



CONSTRUCTION LEADERS

LETTER OF TRANSMITTAL	
DATE: <b>February 26, 2015</b>	PCL JOB NO: <b>5515002</b>
ATTN: <b>Chris Barker</b>	TRANSMITTAL NO: <b>011.1</b>

To: **State of Vermont Agency of Transportation**  
 One National Life Drive  
 Montpelier, VT 05633-5001  
 (802) 828-0053

Re: Hartford Lateral Slide  
 Project No.: IM 091-2(79)  
 Contract ID.: 12A132

County: Windsor

PCL FILE NO: 5515002-11-1

WE ARE SENDING  Attached \_\_\_\_\_ Under separate cover via **Email & SP** \_\_\_\_\_ the following:  
 \_\_\_\_\_ Shop drawings \_\_\_\_\_ Prints \_\_\_\_\_ Plans \_\_\_\_\_ Samples  Specifications  
 \_\_\_\_\_ Copy of Letter \_\_\_\_\_ Change Order \_\_\_\_\_  Other

COPIES	SPEC.	REVISION	DESCRIPTION
1	Sheet 5, Note 73	1	TCP – Item 2.2 Smart Work Zone

TRANSMITTED for as checked below:

<input checked="" type="checkbox"/> For approval	Approved as submitted	Resubmit	<u>1</u> Copies for approval
For your use	Approved as noted	Submit	_____ Copies for distribution
As requested	Returned for corrections	Return	_____ Corrected prints
For review and comment			

**Remarks:**

Please return an email of this approved submittal to Erich Heymann ([ewheymann@pcl.com](mailto:ewheymann@pcl.com)) and Jeremy Mackling ([jmackling@pcl.com](mailto:jmackling@pcl.com)).

We request the review and return of this submittal within 1 days. Please advise if this request cannot be met so we can plan accordingly.

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By: **Jeremy Mackling**, Project Manager

COPY TO: Project Files



**CONSTRUCTION LEADERS**

**SUBMITTAL NO. : 11.1  
TCP – Item 2.2 Smart Work Zone**

<b>Item No.</b>	<b>Specification</b>	<b>Description</b>
1	Sheet 5, Note 73	TCP – Item 2.2 Smart Work Zone

***PROJECT:***  
**HARTFORD LATERAL SLIDE**  
**PROJECT NO.: IM 091-2(79)**  
**CONTRACT ID.: 12A132**

***OWNER:***  
**STATE OF VERMONT AGENCY OF TRANSPORTATION**

***ENGINEER OF RECORD:***  
**STATE OF VERMONT AGENCY OF TRANSPORTATION**

***CONTRACTOR:***  
**PCL CIVIL CONSTRUCTORS, INC.**

**FEBRUARY 26, 2015**

Equipment that should be in place and running for the work that will be occurring on US Route 5.

**Note:** Equipment being utilized in this phase is for the activity that will be starting on US Route 5. The balance of equipment proposed to being installed once the snow subsides is directly related to activity occurring on I-91. Placement of those pieces at this time will not change the functionality or increase accuracy of Phase 1 equipment for US Route 5. Phase 1 includes PCMS's on every inlet to the work area, plus both cameras so the work area and the approaches to the work area can be monitored. There are also PQT's at the approach to the work area from I-91 and I-89 to monitor traffic flow prior to US Route 5 from I-91. There are no PQT's on US Route 5.

Location is listed, with map reference and anticipated MOT to be utilized. UTO present at all locations and follows the work.

- **PQT Q03**, located on I-91 NB Ramp from I-89. Refer to Map 2 of SWZ plans.
  - I91 RIGHT LANE CLOSURE
- **PTZ C01**, located on I-91 NB, mm 69.95 left. Refer to Map 2 of SWZ plans.
  - I91 INSIDE LANE CLOSURE
- **PQT Q04**, located on I-91 NB, mm 70.05 left. Refer to Map 2 of SWZ plans.
  - I91 INSIDE LANE CLOSURE
- **PTZ C02**, located on I-91 NB / US Route 5. Refer to Map 2 of SWZ plans.
  - PARTIAL RAMP CLOSURE
- PCMS M07, located on I-89 SB, mm 1.2 left. Refer to Map 2 of SWZ plans.
  - UTO ESCORT TO AND FROM SITE
- PCMS M11, located on Sykes Mountain Ave., WB. Refer to Map 2 of SWZ plans.
  - NO MOT ANTICIPATED
- PCMS M06, located on I-89 NB, mm 0.01 left. Refer to Map 3 of SWZ plans.
  - UTO ESCORT TO AND FROM SITE
- PCMS M02, located on I-91 NB, mm 67.05 right. Refer to Map 5 of SWZ plans.
  - I91 SHOULDER CLOSURE
- PCMS M10, located on US Route 5 NB, north of Drew Rd. Refer to Map 6 of SWZ plans.
  - ONE LANE ROAD W/ FLAGGERS
- **PQT Q08**, located on I-91 SB, mm 70.8 left. Refer to Map 9 of SWZ plans.
  - I91 INSIDE LANE CLOSURE
- **PCMS M03**, located on I-91 SB, mm 70.8 left. Refer to Map 9 of SWZ plans.
  - I91 INSIDE LANE CLOSURE
- **PCMS M12**, located on US Route 5 SB, left. Refer to Map 9 of SWZ plans.
  - RT4 INSIDE LANE CLOSURE

