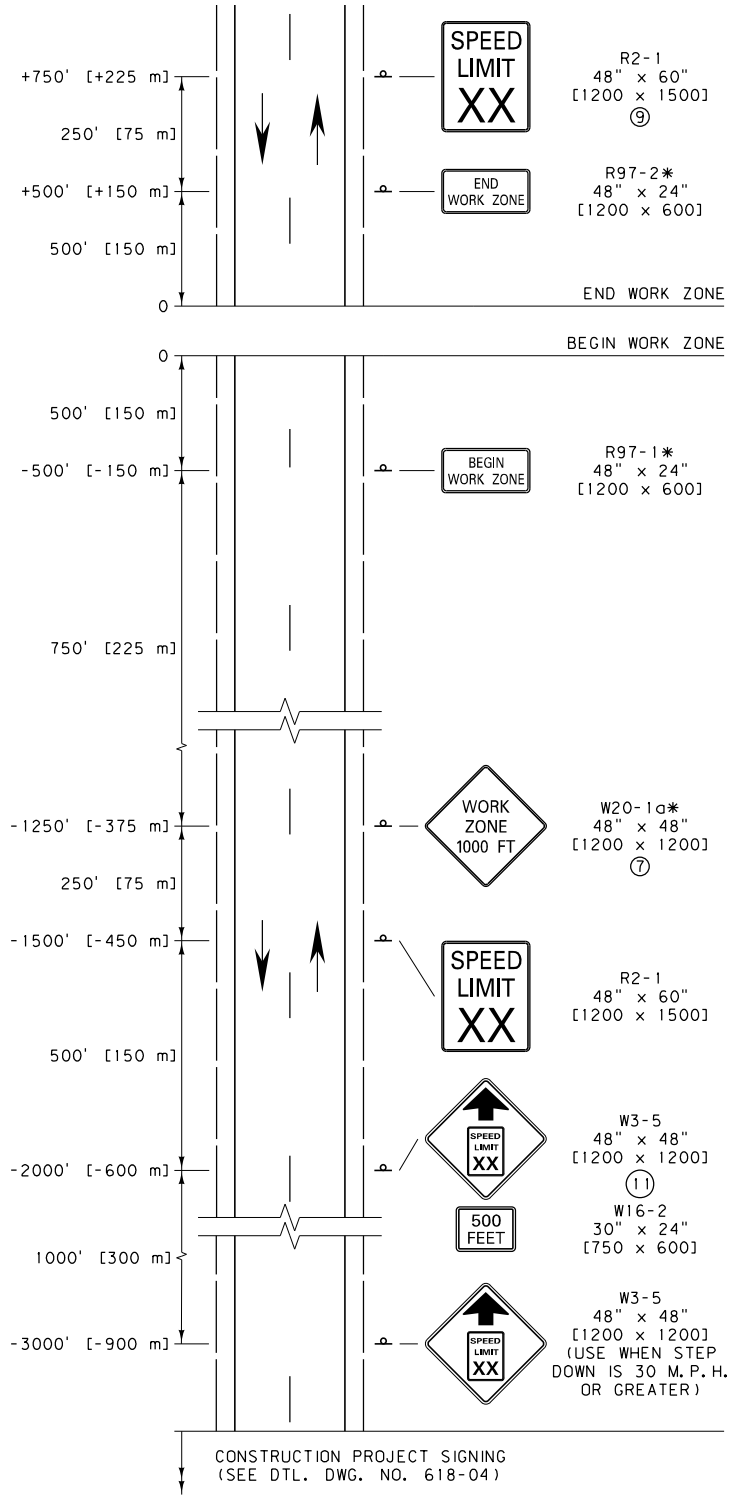
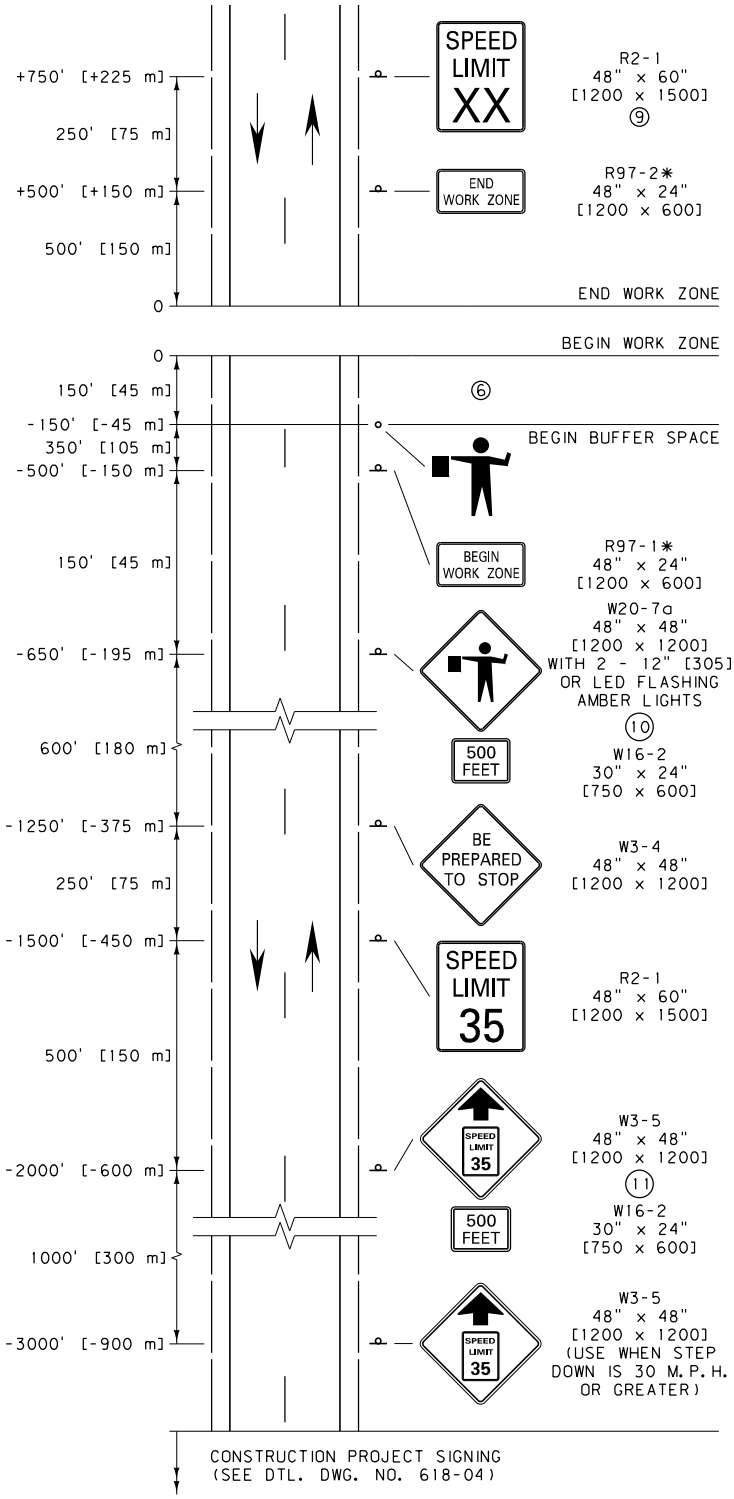


