#### COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

DATE:

August 13, 2008

SUBJECT:

**Publication 213 Revisions** 

Temporary Traffic Control Signals

TO:

All District Executives

All Consultants

FROM:

Daryl St. Clair, P.E., Acting Director

Dary M. Clair Bureau of Highway Safety and Traffic Engineering

The purpose of this strike-off letter is to adopt new policies and procedures for the purposes of streamlining the temporary traffic control signal permitting process. This strike-off letter has been assessed as "cost-neutral" and "time-neutral."

This policy change affects Traffic, Design, Highway Occupancy Permits (HOP), Construction, and Maintenance. Subsequently, the Districts shall apply this policy to all PS&E packages not already sent to Central Office for approval and to all new HOP approval applications.

Effective immediately, the existing PATA 26e figures (26e L, 26e PS, and 26e PL) and the entire Appendix A information in the February 2008 edition of Department Publication 213, "Temporary Traffic Control Guidelines," are to be replaced by the attachments to this policy letter. These revisions will be part of the next release of Publication 213.

The attachment, entitled "Appendix A: Temporary Traffic Control Signal Documentation," will become a new Appendix A in Department Publication 213. This information addresses additional requirements, timeframes, approval processes, and guidelines for temporary traffic control signals.

This strike-off letter provides additional design and operational guidance regarding temporary traffic control signals. It also more clearly outlines the process for obtaining approval to use these devices. In particular, some of the most significant revisions include: the development of new figures and guidance that govern long-term operations involving temporary traffic control signals on fixed supports and trailer-mounted portable traffic control signals; the development of multiple figures that govern the use of portable traffic control signals for manually-controlled applications, non-complex conditions, and complex conditions; the development of a new application, permit, and other forms; and the reduction from 15 days to three full working days prior to desired use that all required materials must be submitted to the Engineering District Office by an applicant who wants to use portable traffic control signals for a short-term operation involving non-complex conditions or a manual control mode.

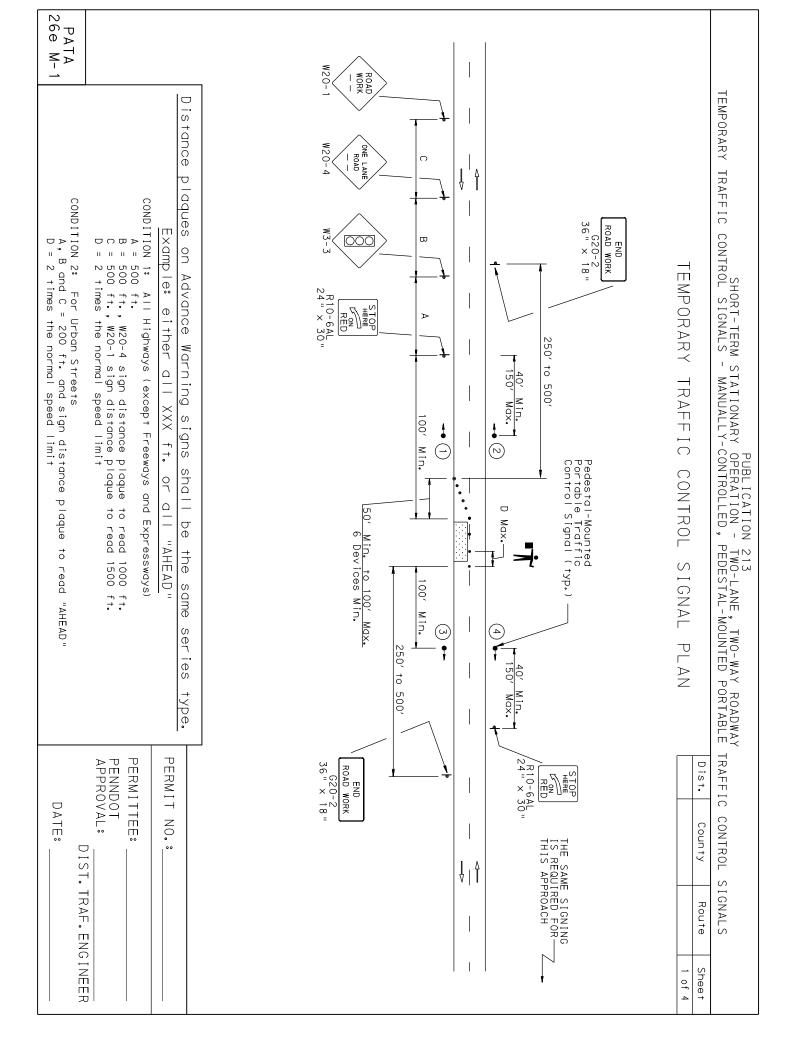
If you have any questions, please contact Glenn Rowe, P.E., P.T.O.E., TEOD Chief, Bureau of Highway Safety and Traffic Engineering at (717) 787-3620.

#### REFERENCE GUIDE FOR PATA 26e TEMPORARY TRAFFIC CONTROL SIGNAL TYPICAL FIGURES

TYPE OF HIGHWAY  TWO-LANE, TWO-WAY HIGHWAY WITH ONE- LANE, TWO- WAY TRAFFIC		FIGURE NUMBER								
	CONDITION	USING FIXED SUPPORTS	USING TRAILER- MOUNTED PORTABLE TRAFFIC CONTROL SIGNALS	USING PEDESTAL- MOUNTED PORTABLE TRAFFIC CONTROL SIGNALS						
	LONG-TERM STATIONARY OPERATION	PATA 26e L	PATA 26e PL							
TWO-WAY	SHORT-TERM STATIONARY OPERATION MANUALLY- CONTROLLED		PATA 26e M-2	PATA 26e M-1						
WITH ONE- LANE, TWO-	SHORT-TERM STATIONARY OPERATION FOR NON-COMPLEX CONDITIONS		PATA 26e NC-2	PATA 26e NC-1						
WATTRAFFIC	SHORT-TERM STATIONARY OPERATIONS FOR COMPLEX CONDITIONS		PATA 26e C-2	PATA 26e C-1						

#### APPENDIX A INDEX: TEMPORARY TRAFFIC CONTROL SIGNAL DOCUMENTATION

Document Type	
emporary Traffic Control Signal Requirements and Timeframes	
rocess for Obtaining PennDOT Approval to Use Temporary Traffic Control Signals	
anket Permits	
oplication for Permit to Operate Temporary Traffic Control Signals	
emporary Traffic Control Signal Permit	
oplication Instructions for Permit to Operate Temporary Traffic Control Signals	
xample Problem: Application for Permit to Operate Temporary Traffic Control Signals	
uidelines for the Selection of Temporary Traffic Control Signals in Work Zones	
emporary Traffic Control Signals Non-Compliance Documentation Form	
emporary Traffic Control Signals User Comment Form	



# TEMPORARY TRAFFIC CONTROL SIGNALS - MANIJALLY-CONTROL TWO-- > TWO-WAY ROADWAY

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ANY FIELD ADJUSTMENT OF "STOP HERE ON RED SIGNS" REQUIRES NEW CALCULATION OF CLEAR-ANCE INTERVALS IN ACCORDANCE WITH PENNDOT SPECIFICATIONS.

- \* SEE TABLE AND NOTE 14.
- ▲ INTERVAL DETERMINED BY OPERATOR.

# SIGNAL REQUIREMENTS

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SIGNAL NO'S. 1-2-3-4

NOTE: ALL SIGNALS TO BE EQUIPPED WITH BACKPLATES.

																	_
300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000	_	Length of One-Lane, Two-Way Traffic Section between STOP HERE	All-Red Clearance Interval
14	16	18	20	23	25	27	30	32	34	36	39	41	43	45	15 MPH	Required Minimum All-Red Clearance (SEC)	Calculations (See
10	12	14	15	17	19	20	22	24	26	27	29	31	32	34	20 MPH	d Minimum L Clearance (SEC)	
8	10	11	12	14	15	16	18	19	20	22	23	25	26	27	25 MPH	Length of e Interval	Note 14)

55	50	45	40	35	30	25	Normal Speed Limit (MPH)	Signal Face (See N
625	540	460	390	325	270	215	Minimum Visibility Distance (FT)	11 Face Visibility (See Note 12)

	PERMIT NO.:	

PENNDOT APPROVAL: TITI

DIST. TRAF. ENGINEER

DATE:

TEMPORARY TRAFF ΙС SHORT-TERM STATIONARY OPERATION - CONTROL SIGNALS - MANUALLY-CONTROLLED, 213 TWO-LANE, TWO-WAY ROADWAY PEDESTAL-MOUNTED PORTABLE

TRAFFIC ist. CONTROL County S IGNALS Route Sheet of 4

- THE USE OF STATIONARY MANUALLY-CONTROLLED, PEDESTAL-MOUNTED PORTABLE TRAFFIC CONTROL OPERATIONS SHALL COMPLY WITH PROVISIONS OF THIS FIGURE. SIGNALS Ï PENNSYLVANIA FOR SHORT-TERM
- $\stackrel{\triangleright}{\cdot}$ SIHI
- ۵٥ FIGURE MAY BE USED IF ALL OF THE FOLLOWING CONDITIONS ARE SATISFIED:
  THE OPERATION IS A STATIONARY, SHORT-TERM OPERATION AS DEFINED IN PENNDOT PUBLICATIONS 212 AND 213.
  THE PORTABLE TRAFFIC CONTROL SIGNALS.
  THE PROPOSED METHOD OF TRAFFIC CONTROL SIGNALS.
  THERE IS NO AT-GRADE RAILROAD CROSSING WITHIN THE ONE-LANE, TWO-WAY TRAFFIC SECTION (BETWEEN STOP HERE ON NO ROADWAY APPROACH TO THE PORTABLE TRAFFIC CONTROL SIGNAL.
  SPEED LIMIT IS GREATER THAN 35 MILES PER HOUR.
  THERE ARE NO INTERSECTIONS OR UNCONTROLLED COMMERCIAL DRIVEWAYS SHALL BE ACCEPTABLE TO PENNDOT.
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  - SECTION.
- Š FOR MANUAL CONTROL, A SINGLE OPERATOR MAY BE USED IF THE OPERATOR HAS AN UNOBSTRUCTED VIEW OF BOTH TRAFFIC TRAVELING THROUGH THE ONE-LANE, TWO-WAY SECTION AND TRAFFIC ON THE APPROACH TO EACH PORTABLE TRAFFIC CONTROL SIGNAL UNIT. OTHERWISE, A SEPARATE OPERATOR IS REQUIRED AT EACH PORTABLE TRAFFIC CONTROL SIGNAL UNIT AND COMMUNICATIONS MUST BE MAINTAINED BETWEEN THE OPERATORS.
- 4 SUPPLEMENTAL SIGNAL INDICATOR LAMPS ARE REQUIRED TO CONTROLLER DOES NOT PROVIDE A VISUAL DISPLAY OF THE SHOW THE OPERATOR THE SIGNAL INDICATIONS. STATUS 유 ĦΕ SIGNAL INDICATIONS Ħ
- ហ PORTABLE TRAFFIC CONTROL SIGNAL UNLESS DIRECTED BY PENNDOT. OPERATIONS SHOULD REMAIN Z A MANUALLY-CONTROLLED MODE AND SHOULD NOT BE
- 6 ADVANCE WRITTEN APPROVAL MUST BE OBTAINED FROM PENNDOT PRIOR TO USING PORTABLE TRAFFIC CONTROL SIGNALS FOR SHORT-TERM OPERATIONS ON ANY PUBLIC HIGHWAY. A PENNDOT TEMPORARY TRAFFIC CONTROL SIGNAL PERMIT IS REQUIRED FOR SHORT-TERM OPERATIONS, AND A COPY MUST BE MAINTAINED ON-SITE DURING THE PERIOD OF PORTABLE TRAFFIC CONTROL SIGNAL
- 7. SUBMIT A COMPLETED APPLICATION FOR A PERMIT TO OPERATE TEMPORARY TRAFFIC CONTROL SIGNALS TO THE APPROPRIATE PENNDOT ENGINEERING DISTRICT OFFICE SO THAT IT IS RECEIVED AT LEAST 3 FULL WORKING DAYS BEFORE THE DESIRED BEGINNING TIME OF THE PORTABLE TRAFFIC CONTROL SIGNAL USAGE, EXCEPT FOR EMERGENCY WORK AS DEFINED IN PENNDOT PUBLICATION 212.
- œ REFER TRAFF] TO APPENDIX A OF THIS PUBLICATION FOR ADDITIONAL GUIDANCE IC CONTROL SIGNALS. AND ACCEPTANCE PROCEDURES PERTAINING TO PORTABLE
- 9. THE DESIGN AND APPLICATION OF THE PORTABLE PENNDOT PUBLICATIONS 212, 213, AND 149M. TRAFF IC CONTROL SIGNALS SHALL COMPLY W I TH ΞH MOST CURRENT VERSION
- 10. SIGNAL SUPPORTS SHOULD BE A MINIMUM OF 2 FEET OFF THE EDGE OF TRAVEL WAY. IF SHALL BE ADEQUATELY PROTECTED BY BARRIER, GUIDERAIL, OR CHANNELIZING DEVICES. 茾 S S NOT POSSIBLE, ΉE SUPPORTS
- <u>-</u> THE BOTTOM OF MORE THAN 15 F FEET ABOVE THE S SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE ROADWAY S SHALL - BE AT GRADE / T LEAST AT THE 8 FEET, BUT NOT CENTER OF THE R
- 2 A MINIMUM OF MEETING THE S = TWO SIGNAL FACES ON EACH APPROACH SHOULD DISTANCES SPECIFIED IN ' THE BE CONTINUOUSLY VISIBLE TO TABLE ON SHEET 2 OF 3. **APPROACH ING** TRAFF I C FROM A POINT

NOTES CONT' Ö 9 SHEET 4

DATE:	DIST. TRAF. ENGINEER	APPROVAL:	PERMITTEE:	PERMIT NO.:

TEMPORARY TRAFF ΙС SHORT-TERM CONTROL SIGNALS STATIONARY OPERATION -- MANUALLY-CONTROLLED, V 213 - TWO-LANE, PEDESTAL-N , TWO-WAY ROADWAY MOUNTED PORTABLE TRAFF

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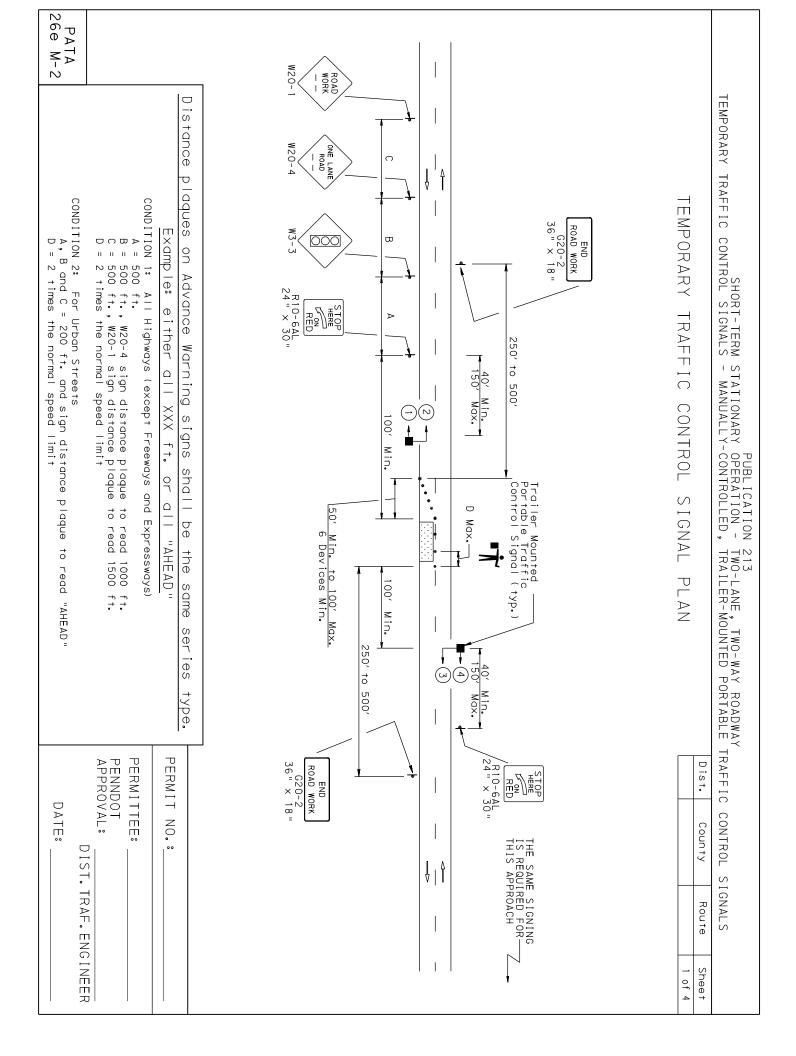
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- <u>.</u> THE LENGTH OF YELLOW CHANGE INTERVAL, OR . AN APPROPRIATE ALTERNATE VALUE FROM FROM ABOUT 3 SECONDS TO 6 SECONDS. PENNDOT PUBLICATION 149M BASED ON . USE / A 5-SECONDI ITIONS.
- AN ALL-RED CLEARANCE INTERVAL MUST BE USED. THE LENGTH OF THE ALL-RED CLEARANCE INTERVAL IS BASED ON THE LENGTH OF THE ONE-LANE, TWO-WAY TRAFFIC SECTION CONTROLLED BY THE PORTABLE TRAFFIC CONTROL SIGNALS AND THE SPEED OF TRAFFIC THROUGH THAT SECTION. MONITOR TRAFFIC OPERATIONS DURING THE PERIOD OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE AND THE LENGTH OF THE ALL-RED CLEARANCE INTERVAL TO ACCOUNT FOR SITE CONDITIONS AND TO PROVIDE FOR SAFE AND EFFICIENT TRAFFIC OPERATIONS. UNLESS OTHERWISE INDICATED BY PENNDOT, THE MINIMUM LENGTH OF ALL-RED CLEARANCE INTERVALS SHALL BE AS INDICATED ON THE TABLE ON SHEET 2 OF 4.
- 5. WHEN NOT IN OPERATION, SIGNAL HEADS SHALL BE REMOVED FROM THE VIEW OF TRAFFIC OR HOODED WITH A MATERIAL THAT COVERS THE SIGNAL INDICATIONS FROM THE VIEW OF TRAFFIC. ALL INAPPROPRIATE SIGNS SHALL ALSO BE REMOVED, COVERED, FOLDED, OR TURNED SO THAT THEY ARE NOT READABLE BY ONCOMING TRAFFIC WHEN THE PORTABLE TRAFFIC CONTROL SIGNAL IS NOT IN OPERATION.
- 16. SIGNAL MODULES MUST BE MAINTAINED BY THE USER. REPLACED Z ACCORDANCE WITH 표 MANUFACTURERS RECOMMENDATIONS, AND  $\triangleright$ RECORD 유 SIHT MUST
- 17. ADDITIONAL SIGNS BASED ON ACTUAL SITE DEVICES SHALL CONDITIONS. BΕ INSTALLED AS REQUIRED Z PENNDOT PUBLICATIONS N 12 AND 213, AND AS REQUIRED
- <u>~</u> PENNDOT RESERVES THE RIGHT TO INSPECT EACH PORTABLE TRAFFIC CONTROL SIGNAL USAGE. PENNDOT ALSO RESERVES THE RIGHT TO REVOKE A TEMPORARY TRAFFIC CONTROL SIGNAL PERMIT OR TO SUSPEND THE OPERATION OF THE PORTABLE TRAFFIC CONTROL SIGNAL FIRST THE USER SHALL AT ANY TIME WILLFULLY OR NEGLIGENTLY FAIL TO WITH THE CONDITIONS IN THE PERMIT OR PUBLICATION 213, OR FAIL TO MAKE ANY CHANGES IN THE OPERATION OF THE SIGNAL, OR REMOVE IT, WHEN SO ORDERED BY PENNDOT. THE USER SHALL NOT MAKE ANY CHANGE IN THE OPERATION OF THE PORTABLE TRAFFIC CONTROL SIGNAL AS DEFINED IN THE PERMIT DRAWINGS WITHOUT PRIOR WRITTEN APPROVAL OF PENNDOT.

