



CONSTRUCTION LEADERS

**SUBMITTAL NO. : 11.2
TCP – Item 2.2 Smart Work Zone**

Item No.	Specification	Description
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.

MARCH 3, 2015

Vermont Agency of Transportation
RECEIVED
CK'D BY MM/CB OK'D BY JS
March 3, 2015
RESUBMIT NO **Approved**
BY KH **DATE** 3-4-2015

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 NB RIGHT LANE CLOSURE
- **PTZ C01**, located on I-91 NB, mm 69.95 left. Refer to Map 2 of SWZ plans.
 - I91 SB LEFT LANE CLOSURE
- **PQT Q04**, located on I-91 NB, mm 70.05 left. Refer to Map 2 of SWZ plans.
 - I91 SB LEFT LANE CLOSURE
- **PTZ C02**, located on I-91 NB / US Route 5. Refer to Map 2 of SWZ plans.
 - I91 NB RIGHT LANE CLOSURE
- **PCMS M07**, located on I-89 SB, mm 1.2 left. Refer to Map 2 of SWZ plans.
 - I91 SB LEFT LANE CLOSURE
- 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.
 - I91 SB LEFT LANE CLOSURE
 - REMOVE EXISTING LEFT SIDE 55 MPH SPEED LIMIT SIGN
- **PCMS M02**, located on I-91 NB, mm 67.05 right. Refer to Map 5 of SWZ plans.
 - I91 NB RIGHT LANE CLOSURE
- **PCMS M10**, located on US Route 5 NB, north of Drew Rd. Refer to Map 6 of SWZ plans.
 - LANE CLOSURE, ONE LANE ROAD W/ FLAGGERS
- **PQT Q08**, located on I-91 SB, mm 70.8 left. Refer to Map 9 of SWZ plans.
 - I91 SB LEFT LANE CLOSURE
- **PCMS M03**, located on I-91 SB, mm 70.8 left. Refer to Map 9 of SWZ plans.
 - I91 SB LEFT LANE CLOSURE
- **PCMS M12**, located on US Route 5 SB, left. Refer to Map 9 of SWZ plans.
 - RT5 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.



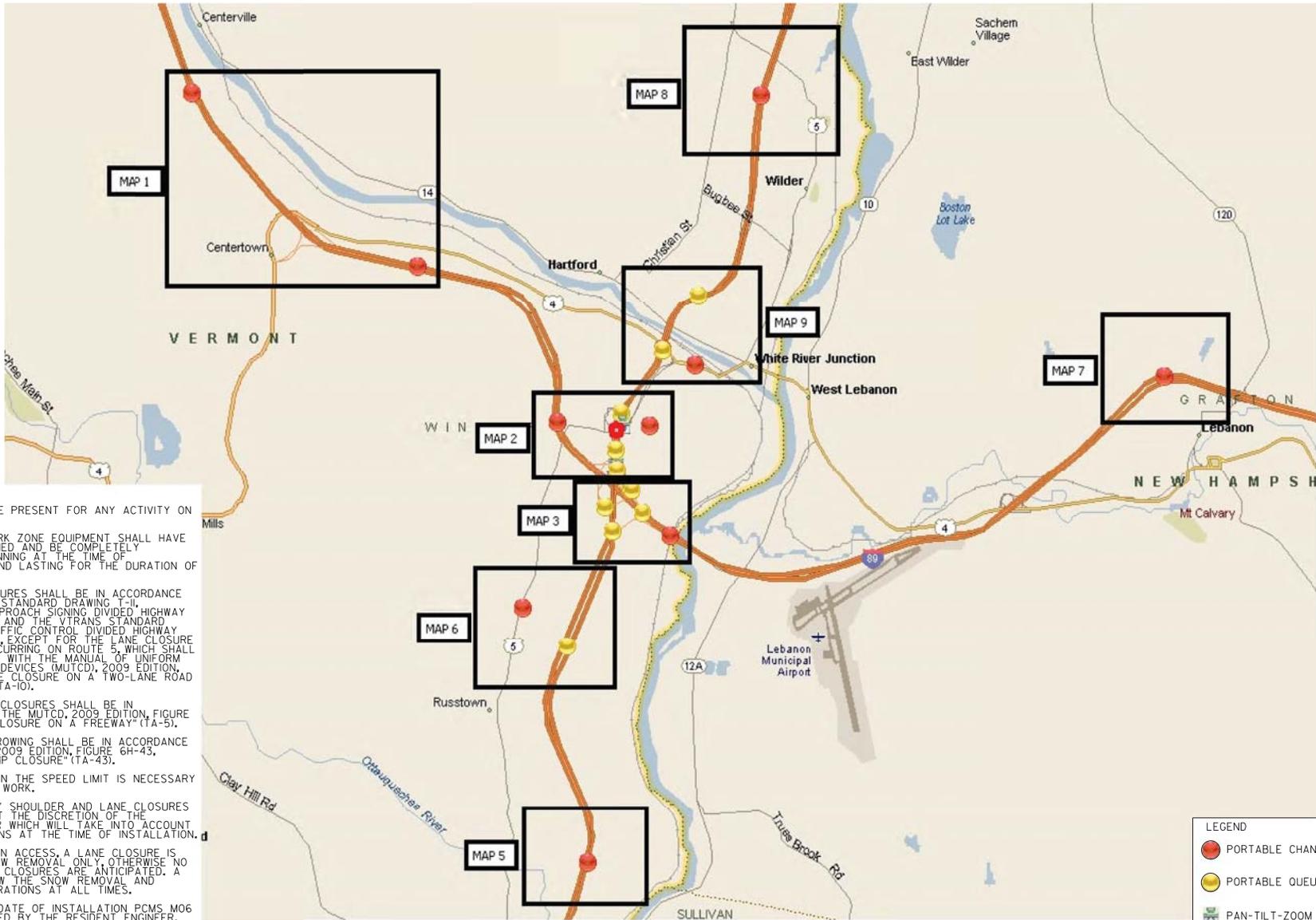
BALANCE OF EQUIPMENT

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-91. 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.