WORK ZONE WITH NO FLAGGER



WORK ZONE WITH FLAGGER

NOTES:

① THESE SIGN LAYOUTS ALSO WORK IN CONJUNCTION WITH THE PERMANENT LAYOUT ILLUSTRATED ON DTL. DWG. NO. 618-04 FOR WORK ZONES LOCATED AT THE BEGIN AND END OF THE CONSTRUCTION PROJECT.

② XX = SPEED DETERMINED BY THE PROJECT MANAGER

③ INCLUDE REGULATORY SIGNING ONLY IF THERE IS REASON TO RESTRICT SPEED WITHIN THE WORK ZONE. REMOVE OR COVER EXISTING REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.

④ SET UP THIS SIGN LAYOUT IN EACH TRAFFIC DIRECTION. COMBINE SUCCESSIVE WORK ZONES WHEN LESS THAN 1.0 MILE [1.6 km] APART.

⑤ THE WORK ZONE REFERS TO THE AREA WITHIN THE CONSTRUCTION PROJECT WHERE WORK IS ACTUALLY TAKING PLACE.

⑥ THE BUFFER SPACE MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.

⑦ USE MORE SPECIFIC SIGNS, WHERE APPLICABLE, SUCH AS W8-3 "PAVEMENT ENDS."

⑧ PROVIDE A SECOND FLAGGER WHEN REQUIRED PER SECTION 618.

⑨ POST THE END OF WORK ZONE SPEED LIMIT APPROPRIATE FOR ALL VEHICLES FOR THE REMAINDER OF THE CONSTRUCTION PROJECT BEFORE RESUMING TO NORMAL POSTED SPEED LIMITS AT THE END OF THE CONSTRUCTION PROJECT.

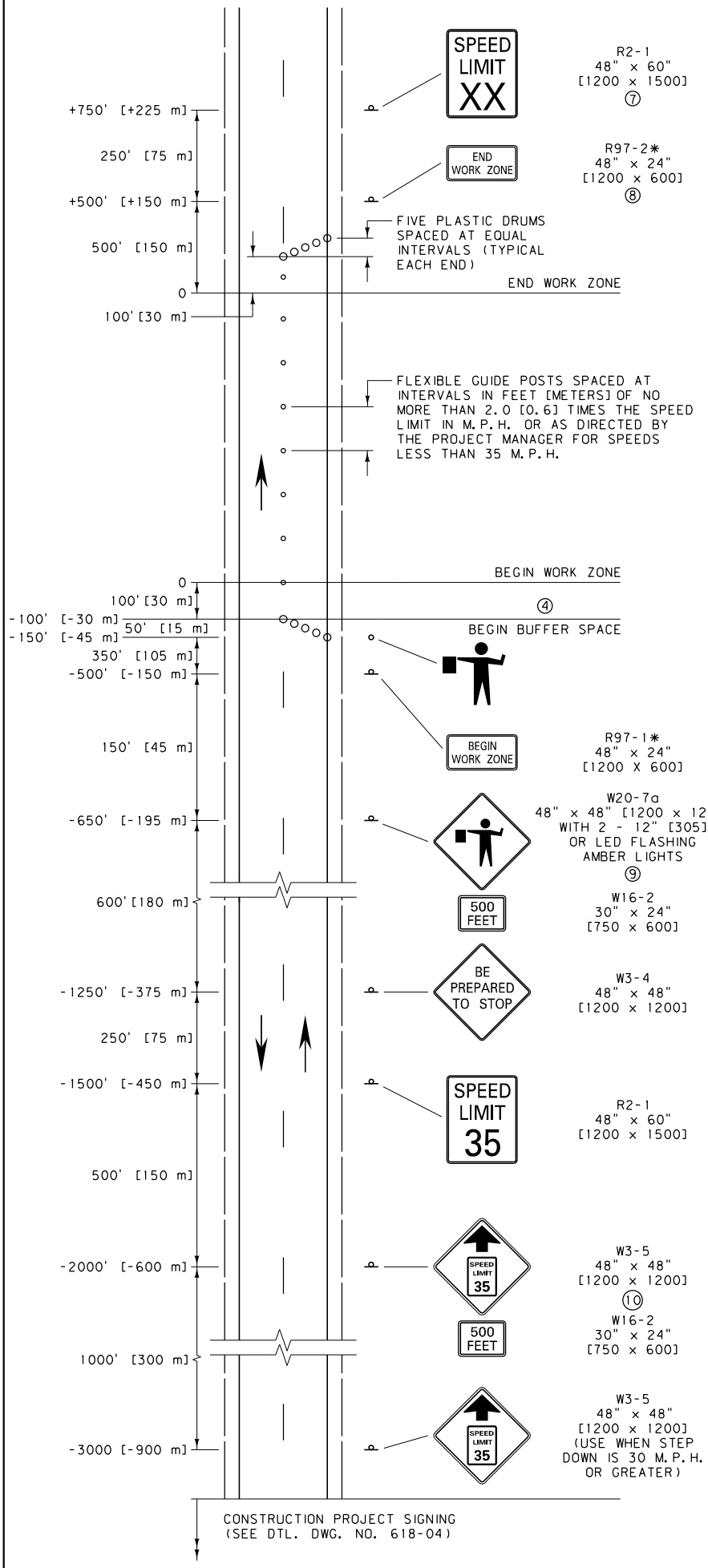
⑩ INSURE THE 12" [305] AMBER FLASHERS AND THE AMBER LED FLASHERS MEET REQUIREMENTS OF STANDARD SPECIFICATION 715 AND DTL. DWG. NO. 618-01.