DATE:	DIST. TRAF. ENGINEER	PENNDOT APPROVAL:	PERMITTEE:	PERMIT NO.:



# TEMPORARY TRAFFIC CONTROL SIGNALS - MANUALLY-CONTROL -213 Two-> | | | TWO-**∀** ∧ **∀** DOVDWVY

Dist.	UALLY-CONTROLLED, TRAILER-MOUNTED PORTABLE TRAFFIC CON
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All-Red Clearance Interval Calculations (See Note 14)

Required Minimum Length of All-Red Clearance Interval (SEC)

25 MPH

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ANY FIELD ADJUSTMENT OF "STOP HERE ON RED SIGNS" REQUIRES NEW CALCULATION OF CLEAR-ANCE INTERVALS IN ACCORDANCE WITH PENNDOT SPECIFICATIONS.

- SEE TABLE AND NOTE 14.
- ▲ INTERVAL DETERMINED BY OPERATOR.

# SIGNAL REQUIREMENTS

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SIGNAL NO'S. 1-2-3-4

NOTE: ALL SIGNALS TO BE EQUIPPED WITH BACKPLATES.

300	052	400	450	500	550	600	650	700	750	800	850	900	950	1,000	ON RED SIGNS (FI)	between STOP HERE	Two-Way Traffic Section	Length of One-Lane,
14	16	18	20	23	25	27	30	32	34	36	39	41	43	45	15 MPH		All-Red C	Required
10	12	14	15	17	19	20	22	24	26	27	29	31	32	34	20 MPH	(SEC)	All'-Red Clearance	Minimum L

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55	50	45	40	35	30	25	Normal Speed Limit (MPH)	Signal Face Visibility (See Note 12)
625	540	460	390	325	270	215	Minimum Visibility Distance (FT)	Visibility ote 12)

PENNDOT APPROVAL:	PERMITTEE:	PERMIT NO.:

DATE:

DIST. TRAF. ENGINEER

# EMPORARY TRAFF IC SHORT-TERM CONTROL SIGNALS STATIONARY OPERATION -- MANUALLY-CONTROLLED: 213 TWO-LANE, TWO-WAY ROADWAY TRAILER-MOUNTED PORTABLE TRAFFIC

3 of 4			
Sheet	Route	County	Dist.

## NOTES

- MANUALLY-CONTROLLED, TRAILER-MOUNTED SHALL COMPLY WITH PROVISIONS OF THIS PORTABLE FIGURE. TRAFFIC CONTROL SIGNALS Z PENNSYLVANIA FOR SHORT-TERM STATIONARY
- Ņ SIHI
- HIS FIGURE MAY BE USED IF ALL OF THE FOLLOWING CONDITIONS ARE SATISFIED:

  d. THE OPERATION IS A STATIONARY, SHORT-TERM OPERATION AS DEFINED IN PENNDOT PUBLICATIONS 212

  b. THE WORK ZONE WILL BE CONTROL SIGNALS ARE USED TO CONTROL ONE-LANE, TWO-WAY TRAFFIC, AND NO
  THE WORK ZONE WILL BE CONTROLLED BY THE PORTABLE TRAFFIC CONTROL SIGNALS.

  c. THERE IS NO AT-GRADE RAILROAD CROSSING WITHIN THE ONE-LANE, TWO-WAY TRAFFIC SECTION (BETWEE
  WITHIN 300 FEET OF A PORTABLE TRAFFIC CONTROL SIGNAL IS ON A DOWNGRADE OF 5% OR MORE,

  d. NO ROADWAY APPROACH TO THE PORTABLE TRAFFIC CONTROL SIGNAL IS ON A DOWNGRADE OF 5% OR MORE,

  GREATER THAN 35 MILES PER HOUR.

  e. THERE ARE NO INTERSECTIONS OR UNCONTROLLED COMMERCIAL DRIVEWAYS SHALL BE ACCEPTABLE TO PENN

  PROPOSED METHOD OF TRAFFIC CONTROL FOR NON-COMMERCIAL DRIVEWAYS SHALL BE ACCEPTABLE TO PENN AND 213. MORE THAN TWO APPROACHES

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- ( BETWEEN STOP HERE 9 S I GNS) AND
- MORE, IF HE. NORMAL SPEED LIMIT IS
- WITHIN THE ONE-LANE, TWO-WAY TRAFFIC SHALL BE ACCEPTABLE TO PENNDOT. SECTION.
- Š FOR MANUAL CONTROL, A SINGLE OPERATOR MAY BE USED IF THE OPERATOR HAS AN UNOBSTRUCTED VIEW OF BOTH TRAFFIC TRAVELING THRO THE ONE-LANE, TWO-WAY SECTION AND TRAFFIC ON THE APPROACH TO EACH PORTABLE TRAFFIC CONTROL SIGNAL UNIT. OTHERWISE, A SEPARATE OPERATOR IS REQUIRED AT EACH PORTABLE TRAFFIC CONTROL SIGNAL UNIT AND COMMUNICATIONS MUST BE MAINTAINED BETWEEN OPERATORS.
- 4 SUPPLEMENTAL SIGNAL INDICATOR LAMPS ARE REQUIRED TO SHOW THE DOES NOT PROVIDE A VISUAL DISPLAY OF THE SIGNAL INDICATIONS. OPERATOR ĦΕ STATUS 유 Ħ H H SIGNAL INDICATIONS Ħ THE CONTROLLER
- ភ PORTABLE DIRECTED TRAFFIC CO BY PENNDOT CONTROL SIGNAL OPERATIONS SHOULD REMAIN I A MANUALLY-CONTROLLED MODE AND SHOULD NOT BΕ CHANGED UNLESS
- 6 ADVANCE WRITTEN APPROVAL MUST BE OBTAINED FROM PENNDOT PRIOR TO USING PORTABLE TRAFFIC CONTROL SIGNALS FOR OPERATIONS ON ANY PUBLIC HIGHWAY. A PENNDOT TEMPORARY TRAFFIC CONTROL SIGNAL PERMIT IS REQUIRED FOR SHORT-AND A COPY MUST BE MAINTAINED ON-SITE DURING THE PERIOD OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE. SHORT-TERM TERM OPERATIONS
- 7. SUBMIT A COMPLETED APPLICATION FOR A PERMIT TO OPERATE TEMPORARY TRAFFIC CONTROL SIGNALS TO THE APPROPRIATE PENNDOT ENGINEERING DISTRICT OFFICE SO THAT IT IS RECEIVED AT LEAST 3 FULL WORKING DAYS BEFORE THE DESIRED BEGINNING TIME OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE, EXCEPT FOR EMERGENCY WORK AS DEFINED IN PENNDOT PUBLICATION 212.
- φ CONT TROL T0 SIGNALS. ⊳ 유 THIS PUBLICATION FOR ADDITIONAL GUIDANCE AND ACCEPTANCE PROCEDURES PERTAINING TO PORTABLE TRAFF IC
- 10. 9 PUBL SIGNAL SUPPORTS SHOUL ADEQUATELY PROTECTED DESIGN AND APPLICATION ICATIONS 212, 213, AND D BE A MINIMUM OF 2 FEET (BY BARRIER, GUIDERAIL, OR OF THE PORTABLE TRAFFIC OFF THE EDGE OF TRAVEL CONTROL SIGNALS SHALL WAY. COMPLY Ħ SIHT WITH S ĦΕ NOT MOST POSSIBLE, CURRENT ĦΕ VERS I ON SUPPORTS 유 SHALL PENNDOT 盟
- <u>.</u> THE BOTTOM FEET ABOVE FEET, BUT N ROADWAY. NOT , THE HOUSING OF MORE THAN 15 15 OF A SIGNAL FACE SUSPENDED THE BOTTOM OF THE HOUSING OF THE SIDEWALK OF DED OVER THE RO NG OF A SIGNAL K OR, IF THERE ROADWAY SHALL BE A AL FACE THAT IS NOT RE IS NO SIDEWALK , , A MINIMUM OF 15 FEET, BUT NOT MORE THAN 19 IT MOUNTED OVER THE ROADWAY SHALL BE AT LEAST 8 ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE

NOTES CONT' Ö 9 SHEET 4

DATE:	DIST. TRAF. ENGINEER	PENNDOT APPROVAL:	PERMITTEE:	PERMIT NO.:

# EMPORARY TRAFF $\Gamma$ SHORT-TERM CONTROL SIGNALS PUBLICATION STATIONARY OPERATION - - MANUALLY-CONTROLLED, 213 TWO-LANE, TWO-WAY ROADWAY TRAILER-MOUNTED PORTABLE RAFFIC CONTROL SIGNALS

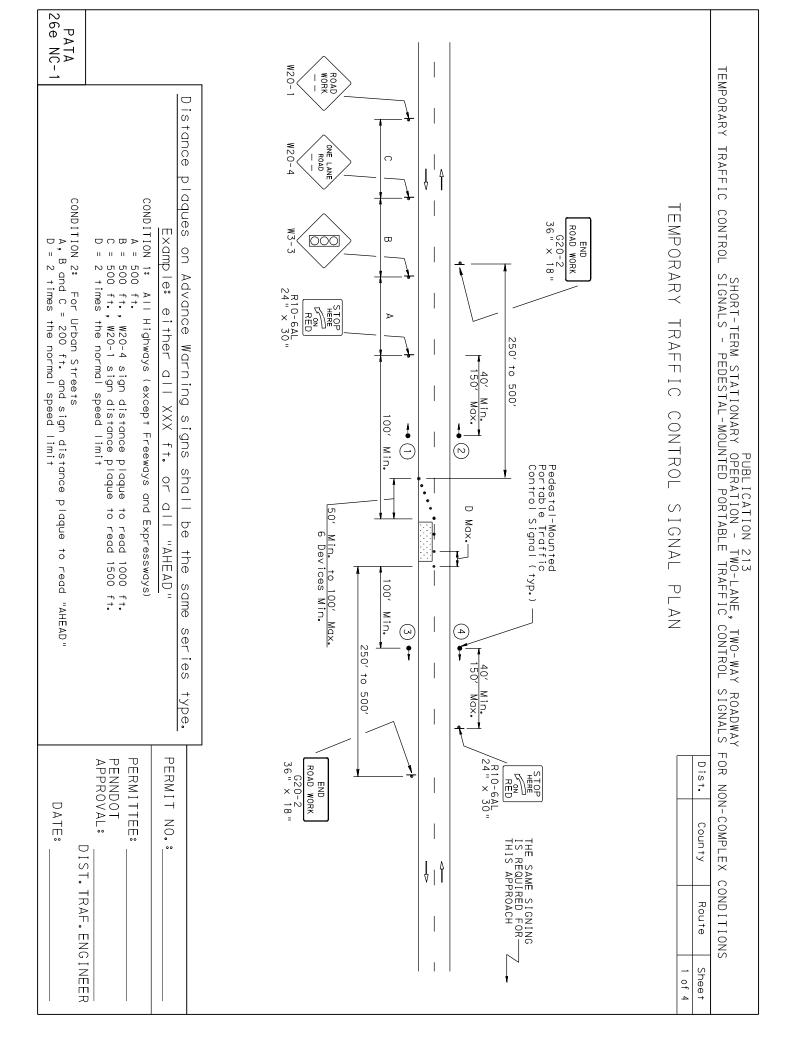
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(CONT'D. FROM SHEET 3)

- 12. SD MINIMUM OF TWO SIGNAL FACES ON IGNAL VISIBILITY DISTANCES SPEC EACH IFIED APPROACH IN THE TA H SHOULD BE CONTINUOUSLY SHEET 2 OF 3. VISI I BLE 0 T0 APPROACHING TRAFF I C FROM ⊳ PO INT MEETING
- <u>1</u>3. THE LENGTH OF YELLOW CHANGE INTERVALS IS NORMALLY CHANGE INTERVAL, OR AN APPROPRIATE ALTERNATE VALUE IN THE RANGE FROM ABOUT 3 SECONDS TO FROM PENNDOT PUBLICATION 149M BASED 6 SECONDS. USE A 5-SECOND ON ACTUAL SITE CONDITIONS. YELLOW
- 14. AN ALL-RED CLEARANCE INTERVAL MUST BE USED. THE LENGTH OF THE ALL-RED CLEARANCE INTERVAL IS BASED ON THE LENGTH OF THE ONE-LANE, TWO-WAY TRAFFIC SECTION CONTROLLED BY THE PORTABLE TRAFFIC CONTROL SIGNALS AND THE SPEED OF TRAFFIC THROUGH THAT SECTION. MONITOR TRAFFIC OPERATIONS DURING THE PERIOD OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE AND ADJUST THE LENGTH OF THE ALL-RED CLEARANCE INTERVAL TO ACCOUNT FOR SITE CONDITIONS AND TO PROVIDE FOR SAFE AND EFFICIENT TRAFFIC OPERATIONS. UNLESS OTHERWISE INDICATED BY PENNDOT, THE MINIMUM LENGTH OF ALL-RED CLEARANCE INTERVALS SHALL BE AS INDICATED ON THE TABLE ON SHEET 2 OF 4.
- 5. WHEN NOT IN OPERATION, SIGNAL HEADS SHALL BE REMOVED FROM THE VIEW OF TRAFFIC OR SIGNAL INDICATIONS FROM THE VIEW OF TRAFFIC. ALL INAPPROPRIATE SIGNS SHALL ALSO THAT THEY ARE NOT READABLE BY ONCOMING TRAFFIC WHEN THE PORTABLE TRAFFIC CONTROL HOODED WITH A MATERIAL THAT OBE REMOVED, COVERED, FOLDED, SIGNAL IS NOT IN OPERATION. COVERS THE
- 16. SIGNAL MODULES MUST BE MAINTAINED BY THE USER. REPLACED Z ACCORDANCE WITH ΉE MANUF ACTURERS RECOMMENDATIONS, AND ⊳ RECORD 유 SIHI MUST BΕ
- 17. ADDITIONAL SACTUAL SITE SIGNS AND DEVICES CONDITIONS. SHALL BΕ INSTALLED ΔS REQUIRED Ï PENNDOT PUBLICATIONS 212 AND 213, AND AS REQUIRED BASED
- <u>-</u>8 PENNDOT RESERVES THE RIGHT TO INSPECT EACH PORTABLE TRAFFIC CONTROL SIGNAL USAGE. PENNDOT ALSO RESERVES THE RIGHT TO REVOKE A TEMPORARY TRAFFIC CONTROL SIGNAL PERMIT OR TO SUSPEND THE OPERATION OF THE PORTABLE TRAFFIC CONTROL SIGNAL IF THE USER SHALL AT ANY TIME WILLFULLY OR NEGLIGENTLY FAIL TO COMPLY WITH THE CONDITIONS CONTAINED IN THE PERMIT OR PUBLICATION 213, OR FAIL TO MAKE ANY CHANGES IN THE OPERATION OF THE SIGNAL, OR REMOVE IT, WHEN SO ORDERED BY PENNDOT. THE USER SHALL NOT MAKE ANY CHANGE IN THE OPERATION OF THE PORTABLE TRAFFIC CONTROL SIGNAL AS DEFINED IN THE PERMIT DRAWINGS WITHOUT PRIOR WRITTEN APPROVAL.