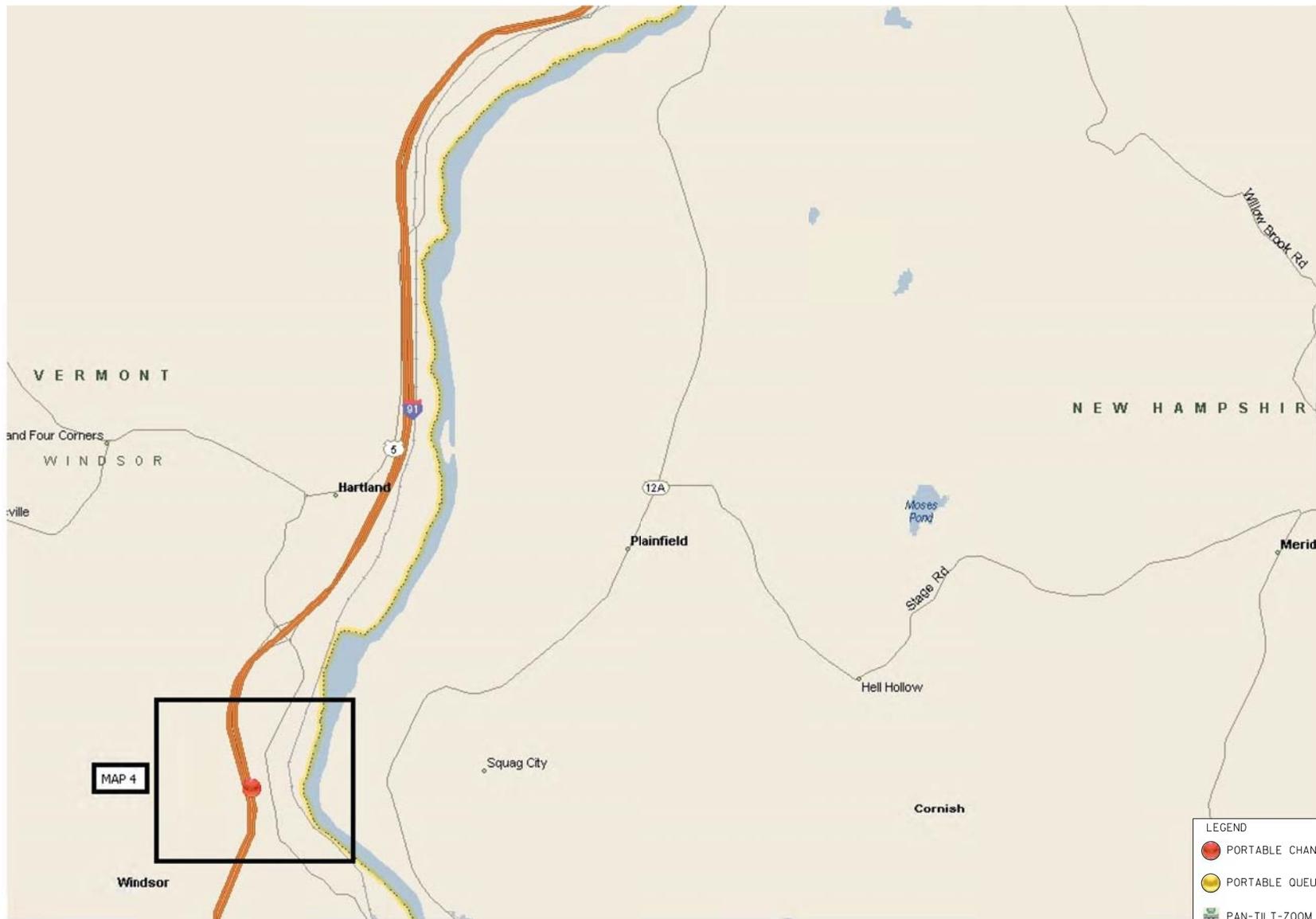
- NOTES:
1. A UTO SHALL BE PRESENT FOR ANY ACTIVITY ON THE INTERSTATE.
 2. ALL SMART WORK ZONE EQUIPMENT SHALL HAVE VISIBILITY MAINTAINED AND BE COMPLETELY OPERATIONAL BEGINNING AT THE TIME OF IMPLEMENTATION AND LASTING FOR THE DURATION OF THE PROJECT.
 3. ALL LANE CLOSURES SHALL BE IN ACCORDANCE WITH 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 MO 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, A LANE CLOSURE IS REQUIRED FOR SNOW REMOVAL ONLY, OTHERWISE NO SHOULDER / LANE CLOSURES ARE ANTICIPATED. A UTO SHALL FOLLOW THE SNOW REMOVAL AND INSTALLATION OPERATIONS AT ALL TIMES.
 9. THE TIME AND DATE OF INSTALLATION PCMS MO6 SHALL BE APPROVED BY THE RESIDENT ENGINEER.

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

SMART WORK ZONE OVERALL PLAN I

Vermont Agency of Transportation
RECEIVED
 CK'D BY MLCB OK'D BY JS
 March 3, 2015
 RESUBMIT NO Approved
 BY KH DATE 3-4-2015

DESIGNED BY: 	PREPARED BY: 	PROJECT NAME: HARTFORD PROJECT NUMBER: IM 091-2(79)	FILE NAME: si2a026_SWZ_TCP.dgn PROJECT LEADER: K. HIGGINS DESIGNED BY: S. DESCHAMPS SMART WORK ZONE TCP	PLOT DATE: 03/02/15 DRAWN BY: B. LYON CHECKED BY: S. SAWYER SHEET 4 OF ??
------------------	------------------	--	--	--