⑪ INCLUDE THESE SIGNS WITH ALL FLAGGERS. INCLUDE THESE SIGNS WITHIN CONSTRUCTION ZONES WHEN STEP DOWN IS 20 M.P.H. OR GREATER.

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618, 715	DWG. NO. 618-08
TWO-LANE CONSTRUCTION PROJECT WORK ZONES	
--REVISED-- APRIL 2012	EFFECTIVE: APRIL 2006
	MDT serving you with pride — MONTANA DEPARTMENT OF TRANSPORTATION



NOTES:

① MODIFY REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.

② SET UP THIS SIGN LAYOUT IN EACH TRAFFIC DIRECTION.

③ THE WORK ZONE REFERS TO THE AREA WITHIN THE CONSTRUCTION PROJECT WHERE WORK IS ACTUALLY TAKING PLACE.

④ THE BUFFER SPACE MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.

⑤ PROVIDE A SECOND FLAGGER WHEN REQUIRED BY SECTION 618.

⑥ XX = SPEED DETERMINED BY THE PROJECT MANAGER.

⑦ POST THE END OF WORK ZONE SPEED LIMIT APPROPRIATE FOR ALL VEHICLES FOR THE REMAINDER OF THE CONSTRUCTION PROJECT BEFORE RESUMING TO NORMAL POSTED SPEED LIMITS AT THE END OF THE CONSTRUCTION PROJECT.

⑧ PROJECT MANAGER MAY PLACE R97-2 UP TO 500' [150 m] FROM END OF WORK ZONE IF CONDITIONS WARRANT.

⑨ INSURE THE 12" [305] AMBER FLASHERS AND THE AMBER LED FLASHERS MEET REQUIREMENTS OF STANDARD SPECIFICATION 715 AND DTL. DWG. NO. 618-01.

⑩ INCLUDE THESE SIGNS WITH ALL FLAGGERS. INCLUDE THESE SIGNS WITHIN CONSTRUCTION ZONES WHEN STEP DOWN IS 20 M.P.H. OR GREATER.