DATE:	DIST. TRAF. ENGINEER	PENNDOT APPROVAL:	PERMITTEE:	PERMIT NO.:



# PATA 26e NC-1

# TEMPORARY TRAFFIC CONTROL PUBLICATION 213 SHORT-TERM STATIONARY OPERATION - TWO-LANE, TWO-WAY ROADWAY SIGNALS - PEDESTAL-MOUNTED PORTABLE TRAFFIC CONTROL SIGNALS FOR NON-COMPLEX CONDITIONS

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450	500	550	600	650	700	750	800	850	900	950	1,000		Two-Way Traffic Section AI between SIONS (ET)	All-Red Clearance Interva	
20	23	25	27	30	32	34	36	39	41	43	45	15 MPH	Required All-Red C	_	
15	17	19	20	22	24	26	27	29	31	32	34	20 MPH	quired Minimum Length of I-Red Clearance Interval (SEC)	(See Note 11)	
	_	_	16	.]_		20	22	23	25	26	27	25 MPH	ang th		

SIGNAL
REQUIREMENTS

\*\* SEE NOTE 12.

SEE TABLE AND NOTE 11.

ANY FIELD ADJUSTMENT OF "STOP HERE ON RED SIGNS" REQUIRES NEW CALCULATION OF CLEAR-ANCE INTERVALS IN ACCORDANCE WITH PENNDOT SPECIFICATIONS.

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NOTE: ALL SIGNALS TO BE EQUIPPED WITH BACKPLATES.

55	50	45	40	35	30	25	Normal Speed Vis	Signal Face Visibility (See Note 9)
625	540	460	390	325	270	215	Minimum Visibility Distance (FT)	9) 

55	50	45	40	35	30	25	mit (MPH)	Signal Face Visib
625	540	460	390	325	270	215	Minimum Visibility Distance (FT)	ote 9)

DATE:

DIST. TRAF. ENGINEER

TEMPORARY TRAFF C CONTROL SHORT-TERM STATIONARY OPERATION - TWO-LANE, SIGNALS - PEDESTAL-MOUNTED PORTABLE TRAFFIC , TWO-WAY SIGNALS FOR NON-COMPLEX COND IT I ONS

Dist.
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## NOTE

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- NON-COMPLEX PEDESTAL-MOUNTED PORTABLE COMPLY V WITH PROVISIONS OF THIS F IN PENNSYLVANIA FOR SHORT-TERM STATIONARY
- o. SIHIS
- AND 213. MORE THAN TWO APPROACHES TO
- 0 SECTION (BETWEEN STOP HERE 9 RED SIGNS)
- ô ΉE NORMAL SPEED LIMIT SI
- Φ TRAFFIC
- FIGURE MAY BE USED IF ALL OF THE FOLLOWING CONDITIONS ARE SATISFIED:
  THE OPERATION IS A STATIONARY, SHORT-TERM OPERATION AS DEFINED IN PENNDOT PUBLICATIONS 212 AND THE PORTABLE TRAFFIC CONTROL SIGNALS.
  THE WORK ZONE WILL BE CONTROLLED BY THE PORTABLE TRAFFIC CONTROL SIGNALS.
  THERE IS NO AT-GRADE RAILROAD CROSSING WITHIN THE ONE-LANE, TWO-WAY TRAFFIC SECTION (BETWEEN SWITHIN 300 FEET OF A PORTABLE TRAFFIC CONTROL SIGNAL.

  NO ROADWAY APPROACH TO THE PORTABLE TRAFFIC CONTROL SIGNAL IS ON A DOWNGRADE OF 5% OR MORE, IF GREATER THAN 35 MILES PER HOUR.
  THERE ARE NO INTERSECTIONS OR UNCONTROLLED COMMERCIAL DRIVEWAYS WITHIN THE ONE-LANE, TWO-WAY TRAFFIC CONTROL FOR NON-COMMERCIAL DRIVEWAYS SHALL BE ACCEPTABLE TO PENNDOT THE ROADWAY ADT (AVERAGE DAILY TRAFFIC) IS 10,000 VEHICLES PER DAY OR LESS, AND THE LENGTH OF TRAFFIC SECTION (BETWEEN STOP HERE ON RED SIGNS) IS 1,000 FEET OR LESS. Ħ. ONE-LANE,
- ADVANCE WRITTEN APPROVAL MUST BE OBTAINED FROM PENNDOT OPERATIONS ON ANY PUBLIC HIGHWAY. A PENNDOT TEMPORARY AND A COPY MUST BE MAINTAINED ON-SITE DURING THE PERIOD PRIOR TO USING PORTABLE TRAFFIC CONTROL SIGNALS FOR SHORT-TERM TRAFFIC CONTROL SIGNAL PERMIT IS REQUIRED FOR SHORT-TERM OPERATIONS OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE.
- 4 SUBMIT A COMPLETED APPLICATION FOR A PERMIT TO OPERATE TEMPORARY TRAFFIC CONTROL SIGNALS TO THE APPROPRIATE FENGINEERING DISTRICT OFFICE SO THAT IT IS RECEIVED AT LEAST 3 FULL WORKING DAYS BEFORE THE DESIRED BEGINNING PORTABLE TRAFFIC CONTROL SIGNAL USAGE, EXCEPT FOR EMERGENCY WORK AS DEFINED IN PENNDOT PUBLICATION 212. PENNDOT
- 5 REFER TO APPENDIX CONTROL SIGNALS.  $\triangleright$ 유 SIHI PUBLICATION FOR ADDITIONAL GUIDANCE AND ACCEPTANCE **PROCEDURES** PERTAINING 0 T0 PORTABLE TRAFFIC
- 6 PUBL -DESIGN AND APPLICATION OF THE ICATIONS 212, 213, AND 149M. PORTABLE TRAFFIC CONTROL SIGNALS SHALL COMPLY WITH 품 MOST CURRENT **VERSION** 유 PENNDOT
- SIGNAL SUPPORTS SHOULD BE A MINIMUM OF 2 FEET (ADEQUATELY PROTECTED BY BARRIER, GUIDERAIL, OR OFF THE EDGE OF TRAVEL CHANNELIZING DEVICES. WAY.  $\exists$ SIH S NOT POSSIBLE, Ħ SUPPORTS SHALL
- $_{\bullet}^{\infty}$ 15E E BOTTOM OF FEET ABOVE 표표 HOUSING OF A SIGNAL FACE SIDEWALK OR, IF THERE IS THAT IS NOT MOUNTED NO SIDEWALK, ABOVE -THE PAVEMENT GRADE AT THE E AT LEAST CENTER OF 8 FEET, BUT THE ROADWAY. NOT MORE
- 9 A MINIMUM OF TWO SIGNAL FACES ON EACH SIGNAL VISIBILITY DISTANCES SPECIFIED APPROACH SHOULD IN THE TABLE ON BE CONTINUOUSLY SHEET 2 OF 3. VISIBLE To **APPROACHING** TRAFFIC FROM Þ POI
- 10. THE LENGTH OF YEL CHANGE INTERVAL, YELLOW L,OR A CHANGE INTERVALS IS NORMALLY AN APPROPRIATE ALTERNATE VALUE IN THE RANGE FROM PENNDOT PUBL ABOUT 3 SECONDS TO 149M BASED 96 SECONDS. SITE CONDITIONS. YELLOW

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DATE:	DIST. TRAF. ENGINEER	APPROVAL:	PERMITTEE:	PERMIT NO.:

## EMPORARY TRAFF $\overline{C}$ CONTROL SHORT-1 S TERM STATIONARY PUBLICATION 2 S - PEDESTAL-MOUNTED PORTABLE 213 TWO-LANE, TRAFFIC ( , TWO-WAY SIGNALS FOR NON-COMPLE $\times$ CONDITIONS

	Dist.
	County
	Route
4 of 4	Sheet

## NOTES

(CONT' ņ FROM SHEET

- <u>.</u> AN ALL-RED CLEARANCE INTERVAL MUST BE USED. THE LENGTH OF THE ALL-RED CLEARANCE INTERVAL IS BASED ON THE LENGTH OF THE ONE-LANE, TWO-WAY TRAFFIC SECTION CONTROLLEED BY THE PORTABLE TRAFFIC CONTROL SIGNALS AND THE SPEED OF TRAFFIC THROUGH THAT SECTION. MONITOR TRAFFIC OPERATIONS DURING THE PERIOD OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE AND ADJUST THE LENGTH OF THE ALL-RED CLEARANCE INTERVAL TO ACCOUNT FOR SITE CONDITIONS AND TO PROVIDE FOR SAFE AND EFFICIENT TRAFFIC OPERATIONS. UNLESS OTHERWISE INDICATED BY PENNDOT, THE MINIMUM LENGTH OF ALL-RED CLEARANCE INTERVALS SHALL BE AS INDICATED ON THE TABLE ON SHEE 2 OF 4.
- 12. FOR FIXED TIME AND ACTUATED OPERATIONS, THE MINIMUM GREEN INTERVAL PROVIDED FOR EACH APPROACH SHALL BE 10 SECONDS, OTHERWISE INDICATED BY PENNDOT. THE LENGTH OF GREEN INTERVALS SHOULD BE SUCH AS TO PROVIDE FOR SAFE AND EFFICIENT OPERATIONS. USE GREEN INTERVALS AS INDICATED ON THE PERMIT DRAWING, IT THERE IS NO PERMIT DRAWING, MONITOR TRAFFI OPERATIONS AS TRAFFIC VOLUMES CHANGE THROUGHOUT THE PERIOD OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE AND ADJUST GREE INTERVALS TO PROVIDE FOR SAFE AND EFFICIENT TRAFFIC OPERATIONS. UNLESS T TRAFFIC FIC EEN
- 13. WHEN NOT IN OPERATION, SIGNAL HEADS SHALL BE REMOVED FROM THE VIEW OF SIGNAL INDICATIONS FROM THE VIEW OF TRAFFIC. ALL INAPPROPRIATE SIGNS THAT THEY ARE NOT READABLE BY ONCOMING TRAFFIC WHEN THE PORTABLE TRAFF FIC CONTROL HOODED WITH A MATERIAL THAT COVERS THE BE REMOVED, COVERED, FOLDED, OR TURNED SIGNAL IS NOT IN OPERATION. SO
- 14. SIGNAL MODULES MUST BE MAINTAINED BY THE USER. REPLACED Ï ACCORDANCE WITH 표 MANUFACTURERS RECOMMENDATIONS, AND  $\triangleright$ RECORD 유 SIHT MUST
- 15. ADDITIONAL SIGNS AND DEVICES ACTUAL SITE CONDITIONS. SHALL ΒE INSTALLED AS REQUIRED Z PENNDOT PUBLICATIONS N 12 AND 213, AND AS REQUIRED BASED 9
- 16. PENNDOT RESERVES THE RIGHT TO INSPECT EACH PORTABLE TRAFFIC CONTROL SIGNAL USAGE. PENNDOT ALSO RESERVES THE RIGHT TO REVOKE A TEMPORARY TRAFFIC CONTROL SIGNAL IF THE USER A TEMPORARY TRAFFIC CONTROL SIGNAL IF THE USER SHALL AT ANY TIME WILLFULLY OR NEGLIGENTLY FAIL TO COMPLY WITH THE CONDITIONS CONTAIN IN THE PERMIT OR PUBLICATION 213, OR FAIL TO MAKE ANY CHANGES IN THE OPERATION OF THE SIGNAL, OR REMOVE IT, WHEN SO ORDERED BY PENNDOT. THE USER SHALL NOT MAKE ANY CHANGE IN THE OPERATION OF THE PORTABLE TRAFFIC CONTROL SIGNAL AS DEFINED IN THE PERMIT DRAWINGS WITHOUT PRIOR WRITTEN APPROVAL OF PENNDOT.

DATE:	PENNDOT APPROVAL: DIST.TRAF.ENGINEER	PERMITTEE:	PERMIT NO.:

PATA 26e NC-2 ROAD WORK TEMPORARY TRAFFIC CONTROL Distance W20-4 ONE LANE Î ļ p laques CONDITION 2: For Urban Streets A, B and C = 200 ft. and sign distance plaque to read "AHEAD" CONDITION 1: G20-2 36" × 18" END ROAD WORK Example: O C B > 000 w on Advance = 500 ft., W20-4 sign distance plaque to read 1000 ft. = 500 ft., W20-1 sign distance plaque to read 1500 ft. = 2 times the normal speed limit П 2 times the normal speed limit 500 ft. TEMPORARY PUBLICATION 213 SHORT-TERM STATIONARY OPERATION - TWO-LANE, TWO WAY ROADWAY SIGNALS - TRAILER-MOUNTED PORTABLE TRAFFIC CONTROL SIGNALS FOR NON-COMPLEX CONDITIONS R10-6AL 24" x 30" All Highways (except Freeways RED STOP e i ther Warning 250′ to 500′ TRAFFIC  $\bigcirc$ × signs 100′ <u></u> <u>×</u> :. Trailer-Mounted
Portable Traffic
Control Signal (typ.) shall CONTROL 9 • and Expressways) O 50' Min. to 100' Max. 6 Devices Min. Max.-**Б**Ф "AHEAD" the same SIGNAL 100 ≅. series PLAN 250′ to 500′ 40<sup>′</sup> (u) 4 Max. туре. PENNDOT APPROVAL:  $\frac{1}{24} \times 30^{-6}$ PERMIT NO. : PERMITTEE: G20-2 36" × 18" END ROAD WORK Dist. RED RED DATE: County THE SAME SIGNING IS REQUIRED FOR—THIS APPROACH IST. TRAF. ENGINEER Route Shee t 1 of 4

# TEMPORARY TRAFFIC CONTROL PUBLICATION 213 SHORT-TERM STATIONARY OPERATION - TWO-LANE, TWO WAY ROADWAY SIGNALS - TRAILER-MOUNTED PORTABLE TRAFFIC CONTROL SIGNALS FOR NON-COMPLEX CONDITIONS

	Dist.	
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2 of 4	Shee t	

117 717	MEMORY	MAXIMUM	PASSAGE	WINIMUM * *	FIXED			3 4	() (2)	SIGNAL			
,	NL		3	10				R	G	_	1		
TIPLIT					ഗ			æ	~	N	INTERVALS		Phase
1					*			æ	æ	u	RVAI		se.
2											-S	₩	-
5	NL		3	10				G	æ	_			
					Ŋ			~	æ	N	NTE	<del> </del>	Phase
-					*			æ	Z	u	INTERVALS		se 2
7											ST		
7								æ	Z			EMERGENCY FLASHING	
י י													

Length of One-Lane,
Two-Way Traffic Section
between STOP HERE
ON RED SIGNS (FT)

Required Minimum Length of All-Red Clearance Interval (SEC)

1,000

<u>0</u>

MPH

20 MPH

MPH

43

<u>3</u>

23 

34

 All-Red Clearance Interval (See Note 11)

ANY FIELD ADJUSTMENT OF "STOP HERE ON RED SIGNS" REQUIRES NEW CALCULATION OF CLEAR-ANCE INTERVALS IN ACCORDANCE WITH PENNDOT SPECIFICATIONS.

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\* SEE TABLE AND NOTE 11.

\*\* SEE NOTE 12.

# SIGNAL REQUIREMENTS

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	$\sim$	
12 =	12 "	12 =

SIGNAL NO'S. 1-2-3-4

NOTE: ALL SIGNALS TO BE WITH BACKPLATES. EQUIPPED

55	50	45	40	35	30	25	Normal Speed Limit (MPH)	Signal Face Visibility (See Note 9)
625	540	460	390	325	270	215	Minimum Visibility Distance (FT)	Visibility ote 9)

55	50	45	40	35	30	25	ormal Speed _imit (MPH)	Signal Face Visibility (See Note 9)
625	540	460	390	325	270	215	Minimum Visibility Distance (FT)	Visibility ote 9)

PERMITTEE:	PERMIT NO.:

PENNDOT APPROVAL: DIST. TRAF. ENGINEER

DATE:

CONTROL SHORT-TERM STATIONARY OPERATION - SIGNALS - TRAILER-MOUNTED PORTAR! F Z13 TWO-LANE, TW TWO WAY ROADWAY

3 of 4						
Sheet	Route	County	Dist.			

**TEMPORARY** 

TRAFFIC

- THE USE OF TRAILER-MOUNTED PORTABLE TRAFFIC CONTROL NON-COMPLEX CONDITIONS SHALL COMPLY WITH PROVISIONS SIGNALS IN PENNSYLVANIA OF THIS FIGURE. FOR SHORT-TERM STATIONARY OPERATIONS
- 2 SIHT
- ٥٥ AND 213. MORE THAN TWO APPROACHES
- ဂ့ 9 RED SIGNS) TO AND
- Ö THE OPERATION IS A STATIONARY, SHORT-TERM OPERATION AS DEFINED IN PENNDOT PUBLICATIONS 212 AND 213. THE OPERATION IS A STATIONARY, SHORT-TERM OPERATION AS DEFINED IN PENNDOT PUBLICATIONS 212 AND 213. THE WORK ZONE WILL BE CONTROL SIGNALS ARE USED TO CONTROL SIGNALS. TWO-WAY TRAFFIC, AND NO MORE THAN TWO THE WORK ZONE WILL BE CONTROLLED BY THE PORTABLE TRAFFIC CONTROL SIGNALS. THE NOTE OF A PORTABLE TRAFFIC CONTROL SIGNAL. NO ATGRADE OF A PORTABLE TRAFFIC CONTROL SIGNAL. NO ROADWAY APPROACH TO THE PORTABLE TRAFFIC CONTROL SIGNAL IS ON A DOWNGRADE OF 5% OR MORE, IF THE NORM GREATER THAN 35 MILES PER HOUR.