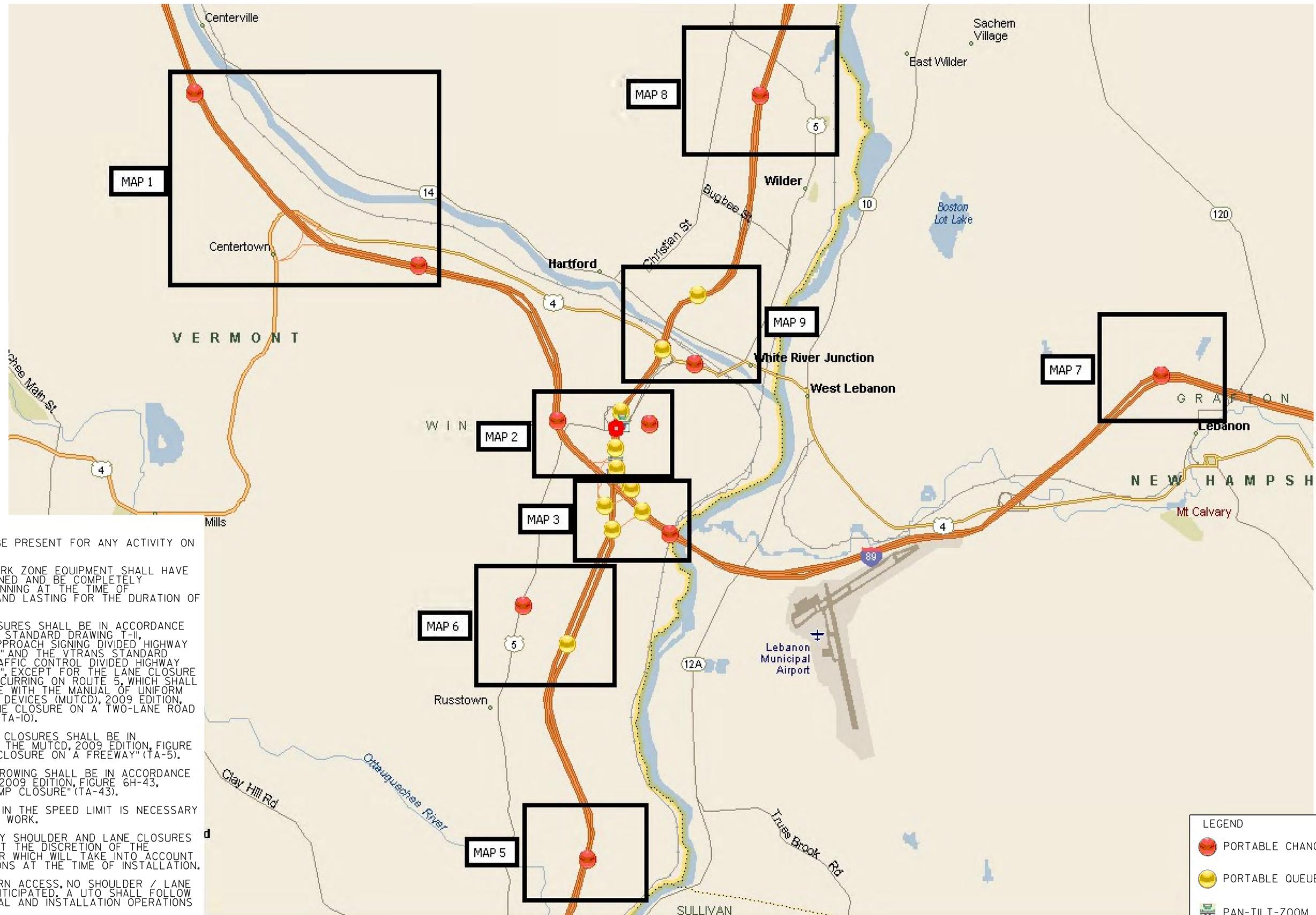
All of the locations that are highlighted in **yellow** are areas that may need to be done between the hours of 9 am and 4:00 pm. Locations not highlighted do not require lane closures so traffic will not be affected. PCMS M06 is in a U-turn area, PCMS M07 is in a U-turn area, PCMS M11 is on US Route 5, proposing to be located at the Ford Dealership but will need permission.

## BALANCE OF EQUIPMENT

The balance of the equipment can be deployed during much safer conditions once the snow subsides. Tentatively planned for April, but required to be functional 14 days prior to any sitework is done on I-9. Those pieces are:

- PCMS M08, located on I-89 NB, mm 2.90 right. Refer to Map 1 of SWZ plans.
- PCMS M09, located on I-89 SB, mm 5.00 right. Refer to Map 1 of SWZ plans.
- PQT Q09, located on I-91 SB, mm 70.30 right. Refer to Map 2 of SWZ plans.
- PQT Q01, located on I-89 NB, mm 0.30 left. Refer to Map 3 of SWZ plans.
- PQT Q02, located on I-91 NB on-ramp from I-89 NB. Refer to Map 3 of SWZ plans.
- PQT Q05, located on I-91 NB on-ramp from I-89 SB. Refer to Map 3 of SWZ plans.
- PQT Q06, located on I-91 NB on-ramp from I-89 SB. Refer to Map 3 of SWZ plans.
- PQT Q11, located on I-91 NB, mm 69.50 left. Refer to Map 3 of SWZ plans.
- PCMS M01, located on I-91 NB, mm 59.25 right. Refer to Map 4 of SWZ plans.
- PQT Q10, located on I-91 NB, mm 68.60 left. Refer to Map 6 of SWZ plans.
- PCMS M05, located on I-89 NB, mm 56.90 right (in NH). Refer to Map 7 of SWZ plans.
- PCMS M04, located on I-91 SB, mm 72.70 left. Refer to Map 8 of SWZ plans.
- PQT Q07, located on I-91 SB, mm 71.20 right. Refer to Map 9 of SWZ plans.

All of the locations that are highlighted in green are areas that may possibly require assistance to Worksafe during deployment with a UTO. Once the snow is gone, we can confirm prior to performing with the Resident Engineer.