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING

REFERENCE STANDARD SPEC. SECTION 618, 715

DWG. NO. 618-12

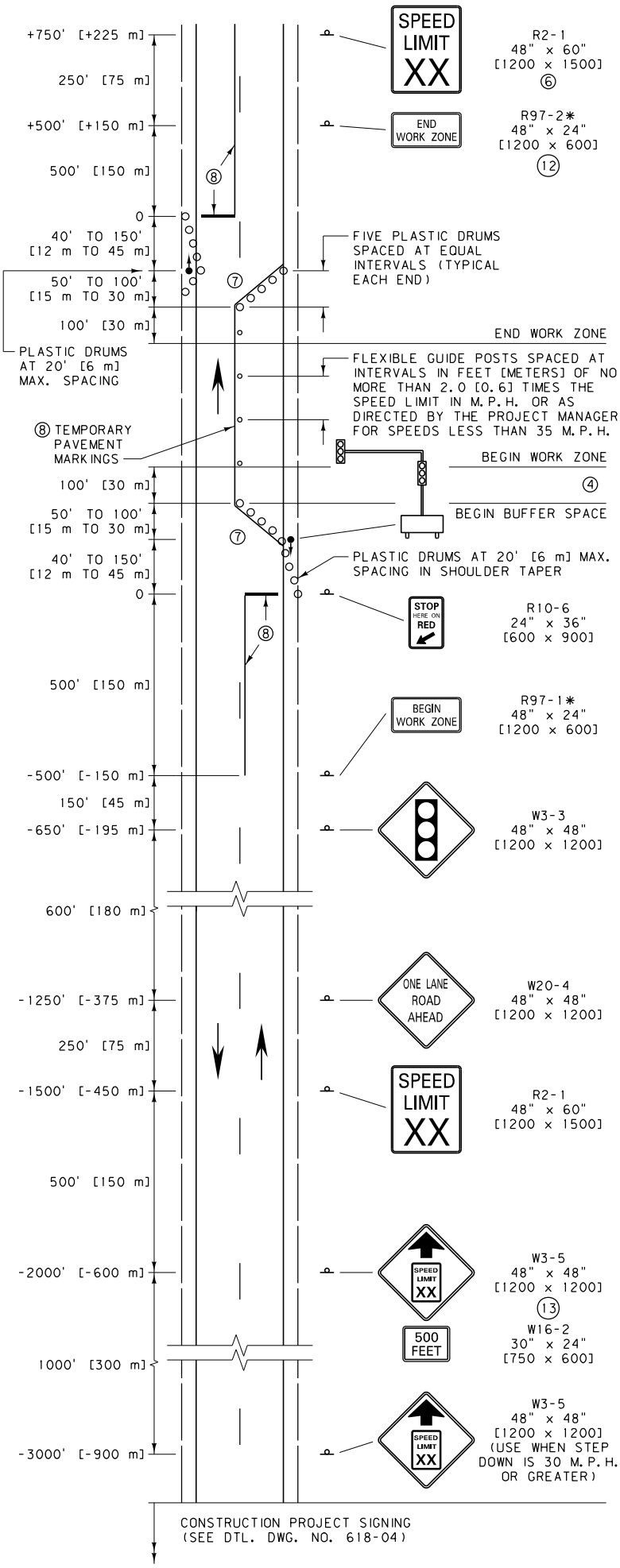
TWO-LANE CONSTRUCTION PROJECT LANE CLOSURE-FLAGGER CONTROLLED

--REVISED-- APRIL 2012

EFFECTIVE: APRIL 2006

MDT serving you with pride

MONTANA DEPARTMENT OF TRANSPORTATION



NOTES:

① MODIFY REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.

② SET UP THIS SIGN LAYOUT IN EACH TRAFFIC DIRECTION.

③ THE WORK ZONE REFERS TO THE AREA WITHIN THE CONSTRUCTION PROJECT WHERE WORK IS ACTUALLY TAKING PLACE.

④ THE BUFFER SPACE MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.

⑤ XX = SPEED DETERMINED BY THE PROJECT MANAGER.

⑥ POST THE END OF WORK ZONE SPEED LIMIT APPROPRIATE FOR ALL VEHICLES FOR THE REMAINDER OF THE CONSTRUCTION PROJECT BEFORE RESUMING TO NORMAL POSTED SPEED LIMITS AT THE END OF THE CONSTRUCTION PROJECT.

⑦ REMOVE ANY CONFLICTING PAVEMENT MARKINGS BETWEEN THE STOP LINE AND WORK ZONE BOUNDARY.

⑧ PLACE TEMPORARY PAVEMENT MARKINGS AS SHOWN WHEN ROADWAY SURFACE IS PAVED. (REMOVABLE PAVEMENT MARKINGS MAY BE USED.) UPON REMOVAL OF THE TEMPORARY TRAFFIC CONTROL SIGNALS, REMOVE ALL TEMPORARY PAVEMENT MARKINGS AND RESTORE PERMANENT OR INTERIM PAVEMENT MARKINGS.

⑨ TEMPORARY TRAFFIC CONTROL SIGNALS ARE TO MEET THE PHYSICAL DISPLAY AND OPERATIONAL REQUIREMENTS OF PERMANENT TRAFFIC CONTROL SIGNALS.

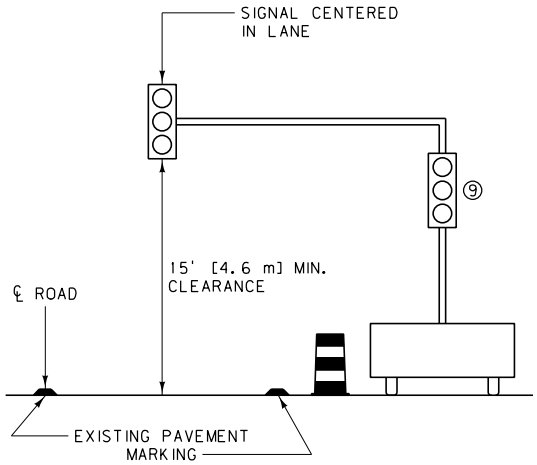
⑩ ESTABLISH TEMPORARY TRAFFIC CONTROL SIGNAL TIMING BY CONSULTING WITH AN AUTHORIZED TRAFFIC ENGINEER. ENSURE THAT THE DURATIONS OF RED CLEARANCE INTERVALS ARE ADEQUATE TO CLEAR THE ONE-LANE SECTION OF CONFLICTING VEHICLES. INCORPORATE SAFEGUARDS TO AVOID THE POSSIBILITY OF CONFLICTING SIGNAL INDICATIONS AT EACH END OF THE WORK ZONE.

⑪ INCORPORATE ANY SIDE APPROACH TRAFFIC THAT OCCURS WITHIN THE WORK ZONE BOUNDARIES INTO THE MAINLINE SIGNAL CONTROLLED OPERATION VIA. THE USE OF TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, ETC.

⑫ PROJECT MANAGER MAY PLACE R97-2 UP TO 500' [500 m] FROM END OF WORK ZONE IF CONDITIONS WARRANT.

⑬ INCLUDE THESE SIGNS WITH ALL FLAGGERS. INCLUDE THESE SIGNS WITHIN CONSTRUCTION ZONES WHEN STEP DOWN IS 20 M.P.H. OR GREATER.

