Estimated PM hours are minimum requirements for this agreement.**

**EQUIPMENT SUMMARY**

Unit No.	1 & 2 - PUBLIC (NORTH)	3 & 4 - PUBLIC (SOUTH)
Type:	Canton Elevator Company State Reg. # 46489 # 46490 Hydraulic Rope – Passenger Submersible Pump	Millar Elevator Company State Reg. # 46108 # 46109 Drum Traction-Passenger
Operation	Duplex Controller – Motion Control Control Model Selective/Collective	Simplex Controller–Motion Control Control Model Selective/Collective
Capacity	2500 lbs.	2500 lbs.
Stops	7 stops/7 front/0 rear	7 stops/7 front/0 rear
Installation Contractor	Millar Elevator Co (Schindler Elevator)	Millar Elevator Co (Schindler Elevator)
Door Type	<- ->	
Door Size	3'6" x 7'0"	3'6" x 7'0"
Door Protection	IR Detector	IR Detector

**SUMMIT COUNTY – PREVENTATIVE  
MAINTENANCE SPECIFICATIONS**

**APPENDIX B  
EQUIPMENT PERFORMANCE**

Unit Type	One Floor Run Up or down (12"-0" floor to floor)	Rated Speed±	Leveling±	Accel/Decel
Traction-350fpm	10.0/10.5 Seconds	3%	¼	3.0 ft/sec <sup>2</sup>
Hydraulic-145 fpm	15.0/15.5 Seconds	10%	¼	2.5 ft/sec <sup>2</sup>

**Floor to Floor Performance Time:** Measured from the instant the doors begin to close until doors are 3/4 open (1/2 open for side opening doors) and car is stopped at next successive floor under any loading condition or travel direction.

**Elevator Speed:** Elevator speed is measured with a tachometer while the elevator makes a full run through the hoistway with no load in the car. Contract speed (to be found on the governor rating plate or the cross head on the car) should be maintained within criteria range indicated on individual performance evaluations under any load condition or travel direction.

Unit Type	Door Opening	Door Closing	Closing Pressure	Car Call Dwell Time	Hall Car Dwell Time	Nudging
Traction	2.0/2.5 Seconds	2.5/3.0 Seconds	Less Than 30 lbs.	3.0/3.5 Seconds	5.0/6.0 Seconds	20.0/25.0 Seconds
Hydraulic						

**Door Open Time:** Measured from the instant the doors begin to open until the doors are fully open. Door opening time should be as fast as possible to provide optimum adjustment of efficient elevator service. Our recommended door times are based on the door operator equipment installed while providing smooth operation and long equipment life.



## **SUMMIT COUNTY – PREVENTATIVE MAINTENANCE SPECIFICATIONS**

**Door Closing Time:** Measured from the instant the doors begin to close until the doors are fully closed. The ASME A17.1 Code limits door closing time by defining the level of kinetic energy generated during door closing operation. We indicate the closing time which approximates Code requirement based on average door weight.

**Door Closing Pressure:** Measured with a spring pressure gauge as the doors begin to close. The measured value is the force required to prevent the doors from closing under power. ASME A17.1 Code requires that the force required to stall the closing door be no more than 30 force pounds.

**Car Call Dwell Time:** Measured from the instant the doors are fully open until the doors begin to close when the car stops in response to a car call. It may also be reduced by re-registering a car call after the initial opening of the doors. Minimum time of 3 seconds is required by The Americans with Disabilities Act (A.D.A.).

**Long Door Hold Open Time:** Measured from the instant the doors are fully open until the doors begin to close when the car stops in response to a hall call. Minimum time of 5 seconds is required by The Americans with Disabilities Act (A.D.A.).

**Nudging:** Measured from the instant the doors reach the fully open position until the door buzzer sounds and the doors begin to close at reduced speed even though the door protective devices are interrupted.