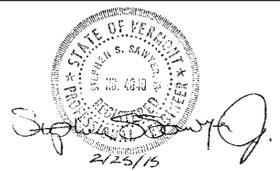


**NOTES:**

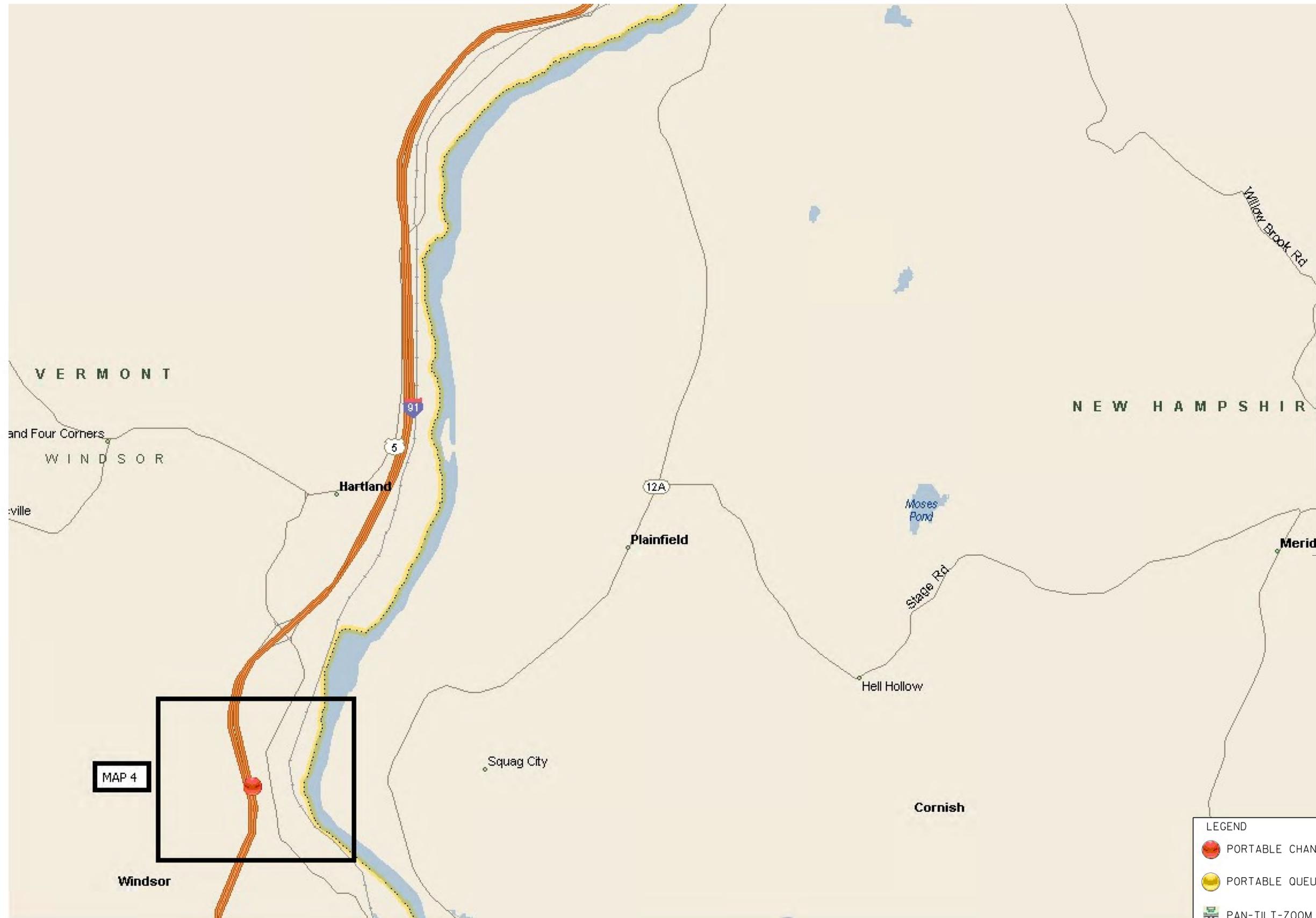
1. A UTO SHALL BE PRESENT FOR ANY ACTIVITY ON THE INTERSTATE.
2. ALL SMART WORK ZONE EQUIPMENT SHALL HAVE VISIBILITY MAINTAINED AND BE COMPLETELY OPERATIONAL BEGINNING AT THE TIME OF IMPLEMENTATION AND LASTING FOR THE DURATION OF THE PROJECT.
3. ALL LANE CLOSURES SHALL BE IN ACCORDANCE WITH THE VTRANS STANDARD DRAWING T-11, "CONSTRUCTION APPROACH SIGNING DIVIDED HIGHWAY ONE LANE CLOSED" AND THE VTRANS STANDARD DRAWING T-12, "TRAFFIC CONTROL DIVIDED HIGHWAY ONE LANE CLOSED", EXCEPT FOR THE LANE CLOSURE FOR PCMS MIO OCCURRING ON ROUTE 5, WHICH SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2009 EDITION, FIGURE 6H-10, "LANE CLOSURE ON A TWO-LANE ROAD USING FLAGGERS" (TA-10).
4. ALL SHOULDER CLOSURES SHALL BE IN ACCORDANCE WITH THE MUTCD, 2009 EDITION, FIGURE 6H-5, "SHOULDER CLOSURE ON A FREEWAY" (TA-5).
5. ALL RAMP NARROWING SHALL BE IN ACCORDANCE WITH THE MUTCD, 2009 EDITION, FIGURE 6H-43, "PARTIAL EXIT RAMP CLOSURE" (TA-43).
6. NO REDUCTION IN THE SPEED LIMIT IS NECESSARY TO PERFORM THIS WORK.
7. ALL TEMPORARY SHOULDER AND LANE CLOSURES SHALL BE DONE AT THE DISCRETION OF THE RESIDENT ENGINEER WHICH WILL TAKE INTO ACCOUNT THE SITE CONDITIONS AT THE TIME OF INSTALLATION.
8. FOR ALL U-TURN ACCESS, NO SHOULDER / LANE CLOSURES ARE ANTICIPATED. A UTO SHALL FOLLOW THE SNOW REMOVAL AND INSTALLATION OPERATIONS AT ALL TIMES.

LEGEND	
	PORTABLE CHANGEABLE MESSAGE SIGN
	PORTABLE QUEUE TRAILER
	PAN-TILT-ZOOM CAMERA

SMART WORK ZONE OVERALL PLAN I



PROJECT NAME: HARTFORD	FILE NAME: sl2a026_SWZ_TCP.dgn	PLOT DATE: 02/25/15
PROJECT NUMBER: IM 091-2(79)	PROJECT LEADER: K. HIGGINS	DRAWN BY: B. LYON
	DESIGNED BY: S. DESCHAMPS	CHECKED BY: S. SAWYER
	SMART WORK ZONE TCP	SHEET 4 OF ??



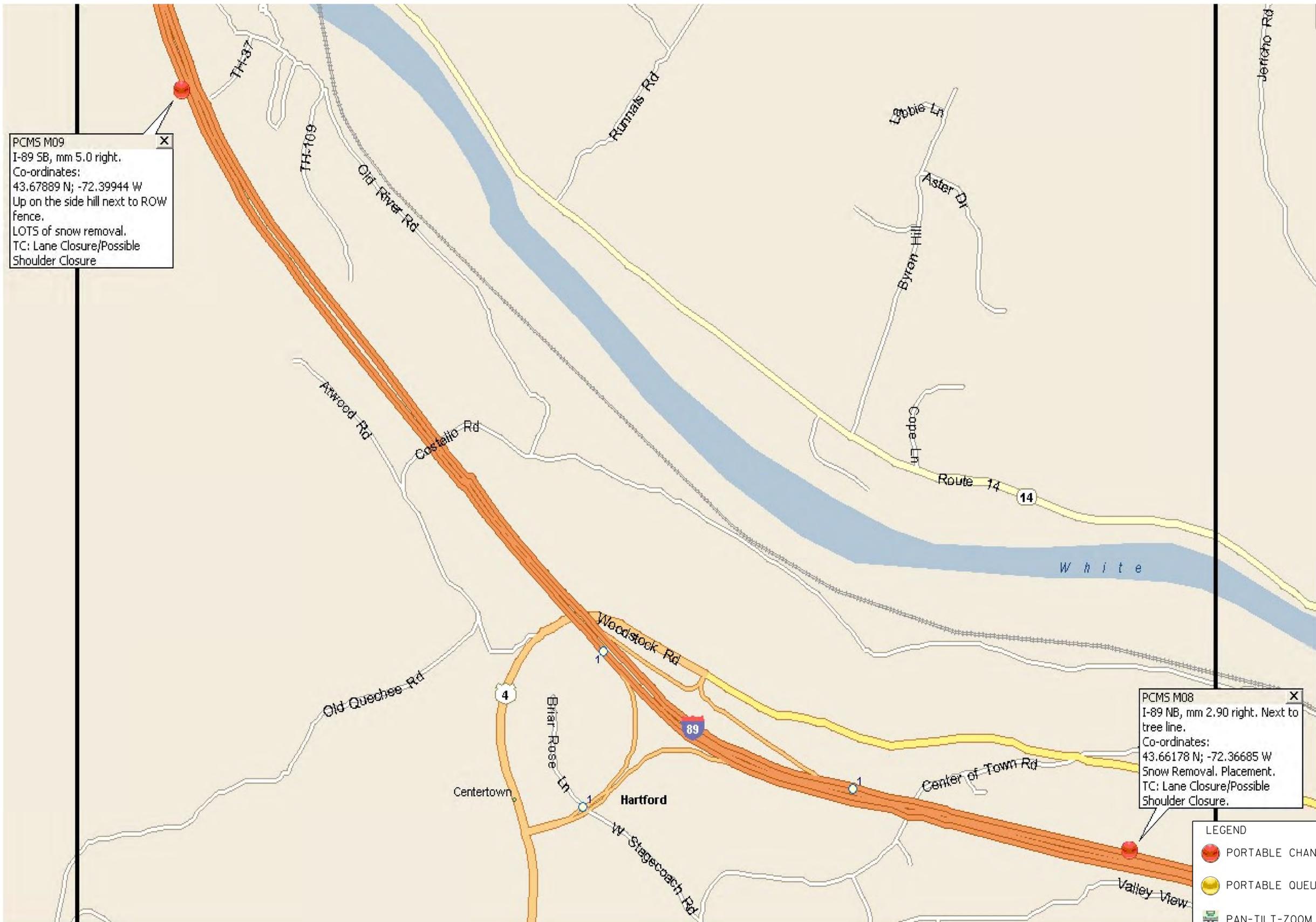
LEGEND	
	PORTABLE CHANGEABLE MESSAGE SIGN
	PORTABLE QUEUE TRAILER
	PAN-TILT-ZOOM CAMERA

