DYNAMIC MESSAGE SYSTEM
DEVICE TESTING - LEVELS A, B, C

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

DMS # _____   **Route:** _____   **MM**_____ . ____   **NB/SB/EB/WB/Median**
Nearest Side Street Name: _____
Township_____ **County** _____ **Longitude**_____ **Latitude**_____

Level A – Perform the applicable tests below at controller DMS cabinet using VFC controller in cabinet. Level A device testing demonstrates that the individual devices at each work site are fully operational.

Level B – Perform the applicable tests below from the designated control center. Level B testing demonstrates that each device is fully operational from the designated control center to the work site with the original equipment and manufacturer's software. After the contractor's verification test, the Department will conduct a 7 consecutive business day observational and functional test period.

Level C – Perform the applicable tests below from the designated control center using control center software management system. Level C testing demonstrates that each field device is fully operational form the designated control center after integration into the designated control center software management systems. After the contractor's verification test, the Department will conduct a 14 consecutive business day observational and function test period.

Level A

DMS Type: _____**WALK IN/ FRONT ACCESS**

Structure: Type A (Ground Mounted) / Type B (Butterfly) / Type C (Cantilever) / Type D (Overhead)

Testing Software Name: _____

Service Pole No: _____**Meter No:** _____

Meter Cabinet Location_____ **Longitude**_____**Latitude**_____

DMS Manufacturer: _____

DMS Model No.: _____ **DMS Serial No.:** _____

DMS Cabinet Serial No.: _____ **DMS Controller Serial No.:** _____

DMS Controller Firmware: _____ **DMS Controller Firmware Revision** _____

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Level B

Communication Type: _____ **Account #:**_____

IP Address: _____

Subnet Mask: _____ **Gateway:** _____

MAC Address: _____ **Phone Number:** _____

Patch Panel: _____ **Cable / Fiber Number:** _____

Switch A

Location: _____

IP Address: _____

Subnet Mask: _____

Gateway: _____

Make: _____ **Model:** _____ **Serial Number:** _____

Switch B

Location: _____

IP Address: _____

Subnet Mask: _____

Gateway: _____

Make: _____ **Model:** _____ **Serial Number:** _____

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Task No.	Task	Required Value	Actual Value	Level A		Level B		Level C		Comments
				Pass	Fail	Pass	Fail	Pass	Fail	
1 - Sign Display										
I. ABC	Create new message and store in the memory.	NONE	NONE							
II. ABC	Activate newly created message from the memory and verify the display on sign.	NONE	NONE							
III. BC	Create sign schedule and verify the sign display at assigned schedule/	NONE	NONE	N/A	N/A					
IV. ABC	Perform True Message Display Verification during sign poll from laptop computer, and obtain state of each pixel in real time.	Full-On , Half-On or Off	NONE							
V. ABC	Confirm the number of pages that any message can contain. Display time to each page 1.0 sec to 25.5 Seconds.	Maximum 6	NONE							

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Task No.	Task	Required Value	Actual Value	Level A		Level B		Level C		Comments
				Pass	Fail	Pass	Fail	Pass	Fail	
VI. ABC	Ensure that message priority status can be customized.	NONE	NONE							
VII. ABC	Verify the display of alpha numeric characters including numbers, letters, punctuations and bitmap images Ensure minimum of 12 font sets are available and each font set supports letters "A" thru "Z" in upper & lower case, decimal digits "0" through "9", a blank space, 8 directional arrows, punctuation marks and special characters.	NONE	NONE							
VIII. A	Verify the orientation of the horizontal member and Mounted height of DMS.	NONE	NONE			N/A	N/A	N/A	N/A	

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Task No.	Task	Required Value	Actual Value	Level A		Level B		Level C		Comments
				Pass	Fail	Pass	Fail	Pass	Fail	
2 - Sign Diagnostics										
2A – LED Pixel Test										
I. ABC	Obtain diagnostic test report results.	NONE	NONE							
2B – Brightness Control										
I. A	Adjust the brightness control from the front panel Interface.	Quarterly Increments	NONE			N/A	N/A	N/A	N/A	
I. BC	Adjust the brightness control from control software.	Quarterly Increments	NONE	N/A	N/A					
II. A	Set the brightness control to automatic from the front panel interface.	NONE	NONE			N/A	N/A	N/A	N/A	
II. BC	Set the brightness control to automatic from control software.	NONE	NONE	N/A	N/A					

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Task No.	Task	Required Value	Actual Value	Level A		Level B		Level C		Comments
				Pass	Fail	Pass	Fail	Pass	Fail	
			2C – Environmental Monitoring							
I. ABC	Verify performance of ambient light sensors.	NONE								
II. ABC	Obtain external temperature sensor reading.	NONE								
III. ABC	Verify sign housing internal temperature measurement.	NONE								
IV. ABC	Monitor internal humidity sensor output (0-100%).	NONE								