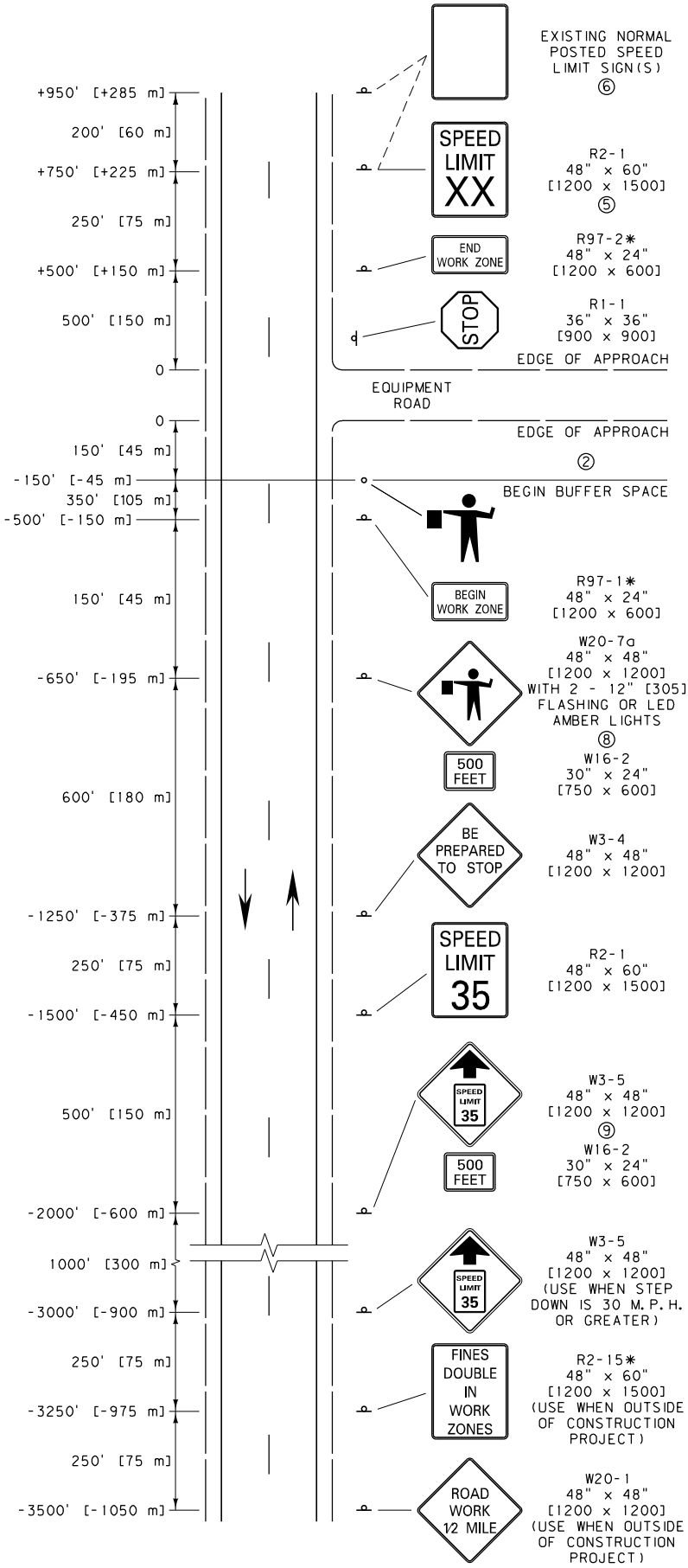
* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.



TEMPORARY TRAFFIC CONTROL SIGNAL DETAIL

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-13
TWO-LANE CONSTRUCTION PROJECT LANE CLOSURE-SIGNAL CONTROLLED	
--REVISED-- APRIL 2012	EFFECTIVE: APRIL 2006
	MONTANA DEPARTMENT OF TRANSPORTATION (serving you with pride)



EQUIPMENT ENTRANCE WITH FLAGGER

NOTES:

① SET UP THIS SIGN LAYOUT IN EACH TRAFFIC DIRECTION, AS NEEDED.

② THE BUFFER SPACE MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.

③ XX = SPEED DETERMINED BY THE PROJECT MANAGER.

④ THE WORK ZONE REFERS TO THE AREA WHERE WORK IS ACTUALLY TAKING PLACE. WHEN THIS OCCURS OUTSIDE OF A CONSTRUCTION PROJECT INCLUDE THE W20-1 AND R2-15* SIGNS.

⑤ POST THE END OF WORK ZONE SPEED LIMIT APPROPRIATE FOR ALL VEHICLES FOR THE REMAINDER OF THE CONSTRUCTION PROJECT BEFORE RESUMING TO NORMAL POSTED SPEED LIMITS AT THE END OF THE CONSTRUCTION PROJECT.

⑥ WHEN OUTSIDE OF A CONSTRUCTION PROJECT, POST THE SPEED LIMIT CONSISTING OF ONE SIGN WHEN THE NORMAL POSTED SPEED LIMIT FOR ALL VEHICLES IS THE SAME. USE TWO SIGNS WHEN CAR, TRUCK AND NIGHTTIME SPEED LIMITS ARE DIFFERENT.

⑦ PROJECT MANAGER MAY PLACE R97-2 UP TO 500' [150 m] FROM END OF WORK ZONE IF CONDITIONS WARRANT.

⑧ INSURE THE 12" [305] AMBER FLASHERS AND THE AMBER LED FLASHERS MEET REQUIREMENTS OF SECTION 715 AND DTL. DWG. NO. 618-01.