SMART WORK ZONE OVERALL PLAN 2

Stephen S. Sawyer
   
 2/25/15



PROJECT NAME: HARTFORD	PLOT DATE: 02/25/15
PROJECT NUMBER: IM 091-2(79)	DRAWN BY: B. LYON
FILE NAME: sl2a026_SWZ_TCP.dgn	CHECKED BY: S. SAWYER
PROJECT LEADER: K. HIGGINS	SHEET 5 OF ??
DESIGNED BY: S. DESCHAMPS	
SMART WORK ZONE TCP	



PCMS M09  
 I-89 SB, mm 5.0 right.  
 Co-ordinates:  
 43.67889 N; -72.39944 W  
 Up on the side hill next to ROW  
 fence.  
 LOTS of snow removal.  
 TC: Lane Closure/Possible  
 Shoulder Closure

PCMS M08  
 I-89 NB, mm 2.90 right. Next to  
 tree line.  
 Co-ordinates:  
 43.66178 N; -72.36685 W  
 Snow Removal. Placement.  
 TC: Lane Closure/Possible  
 Shoulder Closure.

- LEGEND
- PORTABLE CHANGEABLE MESSAGE SIGN
  - PORTABLE QUEUE TRAILER
  - PAN-TILT-ZOOM CAMERA



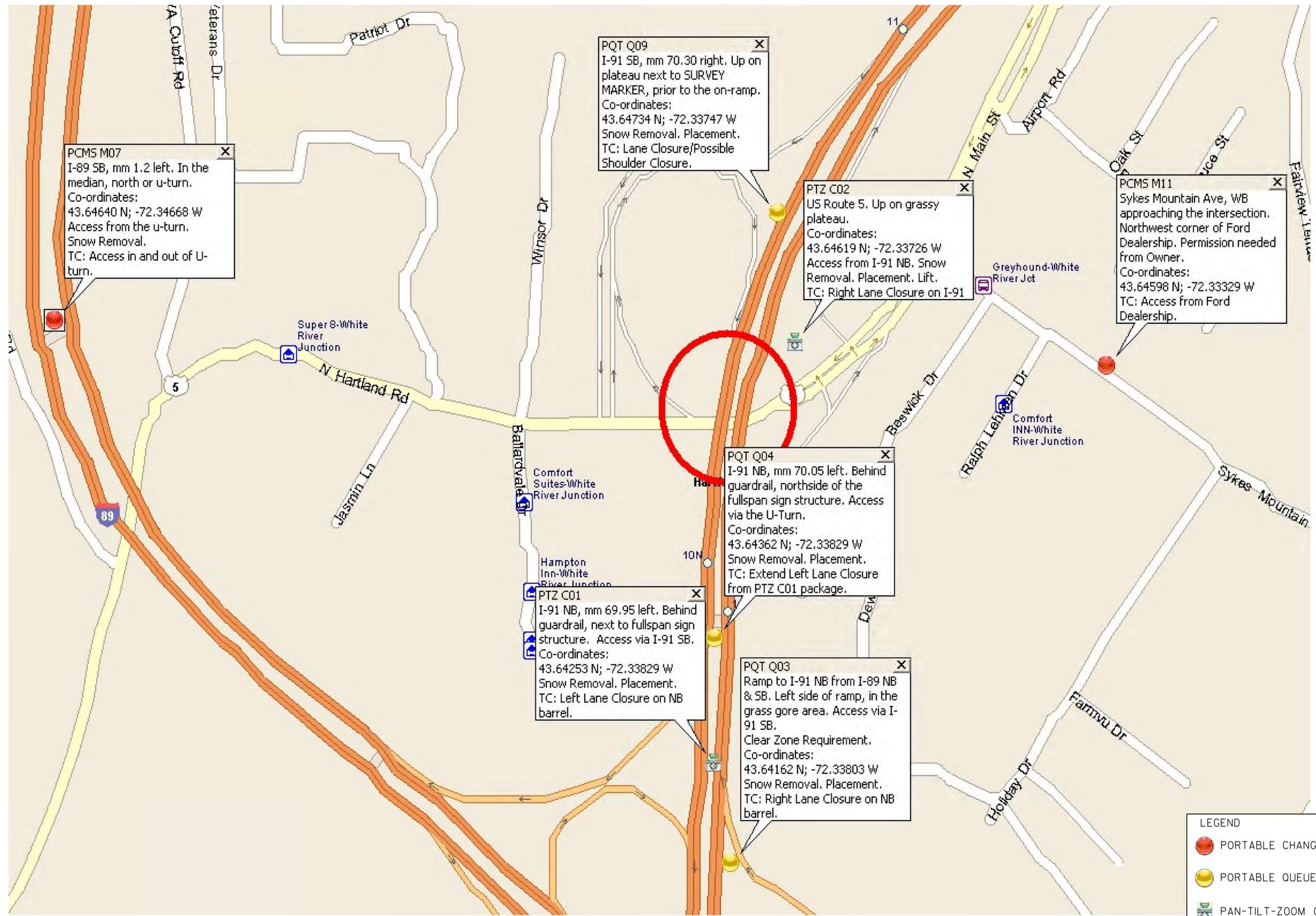
SMART WORK ZONE MAP I



PROJECT NAME: HARTFORD  
 PROJECT NUMBER: IM 091-2(79)

FILE NAME: sl2a026\_SWZ\_TCP.dgn  
 PROJECT LEADER: K. HIGGINS  
 DESIGNED BY: S. DESCHAMPS  
 SMART WORK ZONE TCP

PLOT DATE: 02/25/15  
 DRAWN BY: B. LYON  
 CHECKED BY: S. SAWYER  
 SHEET 6 OF ??