**SUMMIT COUNTY – PREVENTATIVE  
MAINTENANCE SPECIFICATIONS**

**APPENDIX A  
EQUIPMENT INVENTORY  
SUMMIT COUNTY ENVIRONMENTAL SERVICES**

BUILDING NAME	TYPE	PM Schedule		Estimated PM Hours
		Monthly	Quarterly	
Summit County Environmental Services	One (1) Hydraulic		One (1) Hour/Unit	Four (4) Hour/Annually
				One (1) Safety Test

**Preventative Maintenance (PM) hours are inspection time only and DO NOT include callbacks, repairs, upgrades or code mandated testing. Estimated PM hours are minimum requirements for this agreement.**

**EQUIPMENT SUMMARY**

Unit No.	1	
Type:	Otis Hydraulic Passenger  Ohio Registration Cert: # 40733	
Operation	Simplex – Controller Selective/Collective	
Capacity	2100 lbs.	
Stops	3 stops/ 3 front/ 0 rear	
Installation Contractor	Otis Elevator	
Door Type	Single Slide	
Door Size	3'0" x 7'0"	
Door Protection	IR Detector	

**SUMMIT COUNTY – PREVENTATIVE  
MAINTENANCE SPECIFICATIONS**

**APPENDIX B  
EQUIPMENT PERFORMANCE**

Unit Type	One Floor Run Up or down (12"-0" floor to floor)	Rated Speed±	Leveling±	Accel/Decel
Hydraulic-125 fpm	15.0/15.5 Seconds	10%	¼	2.5 ft/sec <sup>2</sup>

**Floor to Floor Performance Time:** Measured from the instant the doors begin to close until doors are 3/4 open (1/2 open for side opening doors) and car is stopped at next successive floor under any loading condition or travel direction.

**Elevator Speed:** Elevator speed is measured with a tachometer while the elevator makes a full run through the hoistway with no load in the car. Contract speed (to be found on the governor rating plate or the cross head on the car) should be maintained within criteria range indicated on individual performance evaluations under any load condition or travel direction.

Unit Type	Door Opening	Door Closing	Closing Pressure	Car Call Dwell Time	Hall Car Dwell Time	Nudging
Hydraulic	2.0/2.5 Seconds	2.5/3.0 Seconds	Less Than 30 lbs.	3.0/3.5 Seconds	5.0/6.0 Seconds	20.0/25.0 Seconds

**Door Open Time:** Measured from the instant the doors begin to open until the doors are fully open. Door opening time should be as fast as possible to provide optimum adjustment of efficient elevator service. Our recommended door times are based on the door operator equipment installed while providing smooth operation and long equipment life.

## SUMMIT COUNTY – PREVENTATIVE MAINTENANCE SPECIFICATIONS

**Door Closing Time:** Measured from the instant the doors begin to close until the doors are fully closed. The ASME A17.1 Code limits door closing time by defining the level of kinetic energy generated during door closing operation. We indicate the closing time which approximates Code requirement based on average door weight.

**Door Closing Pressure:** Measured with a spring pressure gauge as the doors begin to close. The measured value is the force required to prevent the doors from closing under power. ASME A17.1 Code requires that the force required to stall the closing door be no more than 30 force pounds.

**Car Call Dwell Time:** Measured from the instant the doors are fully open until the doors begin to close when the car stops in response to a car call. It may also be reduced by re-registering a car call after the initial opening of the doors. Minimum time of 3 seconds is required by The Americans with Disabilities Act (A.D.A.).

**Long Door Hold Open Time:** Measured from the instant the doors are fully open until the doors begin to close when the car stops in response to a hall call. Minimum time of 5 seconds is required by The Americans with Disabilities Act (A.D.A.).

**Nudging:** Measured from the instant the doors reach the fully open position until the door buzzer sounds and the doors begin to close at reduced speed even though the door protective devices are interrupted.