⑨ INCLUDE THESE SIGNS WITH ALL FLAGGERS. INCLUDE THESE SIGNS WITHIN CONSTRUCTION ZONES WHEN STEP DOWN IS 20 M.P.H. OR GREATER.

*DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING

REFERENCE STANDARD SPEC. SECTION 618

DWG. NO. 618-16

TWO-LANE EQUIPMENT ENTRANCES

--REVISED-- APRIL 2012

EFFECTIVE: APRIL 2006

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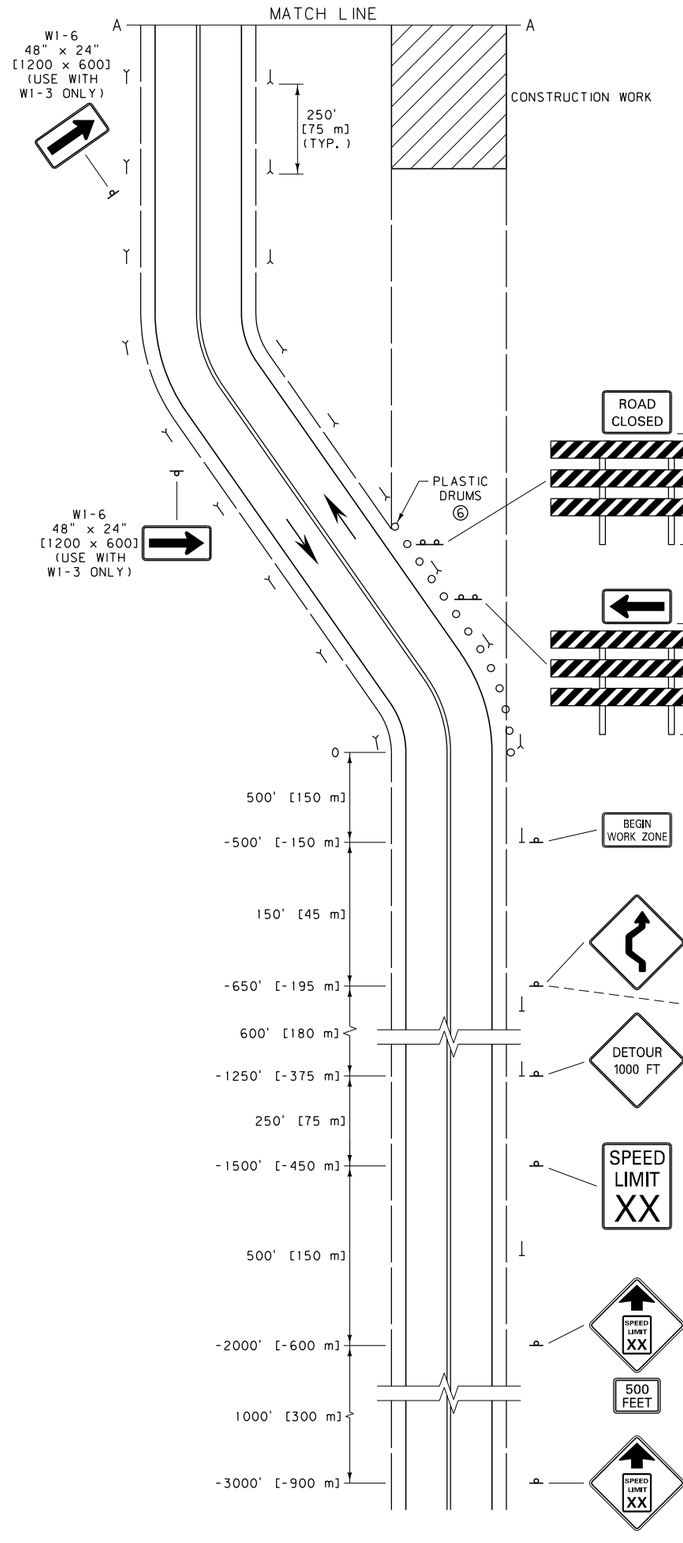
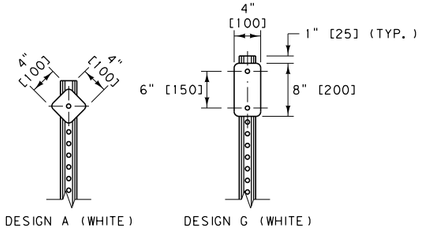
MONTANA DEPARTMENT OF TRANSPORTATION