**PCMS M07**  
 I-89 SB, mm 1.2 left. In the median, north or u-turn.  
 Co-ordinates:  
 43.64640 N; -72.34668 W  
 Access from the u-turn.  
 Snow Removal.  
 TC: Access in and out of U-turn.

**PQT Q09**  
 I-91 SB, mm 70.30 right. Up on plateau next to SURVEY MARKER, prior to the on-ramp.  
 Co-ordinates:  
 43.64734 N; -72.33747 W  
 Snow Removal. Placement.  
 TC: Lane Closure/Possible Shoulder Closure.

**PTZ C02**  
 US Route 5. Up on grassy plateau.  
 Co-ordinates:  
 43.64619 N; -72.33726 W  
 Access from I-91 NB. Snow Removal. Placement. Lift.  
 TC: Right Lane Closure on I-91

**PCMS M11**  
 Sykes Mountain Ave, WB approaching the intersection. Northwest corner of Ford Dealership. Permission needed from Owner.  
 Co-ordinates:  
 43.64598 N; -72.33329 W  
 TC: Access from Ford Dealership.

**PQT Q04**  
 I-91 NB, mm 70.05 left. Behind guardrail, northside of the fullspan sign structure. Access via the U-Turn.  
 Co-ordinates:  
 43.64362 N; -72.33829 W  
 Snow Removal. Placement.  
 TC: Extend Left Lane Closure from PTZ C01 package.

**PTZ C01**  
 I-91 NB, mm 69.95 left. Behind guardrail, next to fullspan sign structure. Access via I-91 SB.  
 Co-ordinates:  
 43.64253 N; -72.33829 W  
 Snow Removal. Placement.  
 TC: Left Lane Closure on NB barrel.

**PQT Q03**  
 Ramp to I-91 NB from I-89 NB & SB. Left side of ramp, in the grass gore area. Access via I-91 SB.  
 Clear Zone Requirement.  
 Co-ordinates:  
 43.64162 N; -72.33803 W  
 Snow Removal. Placement.  
 TC: Right Lane Closure on NB barrel.

**LEGEND**

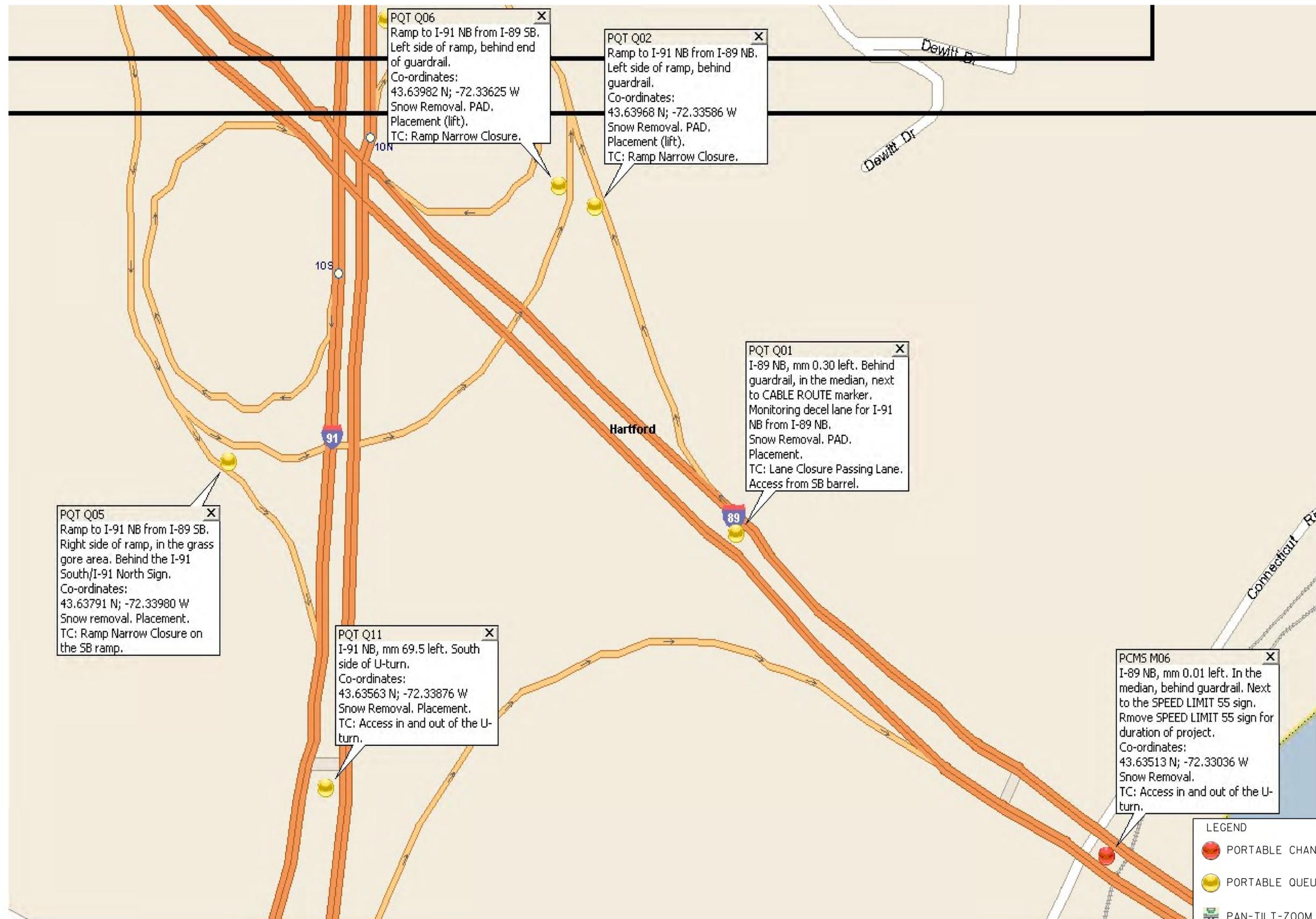
- PORTABLE CHANGEABLE MESSAGE SIGN
- PORTABLE QUEUE TRAILER
- PAN-TILT-ZOOM CAMERA



SMART WORK ZONE MAP 2

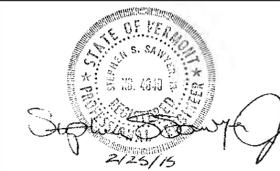


PROJECT NAME: HARTFORD	FILE NAME: sl2a026_SWZ_TCP.dgn	PLOT DATE: 02/25/15
PROJECT NUMBER: IM 091-2(79)	PROJECT LEADER: K. HIGGINS	DRAWN BY: B. LYON
	DESIGNED BY: S. DESCHAMPS	CHECKED BY: S. SAWYER
	SMART WORK ZONE TCP	SHEET 7 OF ??