  GREATER THAN 35 MILES PER HOUR.

  GREATER THAN 35 MILES PER HOUR.

  THERE ARE NO INTERSECTIONS OR UNCONTROLLED COMMERCIAL DRIVEWAYS WITHIN THE ONE-LANE, TWO-WAY TRAFFIC SE PROPOSED METHOD OF TRAFFIC CONTROL FOR NON-COMMERCIAL DRIVEWAYS SHALL BE ACCEPTABLE TO PENNOOT. THE ROADWAY ADT (AVERAGE DAILY TRAFFIC) IS 10,000 VEHICLES PER DAY OR LESS, AND THE LENGTH OF THE ONE-L TRAFFIC SECTION (BETWEEN STOP HERE ON RED SIGNS) IS 1,000 FEET OR LESS. NORMAL SPEED LIMIT 2
- ONE-LANE, TWO-WAY
- S ADVANCE WRITTEN APPROVAL MUST BE OBTAINED FROM PENNDOT PRIOR TO USING PORTABLE TRAFFIC CONTROL SIGNAL OPERATIONS ON ANY PUBLIC HIGHWAY. A PENNDOT TEMPORARY TRAFFIC CONTROL SIGNAL PERMIT IS REQUIRED FOR AND A COPY MUST BE MAINTAINED ON-SITE DURING THE PERIOD OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE. SHORT-TERM OPERATIONS
- 4 SUBMIT A COMPLETED APPLICATION FOR A PERMIT TO OPERATE TEMPORARY TRAFFIC CONTROL SIGNALS TO THE APPROPRIATE PENNDOT ENGINEERING DISTRICT OFFICE SO THAT IT IS RECEIVED AT LEAST 3 FULL WORKING DAYS BEFORE THE DESIRED BEGINNING TIME OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE, EXCEPT FOR EMERGENCY WORK AS DEFINED IN PENNDOT PUBLICATION 212.
- ភ REFER TO APPENDIX A CONTROL SIGNALS. 유 THIS PUBLICATION FOR ADDITIONAL GUIDANCE AND ACCEPTANCE PROCEDURES PERTAINING TO PORTABLE TRAFF I C
- 6 PUBL PUBL DESIGN AND APPLICATION LICATIONS 212, 213, AND 1 OF TH HE. PORTABLE TRAFFIC CONTROL SIGNALS SHALL COMPLY WITH THE MOST CURRENT VERSION 유 PENNDOT
- 7. SIGNAL SUPPORTS SHOULD BE A MINIMUM OF 2 FEET OFF THE EDGE OF TRAVEL ADEQUATELY PROTECTED BY BARRIER, GUIDERAIL, OR CHANNELIZING DEVICES. WAY.  $\overline{\exists}$ SIHT SI NOT POSSIBLE, ΞHE SUPPORTS SHALL
- ω THE BOTTOM OF THE HOUSING OF A SIGNAL FACE SUSPENDED OVER THE ROADWAY SHALL BE A FEET ABOVE THE PAVEMENT. THE BOTTOM OF THE HOUSING OF A SIGNAL FACE THAT IS NOT FEET, BUT NOT MORE THAN 15 FEET ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, A ROADWAY. A MINIMUM OF 15 FEET, BUT NOT MORE THAN 19 MOUNTED OVER THE ROADWAY SHALL BE AT LEAST 8 ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE
- 9 A MINIMUM OF TWO SIGNAL FACES ON EA I E D APPROACH SHOULD IN THE TABLE ON BE CONTINUOUSLY SHEET 2 OF 3. VISIBLE To **APPROACH ING** TRAFF I C FROM ⊳ POINT MEET I NG
- 10. THE LENGTH OF YELLOW CHANGE INTERVAL, OR / OCHANGE INTERVALS AN APPROPRIATE ALT IS NORMALLY TERNATE VALUE IN THE RANGE FROM ABOUT 3 SECONDS TO 149M BASED 96 SECONDS. SITE CONDITIONS.

NOTES CONT'  $\Box$ 9 SHEET 4

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DATE:	DIST. TRAF. ENGINEER	PENNDOT APPROVAL:	PERMITTEE:	PERMIT NO.:

# EMPORARY TRAFFIC CONTROL SHORT-TERM SIGNALS - ' PUBL STATIONARY OPER. TRAILER-MOUNTED | RATION -PORTABLE Ш 213 TWO-LANE, TWO WAY E TRAFFIC CONTROL ! Y ROADWAY SIGNALS F FOR NON-COMPLEX COND ITIONS

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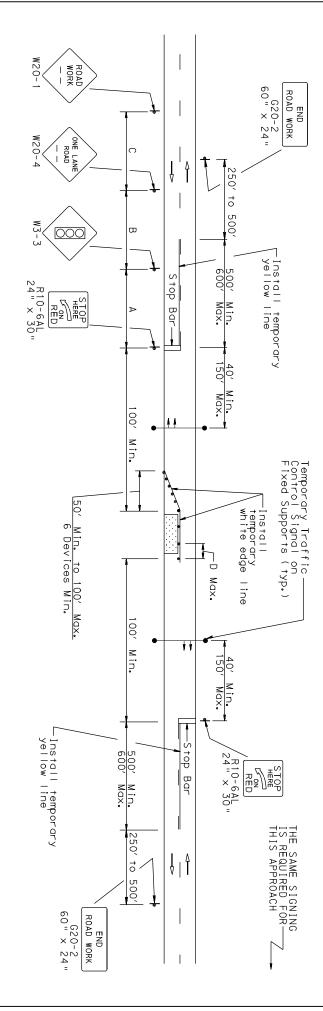
## NOTES

(CONT'D. FROM SHEET 3)

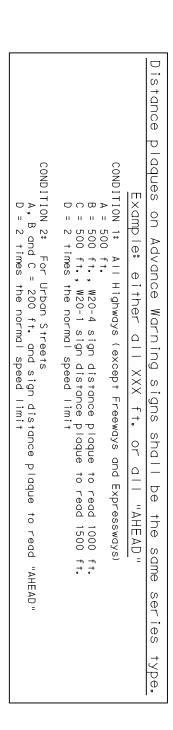
- AN ALL-RED CLEARANCE INTERVAL MUST BE USED. THE LENGTH OF THE ALL-RED CLEARANCE INTERVAL IS BASED ON THE LENGTH OF THE ONE-LANE, TWO-WAY TRAFFIC SECTION CONTROLLED BY THE PORTABLE TRAFFIC CONTROL SIGNALS AND THE SPEED OF TRAFFIC THROUGH THAT SECTION. MONITOR TRAFFIC OPERATIONS DURING THE PERIOD OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE AND ADJUST THE LENGTH OF THE ALL-RED CLEARANCE INTERVAL TO ACCOUNT FOR SITE CONDITIONS AND TO PROVIDE FOR SAFE AND EFFICIENT TRAFFIC OPERATIONS. UNLESS OTHERWISE INDICATED BY PENNDOT, THE MINIMUM LENGTH OF ALL-RED CLEARANCE INTERVALS SHALL BE AS INDICATED ON THE TABLE ON SHEET N 유
- 12. FOR FIXED TIME AND ACTUATED OPERATIONS, THE MINIMUM GREEN INTERVAL PROVIDED FOR EACH APPROACH SHALL BE 10 SECONDS, UNLESS OTHERWISE INDICATED BY PERMIT. THE LENGTH OF GREEN INTERVALS SHOULD BE SUCH AS TO PROVIDE FOR SAFE AND EFFICIENT TRAFFIC OPERATIONS. USE GREEN INTERVALS AS INDICATED ON THE PERMIT DRAWING, IF THERE IS NO PERMIT DRAWING, MONITOR TRAFFIC OPERATIONS AS TRAFFIC VOLUMES CHANGE THROUGHOUT THE PERIOD OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE AND ADJUST GREEN INTERVALS TO PROVIDE FOR SAFE AND EFFICIENT TRAFFIC OPERATIONS.
- 13. WHEN NOT IN OPERATION, SIGNAL HEADS SHALL BE REMOVED FROM THE VIEW OF TRAFFIC OR HOODED WITH A N SIGNAL INDICATIONS FROM THE VIEW OF TRAFFIC. ALL INAPPROPRIATE SIGNS SHALL ALSO BE REMOVED, COV THAT THEY ARE NOT READABLE BY ONCOMING TRAFFIC WHEN THE PORTABLE TRAFFIC CONTROL SIGNAL IS NOT I MATERIAL THAT COVERS THE OVERED, FOLDED, OR TURNED IN OPERATION. SO
- 14. SIGNAL MODULES MUST BE MAINTAINED BY THE USER. REPLACED Ï ACCORDANCE WITH 표 MANUFACTURERS RECOMMENDATIONS, AND ⊳ RECORD 유 SIHI
- 15. ADDITIONAL SIGNS AND DEVICES ACTUAL SITE CONDITIONS. SHALL ΒE INSTALLED AS REQUIRED Ï PENNDOT PUBL ICATIONS 212 AND 213, AND AS REQUIRED BASED
- 16. CHANGE IN APPROVAL O PENNDOT RESERVES THE RIGHT TO INSPECT EACH PORTABLE TRAFFIC CONTROL SIGNAL USAGE. PENNDOT ALSO RESERVES THE RIGHT TO REVOKE A TEMPORARY TRAFFIC CONTROL SIGNAL PERMIT OR TO SUSPEND THE OPERATION OF THE PORTABLE TRAFFIC CONTROL SIGNAL IF THE USER SHALL AT ANY TIME WILLFULLY OR NEGLIGENTLY FAIL TO COMPLY WITH THE CONDITIONS CONTAINED IN THE PERMIT OR PUBLICATION 213, OR FAIL TO MAKE ANY CHANGES IN THE OPERATION OF THE SIGNAL, OR REMOVE IT, WHEN SO ORDERED BY PENNDOT. THE USER SHALL NOT MAKE OF PENNDOT. 유 ĦΕ PORTABLE TRAFFIC SIGNAL AS DEF I NED Z 품 PERMIT DRAWINGS PR I OR

DATE:	DIST. TRAF. ENGINEER	PENNDOT APPROVAL:	PERMITTEE:	PERMIT NO.:		





55	50	45	40	35	30	25	Normal Speed Limit (MPH)	Signal Face Visibility (See Note 9)
625	540	460	390	325	270	215	Minimum Visibility Distance (FT)	Visibility ote 9)



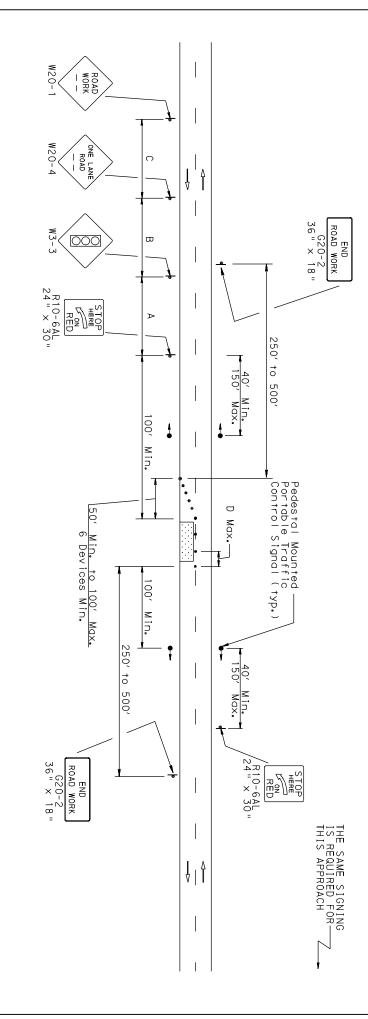
# LONG-TERM ST TATIONARY TRAFFIC C PUBLICATION 213 OPERATION - TWO-LANE, TWO-WAY ROADWAY CONTROL SIGNALS USING FIXED SUPPORTS

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- THE USE OF TEMP ORARY T TRAFFIC CONT OF THIS FI I GURE. FIXED SUPPORTS Ξ PENNSYLVANIA FOR LONG-TERM STATIONARY OPERATIONS
- 2 REFER TRAFF] IC CONTROL SIGNALS ON S PUBLICATION FOR FIXED SUPPORTS. ADDITIONAL GUIDANCE AND ACCEPTANCE PERTAINING 70 TEMPORARY
- ů THE DESIGN AND , APPLICATION OF PENNDOT OF THE TEMPORARY TRAFFIC CONTROL PUBLICATIONS 212, 213, AND 149M. IGNALS 9 П IXED SUPPORTS SHALL COMPLY ×
- 4 REMOVE CONFLICTING PAVEMENT
- 5 STOP BARS SHALL BE INSTALLED WITH TEMPORARY TRAFFIC OPERATIONS. EXISTING CONFLICTING PAVEMENT MARKINGS AFTER TEMPORARY TRAFFIC CONTROL SIGNALS ARE REMOVED MARKINGS RESTORED. CONTROL SIGNALS ON FIXED SUPPORTS FOR LONG-TERM STATION AND RAISED PAVEMENT MARKERS BETWEEN STOP BARS SHALL BE , THE STOP BARS SHALL BE REMOVED AND THE PERMANENT PAVEM NARY REMOVED.
- 6. ADVANCE WRITTEN APPROVAL MUST BE OBTAINED FROM PENNDOT PRIOR TO USING TEMPORARY TRAFFIC CONTROL SIGNALS ON FIXED SUPPORTS FOR LONG-TERM STATIONARY OPERATIONS ON ANY PUBLIC HIGHWAY. A PENNDOT TEMPORARY TRAFFIC CONTROL SIGNAL PERMIT AND SITE-SPECIFIC DRAWING ARE REQUIRED FOR LONG-TERM OPERATIONS, AND A COPY MUST BE MAINTAINED ON-SITE DURING THE PERIOD OF THE TEMPORARY TRAFFIC CONTROL SIGNAL USAGE.
- ALL SIGNAL LENSES SHALL ΒE 12 INCHES Z DIAMETER.
- 8 7 ₩H H H H E LOCAL POLICE DEPARTMENT MUST BE F 24 HOURS PER DAY, 7 PROVIDED WITH THE NAME AND TELEPHONE TO DAYS A WEEK DURING THE PERIOD OF TE NUMBER OF AN TRAFF IC CONTROL CONTACT PERSON SIGNAL USAGE.
- 9 ∃¤ H⊠ MINIMUM OF SIGNAL FACE FACES VISIBI ON EACH APPROACH SHOUL LD BE CONTINUOUSLY IED ON THIS FIGURE. ۷IS ΙBΙ 'n T0 **APPROACH ING** TRAFFIC FROM ⊳ POINT MEETING
- 10. SIGNAL . SUPPORTS SHOULD BE A MINIMUM OF 2 FEET OFF THE BE ADEQUATELY PROTECTED BY BARRIER, GUIDE RAIL, EDGE OF TRAVEL WAY. IF OR CHANNELIZING DEVICES. S SI NOT POSS IBLE, ĦΕ SUPPOR.
- THE BOTTOM OF THE HOUSING OF A SIGNAL FACE SUSPENDED THAN 19 FEET, ABOVE THE PAVEMENT. THE BOTTOM OF THE SHALL BE AT LEAST 8 FEET, BUT NOT MORE THAN 15 FEET PAVEMENT GRADE AT THE CENTER OF THE ROADWAY. O OVER THE ROADWAY SHALL BE A MINIMUM OF 15 FEET, BUT NOT MORE HOUSING OF A SIGNAL FACE THAT IS NOT MOUNTED OVER THE ROADWAY ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, AVOVE THE
- 12. ADDITIONAL SIGNS AND BASED ON ACTUAL SITE DEVICES SHALL CONDITIONS. BE INSTALLED AS REQUIRED Z PENNDOT PUBL I CAT SNOI 212 AND  $\sim$ 13, AND
- <u>.</u> 3 SIGNAL N MODULES MUST BE REPLACED IN ACCORDANCE MUST BE MAINTAINED BY THE USER. WITH ĦΕ MANUF ACTURER' S RECOMMENDATIONS, AND ⊳
- <u>1</u> WHEN NOT IN OPERATION, THE SIGNAL INDICATIONS OR TURNED SO THAT THEY OPERATION. SIGNAL HEADS SHALL BE REMOVED FROM THE VIEW OF TRAFFIC OR HOODED WITH A MATERIAL THAT COVERS FROM THE VIEW OF TRAFFIC. ALL INAPPROPRIATE SIGNS SHALL ALSO BE REMOVED, COVERED, FOLDED, ARE NOT READABLE BY ONCOMING TRAFFIC WHEN THE TEMPORARY TRAFFIC CONTROL SIGNAL IS NOT IN
- 15. PENNDOT RESERVES THE RIGHT TO INSPECT EACH TEMPORARY TRAFFIC CONTROL SIGNAL USAGE. PENNDOT ALSO RESERVES THE RIGHT TO REVOKE A TEMPORARY TRAFFIC CONTROL SIGNAL PERMIT OR TO SUSPEND THE OPERATION OF THE TEMPORARY TRAFFIC CONTROL SIGNAL IF THE USER SHALL AT ANY TIME WILLFULLY OR NEGLIGENTLY FAIL TO COMPLY WITH THE CONDITIONS CONTAINED IN THE PERMIT OR PUBLICATION 213, OR FAIL TO MAKE ANY CHANGES IN THE OPERATION OF THE SIGNAL, OR TO REMOVE IT, WHEN SO ORDERED BY PENNDOT. THE USER SHALL NOT MAKE ANY CHANGE IN THE OPERATION OF THE TEMPORARY TRAFFIC CONTROL SIGNAL AS DEFINED IN THE PERMIT DRAWINGS WITHOUT PRIOR WRITTEN APPROVAL OF PENNDOT.
- 9. WHEN THE TEN SHALL E NOTABLE TO BOTH APPROACHES. 70 FLASH ING MODE, EITHER MANUALLY 유