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

SMART WORK ZONE OVERALL PLAN 2

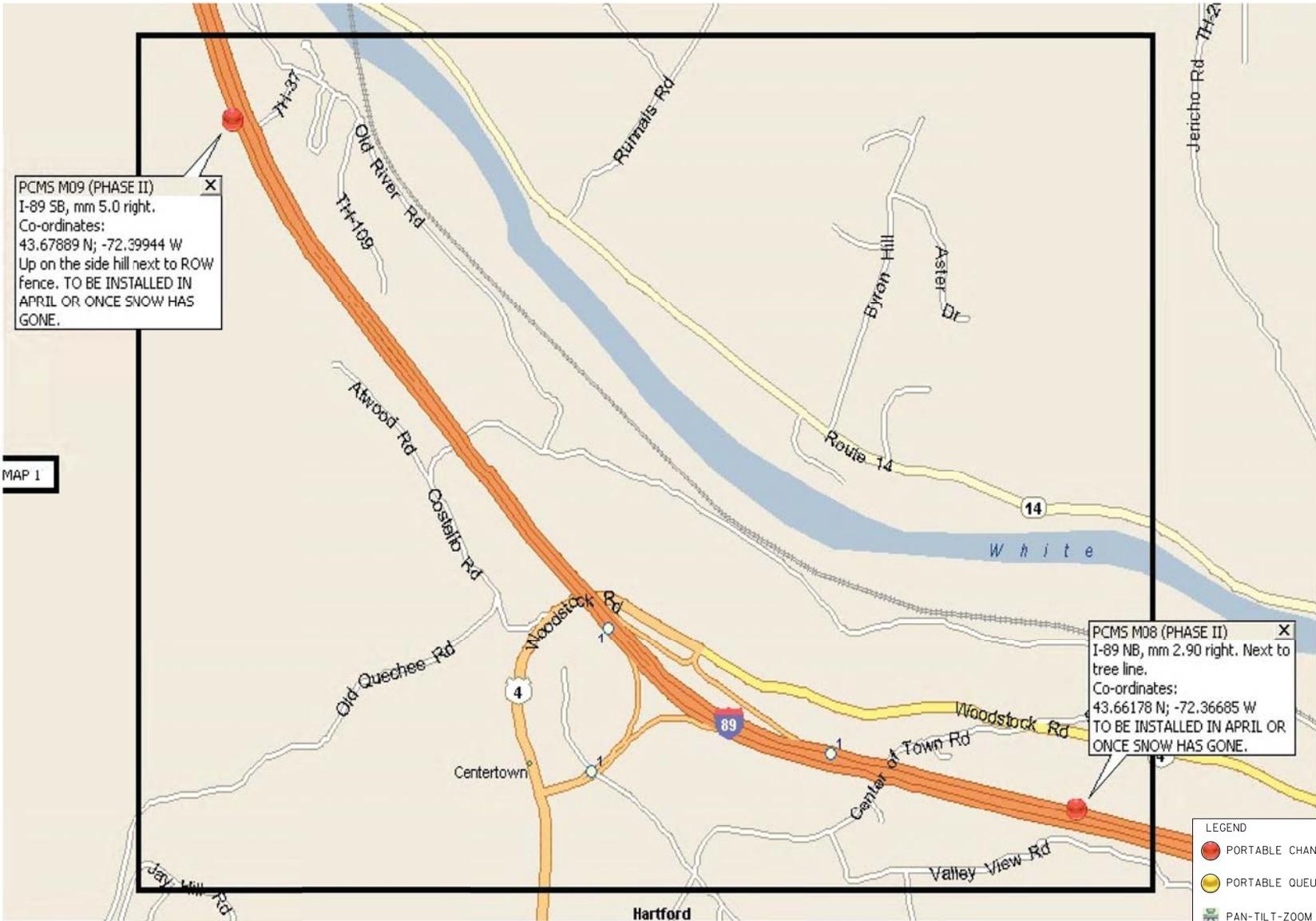


Vermont Agency of Transportation
RECEIVED
 CK'D BY MMCS OK'D BY JS
 March 3, 2015
 RESUBMIT NO Approved
 BY NH DATE 3-4-2015



PROJECT NAME:	HARTFORD	PLOT DATE:	03/02/15
PROJECT NUMBER:	IM 091-2(79)	DRAWN BY:	B. LYON
FILE NAME:	si2a026_SWZ_TCP.dgn	CHECKED BY:	S. SAWYER
PROJECT LEADER:	K. HIGGINS	SMART WORK ZONE TCP	SHEET 5 OF ??
DESIGNED BY:	S. DESCHAMPS		

3/2/15



PCMS M09 (PHASE II)
 I-89 SB, mm 5.0 right.
 Co-ordinates:
 43.67889 N; -72.39944 W
 Up on the side hill next to ROW
 fence. TO BE INSTALLED IN
 APRIL OR ONCE SNOW HAS
 GONE.

PCMS M08 (PHASE II)
 I-89 NB, mm 2.90 right. Next to
 tree line.
 Co-ordinates:
 43.66178 N; -72.36685 W
 TO BE INSTALLED IN APRIL OR
 ONCE SNOW HAS GONE.

MAP 1

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

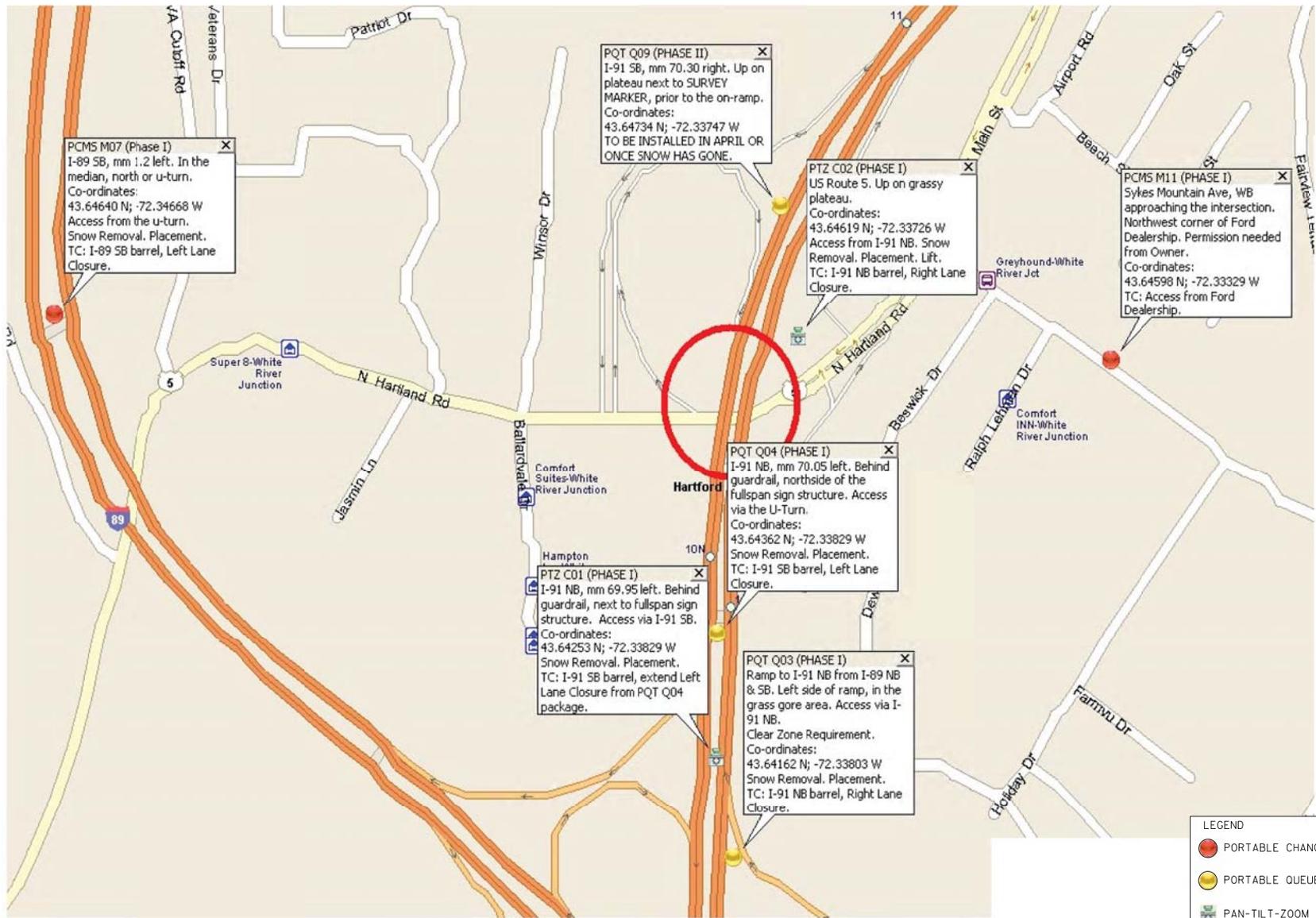


Vermont Agency of Transportation
RECEIVED
 CK'D BY MMCB OK'D BY JS
 March 3, 2015
 RESUBMIT NO Approved
 BY KH DATE 3-4-2015