LEGEND

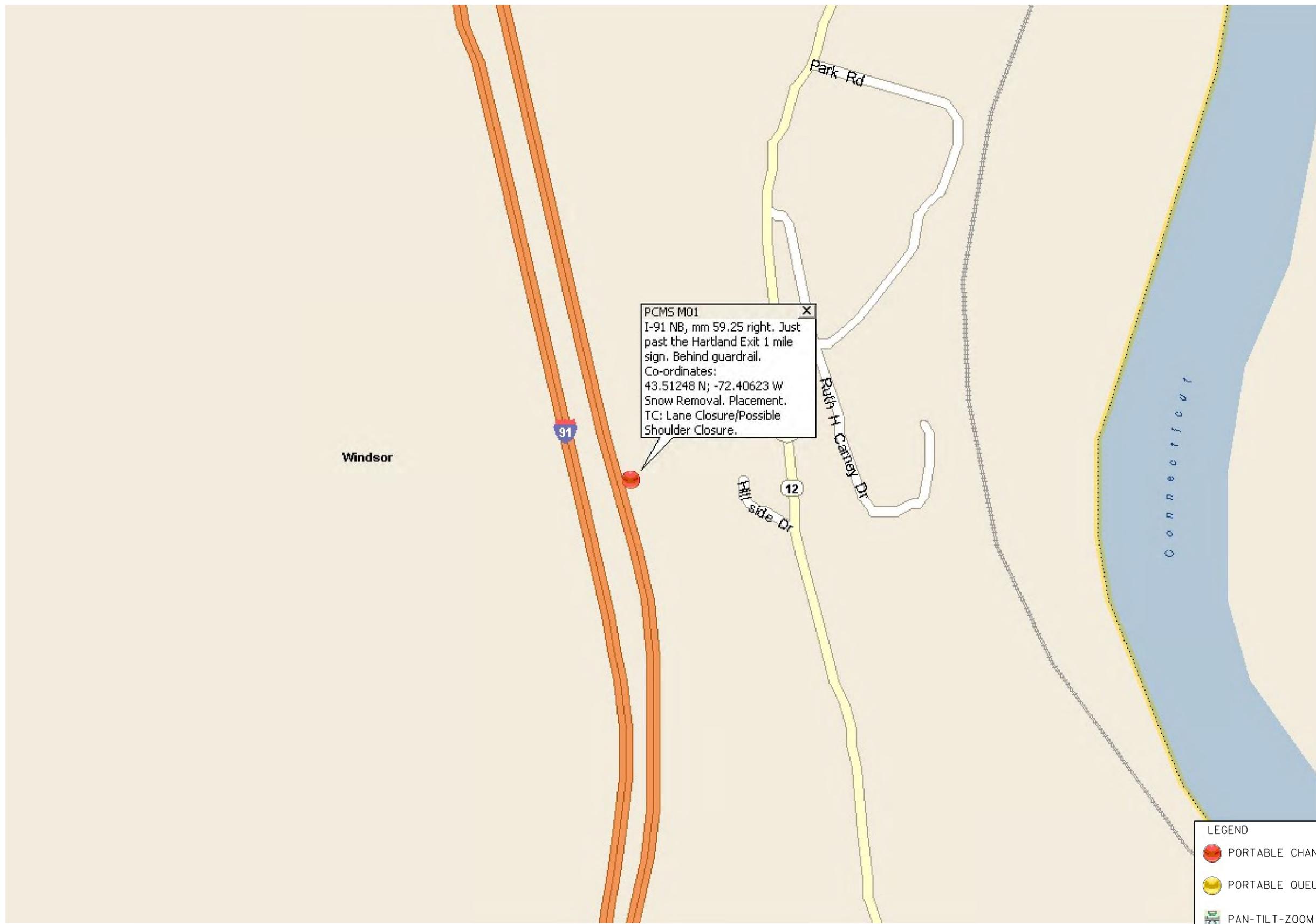
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	PORTABLE QUEUE TRAILER
	PAN-TILT-ZOOM CAMERA



SMART WORK ZONE MAP 3

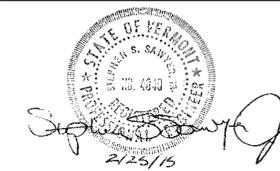


PROJECT NAME:	HARTFORD	FILE NAME:	sl2a026_SWZ_TCP.dgn	PLOT DATE:	02/25/15
PROJECT NUMBER:	IM 091-2(79)	PROJECT LEADER:	K. HIGGINS	DRAWN BY:	B. LYON
		DESIGNED BY:	S. DESCHAMPS	CHECKED BY:	S. SAWYER
		SMART WORK ZONE TCP		SHEET	8 OF ??



PCMS M01  
 I-91 NB, mm 59.25 right. Just past the Hartland Exit 1 mile sign. Behind guardrail.  
 Co-ordinates:  
 43.51248 N; -72.40623 W  
 Snow Removal. Placement.  
 TC: Lane Closure/Possible Shoulder Closure.

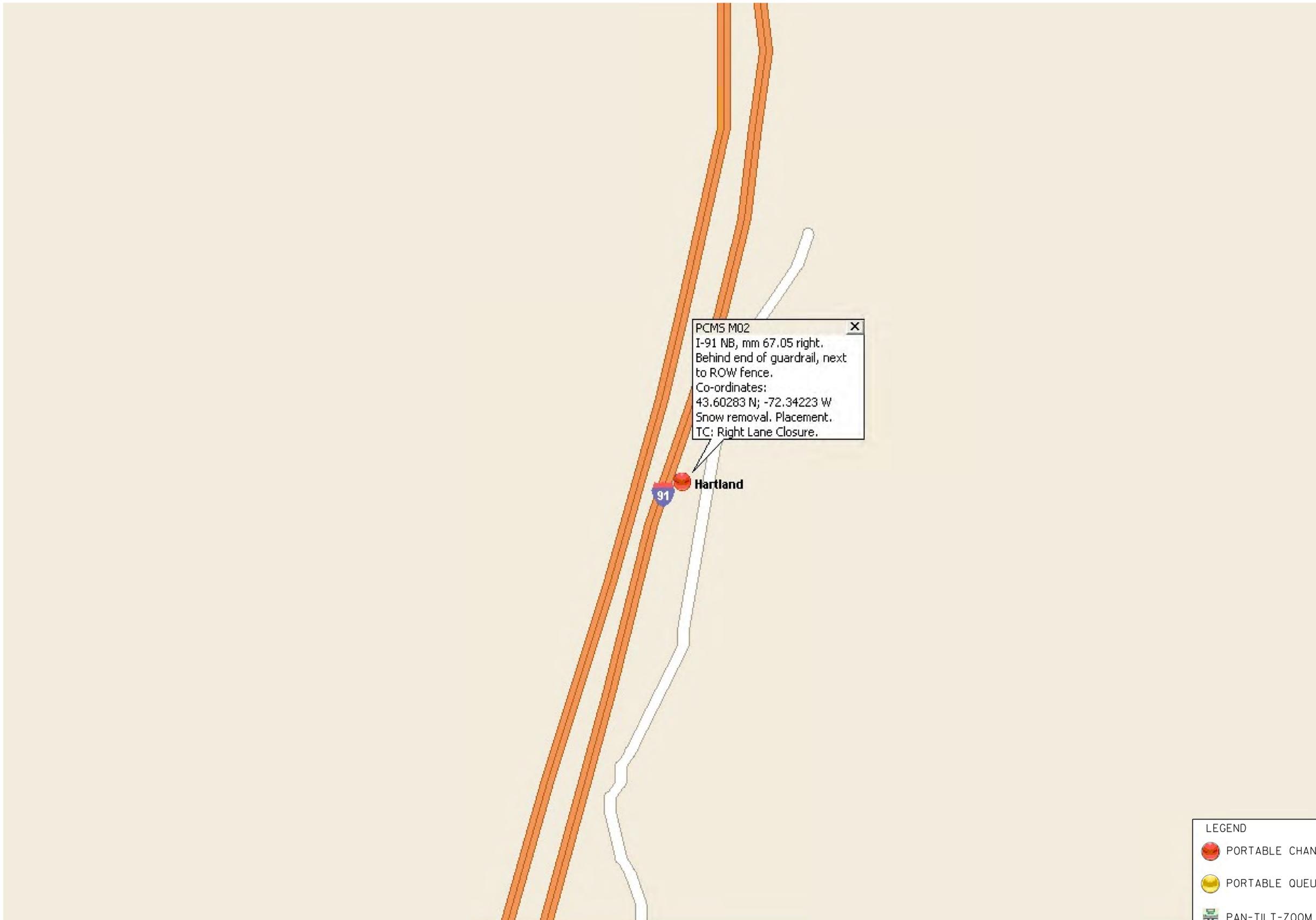
LEGEND	
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	PORTABLE QUEUE TRAILER
	PAN-TILT-ZOOM CAMERA