SHEET 1 OF

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Distance
                                                                                                                                                                                   plaques on Advance Warning
                                 CONDITION 2:
                                                                                                                                   CONDITION 1:
                                                                                                                                                           Example:
 TION 2: For Urban Streets
A, B and C = 200 ft. and sign distance plaque to read "AHEAD"
D = 2 times the normal speed limit
                                                              = 500 ft., W20-4 sign distance plaque to read 1000 ft. = 500 ft., W20-1 sign distance plaque to read 1500 ft. = 2 times the normal speed limit
2 times the normal speed limit
                                                                                                                 1: All Highways (except Freeways and 500 ft.
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×
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                                                                                                                                Expressways)
                                                                                                                                                                                       БӨ
                                                                                                                                                            "AHEAD "
                                                                                                                                                                                     the
                                                                                                                                                                                     same
                                                                                                                                                                                       series
                                                                                                                                                                                   type.
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																	_
300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000		Length of One-Lane, Two-Way Traffic Section between STOP HERE	All-Red Clearance
14	16	18	20	23	25	27	30	32	34	36	39	41	43	45	15 MPH	Required Minimum All-Red Clearance (SEC)	Interval (
10	12	14	15	17	19	20	22	24	26	27	29	31	32	34	20 MPH	_	Interval (See Note 10)
<b>∞</b>	10	11	12	14	15	16	18	19	20	22	23	25	26	27	25 MPH	Length of Interval	9

55	50	45	40	35	30	25	Normal Speed Limit (MPH)	Signal Face Visibility (See Note 7)
625	540	460	390	325	270	215	Minimum Visibility Distance (FT)	Face Visibility (See Note 7)

#### $\boldsymbol{z}$ $\overline{\bigcirc}$ $\exists$

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- -THE USE OF OPERATIONS MANUALLY-CONTROLLED, PEDESTAL-MOUNTED WITH COMPLEX CONDITIONS SHALL COMPLY V WITH PROVISIONS OF THIS F SIGNALS Z PENNSYLVANIA FOR SHORT-1 TERM STATIONARY
- ? ADVANCE WRITTEN APPROVAL MUST BE OBTAINED FROM PENNDOT PRIOR TO USING PORTABLE TRAFFIC CONTROL SIGNALS FOR SHORT-TERM STATIONARY OPERATIONS ON ANY PUBLIC HIGHWAY EXCEPT FOR EMERGENCY WORK AS DEFINED IN PENNDOT PUBLICATION 213. A PENNDOT TRAFFIC CONTROL SIGNAL PERMIT AND SITE-SPECIFIC DRAWING ARE REQUIRED FOR SHORT-TERM OPERATIONS WITH COMPLEX CONDITIONS, COPY MUST BE MAINTAINED ON-SITE DURING THE PERIOD OF THE TEMPORARY TRAFFIC CONTROL SIGNAL USAGE. TEMPORARY AND A
- Ş REFER TO , IS , 01, APPENDIX SIGNALS. ⊳ 유 SIHI PUBL ICATION FOR ADDITIONAL GUIDANCE AND ACCEPTANCE PROCEDURES PERTAINING **T**0 PORTABLE
- 4 PUBL DESIGN AND APPLICATION ICATIONS 212, 213, AND OF THE PORTABLE TRAFF I C CONTROL SIGNALS SHALL COMPLY WITH ĦΕ MOST CURRENT **VERSION** 유 PENNDOT
- ٠ WAY.  $\exists$ SIHI SI NOT POSS IBL , m ΉE SUPPORTS SHALL
- SIGNAL SUPPORTS SHOUL ADEQUATELY PROTECTED D BE A MINIMUM OF 2 FEET (BY BARRIER, GUIDERAIL, OR OFF THE EDGE OF TRAVEL
- 6. THE 15 Ft BOTTOM OF FEET ABOVE 큚 SIDEWALK C K OR A SIGNAL FACE IS THAT IS NOT MOUNTED OVER THE ROADWAY NO SIDEWALK, ABOVE THE PAVEMENT GRADE SHALL E AT TH BE AT LE, AST OF 8 FEET, BUT THE ROADWAY. NOT MORE
- 7. SΝ MINIMUM OF TWO SIGNAL FACES ON ILITY DISTANCES SPEC IF IED APPROACH SHOULD IN THE TABLE ON BE CONTINUOUSLY SHEET 2 OF 3. ۷IS IBLE 0 APPROACHING TRAFFIC FROM  $\triangleright$ MEETING
- 9 8 SIGNALS SHALL ВE 12 INCHES Ï DIAMETER.
- THE LENGTH OF YELLOW CHANGE INTERVAL, OR , V CHANGE INT TERVALS IS NORMALLY ΞΞ ROMF PENNDOT PUBL ABOUT 3 SECONDS TO 149M BASED 96 SECONDS. N ACTUAL IS ITE CONDI - SECOND YELLOW
- 10. AN ALL-RED CLEARANCE INTERVAL MUST BE USED. THE LENGTH OF THE ALL-RED CLEARANCE INTERVAL IS BASED ON THE LENGTH OF ONE-LANE, TWO-WAY TRAFFIC SECTION CONTROLLED BY THE PORTABLE TRAFFIC CONTROL SIGNALS AND THE SPEED OF TRAFFIC THROUGH SECTION. MONITOR TRAFFIC SECTIONS DURING THE PERIOD OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE AND ADJUST THE LENGTH ALL-RED CLEARANCE INTERVAL TO ACCOUNT FOR SITE CONDITIONS AND TO PROVIDE FOR SAFE AND EFFICIENT TRAFFIC OPERATIONS. USAGE AND TO PROVIDE FOR SAFE AND TRAFFIC OPERATIONS. THE MINIMUM LENGTH OF ALL-RED CLEARANCE INTERVALS SHALL BE AS INDICATED ON THE TABLE OF TRAFFIC OPERATIONS. THE
  H THAT
  H OF THE
  UNLESS
  ON SHEET N 유
- FOR FIXED TIME AND ACTUATED OPERATION, THE MINIMUM GREEN INTERVAL PROVIDED FOR EACH APPROACH SHALL BE 10 SECONDS, UNLESS OTHERWISE INDICATED BY PENNDOT. THE LENGTH OF GREEN INTERVALS SHOULD BE SUCH AS TO PROVIDE FOR SAFE AND EFFICIENT TRAFFIC OPERATIONS. USE GREEN INTERVALS AS INDICATED ON THE PERMIT DRAWLING. MONITOR TRAFFIC OPERATIONS AS TRAFFIC VOLUMES CHANGE THAPPENDO OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE AND ADJUST GREEN INTERVALS TO PROVIDE FOR SAFE AND EFFICIENT TRAFFIC OPERATIONS.
- 12 WHEN NOT IN OPERATION, SIGNAL HEADS SHALL BE REMOVED FROM THE VIEW OF TRAFFIC OR HOODED WITH A MATERIAL THAT SIGNAL INDICATIONS FROM THE VIEW OF TRAFFIC. ALL INAPPROPRIATE SIGNS SHALL ALSO BE REMOVED, COVERED, FOLDED, THEY ARE NOT READABLE BY ONCOMING TRAFFIC WHEN THE PORTABLE TRAFFIC CONTROL SIGNAL IS NOT IN OPERATION. COVERS THE OR TURNED SO
- 13. WHEN THE TEMPORARY TRAFFIC OF INDICATIONS SHALL BE FLASHED CONTROL S D TO BOTH SIGNAL IS ( SS. HANGED 0 FLASHING MODE, EITHER MANUALLY 유 AUTOMATICALLY, RED SIGNAL
- 4. MAINT NAINT VAL MODULES MUST BE REPLACED Z ACCORDANCE × 뒾 표 MANUFACTURERS RECOMMENDATIONS, AND  $\triangleright$ RECORD 유 S MUST
- 5 ADDITI ACTUAL SITE SIGNS AND [ DEVI I CES SHALL 먪 INSTALLED AS REQUIRED Ï PENNDOT PUBL ICATIONS 2 12 AND 213, AND AS BASED
- <u>.</u> PENNDOT RESERVES THE RIGHT TO INSPECT EACH PORTABLE TRAFFIC CONTROL SIGNAL USAGE. PENNDOT ALSO RESERVES THE A TEMPORARY TRAFFIC CONTROL SIGNAL PERMIT OR TO SUSPEND THE OPERATION OF THE PORTABLE TRAFFIC CONTROL SIGNAL 1 ANY TIME WILLFULLY OR NEGLIGENTLY FAIL TO COMPLY WITH THE CONDITIONS CONTAINED IN THE PERMIT OR PUBLICATION 21 ANY CHANGES IN THE OPERATION OF THE SIGNAL, OR REMOVE IT, WHEN SO ORDERED BY PENNDOT. THE USER SHALL NOT MAK OPERATION OF THE PORTABLE TRAFFIC CONTROL SIGNAL AS DEFINED IN THE PERMIT DRAWINGS WITHOUT PRIOR WRITTEN APPRO S THE RIGHT
  GNAL IF THE
  TION 213, OR
  TOT MAKE ANY
  APPROVAL OF TO REVUSER S EVOKE
  SHALL AT
  TO MAKE
  GE IN THE
  NDOT:

FOR COMPLEX CONDITIONS

/R10-6AL /24" x 30"

**∏** | **∆** 

REN TRO

THE SAME SIGNING IS REQUIRED FOR-

series

type.

ROAD WORK
G20-2
36" × 18"

300	350	400	450	500	550	600	650	700	750	800	850	900	950	1,000		Length of One-Lane, Two-Way Traffic Section between STOP HERE	All-Red Clearance 1
14	16	18	20	23	25	27	30	32	34	36	39	41	43	45	15 MPH	Required All-Red C	nterval (S
10	12	14	15	17	19	20	22	24	26	27	29	31	32	34	20 MPH	Required Minimum Length of All-Red Clearance Interval (SEC)	Interval (See Note 10)
8	10	11	12	14	15	16	18	19	20	22	23	25	26	27	25 MPH	ength of Interval	

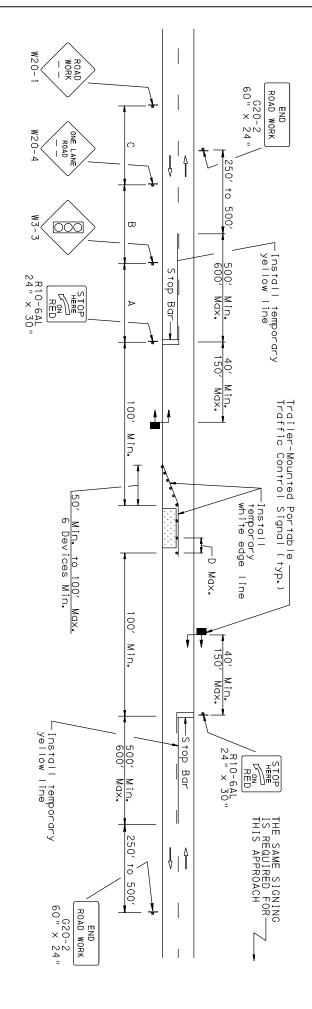
55	50	45	40	35	30	25	Normal Speed Limit (MPH)	Signal Face Visibility (See Note 7)
625	540	460	390	325	270	215	Minimum Visibility Distance (FT)	Face Visibility (See Note 7)

## $\Box$ MPORARY TRAFF ICCONTROL SHORT-TER SR STATIO - TRAIL PUBLICATION 2 ONARY OPERATION - T LER-MOUNTED PORTABL 213 TWO BLE LANE TRAFF 1 ľC TWO-WAY ROADWAY L SIGNALS FOR COMPLE COND SNOITI

#### 0 Œ

- THE USE OF MANUALLY-CONTROLLED, TRAIL WITH COMPLEX CONDITIONS SHALL COMPLY WITH PROVISIONS OF T TRAFFIC CONTROL SIGNALS Ï PENNSYLVANIA FOR SHORT-TERM STATIONARY OPERATIONS
- $\stackrel{\circ}{\sim}$ ADVANCE WRITTEN APPROVAL MUST BE OBTAINED FROM PENNDOT PRIOR TO USING PORTABLE TRAFFIC CONTROL SIGNALS FOR SOPERATIONS ON ANY PUBLICATION EXCEPT FOR EMERGENCY WORK AS DEFINED IN PENNDOT PUBLICATION 213. A PENNDOSIGNAL PERMIT AND SITE-SPECIFIC DRAWING ARE REQUIRED FOR SHORT-TERM OPERATIONS WITH COMPLEX CONDITIONS, AND ON-SITE DURING THE PERIOD OF THE TEMPORARY TRAFFIC CONTROL SIGNAL USAGE. SHORT-TERM STATIONARY
  OF TEMPORARY TRAFFIC CONTROL
  OF A COPY MUST BE MAINTAINED
- ۵. 4 10 APPENDIX A 유 SIHI PUBL ICATION FOR ADDITIONAL GUIDANCE AND ACCEPTANCE PROCEDURES PERTAINING 10 PORTABLE TRAFFIC CONTROL SIGNALS.
- THE [ DESIGN, 213, / AND 1 APPLICATION 49M. 유 ΞHΕ PORTABLE TRAFFIC CONTROL SIGNALS SHALL COMPLY WITH HE MOST CURRENT VERS N I 유 PENNDOT PUBL I CAT I ONS
- ũ SIGNAL PROTECT SUPPORTS SHOULD BY BARRIER, BE A MINIMUM GUIDERAIL, OR OF 2 FEET CHANNELIZI OFF THE EDGE ING DEVICES. 유 TRAVEL WAY. Ħ SIHT SI NOT POSS: ΙBΙ Ê ΞHE SUPPORTS SHALL 쁌 ADEQUATELY
- 6 THE BOTTOM PAVEMENT. FEET ABOVE OF THE HOUSING OF THE BOTTOM OF THE THE SIDEWALK OR, E HOUSING OF FACE SUSPENDED OVER THE OF A SIGNAL FACE THAT IS NO SIDEWALK, ABOVE THE ROADWAY SHALL BE A MINIMUM OF 15 FEET, BUT NOT NOT MOUNTED OVER THE ROADWAY SHALL BE AT LEAST PAVEMENT GRADE AT THE CENTER OF THE ROADWAY. MORE THAN 19 8 FEET, BUT 1 NOT MORE THAN 15
- 7. A MINIMUM O Y OF TWO SIGNAL FACES ( IN. ON N EACH N THE APPROACH TABLE ON SHOULD BE SHEET 2 OF CONTINUOUSLY VISI ΙBΠ m ТО **APPROACH ING** TRAFFIC FROM  $\triangleright$ PO INT MEETING ĦΕ SIGNAL
- 9 . ALL SIGNALS LENSES SHALL BΕ 12 INCHES Z DIAMETER.
- THE LENGTH INTERVAL, ( . 0R 0F YELLOW CHANGE N APPROPRIATE INTERVAL ALTERNAT Ε̈́S IS NORMALLY IN THE VALUE FROM PENNDOT RANGE FROM ABOUT PUBLICATION 149M 3 SECONDS TO 6 BASED ON ACTUAL SECONDS. USE A 5-SECOND YELLOW CHANGE
- 0 AN ALL-RED CLEARANCE INTERVAL MUST BE USED. THE LENGTH OF THE ALL-RED CLEARANCE INTERVAL IS BASED ON THE LENGTH OF THE ONE-LANE, TWO-WAY TRAFFIC SECTION CONTROLLED BY THE PORTABLE TRAFFIC CONTROL SIGNALS AND THE SPEED OF TRAFFIC THROUGH THAT SECTION. MONITOR TRAFFIC OPERATIONS DURING THE PERIOD OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE AND ADJUST THE LENGTH OF THE ALL-RED CLEARANCE INTERVAL TO ACCOUNT FOR SITE CONDITIONS AND TO PROVIDE FOR SAFE AND EFFICIENT TRAFFIC OPERATIONS. UNLESS OTHERWISE INDICATED BY PENNDOT, THE MINIMUM LENGTH OF ALL-RED CLEARANCE INTERVALS SHALL BE AS INDICATED ON THE TABLE ON SHEET 2 OF 3.
- FOR FIXED TIME AND ACTUATED OPERATION, THE MINIMUM GREEN INTERVAL PROVIDED FOR EACH APPROACH SHALL BE 10 SECONDS, UNLESS OTHERWISE INDICATED BY PENNDOT. THE LENGTH OF GREEN INTERVALS SHOULD BE SUCH AS TO PROVIDE FOR SAFE AND EFFICIENT TRAFFIC OPERATIONS. USE GRE INTERVALS AS INDICATED ON THE PERMIT DRAWING. MONITOR TRAFFIC OPERATIONS AS TRAFFIC VOLUMES CHANGE THROUGHOUT THE PERIOD OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE AND ADJUST GREEN INTERVALS TO PROVIDE FOR SAFE AND EFFICIENT TRAFFIC OPERATIONS.
- 12. WHEN NOT IN INDICATIONS READABLE BY OPERATION, SIGNAL HEADS SHALL BE REMOVED FROM THE VIEW OF TRAFFIC. ALL INAPPROPRIATE SIGNS SONCOMING TRAFFIC WHEN THE PORTABLE TRAFFIC CONTROLS VIEW OF SIGNAL = TRAFFIC OR HOODED WITH , ALSO BE REMOVED, COVERED, IS NOT IN OPERATION. **⋄** ⊳ MATERIAL FOLDED, ( THAT COVERS OR TURNED SO THE SIGNAL THAT THEY NOT
- 13 THE TEN EMPORARY TO BOTH TRAFFIC CONTROL APPROACHES. SIGNAL S CHANGED 0 FLASHING MODE, E I THER MANUALLY 9R AUTOMATICALLY, RED SIGNAL INDICATIONS SHALL
- 14 SIGNAL MODULES MUST REPLACED Ï ACCORDANCE ¥  $\exists$ HE MANUF ACTURERS RECOMMENDATIONS, AND  $\triangleright$ RECORD 유 SIHT MUST ΒE MAINTAINED ВЧ
- 15. ADDITIONAL CONDITIONS. S IGNS AND DEVICES SHALL ΒE INSTALLED AS REQUIRED Z PENNDOT PUBL I CATIONS 212 AND 213, AND AS R E QUIRED BASED 9 ACTUAL
- 16. PENNDOT RESERVES THE RIGHT TO INSPECT EACH PORTABLE TRAFFIC CONTROL SIGNAL USAGE. PENNDOT ALSO RESERVES THE RIGHT TO REVOKE TEMPORARY TRAFFIC CONTROL SIGNAL PERMIT OR TO SUSPEND THE OPERATION OF THE PORTABLE TRAFFIC CONTROL SIGNAL IF THE USER SHALL WILLFULLY OR NEGLIGENTLY FAIL TO COMPLY WITH THE CONDITIONS CONTAINED IN THE PERMIT OR PUBLICATION 213, OR REMOVE IT, WHEN SO ORDERED BY PENNDOT. THE USER SHALL NOT MAKE ANY CHANGE IN THE OPERATION OF TRAFFIC CONTROL SIGNAL AS DEFINED IN THE PERMIT DRAWINGS WITHOUT PRIOR WRITTEN APPROVAL OF PENNDOT. CE A
  CHANGES IN THE
  F THE PORTABLE