**SUMMIT COUNTY – PREVENTATIVE  
MAINTENANCE SPECIFICATIONS**

**APPENDIX A  
EQUIPMENT INVENTORY  
SUMMIT COUNTY SUMMIT CENTER FACILITY**

BUILDING NAME	TYPE	PM Schedule		Estimated PM Visits/Year
		Yearly	Quarterly	
Summit County Summit Center	One (1) Traction - Passenger	Annual Safety or 5 YR Load Test	One (1) Hour/Unit	Four (4) plus Annual Safety or 5 YR Load Test
	One (1) Traction - Freight	Annual Safety or 5 YR Load Test		One (1) visit plus Annual Safety or Load Test

**Preventative Maintenance (PM) hours are inspection time only and DO NOT include callbacks, repairs, upgrades or code mandated testing. Estimated PM hours are minimum requirements for this agreement.**

**EQUIPMENT SUMMARY**

Unit No.	1 - PUBLIC	2 - FREIGHT
Type:	Kone, Inc. State Reg. #8109 Geared Overhead - Passenger	Otis Elevator Co. State Reg. # 8110 Geared Overhead Freight
Operation	Motion Control-Simplex Controller-VFMC 1000 Selective/Collective	Simplex Otis Controller Selective/Collective
Capacity	2500 lbs.	6000 lbs.
Stops	4 stops/ 4 front/ 0 rear	4 stops
Installation Contractor	Kone, Inc.	Otis Elevator Co.
Door Type	Double - Bypass	Guillotine
Door Size	4'0" x 7'0"	7'7" x 7'0"
Door Protection	IR Detector	Unknown

**SUMMIT COUNTY – PREVENTATIVE  
MAINTENANCE SPECIFICATIONS**

**APPENDIX B  
EQUIPMENT PERFORMANCE**

Unit Type	One Floor Run Up or down (12'-0" floor to floor)	Rated Speed±	Leveling±	Accel/Decel
Passenger – Traction - 250 fpm	10.0/10.5 Seconds	3%	¼	3.0 ft/sec <sup>2</sup>
Freight – Traction 100 fpm	unknown	Unknown	¼	unknown

**Floor to Floor Performance Time:** Measured from the instant the doors begin to close until doors are 3/4 open (1/2 open for side opening doors) and car is stopped at next successive floor under any loading condition or travel direction.

**Elevator Speed:** Elevator speed is measured with a tachometer while the elevator makes a full run through the hoistway with no load in the car. Contract speed (to be found on the governor rating plate or the cross head on the car) should be maintained within criteria range indicated on individual performance evaluations under any load condition or travel direction.

Unit Type	Door Opening	Door Closing	Closing Pressure	Car Call Dwell Time	Hall Car Dwell Time	Nudging
Passenger	2.0/2.5 Seconds	2.5/3.0 Seconds	Less Than 30 lbs.	3.0/3.5 Seconds	5.0/6.0 Seconds	20.0/25.0 Seconds
Freight	Manual	Manual	n/a	n/a	n/a	n/a

**Door Open Time:** Measured from the instant the doors begin to open until the doors are fully open. Door opening time should be as fast as possible to provide optimum adjustment of efficient elevator service. Our recommended door times are based on the door operator equipment installed while providing smooth operation and long equipment life.

## **SUMMIT COUNTY – PREVENTATIVE MAINTENANCE SPECIFICATIONS**

**Door Closing Time:** Measured from the instant the doors begin to close until the doors are fully closed. The ASME A17.1 Code limits door closing time by defining the level of kinetic energy generated during door closing operation. We indicate the closing time which approximates Code requirement based on average door weight.

**Door Closing Pressure:** Measured with a spring pressure gauge as the doors begin to close. The measured value is the force required to prevent the doors from closing under power. ASME A17.1 Code requires that the force required to stall the closing door be no more than 30 force pounds.

**Car Call Dwell Time:** Measured from the instant the doors are fully open until the doors begin to close when the car stops in response to a car call. It may also be reduced by re-registering a car call after the initial opening of the doors. Minimum time of 3 seconds is required by The Americans with Disabilities Act (A.D.A.).

**Long Door Hold Open Time:** Measured from the instant the doors are fully open until the doors begin to close when the car stops in response to a hall call. Minimum time of 5 seconds is required by The Americans with Disabilities Act (A.D.A.).

**Nudging:** Measured from the instant the doors reach the fully open position until the door buzzer sounds and the doors begin to close at reduced speed even though the door protective devices are interrupted.