SMART WORK ZONE MAP 1



PROJECT NAME: HARTFORD	PLOT DATE: 03/02/15
PROJECT NUMBER: IM 091-2(79)	DRAWN BY: B. LYON
FILE NAME: s12a026_SW2_TCP.dgn	CHECKED BY: S. SAWYER
PROJECT LEADER: K. HIGGINS	SHEET 6 OF ??
DESIGNED BY: S. DESCHAMPS	
SMART WORK ZONE TCP	

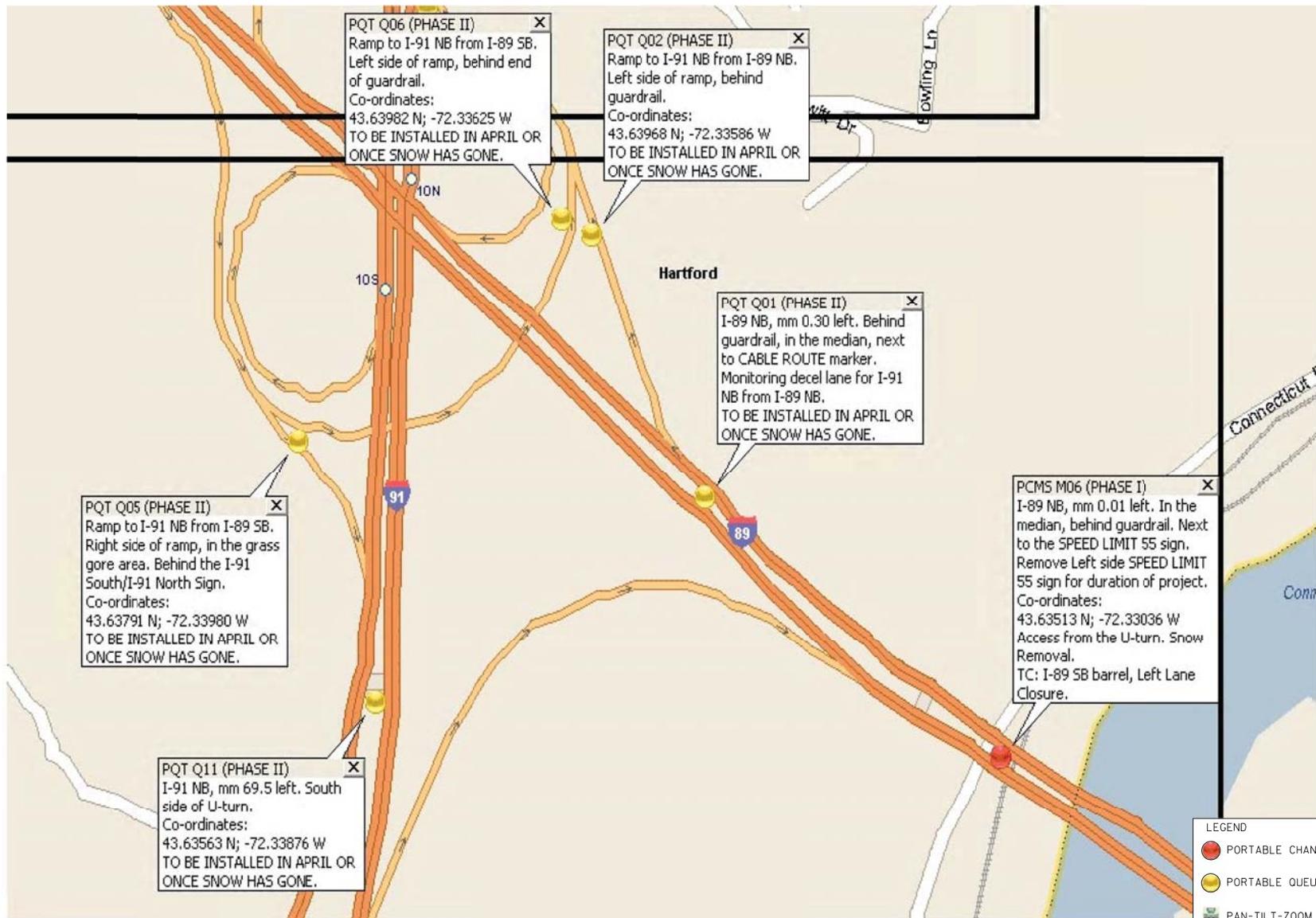


Vermont Agency of Transportation
RECEIVED
 CK'D BY MMCSB OK'D BY JS
 March 3, 2015
 RESUBMIT NO Approved
 BY KH DATE 3-4-2015

SMART WORK ZONE MAP 2



PROJECT NAME:	HARTFORD	FILE NAME:	si2a026_SW2_TCP.dgn	PLOT DATE:	03/02/15
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
- PORTABLE CHANGEABLE MESSAGE SIGN
 - PORTABLE QUEUE TRAILER
 - PAN-TILT-ZOOM CAMERA