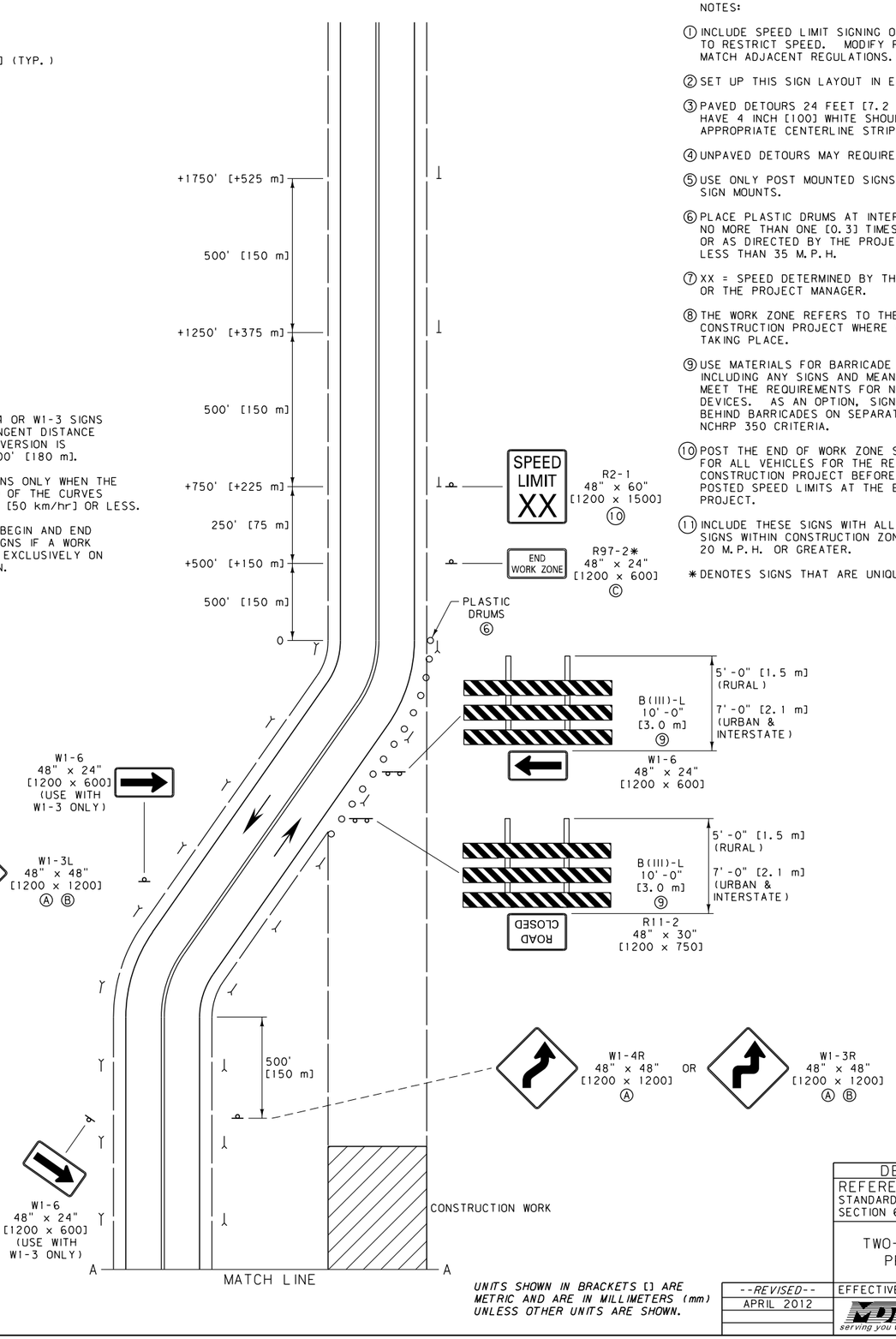


DELINEATOR LEGEND	
⊣	DESIGN A
≺	DESIGN G

Ⓐ USE THE W1-4 OR W1-3 SIGNS WHEN THE TANGENT DISTANCE ALONG THE DIVERSION IS MORE THAN 600' [180 m].

Ⓑ USE W1-3 SIGNS ONLY WHEN THE DESIGN SPEED OF THE CURVES IS 30 M.P.H. [50 km/hr] OR LESS.

Ⓒ INCLUDE THE BEGIN AND END WORK ZONE SIGNS IF A WORK ZONE OCCURS EXCLUSIVELY ON THE DIVERSION.



NOTES:

① INCLUDE SPEED LIMIT SIGNING ONLY IF THERE IS REASON TO RESTRICT SPEED. MODIFY REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.

② SET UP THIS SIGN LAYOUT IN EACH TRAFFIC DIRECTION.

③ PAVED DETOURS 24 FEET [7.2 m] WIDE OR GREATER HAVE 4 INCH [100] WHITE SHOULDER STRIPES AND APPROPRIATE CENTERLINE STRIPES.

④ UNPAVED DETOURS MAY REQUIRE ADDITIONAL DELINEATION.

⑤ USE ONLY POST MOUNTED SIGNS. DO NOT USE PORTABLE SIGN MOUNTS.

⑥ PLACE PLASTIC DRUMS AT INTERVALS IN FEET [METERS] OF NO MORE THAN ONE [0.3] TIMES THE SPEED LIMIT IN M.P.H. OR AS DIRECTED BY THE PROJECT MANAGER FOR SPEEDS LESS THAN 35 M.P.H.

⑦ XX = SPEED DETERMINED BY THE DETOUR DESIGN SPEED OR THE PROJECT MANAGER.

⑧ THE WORK ZONE REFERS TO THE AREA WITHIN THE CONSTRUCTION PROJECT WHERE WORK IS ACTUALLY TAKING PLACE.

⑨ USE MATERIALS FOR BARRICADE FRAMEWORK AND ASSEMBLY, INCLUDING ANY SIGNS AND MEANS OF ATTACHMENT. THAT MEET THE REQUIREMENTS FOR NCHRP 350 FOR WORK ZONE DEVICES. AS AN OPTION, SIGNS MAY BE MOUNTED DIRECTLY BEHIND BARRICADES ON SEPARATE SIGN SUPPORTS MEETING NCHRP 350 CRITERIA.

⑩ POST THE END OF WORK ZONE SPEED LIMIT APPROPRIATE FOR ALL VEHICLES FOR THE REMAINDER OF THE CONSTRUCTION PROJECT BEFORE RESUMING TO NORMAL POSTED SPEED LIMITS AT THE END OF THE CONSTRUCTION PROJECT.