ភភ	50	45	40	35	30	25	Normal Speed Limit (MPH)	Signal Face (See No
625	540	460	390	325	270	215	Minimum Visibility Distance (FT)	11 Face Visibility (See Note 11)

# EMPORARY TRAFFIC CONTROL SIGNALS USING TRAILER-MOUNTED PORTABLE 1 Y ROADWAY CONTROL S IGNAL

## NOTES

- THE USE OF PORTABLE WITH THE PROVISIONS TRAFFIC OF THIS CONTROL FIGURE. SIGNALS Ï PENNSYLVANIA FOR LONG-TERM STATIONARY OPERATIONS SHALL COMPLY
- 2 REFER TO APPENDIX A OF TRAFFIC CONTROL SIGNAL SIHT PUBLICATION FOR ADDITIONAL GUIDANCE AND ACCEPTANCE PROCEDURES PERTAINING ТО PORTABL
- Ÿ THE DESIGN AND APPLICATION OF THE PORTABL PENNDOT PUBLICATIONS 212, 213, AND 149M. m TRAFFIC CONTROL SIGNALS SHALL COMPLY WITH ΞE MOST CURRENT 유
- 4. REMOVE CONFLICTING PAVEMENT MARKINGS.
- ហ STOP BARS SHALL BE INSTALLED WITH PORTABLE TRAFFIC CONTROL SIGNALS FOR LONG-TERM STATIONARY OPERATIONS. EXISTING CONFLICTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS BETWEEN STOP BARS SHALL BE REMOVED. AFTER PORTABLE TRAFFIC CONTROL SIGNALS ARE REMOVED, THE STOP BARS SHALL BE REMOVED AND THE PERMANENT PAVEMENT MARKINGS RESTORED.
- 6 ADVANCE WRITTEN APPROVAL MUST BE OBTAINED FROM PENNDOT PRIOR TO USING PORTABLE TRAFFIC CONTROL SIGNALS FOR LONG-TERM STATIONARY OPERATIONS ON ANY PUBLIC HIGHWAY. A PENNDOT TEMPORARY TRAFFIC CONTROL SIGNAL PERMIT A SITE-SPECIFIC DRAWING ARE REQUIRED FOR LONG-TERM OPERATIONS, AND A COPY MUST BE MAINTAINED ON-SITE DURING PERIOD OF THE TEMPORARY TRAFFIC CONTROL SIGNAL USAGE. THE
- 7. PORTABLE TRAFFIC CONTROL SIGNALS USED FOR LONG-TERM STATIONARY OPERATIONS SHALL BE TRAILER-MOUNTED UNITS HAVING AT LEAST ONE SIGNAL HEAD ON A MAST ARM OVER THE ROADWAY. PEDESTAL-MOUNTED PORTABLE TRAFFIC CONTROL SIGNAL UNITS ARE NOT PERMITTED FOR LONG-TERM OPERATIONS.
- 8. ALL SIGNAL LENSES SHALL BE 12 INCHES IN DIAMETER.
- 9 AH HE LOCAL POLICE DEPARTMENT MUST BE PROVIDED WITH THE NAME AND TELEPHONE NUMBER OF AN EMERGENCY CONTACT PERSON 24 HOURS PER DAY, 7 DAYS A WEEK DURING THE PERIOD OF PORTABLE TRAFFIC CONTROL SIGNAL USAGE.
- 10 ALL PORTABLE OR HARD WIRE TRAFFIC CONTROL SIGNAL UNITS USED FOR LONG-TERM STATIONARY OPERATIONS TO ENSURE FAIL-SAFE OPERATION AND PROPER FUNCTIONING. MUST BE INTERCONNECTED VIA RADIO
- A MINIMUM OF MINIMUM FIG SIGNAL FACES ON EACH APPROACH SHOULD BE CONTINUOUSLY VISIBLE. 0 **APPROACH ING** TRAFFIC FROM A POINT
- 12. SIGNAL E . SUPPORTS SHOULD BE A MINIMUM OF 2 F BE ADEQUATELY PROTECTED BY BARRIER, FEET OFF THE EDGE OF TRAVEL WAY. IF GUIDE RAIL, OR CHANNELIZING DEVICES. SIHT SI NOT POSSIBLE, ĦΕ SUPPORTS
- <u>.</u> THE BOTTOM OF THE HOUSING OF A SIGNAL FACE SUSPENDED OVER THE ROADWAY SHALL BE A MINIMUM OF 15 FEET, BUT NOT MORE THAN 19 FEET, ABOVE THE PAVEMENT. THE BOTTOM OF THE HOUSING OF A SIGNAL FACE THAT IS NOT MOUNTED OVER THE ROADWAY PAVEMENT GRADE AT LEAST 8 FEET, BUT NOT MORE THAN 15 FEET ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
- 4 ADDITIONAL SIGNS BASED ON ACTUAL S SITE DEVICES SHALL CONDITIONS. ΒE INSTALLED AS REQUIRED IN PENNDOT PUBLICATIONS 212 AND 213, AND SA
- 5 SIGNAL MODULES MUST BE REPLACED IN ACCORDANCE OF THIS MUST BE MAINTAINED BY THE USER. W I TH THE MANUF ACTURER'S RECOMMENDATIONS, AND ⊳ RECORD
- 9 WHEN NOT IN OPERATION, SIGNAL HEADS SHALL BE REMOVED FROM THE VIEW OF TRAFFIC OR HOODED WITH A MATERIAL THAT COVERS
  THE SIGNAL INDICATIONS FROM THE VIEW OF TRAFFIC. ALL INAPPROPRIATE SIGNS SHALL ALSO BE REMOVED, COVERED, FOLDED,
  OR TURNED SO THAT THEY ARE NOT READABLE BY ONCOMING TRAFFIC WHEN THE PORTABLE TRAFFIC CONTROL SIGNAL IS NOT IN OPERATION.
- 17. PENNDOT RESERVES THE RIGHT TO INSPECT EACH PORTABLE TRAFFIC CONTROL SIGNAL USAGE. PENNDOT ALSO RESERVES THE RIGHT TO REVOKE A TEMPORARY TRAFFIC CONTROL SIGNAL PERMIT OR TO SUSPEND THE OPERATION OF THE PORTABLE TRAFFIC CONTROL SIGNAL IT THE USER SIGNAL TA ANY TIME WILLFULLY OR NEGLIGENTLY FAIL TO OPPLY WITH THE CONDITIONS CONTAINED IN THE PERMIT OR PUBLICATION 213, OR FAIL TO MAKE ANY CHANGES IN THE OPERATION OF THE SIGNAL, OR TO REMOVE IT, WHEN SO ORDERED BY PENNDOT. THE USER SHALL NOT MAKE ANY CHANGE IN THE OPERATION OF THE PORTABLE TRAFFIC CONTROL SIGNAL AS DEFINED IN THE PERMIT DRAWINGS WITHOUT PRIOR WRITTEN APPROVAL OF PENNDOT.
- <u>~</u> STEPS MUST BE TAKEN TO ENSURE CONTINUED PROPER PLACEMENT AND TO FORESTALL POSSIBLE CONTROL SIGNAL UNITS. TIRES AND THE "HITCH" MUST BE REMOVED FROM THE TRAILER, AND FOR HORIZONTAL ARMS, AND OTHER MECHANISMS TO ADJUST PLACEMENT OR OPERATION MUST BE BY UNAUTHORIZED PERSONNEL. VANDALISM OF THE BATTERY ENCLOSURE LOCKED TO ELIMINA PORTABLE TRAFFIC ES, CRANK MECHANISMS ATE ANY TAMPERING
- .9 WHEN THE TEMPORARY TRAFFIC CONTROL SIGNAL IS CHANGED BE FLASHED TO BOTH APPROACHES. 70 FLASHING MODE, E I THER MANUALLY 9R AUTOMATICALLY, RED SIGNAL

## Appendix A

### Temporary Traffic Control Signal Documentation

Document Type Index
Temporary Traffic Control Signal Requirements and Timeframes
Process for Obtaining PennDOT Approval to Use Temporary Traffic Control Signals
Blanket Permits
Application for Permit to Operate Temporary Traffic Control Signals
Temporary Traffic Control Signal Permit
Application Instructions for Permit to Operate Temporary Traffic Control Signals
Example Problem: Application for Permit to Operate Temporary Traffic Control
Signals
Guidelines for the Selection of Temporary Traffic Control Signals in Work Zones
Temporary Traffic Control Signals Non-Compliance Documentation Form
Temporary Traffic Control Signals User Comment Form

#### Temporary Traffic Control Signal Requirements and Timeframes

Type of Application	Publication 213 Figure	PennDOT Approval Required Prior to Use	Advance Site Visit Required by User	Application Required	Site-Specific Drawing Required	Deadline for District Receipt of All Required Materials
Long-Term Stationary Operation Fixed Supports	PATA 26e L	Х	Х	Х	Х	At least 15 working days prior to desired usage
Long-Term Stationary Operation Trailer-Mounted Portable Traffic Control Signals	PATA 26e PL	Х	Х	Х	X	At least 15 working days prior to desired usage
Short-Term Stationary Operation Pedestal-Mounted Portable Traffic Control Signals Manually-Controlled	PATA 26e M-1	Х	Х	Х		At least 3 full working days prior to desired usage
Short-Term Stationary Operation Trailer-Mounted Portable Traffic Control Signals Manually-Controlled	PATA 26e M-2	Х	Х	Х		At least 3 full working days prior to desired usage
Short-Term Stationary Operation Pedestal-Mounted Portable Traffic Control Signals Non-Complex Conditions	PATA 26e NC-1	Х	Х	Х		At least 3 full working days prior to desired usage
Short-Term Stationary Operation Trailer-Mounted Portable Traffic Control Signals Non-Complex Conditions	PATA 26e NC-2	Х	Х	Х		At least 3 full working days prior to desired usage
Short-Term Stationary Operation Pedestal-Mounted Portable Traffic Control Signals Complex Conditions	PATA 26e C-1	Х	Х	Х	х	At least 15 working days prior to desired usage
Short-Term Stationary Operation Trailer-Mounted Portable Traffic Control Signals Complex Conditions	PATA 26e C-2	Х	Х	Х	Х	At least 15 working days prior to desired usage
Short-Term Stationary Operation Pedestal-Mounted Portable Traffic Control Signals Blanket Permit		Х	Х	X		At least 15 working days for initial blanket permit request; at least 3 full working days prior to each usage under the blanket permit
Short-Term Stationary Operation Trailer-Mounted Portable Traffic Control Signals Blanket Permit		Х	Х	Х		At least 15 working days for initial blanket permit request; at least 3 full working days prior to each usage under the blanket permit

#### **Process for Obtaining PennDOT Approval to Use Temporary Traffic Control Signals**

Designer/User visits site and consults PennDOT Publication 213 "Temporary Traffic Control Guidelines" Designer/User determines what type of traffic control will be acceptable for the upcoming project **Short-term stationary** Long-term stationary operation operation Refer to PATA 26e PL or PATA 26e L to Refer to PATA 26e figures to determine criteria needed for acceptable use within Pennsylvania determine criteria needed for acceptable use within Pennsylvania Blanket Permit \* Manually-Non-Complex Complex A site-specific drawing is required Controlled Conditions Conditions PATA 26e NC-1 or PATA 26e C-1 or PATA 26e M-1 or PATA 26e C-2 PATA 26e M-2 PATA 26e NC-2 Submission to PennDOT District Traffic Unit for review Application for Permit to Operate Temporary Traffic Control Signals PennDOT approval or rejection (via the temporary traffic control signal permit \* Requires application and PennDOT approval of blanket permit. portion of the application)

#### **Blanket Permits**

For repeat users of portable traffic control signals, PennDOT's appropriate Engineering District Office, at its discretion, may issue a blanket temporary traffic control signal permit covering multiple locations and dates of operation for up to a one-year period. These actions will only be considered by PennDOT's appropriate Engineering District Office if that user has properly used portable traffic control signals in a safe and efficient manner on numerous past occasions without problems and in compliance with PennDOT requirements.

All portable traffic control signal usage under the blanket permit must satisfy the criteria and provisions of PATA 26e M-1, PATA 26e M-2, PATA 26e NC-1, or PATA 26e NC-2, except for emergency work as defined in PennDOT Publication 212.

Blanket permits cannot be used for portable traffic control signal usage involving either long-term operations or short-term operations with complex conditions that are governed by PATA 26e PL, PATA 26e C-1, or PATA 26e C-2.