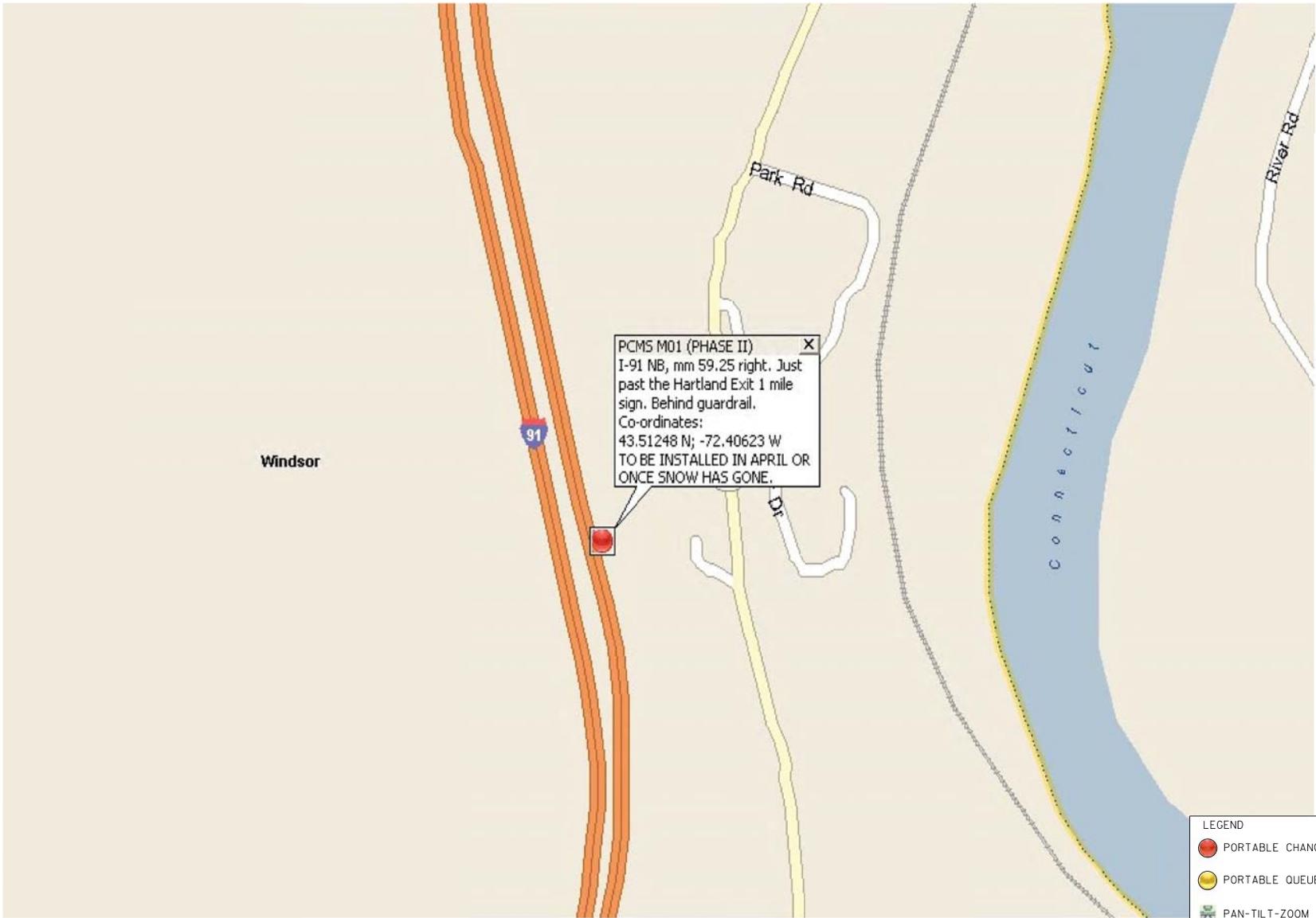
Vermont Agency of Transportation
RECEIVED
 CK'D BY MM/CB OK'D BY JS
 March 3, 2015
 RESUBMIT NO. Approved
 BY KH1 DATE 3-4-2015

SMART WORK ZONE MAP 3



PROJECT NAME: HARTFORD
 PROJECT NUMBER: IM 091-2(79)
 FILE NAME: si2a026_SWZ_TCP.dgn
 PROJECT LEADER: K. HIGGINS
 DESIGNED BY: S. DESCHAMPS
 SMART WORK ZONE TCP

PLOT DATE: 03/02/15
 DRAWN BY: B. LYON
 CHECKED BY: S. SAWYER
 SHEET 8 OF ??



PCMS M01 (PHASE II) X
 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
 TO BE INSTALLED IN APRIL OR ONCE SNOW HAS GONE.

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

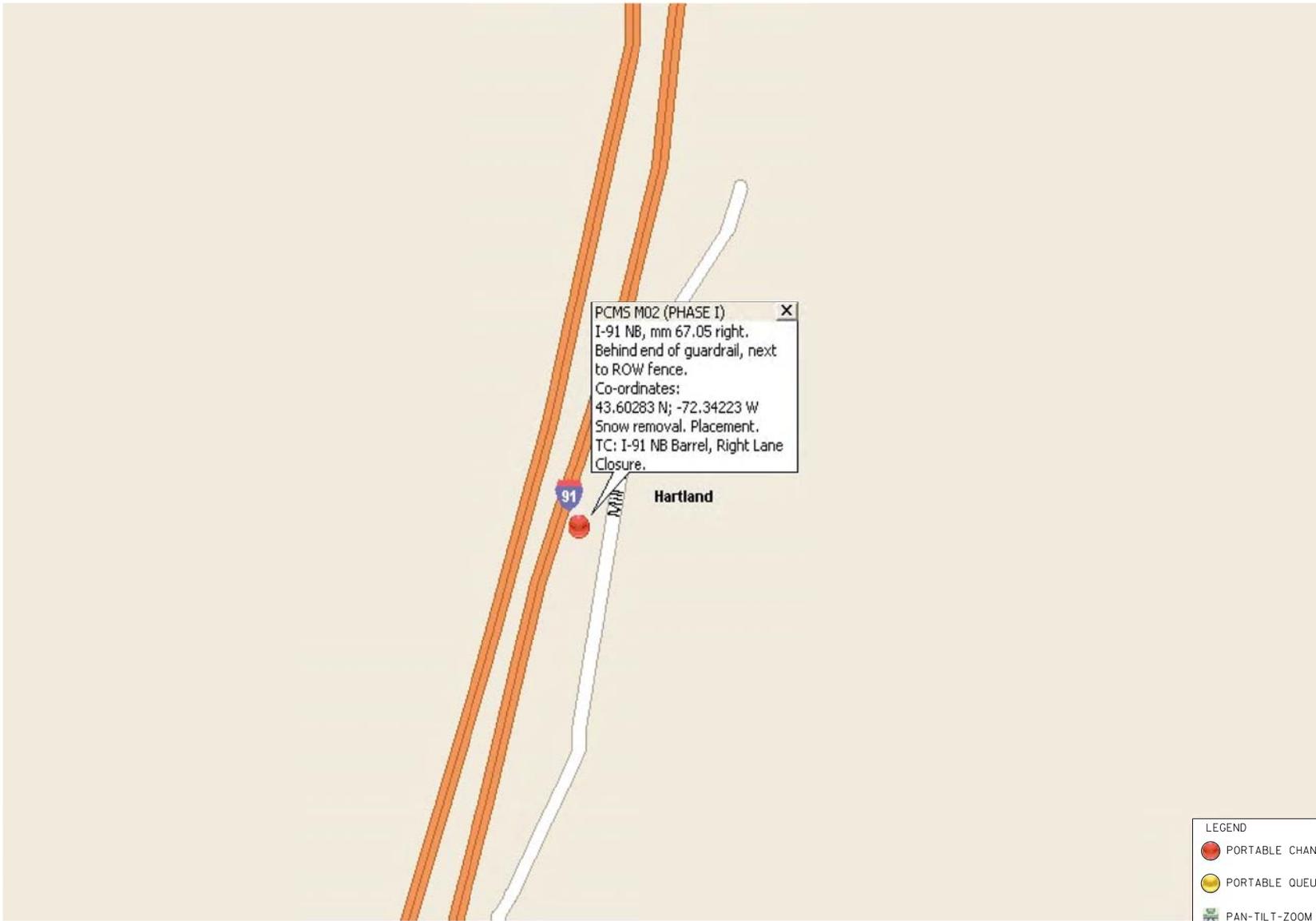


Vermont Agency of Transportation
RECEIVED
 CK'D BY MIMCB OK'D BY JS
 March 3, 2015
 RESUBMIT NO Approved
 BY KH DATE 3-4-2015

SMART WORK ZONE MAP 4



PROJECT NAME: HARTFORD
 PROJECT NUMBER: IM 09I-2(79)
 FILE NAME: s12a026_SWZ_TCP.dgn
 PROJECT LEADER: K. HIGGINS
 DESIGNED BY: S. DESCHAMPS
 SMART WORK ZONE TCP
 PLOT DATE: 03/02/15
 DRAWN BY: B. LYON
 CHECKED BY: S. SAWYER
 SHEET 9 OF ??



