ROAD WEATHER INFORMATION SYSTEM
DEVICE TESTING - LEVEL A

Project Name: _____ **Test Date:** _____

RWIS # _____ **Route:** _____ **MM**_____ . ____ **NB/SB/EB/WB/Median**
Nearest Side Street Name: _____

This procedure outlines Level A device test to be performed on Road Weather Information System. Perform following tests at RPU cabinet using vendor certified Software. Level A device testing demonstrates that the individual devices at each work site are fully operational.

Testing Software Name: _____

Service Pole No.: _____

RWIS Manufacturer: _____

RWIS Model No.: _____

RWIS Serial No.: _____

RWIS Communication Mode with Center: Fiber ☐ **Other** ☐ **If Other List:** _____

1: REMOTE PROCESSING UNIT (RPU)

No.	Task	Required Value	Actual Value	Pass	Fail	Comments
I.	Verify that no special licensing, frequency assignment or permits from any agency are required					
II.	Verify RPU capability to reset itself if software enters an indeterminate state					
III.	Confirm available serial ports (half or full duplex)	10 Serial ports selectable to EIA-232 or RS-422/485				
IV.	Verify the available channels	20 Differential 11 Single-ended				
V.	Verify the unit is equipped with extensive lightning protection for all channels and serial ports	Auto-reset circuit breakers for power, Tran sorbs and gas discharge tubes				
VI.	Verify RPU capability to utilize solar power or other power source	Minimum 72 hrs.				
VII.	Verify RPU capability to control automatic firing of a Fixed Anti-icing Spray Technology (FAST) System	User adjustable to fine-tune the firing				

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No.	Task	Required Value	Actual Value	Pass	Fail	Comments
VIII.	Verify lock mechanism for RPU tower's fold-over assembly	Lock in upright position				
IX.	Verify capability of RPU to upgrade existing software					

2: Camera

No.	Task	Required Value	Actual Value	Pass	Fail	Comments
I.	Verify PTZ operation					
II.	Obtain color video still frame image	Max. 8 preset images in every 5-10 minutes				
III.	Continuous Pan rotation	360°				
IV.	Variable Pan Speed	0.5° per second to 225° per second				
V.	Vertical Tilt range	180° of movement (0° to 90° down to 0°, with video rotation)				
VI.	Variable Tilt Speed	0.5° per second to 60° per second				
VII.	Zoom	Up to 10X Digital				
VIII.	Verify capability to configure preset positions	Up to 64				

3: Sensor Performance

No.	Task	Required Value	Actual Value	Pass	Fail	Comments
I.	Verify that Precipitation sensor utilizes optical, infrared technology to detect precipitation and provide required output	Yes/No				
II.	Verify classifying precipitation and visibility sensor(WIVIS)					

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	operation					
No.	**Task**	**Required Value**	**Actual Value**	**Pass**	**Fail**	**Comments**
III.	Confirm visibility Sensor range	25ft. – 1 mile				
IV.	Verify classifying precipitation and visibility sensor(WIVIS) housing is all weather and ice-proof with heated optics					
V.	Verify air temperature/ Relative humidity Sensor operation					
VI.	Confirm the Air temperature and Relative Humidity Sensor mounted height on RWIS tower	Approx. 6 ft. from ground level in solar /wind radiation shield				
VII.	Verify operation of ultrasonic wind speed/direction sensor and ensure that sensor have no moving parts					
VIII.	Verify operation of ultrasonic wind speed/direction sensor's external heating unit.					
IX.	Verify operation of Barometric pressure sensor and ensure that sensor is housed in a weatherproof enclosure with no moving parts					
X.	Verify operation of Solar Radiation Sensor	Accuracy ± 0.3% (Typical)				
XI.	Verify the operation of dual flasher lamps for defined weather condition (If Applicable)					
XII.	Verify the operation of Remote Wireless Data Station (RWDS) (If Applicable)					
XIII.	Verify Passive Pavement Sensors obtain required pavement parameters	Surface Temperature, Dry/Wet pavement Conditions and Pavement Status				

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No.	Task	Required Value	Actual Value	Pass	Fail	Comments
XIV.	Verify Active Pavement Sensors obtain required pavement parameters	Surface temperature, Surface state, Freeze point of surface solution				
XV.	Verify Wireless battery operated traffic analyzer and pavement surface Sensor obtain required data	Vehicle volume count, occupancy, vehicle speed, vehicle length, roadway surface temperature, pavement wet/dry conditions, index of chemical dissolved solids in moisture				
XVI.	Verify Subsurface Temperature Probe obtains required data	Ground Temperature below the roadway pavement surface				

4: Other Requirements

No.	Task	Required Value	Actual Value	Pass	Fail	Comments
I.	Verify RPU maximum power requirement	50 Watts (Continuous)				
II.	Verify Stream level/snow depth ultrasonic transducer power supply	3 watt (maximum)				
III.	Verify ground resistance					

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LEVEL A TEST RESULTS:

PASS ☐ **FAIL** ☐

Correction Work Items:

1. _____

2. _____

3. _____

4. _____

5. _____

We agree that Level A testing of the Road Weather Information System has been performed and that the information above accurately represent the results of the test.

Contractor Name: _____
Contractor Representative Name: _____
Signature and Date: _____

ITS Inspector Name: _____
Signature and Date: _____

Corrected Work Items: ITS Inspector Signatures & Date

1. _____ _____
2. _____ _____
3. _____ _____
4. _____ _____
5. _____ _____