TE-952P (8 - 08)



## APPLICATION FOR PERMIT TO OPERATE TEMPORARY TRAFFIC CONTROL SIGNALS

#### **Applicant's Contact Information**

Applicant's Nan	ne:				
Applicant's Con	npany:				
Company Addre	ess:				
Company Phone	: No.:		Company	Fax No.:	
Cellular Phone I	No.:		E-mail Ado	dress:	
Name of Emergency Contact Person: (Must be available 24 hrs./day, 7 days/week during period of usage.)  Cellular Phone No.:					
	Ī	Description of	Traffic Contro	ol Device	
Type of Device	Mounted on Fixed Supports	Trailer- Mounted	Pedestal- Mounted	Automated Flagger Assistance Device (AFAD)	Other (explain)
(check one)					
Traffic Control Manufacturer's Device Manufacturer: Model No.: PennDOT Approval No.:					
Approvar 110					
Work Zone Information					
Was a site visit performed prior to submitting this application? Yes No					
Date of Traffic Control Device Usage: Begin End					
Engineering District:County:Municipality:					
On State Route (SR): Direction:					
From: Segment: Offset:					
To: Segment: Offset:					

On Local Road:	Direction:	
From:		
To:		
Normal Speed Limit	it:mph	veh/day
Maximum Length of (Between STOP HERE ON RE	of One-Lane, Two-Way Traffic Section	feet
Гуре of Operation: Long-T	Term Stationary Short-Term Stationary	
Other (	(please describe):	
The traffic control device w (Check all that apply)	vill be used to control: One-Lane, Two-Way Traffic No More than Two Approaches Other (please describe):	·
Will all signal faces exceed	d the thresholds for signal face visibility specified on the	e Publication 213 Yes No
_		105 110
figure?	tersection within the one-lane, two-way traffic section?	
figure?  Does the site contain an inte	rersection within the one-lane, two-way traffic section?	Yes No
Figure?  Does the site contain an intended of the site contain an uncontain an unco	·	Yes No wo-way traffic sec Yes No
Figure?  Does the site contain an integrate to the site contain an uncountry of the site contain and the site contains and the site cont	controlled commercial driveway within the one-lane, tw	Yes No  wo-way traffic sec Yes No  r more)? Yes No
Tigure?  Does the site contain an interpolation of the site contain an uncle any roadway approach to the site contain an at-group of the site contain at-group of the site contain an at-group of the site contain at-group of the site contain an at-group of	controlled commercial driveway within the one-lane, two the traffic control device on a steep downgrade (5% or grade railroad crossing within 300 feet of the work zon	Yes No  wo-way traffic sec Yes No  r more)? Yes No
Does the site contain an interpolate of the site contain an unction of the site contain and unctions and the site contain and at-group of the site contain and at-gro	controlled commercial driveway within the one-lane, two the traffic control device on a steep downgrade (5% or grade railroad crossing within 300 feet of the work zon	Yes No  wo-way traffic sec Yes No  r more)? Yes No
Figure?  Does the site contain an integrate to the site contain an uncountry of the site contain and the site contains and the site cont	controlled commercial driveway within the one-lane, two the traffic control device on a steep downgrade (5% or grade railroad crossing within 300 feet of the work zon	Yes No  wo-way traffic sec Yes No  r more)? Yes No
Tigure?  Does the site contain an interpolation of the site contain an uncle and the site contain and the site contain and the site contain and at-site contain and the site cont	controlled commercial driveway within the one-lane, two the traffic control device on a steep downgrade (5% or grade railroad crossing within 300 feet of the work zon	Yes No  wo-way traffic sec Yes No  r more)? Yes No
Tigure?  Does the site contain an interpolation of the site contain an uncle and the site contain and the site contain and the site contain and at-site contain and the site cont	controlled commercial driveway within the one-lane, two the traffic control device on a steep downgrade (5% or grade railroad crossing within 300 feet of the work zon	Yes No  wo-way traffic sec Yes No  r more)? Yes No
Tigure?  Does the site contain an interpolation of the site contain an uncle and the site contain and the site contain and the site contain and at-site contain and the site cont	controlled commercial driveway within the one-lane, two the traffic control device on a steep downgrade (5% or grade railroad crossing within 300 feet of the work zon	Yes No  wo-way traffic sec Yes No  r more)? Yes No
Tigure?  Does the site contain an interpolation of the site contain an uncle any roadway approach to the site contain an at-group of the site contain at-group of the site contain an at-group of the site contain at-group of the site contain an at-group of	controlled commercial driveway within the one-lane, two the traffic control device on a steep downgrade (5% or grade railroad crossing within 300 feet of the work zon	Yes No  wo-way traffic sec Yes No  r more)? Yes No

#### Traffic Control Device Operational Information

Mode of Operation	Manually- Controlled	Pre-Timed	Actuated	Other (explain)
(please check one)				

PennDOT Publication	Figure: PATA	will be followed.
All-red cleara assumed traffic speed of	nnce time is mph w	seconds based on ithin one-lane, two-way section.
The proposed mi	nimum green time sl	nall be at least 10 seconds.
The proposed maximum g	reen time shall be de	etermined based on field conditions.
The proposed yellow change interval	shall be five (5) sec	onds unless otherwise indicated by PennDOT.
	Applicant Certifi	ication
The applicant certifies that the inform true and correct.	ation provided on th	is application and accompanying documents is
		devices will be operated and maintained in the provisions of the temporary traffic control
of Pennsylvania, its agents, representa character, name or description, damag out of personal injury, death or proper	tives and employees ges, judgments, experty damage, sustained ever as a result of or rs, agents, contractor	and defend (if requested) the Commonwealth s, from all suits, actions or claims of any mses, attorneys' fees and compensation arising d or alleged to have been sustained in whole or arising out of any act, omission, neglect or rs or employees, during the period of
BY:Signature of Applicant		Date
Signature of Applicant		Suite .
Sworn before me this	day of	, 20
Notary:		

#### PennDOT Acknowledgement

This application is: Accepted:	Temporary Traffic Signal Permit Attached:
Rejected:	Application was rejected because:
If rejected, please correct immediately an cannot begin without prior approval.	ed submit to PennDOT. Temporary traffic control device usage
TE-964P (8- 08)	
pennsylvania DEPARTMENT OF TRANSPORTATION	Permit NoSheet 1 of

### TEMPORARY TRAFFIC CONTROL SIGNAL PERMIT

In accordance with the Vehicle Code, the Pennsylvania Department of Transportation (PennDOT) hereby approves the operation of a temporary traffic control signal as follows: Location: Date(s) of Operation: This permit is issued to, and accepted by, \_ hereinafter known as the Permittee, as follows: The operation and maintenance of this temporary traffic control signal by the Permittee shall be in accordance with requirements contained on the attached sheets and application, PennDOT's figures governing the use of temporary traffic control signals as contained in PennDOT Publication 213, and the following special requirements: All work performed by the Permittee with respect to the operation and maintenance of this temporary traffic control signal shall be under and subject to the direction of PennDOT. The said Permittee shall use due diligence in the execution of the work authorized under this permit and shall not obstruct or endanger travel along the said road. All operations must be conducted so as to permit safe and reasonable free travel at all times over the road within the limits of the work herein permitted. The Permittee agrees to indemnify, save harmless and defend (if requested) the Commonwealth of Pennsylvania, its agents, representatives and employees, from all suits, actions or claims of any character, name or description, damages, judgments, expenses, attorneys' fees and compensation arising out of personal injury, death or property damage, sustained or alleged to have been sustained in whole or in part by any and all persons whatsoever as a result of or arising out of any act, omission, neglect or misconduct of the Permittee, its officers, agents, contractors or employees, during the period of temporary traffic control signal usage. PennDOT reserves the right to revoke this permit or to suspend the operation of the temporary traffic control signal if the Permittee shall at any time willfully or negligently fail to comply with the conditions contained in this permit or PennDOT Publication 213, or fail to make any changes in the operation of this signal, or to remove it, when so ordered by PennDOT. The Permittee shall maintain the signal in a safe condition at all times. The Permittee shall not make any change in the operation of the temporary traffic control signal as defined in the permit drawings without prior written approval of PennDOT. PennDOT reserves the right to inspect this temporary traffic control signal usage at any time. Date: Approved: Secretary of Transportation Commonwealth of Pennsylvania

By:

District Executive

Pennsylvania Department of Transportation



# APPLICATION INSTRUCTIONS FOR PERMIT TO OPERATE TEMPORARY TRAFFIC CONTROL SIGNALS

## **Applicant's Contact Information**

- <u>Applicant's Name</u>: is the individual who will be responsible for the proper placement of the work zone traffic control devices.
- **Applicant's Company:** the Company the Applicant represents.
- Company Address: the official mailing address of the Applicant's company.
- <u>Company Phone No.</u>: the phone number of the Applicant's company.
- Company Fax No.: the fax number of the Applicant's company.
- Cellular Phone No.: the Applicant's cellular phone number.
- **Email Address:** the Applicant's e-mail address.
- <u>Name of Emergency Contact Person:</u> the person that will be available 24 hrs./day, 7 days/week during the period of usage and who will be responsible for the continued proper usage of the device.
- Cellular Phone No.: the emergency contact person's cellular phone number.

## **Description of Traffic Control Device**

Type of Device	Mounted on Fixed Supports	Trailer- Mounted	Pedestal- Mounted	Automated Flagger Assistance Device (AFAD)	Other (explain)
(check one)					

Descriptions of the devices are as follow:

- Mounted on Fixed Supports: As defined in the Manual on Uniform Traffic Control Devices (MUTCD), it is a temporary traffic control signal that is temporarily mounted on fixed supports. The fixed supports are typically span wires mounted on temporarily-installed poles. These devices are normally used for long-term stationary applications where appropriate field conditions exist.
- <u>Trailer-Mounted</u>: Trailer-mounted portable traffic control signal systems consist of two trailers, with each trailer having a vertical upright and a horizontal arm to accommodate the mounting of at least two signal heads. These devices may be used for short-term stationary and long-term stationary applications where the appropriate conditions exist.
- <u>Pedestal-Mounted</u>: Pedestal-mounted portable traffic control signal systems consist of four units, with a pedestal-mounted signal head on each unit. These devices may be used for short-term stationary applications where appropriate field conditions exist.
- <u>Automated Flagger Assistance Device (AFAD)</u>: A manually-controlled device operated by one or more individuals to safely stop and control traffic through a

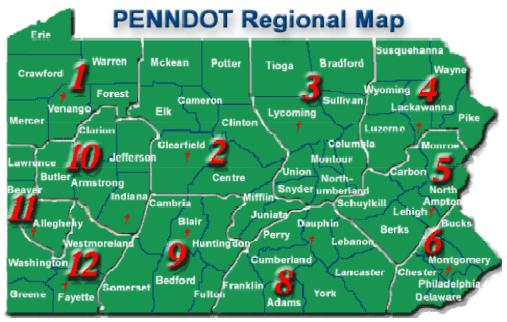
- work zone. These devices may be used for short-term stationary applications where appropriate field conditions exist.
- Other (explain): Other applications which do not fall into the criteria listed above. Please give a detailed description so that proper evaluation may be made.
- <u>Traffic Control Device Manufacturer</u>: the manufacturer of the device that will be used for work zone traffic control.
- **PennDOT Approval No.:** the PennDOT device approval number as indicated in PennDOT Publication 35 "Approved Construction Materials (Bulletin 15)". This number can be accessed through the internet at the listing below:

ftp://ftp.dot.state.pa.us/public/pdf/BOCM\_MTD\_LAB/PUBLICATIONS/PUB\_35/BULLETIN\_15.pdf

If problems exist with finding an approval number, please contact either the appropriate PennDOT Engineering District Office or PennDOT Central Office at (717) 783-0333.

### **Work Zone Location Information**

- Was a site visit performed prior to this application request?:
  - Yes: A proper field visit was made prior to the submission of this
    application to determine if the device was acceptable and met all of the
    criteria specified in Publication 213 to safely and efficiently operate the
    device.
  - No: A proper field visit was not made prior to the submission of this application.
- Date (s) of Traffic Control Device Usage: Please specify the approximate date and/or dates and times that you would like to use this device. Upon approval of this application, if dates are modified, please contact the appropriate Engineering District representative.
- <u>Engineering District</u>: The Engineering District that will be reviewing the completed application.



- **County:** the county where the traffic control device would be used.
- Municipality: the municipality where the traffic control device would be used.
- On State Route (SR): the state highway where the traffic control device would be deployed. For further guidance, please refer to the following link and select the appropriate county map:

#### http://www.dot.state.pa.us/Internet/Bureaus/pdPlanRes.nsf/infoBPRCartoCountyType3

- <u>Direction</u>: the direction of travel which may be either North/Southbound or East/Westbound. The link above may help you with the determination of the travel direction.
- **From Segment:** the roadway segment on the State Route the device will be deployed. These segment numbers may be found either on small markers posted along the roadway or from straight-line diagrams.
- Offset: the roadway location from the beginning of the segment to the approximate location of the device in feet.
- **From Segment:** the roadway segment on the State Route the device will be deployed. These segment numbers may be found either on small markers posted along the roadway or from straight-line diagrams.
- Offset: the roadway location from the beginning of the segment to the approximate location of the device in feet.
- On Local Road: Use the local road name. Identify the nearest intersecting roadways when determining the local roadway location.
- Normal Speed Limit: this is the legal speed limit on the roadway prior to the beginning of the work. If no speed limit is posted on the roadway, please mark unposted.
- <u>ADT</u>: This is also known as Average Daily Traffic. This number can be found by accessing the following link below and selecting the appropriate county map:

http://www.dot.state.pa.us/Internet/Bureaus/pdPlanRes.nsf/infoBPRTrafficInfoTrafficVolumeMap

If problems exist with finding an ADT number, please contact either the appropriate PennDOT Engineering District Office or PennDOT Central Office at (717) 783-0333.

- <u>Maximum Length of One-Lane, Two-Way Traffic Section</u>: this is the approximate distance between "STOP HERE ON RED" signs in feet. This is very important for determining the proper all-red clearance interval needed to safely and efficiently move traffic through the work zone.
- <u>Does the sight distance requirement exceed the thresholds specified in the drawing?</u>:
  - Yes: The sight distance requirements have been met as indicated on the correct Publication 213 drawing.
  - o <u>No</u>: The sight distance requirements could not be met as indicated on the correct Publication 213 drawing.
- Does the site contain intersections within the work zone?:
  - Yes: The site contains an intersection within the work zone.
  - o **No:** The site does not contain an intersection within the work zone.
- Does the site contain uncontrolled commercial driveways within the work zone?:
  - Yes: The site contains uncontrolled commercial driveways within the work zone.
  - No: The site does not contain uncontrolled commercial driveways within the work zone.
- <u>Is any roadway approach to the traffic control device on a steep downgrade</u> (5% or more)?
  - o Yes: the site contains a steep downgrade of 5% or more.
  - o **No:** the site does not contain a steep downgrade of 5% or more.
- Does the site contain at-grade railroad crossings within 300 feet of the work zone?
  - Yes: the site contains an at-grade railroad crossing within 300 feet of the work zone.
  - No: the site does not contain an at-grade railroad crossing within 300 feet of the work zone.
- <u>Provide a Brief Description of the Construction Operation</u>: Please provide a description of the work being performed in the work zone.

### Traffic Control Device Operation Information

Type of Operation	Manually- Controlled	Pre-Timed	Actuated	Other (explain)
(please check one)				

- <u>Manually-Controlled</u>: The traffic control device will be operated at all times by an individual who will ensure the safe and efficient travel through the work zone.
- **<u>Pre-Timed:</u>** The traffic control device will operate automatically in a predetermined timing pattern(s) based on time of day, and will continue to operate that way throughout the day.
- <u>Actuated</u>: The traffic control device will operate using sensors and will change green time as traffic demand warrants.
- **AFAD:** The traffic control device will be operated at all times by an individual(s) who will ensure the safe and efficient travel through the work zone.
- Other (explain): Other applications that do not fall into the criteria listed above. Please give a detailed description so that proper evaluation may be made.
- **PennDOT Publication Figure:** the determination of the correct figure to be followed from PennDOT Publication 213.
- <u>All-red clearance time</u>: This is to ensure that the proper clearance time is being used when using a temporary traffic signal. This should be determined by using the charts specified on the appropriate Publication 213 figure.

TE-952P (8 - 08)



## **EXAMPLE PROBLEM**

# APPLICATION FOR PERMIT TO OPERATE TEMPORARY TRAFFIC CONTROL SIGNALS

## **Applicant's Contact Information**

Applicant's Name	e:John Smith				
Applicant's Company: Smith Contracting Company, Inc.					
Company Address: 400 North Street Harrisburg, PA 17120					
Company Phone No.:(717) 783-0333Company Fax No.:(717) 705-0686					
Cellular Phone No	o.: <u>(717) 783-0</u>	<u>555</u>	E-mail Add	lress:_jsmith@smithcont	racting.com_
Name of Emergency Contact Person: James Smith (Must be available 24 hrs./day, 7 days/week during period of usage.)  Cellular Phone No.:(717) 777-5555					777-5555
	]	Description of '	Traffic Contro	ol Device	
Type of Device	Mounted on Fixed Supports	Trailer- Mounted	Pedestal- Mounted	Automated Flagger Assistance Device (AFAD)	Other (explain)
(check one)				(1112)	
Traffic Control Device Manufacturer:Traffic Control Signals, IncModel No.:TCS1  PennDOT Approval No.:TCS-001P					
		Work Zo	ne Informatio	o <u>n</u>	
Was a	site visit perform	ned prior to sub	omitting this ap	plication? Yes X_N	0
Date of Traffic Control Device Usage: Begin <u>06/10/2008</u> End <u>6/12/2008</u>					
Engineering District: <u>8-0</u> County: <u>Dauphin</u> Municipality: <u>Lower Paxton Twp.</u>					
On State Route (SR):1023 Direction:North/Southbound					
From: Segment: <u>40</u> Offset: <u>1000</u>					
To: Segment: <u>40</u> Offset: <u>1500</u>					

	On Local	Road: _	<u>N/A</u>	Dire	ection:	N/A			
	From: _	N/A							
	To:	N/A							
	Normal S	peed Lin	nit: <u>35</u>	_mph	ADT:	3,500			_ veh/day
	Maximum (Between STC			e, Two-Wa	y Traffic S	Section	500		feet
Type of	f Operation	n: Long	-Term Statio	onary	Short	Term Stat	ionary <u>No</u>	n-Comple	<u>ex</u>
		Othe	r (please des	cribe):					
	offic contro all that ap		will be used	to control	No More		approaches	X X	
Will all figure?	_	ces excee	ed the thresh	olds for sig	gnal face vi	sibility sp	ecified on the		tion 213 _ No
Does th	ne site con	tain an ii	ntersection w	ithin the o	ne-lane, tw	o-way tra	ffic section?	Yes	_ No _ <u>X</u> _
Does th	ne site con	tain an u	ncontrolled	commercia	l driveway	within the	e one-lane, tv	•	raffic sectior No <u>_X</u> _
Is any 1	roadway a	pproach	to the traffic	control de	vice on a s	teep down	igrade (5% o		No _ <u>X</u>
Does th	ne site con	tain an a	t-grade railro	oad crossin	g within 30	00 feet of	the work zon	e? Yes _	_ No <u>X</u> _
	ed work d			s of dayligl	ht operation	ns. Upon	completion of	of the day	, two-lane,
two-wa	ay operation	on will be	e restored.						