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

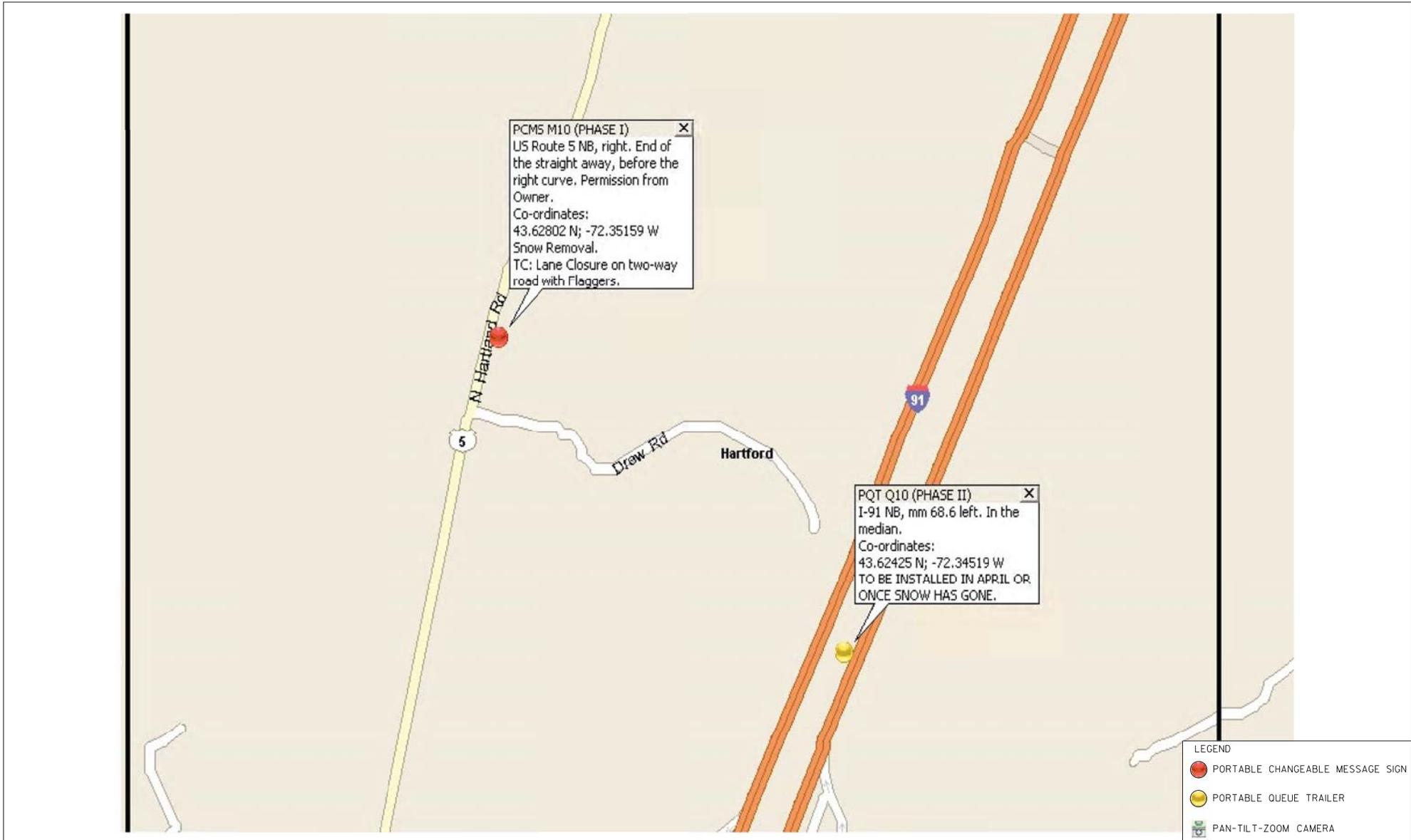


Vermont Agency of Transportation
RECEIVED
 CK'D BY: MMCB OK'D BY: JS
 March 3, 2015
 RESUBMIT NO: Approved
 BY: KHI DATE: 3-4-2015

SMART WORK ZONE MAP 5



PROJECT NAME:	HARTFORD	PLOT DATE:	03/02/15
PROJECT NUMBER:	IM 091-2(79)	DRAWN BY:	B. LYON
FILE NAME:	si2a026_SW2_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