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Task No.	Task	Required Value	Actual Value	Level A		Level B		Level C		Comments
				Pass	Fail	Pass	Fail	Pass	Fail	
3 - Interior DMS Environmental Control										
I. BC	Perform Fan Test. Verify Trap to Software.		NONE	N/A	N/A					
II. ABC	If equipped, verify the number of heaters and turn them on. Verify trap to software. Leave in with change	Indicate # of heaters.								
4 - Error Notification										
III. A	Restart the DMS controller and verify the error message on the front LCD panel.	NONE	NONE			N/A	N/A	N/A	N/A	
III. BC	Manually reset the sign controller and verify trap notification and NTCIP reset message sent to control system.	NONE	NONE	N/A	N/A					

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Task No.	Task	Required Value	Actual Value	Level A		Level B		Level C		Comments
				Pass	Fail	Pass	Fail	Pass	Fail	
IV. A	Unplug DMS controller power cord and verify the error message on the front LCD panel message.	NONE	NONE			N/A	N/A	N/A	N/A	
IV. BC	Upon power loss to sign controller, verify trap notification and NTCIP power loss message sent to central control system and verify event activation.	NONE	NONE	N/A	N/A					
V. A	Verify number of doors/panels for Front Access DMS/ Verify door status for Front Access DMS	NONE				N/A	N/A	N/A	N/A	
V. BC	Verify door open trap notification sent to control system for sign controller cabinet door. Verify # of doors/panels for Front Access DMS/Verify door status for Front Access DMS.	NONE		N/A	N/A					

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Task No.	Task	Required Value	Actual Value	Level A		Level B		Level C		Comments
				Pass	**Fail**	**Pass**	**Fail**	**Pass**	**Fail**	
VI. BC	Verify communication loss message from central control system and verify event activations.	NONE	NONE	N/A	N/A					

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Task No.	Task	Required Value	Actual Value	Level A		Level B		Level C		Comments
				Pass	Fail	Pass	Fail	Pass	Fail	
5 - Power Supply										
I. ABC	Obtain voltage readings for all power supplies.									
II. ABC	Obtain status of each output fuse (if equipped)	NONE	NONE							
III. A	Verify all equipment is connected to ground wire.	NONE	NONE			N/A	N/A	N/A	N/A	
III. BC	Provide UPS Make, Model, and Serial #. Test UPS and Verify Battery Level			N/A	N/A					
IV. A	Verify Ground resistance.	As per NEC requirement	NONE			N/A	N/A	N/A	N/A	
IV. AB	Verify Cabinet and Devices are labeled properly.							N/A	N/A	

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Task No.	Task	Required Value	Actual Value	Level A		Level B		Level C		Comments
				Pass	Fail	Pass	Fail	Pass	Fail	
V. A	Verify operation of sign housing internal lighting.	NONE	NONE			N/A	N/A	N/A	N/A	
VI. AB	Verify cabinet is neat, clean, and conduits are sealed.							N/A	N/A	
VII. ABC	Verify number of power supplies									
VIII. AB	Verify Manuals, Keys, and Drawings are in Cabinet Drawer.							N/A	N/A	
IX. ABC	Simulate and Verify Power Supply Failure									

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LEVEL A TEST RESULTS: PASS ☐   FAIL ☐

IF PASS; RUN THE MESSAGE "INSTALLATION TESTING" ON THE SIGN UNTIL INITIATION OF LEVEL B TESTING OR AS DIRECTED BY THE TRAFFIC OPERATIONS CENTER

Correction Work Items:

1. _____

2. _____

3. _____

4. _____

We agree that Level A testing of the Dynamic Message System has been performed and that the information above accurately represents the results of the test and "INSTALLATION TESTING" message has been successfully displayed on the sign until initiation of Level B testing.

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

ITS Inspector Name: _____
Signature and Date: _____

Corrected Work Items: **Signatures & Date**

Work Items   **ITS Inspector**
1. _____   _____
2. _____   _____
3. _____   _____
4. _____   _____
5. _____   _____

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LEVEL B TEST RESULTS:

Level B Observation period
Start Date
End Date

PASS ☐   **FAIL** ☐

Correction Work Items:

1. _____

2. _____

3. _____

4. _____

We agree that Level B testing of the Dynamic Message 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: _____

Mobility Management North/South Representative Name: _____
Signature and Date: _____

Corrected Work Items: **Signatures & Date**

Work Items   **ITS Inspector   MMN/S Representative**
1. _____   _____   _____
2. _____   _____   _____
3. _____   _____   _____
4. _____   _____   _____
5. _____   _____   _____

DYNAMIC MESSAGE SYSTEM
DEVICE TESTING - LEVELS A, B, C

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LEVEL C TEST RESULTS:

Level C Observational period
Start Date
End Date

PASS ☐   FAIL ☐

Correction Work Items:

1. _____

2. _____

3. _____

4. _____

We agree that Level C testing of the Dynamic Message System has been performed and that the information above accurately represents the results of the test.

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

ITS Inspector Name: _____
Signature and Date: _____

Mobility Management North/South Representative Name: _____
Signature and Date: _____

Resident Engineer Name: _____
Signature and Date: _____

Corrected Work Items: **Signatures & Date**

Work Items	ITS Inspector	MMN/S Representative
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____