## **Traffic Control Device Operational Information**

Mode of Operation	Manually- Controlled	Pre-Timed	Actuated	Other (explain)
(please check one)			X	

PennDOT Publication Figure: PATA <u>26e NC-1</u> w	7111 be followed.
All-red clearance time is <u>23</u> seconds ba assumed traffic speed of <u>15</u> mph within one-lane, to	
The proposed minimum green time shall be at least 1	0 seconds.
The proposed maximum green time shall be determined based	on field conditions.
The proposed yellow change interval shall be five (5) seconds unless other	erwise indicated by PennDOT.
Applicant Certification	
The applicant certifies that the information provided on this application are true and correct.	nd accompanying documents is
The applicant certifies that, if approved, the traffic control devices will be compliance with PennDOT Publications 212 and 213, and the provisions signal permit as issued by PennDOT.	•
The applicant agrees that it will indemnify, save harmless and defend (if r of Pennsylvania, its agents, representatives and employees, from all suits, character, name or description, damages, judgments, expenses, attorneys' out of personal injury, death or property damage, sustained or alleged to h in part by any and all persons whatsoever as a result of or arising out of ar misconduct of the applicant, its officers, agents, contractors or employees temporary traffic control signal usage.	actions or claims of any fees and compensation arising have been sustained in whole or my act, omission, neglect or
BY:	Date
organical of Appreciate	Bate
Sworn before me this day of	, 20
Notary:	
	Page 4 of 4

## PennDOT Acknowledgement

This application is: Accepted:	Temporary Traffic Signal Permit Attached:
Rejected:	Application was rejected because:

If rejected, please correct immediately and submit to PennDOT. Temporary traffic control device usage cannot begin without prior approval.

# Guidelines for the Selection of Temporary Traffic Control Signals in Work Zones

## **Background**

It is common for construction, maintenance, and utility operations to require the closing of a traffic lane during the course of their work. For the duration of the lane closure, traffic must be either diverted to another route via a detour, or merged into other lanes. When the lane closure is located on two-lane, two-way roadways and detour routes are not practical, then alternating traffic on the remaining open lane is the typical operational choice.

### **Purpose**

The purpose of these guidelines and the accompanying selection chart are to provide guidance for selecting the appropriate temporary traffic signal control for short-term and long-term lane closures on two-lane, two-way roadways. These guidelines supplement PennDOT Publication 213 and assist in the determination of the minimum requirements for work zone traffic control for various traffic and roadway parameters. Definitions of terminology and distance charts for various parameters are also available in this document.

## **MUTCD Guidance on Temporary Traffic Control Signals**

"Section 4D.20 Temporary Traffic Control Signals

#### Standard:

A temporary traffic control signal shall be defined as a traffic control signal that is installed for a limited time period. A portable traffic control signal shall be defined as a temporary traffic control signal that is designed so that it can be easily transported and reused at different locations.

### Support:

A temporary traffic control signal is generally installed using methods that minimize the costs of installation, relocation, and/or removal. Typical temporary traffic control signals are for specific purposes, such as for one-lane, two-way facilities in temporary traffic control zones (see Chapter 4G), for a haul-road intersection, or for access to a site that will have a permanent access point developed at another location in the near future.

#### Standard:

Advance signing shall be used when employing a temporary traffic control signal.

A temporary traffic control signal shall:

- A. Meet the physical display and operational requirements of a conventional traffic control signal.
- B. Be removed when no longer needed.

- C. Be placed in the flashing mode when not being used if it will be operated in the steady mode within 5 working days; otherwise, it shall be removed.
- D. Be placed in the flashing mode during periods when it is not desirable to operate the signal, or the signal heads shall be covered, turned, or taken down to indicate that the signal is not in operation.

#### Guidance:

A temporary traffic control signal should be used only if engineering judgment indicates that installing the signal will improve the overall safety and/or operation of the location. The use of temporary traffic control signals by a work crew on a regular basis in their work area should be subject to the approval of the jurisdiction having authority over the roadway.

A temporary traffic control signal should not operate longer than 30 days unless associated with a longer-term temporary traffic control zone project.

For use of temporary traffic control signals in temporary traffic control zones, reference should be made to Section 6F.80."

"Section 6F.80 Temporary Traffic Control Signals

#### Standard:

Temporary traffic control signals (see Section 4D.20) used to control road user movements through TTC zones and in other TTC situations shall meet the applicable provisions of Part 4.

#### Support:

Temporary traffic control signals are typically used in TTC zones such as temporary haul road crossings; temporary one-way operations along a one-lane, two-way highway; temporary one-way operations on bridges, reversible lanes, and intersections.

#### Standard:

One-lane, two-way vehicular traffic flow (see Chapter 4G) requires an all-red interval of sufficient duration for road users to clear the portion of the TTC zone controlled by the traffic control signals. Safeguards shall be incorporated to avoid the possibility of conflicting signal indications at each end of the TTC zone.

#### Guidance:

Where pedestrian traffic is detoured to a temporary traffic control signal, engineering judgment should be used to determine if pedestrian signals or accessible pedestrian signals (see Section 4E.06) are needed for crossing along an alternate route.

When temporary traffic control signals are used, conflict monitors typical of traditional traffic control signal operations should be used.

#### Option:

Temporary traffic control signals may be portable or temporarily mounted on fixed supports.

#### Standard:

The supports for temporary traffic control signals shall not encroach into the minimum required width of a "pedestrian access route" of 1200 mm (48 in) or an "alternate circulation path" of 900 mm (36 in).

#### Guidance:

Temporary traffic control signals should only be used in situations where temporary traffic control signals are preferable to other means of traffic control, such as changing the work staging or work zone size to eliminate one-way vehicular traffic movements, using flaggers to control one-way or crossing movements, using STOP or YIELD signs, and using warning devices alone.

### Support:

Factors related to the design and application of temporary traffic control signals include the following:

- A. Safety and road user needs;
- B. Work staging and operations;
- C. The feasibility of using other TTC strategies (for example, flaggers, providing space for two lanes, or detouring road users, including bicyclists and pedestrians);
- D. Sight distance restrictions;
- E. Human factors considerations (for example, lack of driver familiarity with temporary traffic control signals);
- F. Road-user volumes including roadway and intersection capacity;
- *G.* Affected side streets and driveways;
- *H. Vehicle speeds;*
- *I.* The placement of other TTC devices;
- J. Parking;
- *K.* Turning restrictions;
- L. Pedestrians;
- M. The nature of adjacent land uses (such as residential or commercial);
- N. Legal authority;
- O. Signal phasing and timing requirements;
- *P. Full-time or part-time operation;*
- Q. Actuated, fixed-time, or manual operation;
- R. Power failures or other emergencies;
- *S. Inspection and maintenance needs;*

- T. Need for detailed placement, timing, and operation records; and
- *U.* Operation by contractors or by others.

Although temporary traffic control signals can be mounted on trailers or lightweight portable supports, fixed supports offer superior resistance to displacement or damage by severe weather, vehicle impact, and vandalism.

#### Guidance:

Other TTC devices should be used to supplement temporary traffic control signals, including warning and regulatory signs, pavement markings, and channelizing devices.

The design and placement of temporary traffic control signals should include interconnection to other traffic control signals along the subject roadway.

Temporary traffic control signals not in use should be covered or removed."

## **Key Terms and Definitions**

<u>Portable Traffic Control Signal</u>- as defined in the MUTCD is a temporary traffic control signal that is designed so that it can be easily transported and reused at different locations. Types of portable signals are trailer-mounted and pedestal-mounted.

<u>Temporary Traffic Control Signal on Fixed Supports</u> – as defined in the MUTCD is a temporary traffic control signal that is temporarily mounted on fixed supports. They are typically constructed with span wires mounted on temporarily-installed poles.

<u>Trailer-Mounted Portable Traffic Control Signal System</u> – The system consists of two trailers, with each trailer having a vertical upright and a horizontal arm to accommodate the mounting of at least two signal heads.

<u>Pedestal-Mounted Portable Traffic Control Signal System</u> – The system consists of four units, with a pedestral-mounted signal head on each unit.

<u>Automated Flagger Assistance Device (AFAD)</u> – is a manually-controlled device operated by one or more individuals to safely stop and control traffic through a work zone.

<u>Long-Term Stationary Operation</u> – As defined in PennDOT Publication 213 is work that occupies a location more than 24 hours.

<u>Short-Term Stationary Operation</u> – As defined in PennDOT Publication 213 is work that occupies a location up to 24 hours.

<u>Short-Term Stationary Operation for Temporary Traffic Control Signals</u> – is defined as daylight work areas with work in active progress, emergency nighttime work areas with

work in active progress, or work areas of relatively short duration where work begins during daylight and continues in active progress during hours of darkness.

<u>Long-Term Stationary Operation for Temporary Traffic Control Signals</u> - is defined as all other stationary operations that do not meet the short-term stationary operation for temporary traffic control signals criteria.

<u>Signal Phase</u> – the right-of-way, yellow change, and red clearance intervals in a cycle that are assigned to an independent traffic movement or combination of movements.

<u>Two-Phase Traffic Signal Operation</u> – is defined as an operation when two different vehicle movements occur during the signal cycle. One-lane, two-way traffic control is often a two-phase operation assuming that additional phases are not needed for driveways and intersecting roads.

<u>Multiple Phase Traffic Signal Operation</u> – is defined as an operation when more than two vehicle movements occur during the signal cycle.

Traffic Signal Timing – the amount of time allocated for the display of a signal indication.

<u>Yellow Change Interval</u> – is the first interval following the green interval during which the yellow signal indication is displayed. It is used to warn traffic of an impending change in the right-of-way assignment. The duration of a yellow change interval shall be predetermined.

<u>Red Clearance Interval</u> – is an interval that follows a yellow change interval and proceeds the next conflicting green interval. It provides additional time before conflicting traffic movements, including pedestrians, are released. The duration of a red clearance interval shall be predetermined.

<u>Temporary Traffic Control Signal Permit</u> – is the PennDOT Engineering District Office acceptance that the proper documentation was received to ensure safe and effective use of temporary traffic control signals. This permit will allow proper use of the device in accordance with the provisions of the permit and PennDOT Publication 213.

<u>Temporary Traffic Control Signal Application</u> – is an application that allows the PennDOT Engineering District Office to obtain the minimum required information to ensure safe and efficient operation of the temporary traffic control signal.

<u>Site-Specific Drawing</u> – A drawing that clearly depicts the work zone and the anticipated operations. Typically, this is part of the Traffic Control Plan (TCP).

<u>Performance Specification</u> – Is the required product performance, which may include but is not limited to equipment, physical requirements, operational requirements, etc..

<u>Manually-Controlled Portable Traffic Control Signal Operation</u> – when a portable traffic control signal is being controlled manually.

<u>Short-Term Portable Traffic Control Signal Operation under Blanket Permit</u> – this allows a successful past user of portable signals to obtain agreement with PennDOT to provide notice of the placement of the portable signals with minimal documentation. Verification of the agreement between the user and PennDOT will be evaluated prior to approval of a blanket permit request.

Short-Term Stationary Portable Traffic Control Signal Operation for Non-Complex Conditions— the "non-complex" application will be verified through a number of physical and operational requirements that the site must meet to be considered. These checks allow PennDOT to verify safe and efficient use if installed properly.

Short-Term Stationary Portable Traffic Control Signal Operation for Complex Conditions— the "complex" application would be any short-term portable signal installation that does not met the requirements for "non-complex" applications.

<u>Short-Term Emergency Operation</u> – An emergency application defined in PennDOT Publication 212.

<u>Long-Term Portable Traffic Control Signal Operation</u> – All physical and operational requirements should be part of the Traffic Control Plan.

<u>Temporary Traffic Control Signal</u> – as defined in the MUTCD is a traffic control signal that is installed for a limited time period. Temporary traffic control signals may be portable or temporarily mounted on fixed supports. Common types of temporary traffic control signals are signals mounted on span wire with temporary supports and trailer-mounted portable signals.

<u>Work in Active Progress</u> – Workers, other than flaggers, are present and are actively engaged in performing the necessary work.

#### **Temporary Traffic Control Signals for Long-Term Stationary Operations**

In the design phase of every project that will have temporary traffic signals, it is required that both installations on fixed supports and trailer-mounted portable traffic control signals always be considered before completing the design of the Traffic Control Plan (TCP). In some instances, trailer-mounted portable signals or installations on fixed supports can be used. On the other hand, in certain instances, installations on fixed supports may be preferable to trailer-mounted signals, or vice-versa, depending on the nature of the project, site conditions, traffic conditions, and other specific factors.

Before developing a TCP with temporary traffic signals, it is absolutely essential that the designer visit the proposed worksite beforehand. The site visit will enable the designer to evaluate various factors that will help in the determination of whether the TCP should permit both temporary signal design options, or one or the other. These factors include lateral clearance, trailer or pole placement, signal operation (phasing and timing), and

others. Please also note that pedestal-mounted portable traffic control signals will not be considered for long-term stationary operations.

To establish the proper and acceptable temporary traffic control signal within a work zone, the following criteria should be considered:

## <u>Long-Term Stationary Operation Using Trailer-Mounted Portable Traffic Control Signals:</u>

#### Pros:

- Systems can be deployed quickly.
- Especially conducive to deployments for emergencies.
- Systems can be easily set up and taken down each day, or for multiple construction phases.
- Equipment can be reused on future projects.
- Equipment capable of being leased.
- Cost savings potential.
- Capable of wireless radio or hardwire interconnect.
- Commonly equipped with monitoring system for location, low battery status, and conflicts using website and/or cell phone paging.
- Commonly equipped with batteries that are solar recharging.
- Commonly equipped with solar panels, rechargeable batteries, and ability to run via commercial power.
- Wireless remote commonly available.

#### Cons:

- Arm length can sometimes affect signal head placement.
- Arm length affects number of signal heads that can be placed overhead.
- Trailer size and/or arm length in conjunction with physical features can sometimes limit adequate placement.
- Manufacturers have different operating systems.
- More susceptible to vandalism.
- Less appropriate for long-duration jobs on multilane, high-speed roadways.

# <u>Long-Term Stationary Operation Using Temporary Traffic Control Signals on Fixed Supports:</u>

#### Pros:

- Desirable signal head placement can be achieved.
- More than two overhead signals can be erected.
- Less susceptible to vandalism.
- Pole placement sometimes may be easier to accommodate than trailers due to physical features.
- Fixed supports may be more desirable for long duration deployments.

- More appropriate for multilane approaches.
- Employs common traffic signal control equipment and operational features.

#### Cons:

- Inability to set up and take down each day.
- Less appealing for short-duration jobs or jobs with short-duration, multiple setups.
- Equipment and material availability is sometimes an issue.
- Less cost savings potential.

If the designer determines that only one temporary signal design option is justified for a particular project, then the TCP shall be prepared accordingly, and written documentation shall be maintained in the project file outlining the reasons for this determination. It would also be desirable to clearly indicate on the TCP that the other option will not be permitted for the project.

If the designer determines that trailer-mounted portable signals or installations on fixed supports would be acceptable, then the TCP should clearly show the exact design and operation of both alternatives so that additional plans from the contractor would not be necessary. The TCP should include the design of all anticipated needed features. For example, if platforms or other special features will be needed, their design and placement should be in the TCP. Engineering judgment should be used and documented to determine the safest and most efficient operation for the work zone.

## **Temporary Traffic Control Signals for Short-Term Stationary Operations**

Before developing and/or determining your traffic control plan (TCP) using PennDOT Publication 213, it is absolutely essential that the user visit the proposed worksite beforehand. The site visit will enable the user to evaluate various factors that will help in the determination of whether the TCP should permit temporary signal (portable signal) options, or other traffic control methods such as flaggers. These factors include lateral clearance, trailer or pedestal placement, signal operation (phasing and timing), and others. Please also note that installations on fixed supports are not considered viable for short-term stationary operations because of the amount of time and materials needed for installation.

If the user determines that portable traffic control signals will be an option and would like to pursue that option, then a completed application shall be submitted to PennDOT's appropriate Engineering District Office. If the Engineering District Office agrees with the proposed usage, they will issue a temporary traffic control signal permit.



## TEMPORARY TRAFFIC CONTROL SIGNALS Non-Compliance Documentation Form

The purpose of this form is to provide a means for the Districts to document non-compliant installations of temporary traffic control signals. Supply necessary and pertinent information and photos when submitting a non-compliance form. Please be advised that Central Office will review non-compliance documentation to determine possible future action regarding the individual temporary signal user. This will also provide a means of documenting District-wide and statewide issues with temporary traffic control signals.

Engineering District:	Non-Compliance Form Submittee:				
Temporary Signal User:					
Date of Non-Compliance:					
County:	Municipality:				
SR:Segment	Offset:				
Please attach supporting documentation (e.g., application, permit, TCP, etc.). Provide a description of the nature of the non-compliance:					

Please submit completed form to: Pennsylvania Department of Transportation

Bureau of Highway Safety and Traffic Engineering

ATTN: TEMPORARY SIGNALS

400 North Street- 6<sup>th</sup> Floor Harrisburg, PA 17120-0064



# TEMPORARY TRAFFIC CONTROL SIGNALS User Comment Form

The purpose of this form is to provide the user of temporary traffic control signals the means to comment on both positive and negative feedback received from PennDOT's Engineering District Offices. Please supply all supporting documentation when submitting a comment form. PennDOT's Central Office will review all comments and will work with District Offices to resolve immediate issues, to improve future practices, and to seek uniformity among PennDOT's eleven Engineering District Offices.

User Name:	Date Submitted:
Company:	
Company Address:	
Company Phone No.:	Company Fax No.:
Cellular Phone No.:	E-mail Address:
Please attach supporting documentation	ion. Please use the space below to provide your comments:

Please submit completed form to: Pennsylvania Department of Transportation

Bureau of Highway Safety and Traffic Engineering

ATTN: TEMPORARY SIGNALS

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