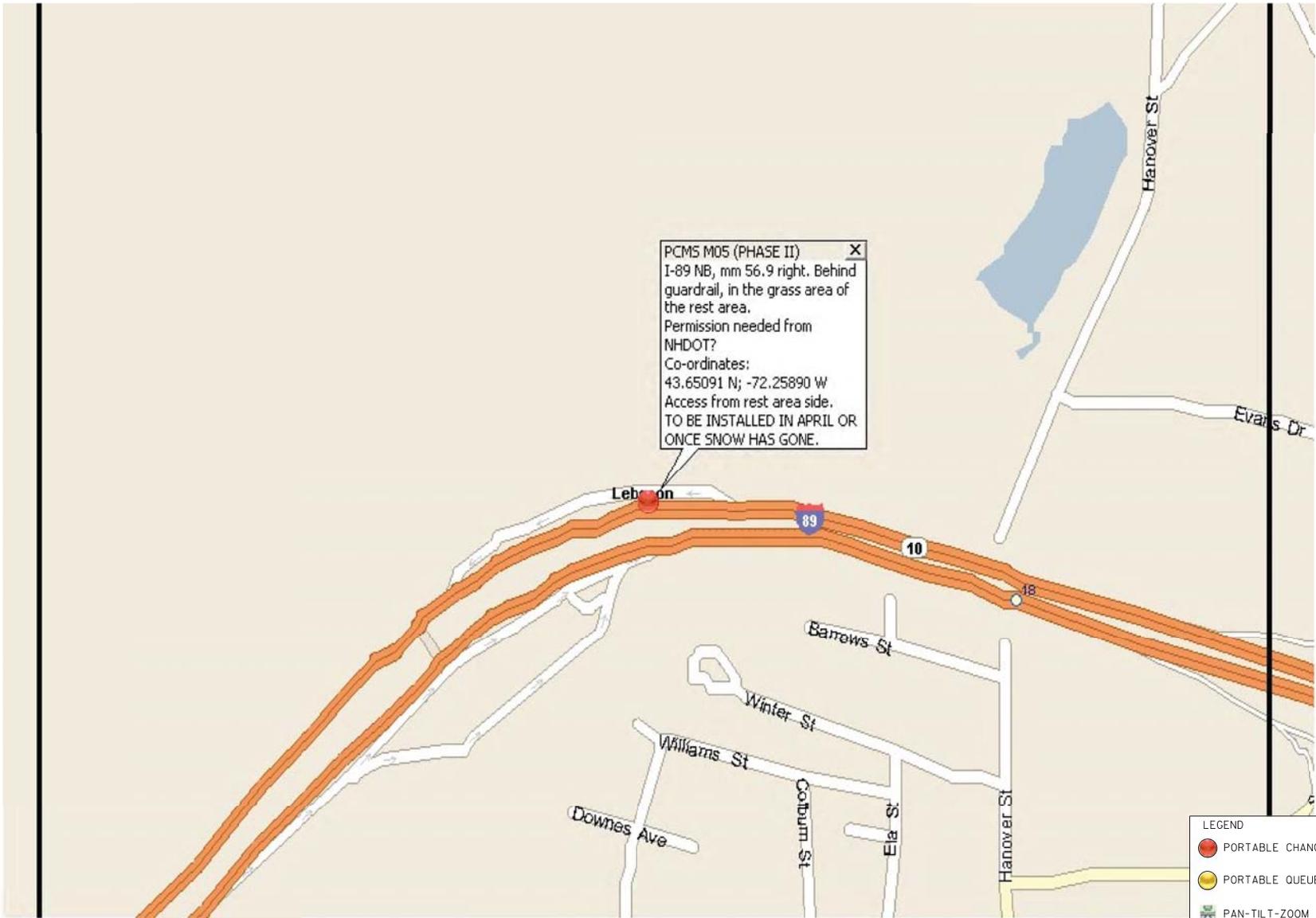


Vermont Agency of Transportation
RECEIVED
 CK'D BY: MMCB OK'D BY: JS
 March 3, 2015
 RESUBMIT NO Approved
 BY: NH DATE 3-4-2015

SMART WORK ZONE MAP 6



PROJECT NAME: HARTFORD	PLOT DATE: 03/02/15
PROJECT NUMBER: IM 091-2(79)	DRAWN BY: B. LYON
FILE NAME: si2o26_SWZ_TCP.dgn	CHECKED BY: S. SAWYER
PROJECT LEADER: K. HIGGINS	SHEET II OF ??
DESIGNED BY: S. DESCHAMPS	
SMART WORK ZONE TCP	



PCMS M05 (PHASE II) X
 I-89 NB, mm 56.9 right. Behind guardrail, in the grass area of the rest area.
 Permission needed from NHDOT?
 Co-ordinates:
 43.65091 N; -72.25890 W
 Access from rest area side.
 TO BE INSTALLED IN APRIL OR ONCE SNOW HAS GONE.

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

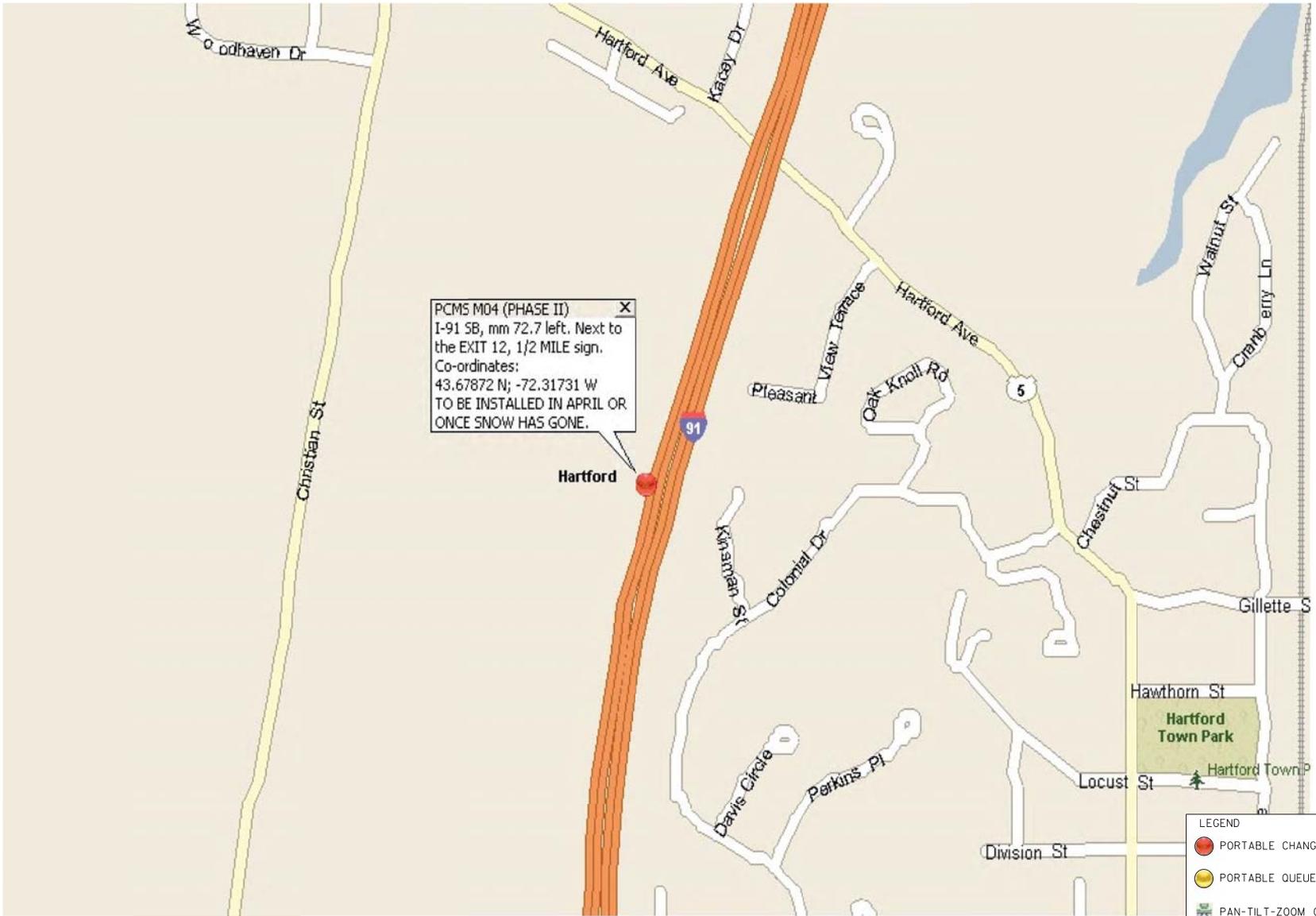


Vermont Agency of Transportation
RECEIVED
 CK'D BY: MMCB OK'D BY: JS
 March 3, 2015
 RESUBMIT NO: Approved
 BY: K1 DATE: 3-4-2015