SMART WORK ZONE MAP 4



PROJECT NAME: HARTFORD	PLOT DATE: 02/25/15
PROJECT NUMBER: IM 091-2(79)	DRAWN BY: B. LYON
FILE NAME: sl2a026_SWZ_TCP.dgn	CHECKED BY: S. SAWYER
PROJECT LEADER: K. HIGGINS	SHEET 9 OF ??
DESIGNED BY: S. DESCHAMPS	
SMART WORK ZONE TCP	



PCMS M02  
 I-91 NB, mm 67.05 right.  
 Behind end of guardrail, next to ROW fence.  
 Co-ordinates:  
 43.60283 N; -72.34223 W  
 Snow removal. Placement.  
 TC: Right Lane Closure.

91 Hartland

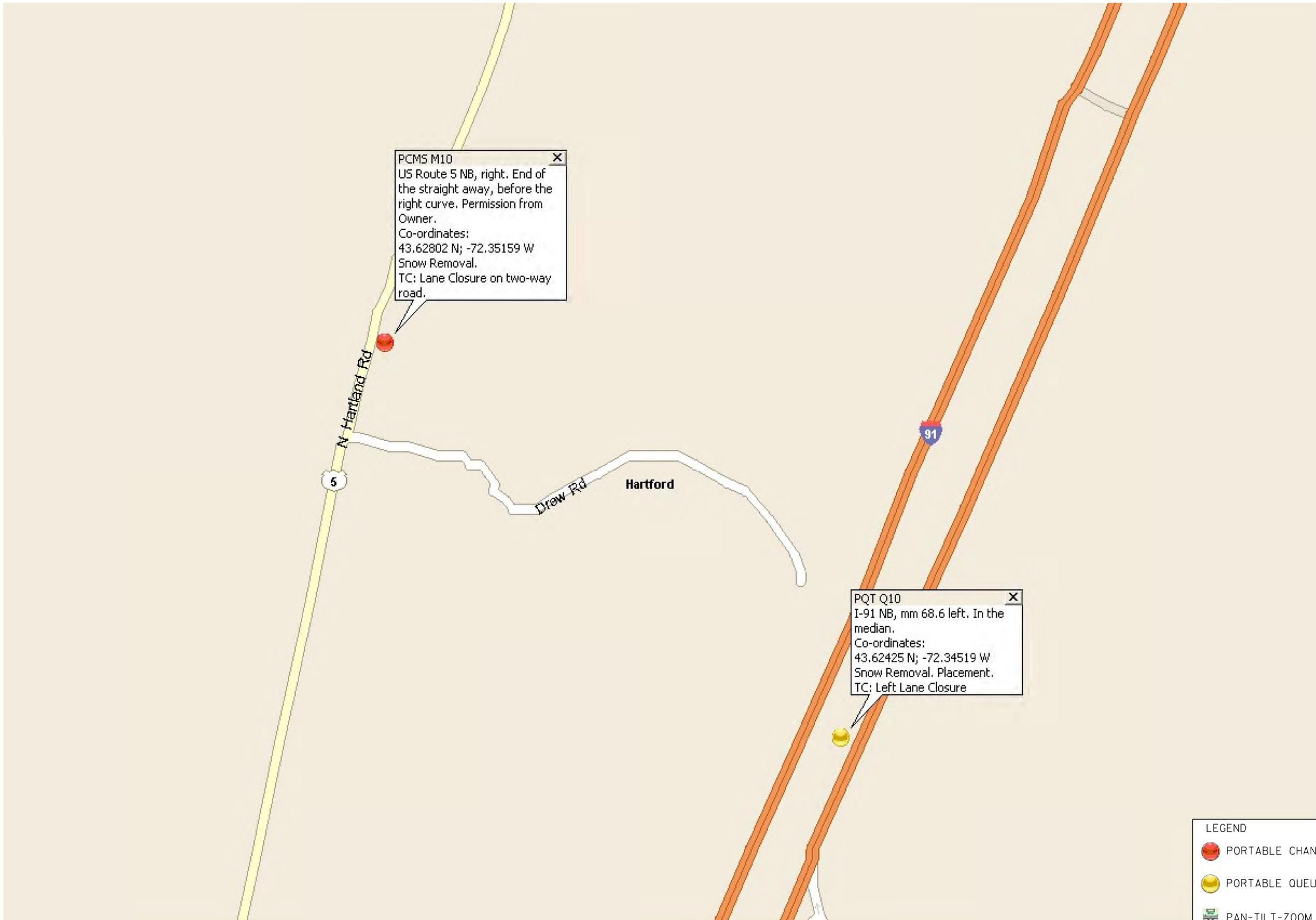
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	PORTABLE QUEUE TRAILER
	PAN-TILT-ZOOM CAMERA



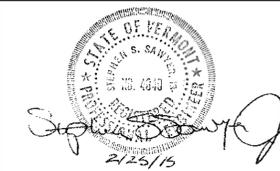
SMART WORK ZONE MAP 5



PROJECT NAME: HARTFORD	PLOT DATE: 02/25/15
PROJECT NUMBER: IM 091-2(79)	DRAWN BY: B. LYON
FILE NAME: sl2a026_SWZ_TCP.dgn	CHECKED BY: S. SAWYER
PROJECT LEADER: K. HIGGINS	SHEET 10 OF ??
DESIGNED BY: S. DESCHAMPS	
SMART WORK ZONE TCP	