SMART WORK ZONE MAP 7

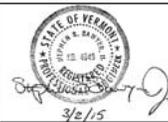


PROJECT NAME:	HARTFORD	PLOT DATE:	03/02/15
PROJECT NUMBER:	IM 091-2(79)	DRAWN BY:	B. LYON
FILE NAME:	si2a026_SWZ_TCP.dgn	CHECKED BY:	S. SAWYER
PROJECT LEADER:	K. HIGGINS	SHEET	12 OF ??
DESIGNED BY:	S. DESCHAMPS		
SMART WORK ZONE TCP			



PCMS M04 (PHASE II) X
 I-91 SB, mm 72.7 left. Next to
 the EXIT 12, 1/2 MILE sign.
 Co-ordinates:
 43.67872 N; -72.31731 W
 TO BE INSTALLED IN APRIL OR
 ONCE SNOW HAS GONE.

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

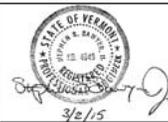
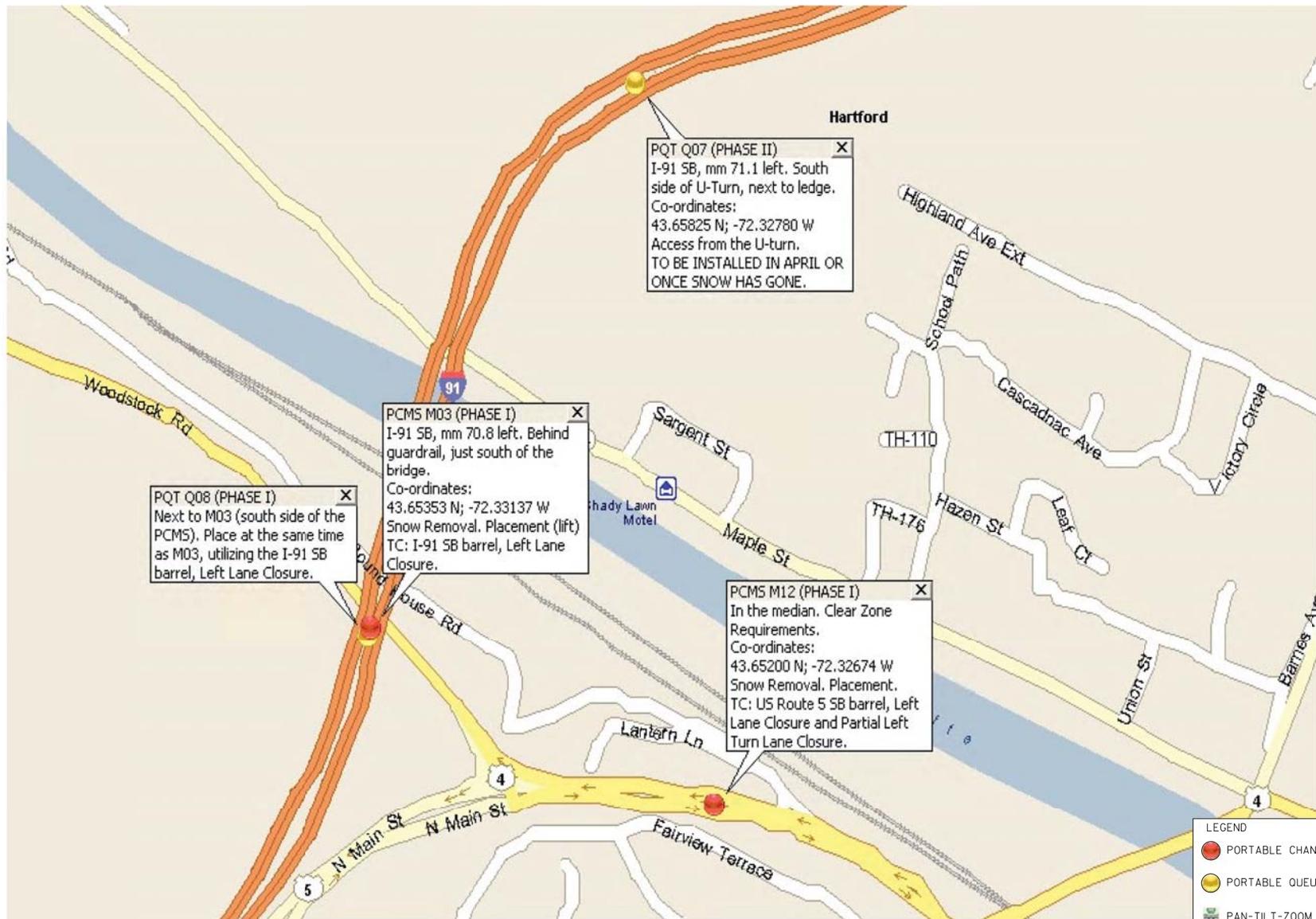


Vermont Agency of Transportation
RECEIVED
 CK'D BY: MM/CB OK'D BY: JS
 March 3, 2015
 RESUBMIT NO: Approved
 BY: KH DATE: 3-4-2015

SMART WORK ZONE MAP 8



PROJECT NAME: HARTFORD
 PROJECT NUMBER: IM 091-2(79)
 FILE NAME: s12a026_SW2_TCP.dgn
 PROJECT LEADER: K. HIGGINS
 DESIGNED BY: S. DESCHAMPS
 SMART WORK ZONE TCP
 PLOT DATE: 03/02/15
 DRAWN BY: B. LYON
 CHECKED BY: S. SAWYER
 SHEET 13 OF ??



Vermont Agency of Transportation
RECEIVED
 CK'D BY: MMICB OK'D BY: JS
 March 3, 2015
 RESUBMIT NO Approved
 BY KH DATE 3-4-2015

SMART WORK ZONE MAP 9



PROJECT NAME: HARTFORD
 PROJECT NUMBER: IM 091-2(79)
 FILE NAME: si2a026_SW2_TCP.dgn
 PROJECT LEADER: K. HIGGINS
 DESIGNED BY: S. DESCHAMPS
 SMART WORK ZONE TCP
 PLOT DATE: 03/02/15
 DRAWN BY: B. LYON
 CHECKED BY: S. SAWYER
 SHEET 14 OF ??