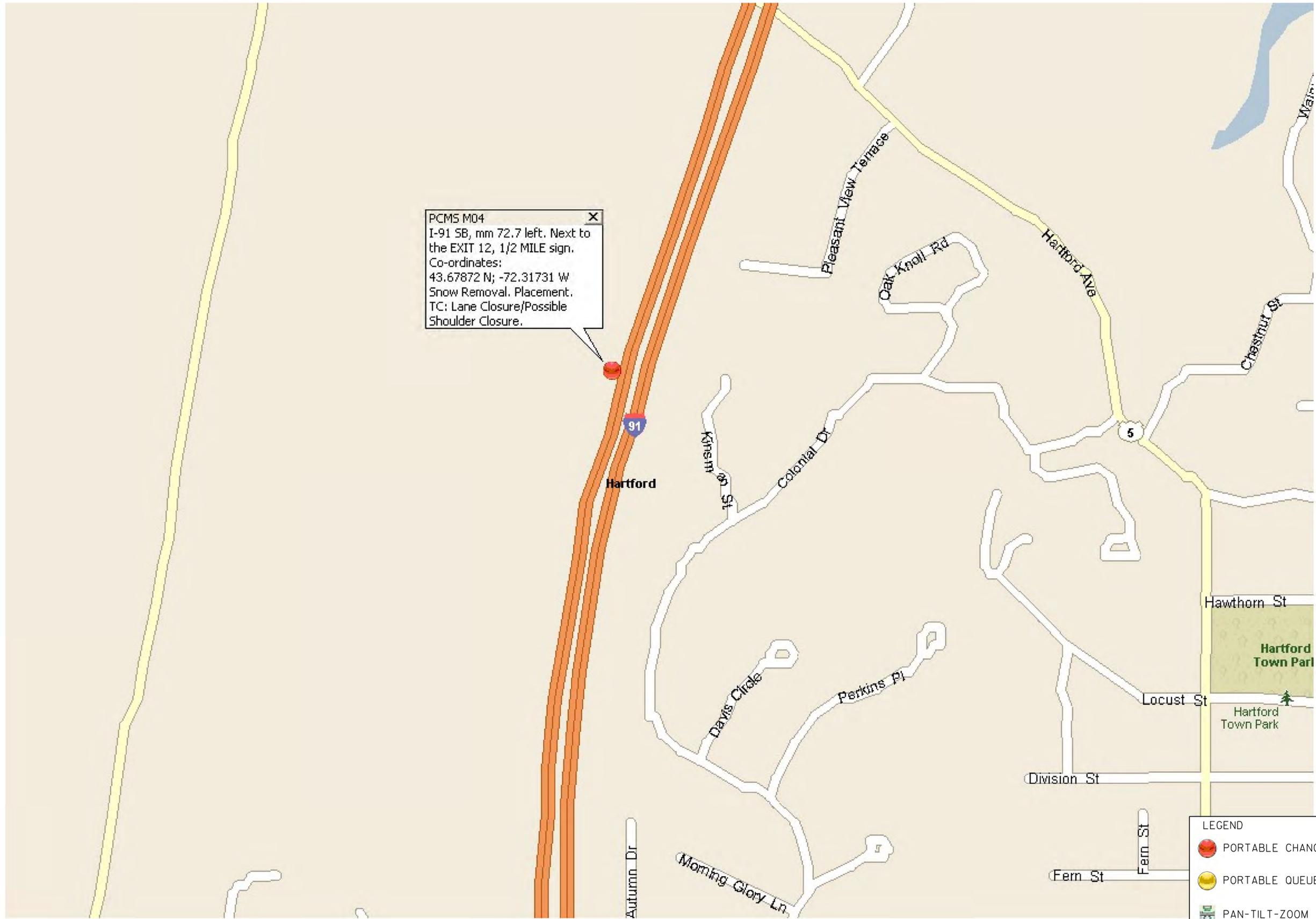
LEGEND	
	PORTABLE CHANGEABLE MESSAGE SIGN
	PORTABLE QUEUE TRAILER
	PAN-TILT-ZOOM CAMERA



SMART WORK ZONE MAP 6



PROJECT NAME: HARTFORD	PLOT DATE: 02/25/15
PROJECT NUMBER: IM 091-2(79)	DRAWN BY: B. LYON
FILE NAME: sl2a026_SWZ_TCP.dgn	CHECKED BY: S. SAWYER
PROJECT LEADER: K. HIGGINS	SHEET II OF ??
DESIGNED BY: S. DESCHAMPS	
SMART WORK ZONE TCP	



PCMS M04  
 I-91 SB, mm 72.7 left. Next to the EXIT 12, 1/2 MILE sign.  
 Co-ordinates:  
 43.67872 N; -72.31731 W  
 Snow Removal. Placement.  
 TC: Lane Closure/Possible Shoulder Closure.

- LEGEND
-  PORTABLE CHANGEABLE MESSAGE SIGN
  -  PORTABLE QUEUE TRAILER
  -  PAN-TILT-ZOOM CAMERA



SMART WORK ZONE MAP 8



PROJECT NAME:	HARTFORD	FILE NAME:	sl2a026_SWZ_TCP.dgn	PLOT DATE:	02/25/15
PROJECT NUMBER:	IM 091-2(79)	PROJECT LEADER:	K. HIGGINS	DRAWN BY:	B. LYON
		DESIGNED BY:	S. DESCHAMPS	CHECKED BY:	S. SAWYER
		SMART WORK ZONE TCP		SHEET	13 OF ??



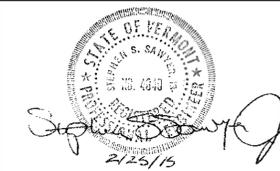
**PQT Q07**  
 I-91 SB, mm 71.1 left. South side of U-Turn, next to ledge.  
 Co-ordinates:  
 43.65825 N; -72.32780 W  
 Snow Removal. Placement.  
 TC: Access in and out of U-Turn.

**PCMS M03**  
 I-91 SB, mm 70.8 left. Behind guardrail, just south of the bridge.  
 Co-ordinates:  
 43.65353 N; -72.33137 W  
 Snow Removal. Placement (lift)  
 TC: Left Lane Closure.

**PQT Q08**  
 Next to M03 (south side of the PCMS). Same as M03.

**PCMS M12**  
 In the median. Clear Zone Requirements.  
 Co-ordinates:  
 43.65200 N; -72.32674 W  
 Snow Removal. Placement.  
 TC: Left Lane Closure or Left Turn Lane Partial Closure.

- LEGEND**
- PORTABLE CHANGEABLE MESSAGE SIGN
  - PORTABLE QUEUE TRAILER
  - PAN-TILT-ZOOM CAMERA



SMART WORK ZONE MAP 9



PROJECT NAME:	HARTFORD	FILE NAME:	sl2a026_SWZ_TCP.dgn	PLOT DATE:	02/25/15
PROJECT NUMBER:	IM 091-2(79)	PROJECT LEADER:	K. HIGGINS	DRAWN BY:	B. LYON
		DESIGNED BY:	S. DESCHAMPS	CHECKED BY:	S. SAWYER
		SMART WORK ZONE TCP		SHEET	14 OF ??