⑪ INCLUDE THESE SIGNS WITH ALL FLAGGERS. INCLUDE THESE SIGNS WITHIN CONSTRUCTION ZONES WHEN STEP DOWN IS 20 M.P.H. OR GREATER.

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING

REFERENCE STANDARD SPEC. SECTION 618

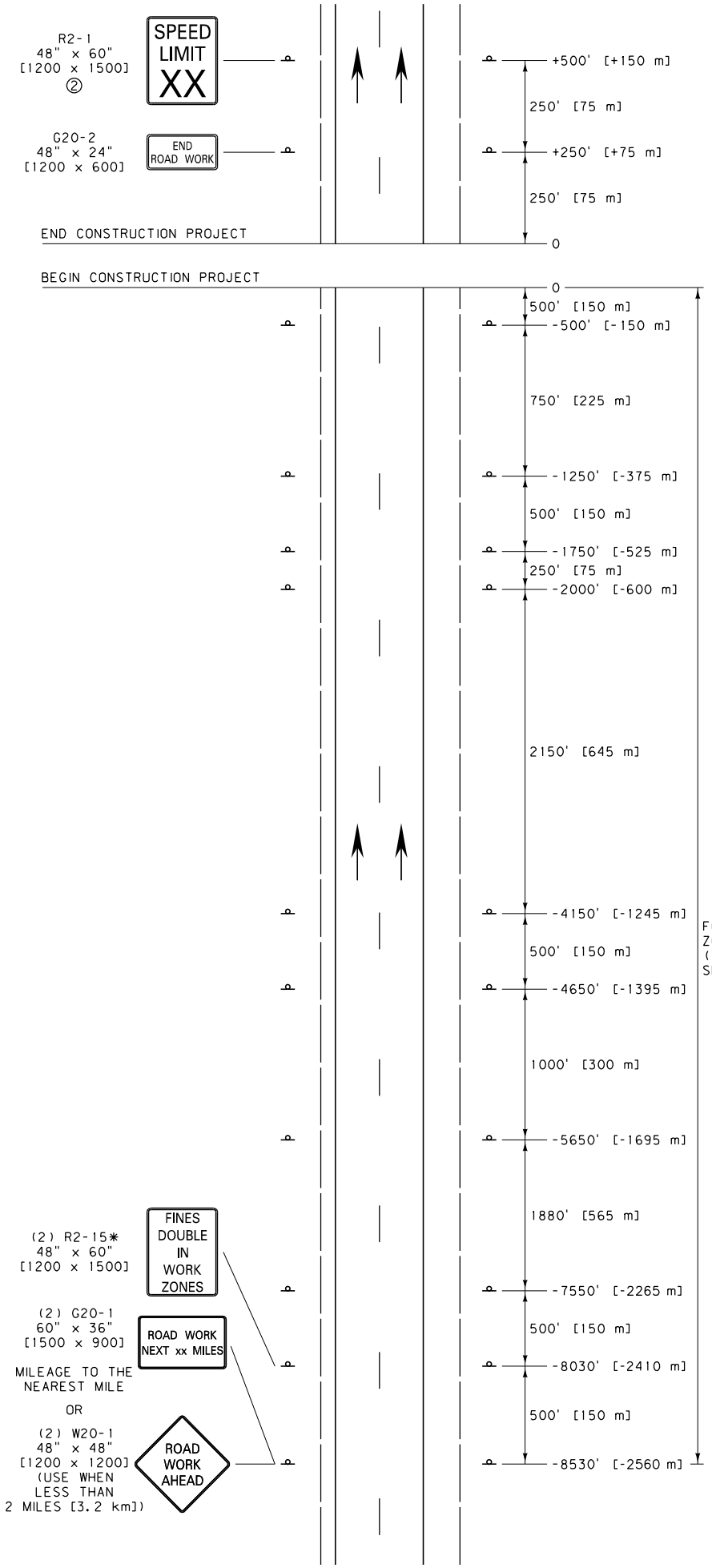
DWG. NO. 618-18

TWO-LANE CONSTRUCTION PROJECT DIVERSION

--REVISED--
APRIL 2012

EFFECTIVE: APRIL 2006

MDT serving you with pride — MONTANA DEPARTMENT OF TRANSPORTATION



NOTES:

① THIS SIGN LAYOUT IS INTENDED TO BE A PERMANENT INSTALLATION FOR THE DURATION OF THE CONSTRUCTION PROJECT, AS APPROVED BY THE PROJECT MANAGER. COVER OR REMOVE SIGNS WHEN NOT IN USE, INCLUDING SPEED LIMIT SIGNS NOT WARRANTED. REMOVE ANY SIGN SUPPORTS IF THEY WILL NOT BE NEEDED WITHIN 90 DAYS.

② POST THE END OF CONSTRUCTION PROJECT SPEED LIMIT CONSISTING OF ONE LIMIT WHEN THE NORMAL POSTED SPEED LIMIT FOR ALL VEHICLES IS THE SAME. WHEN CAR AND TRUCK SPEED LIMITS DIFFER, POST BOTH LIMITS ON A SINGLE SIGN.

③ INCLUDE REGULATORY SIGNING ONLY IF THE CONSTRUCTION PROJECT CONTAINS A WORK ZONE OR HAS ROADWAY CONDITIONS THAT WARRANT SPEED RESTRICTIONS. MODIFY REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.

④ THE WORK ZONE REFERS TO THE AREA WITHIN THE CONSTRUCTION PROJECT WHERE WORK IS ACTUALLY TAKING PLACE.

⑤ SET UP THIS SIGN LAYOUT IN EACH TRAFFIC DIRECTION.

⑥ IN ADDITION TO THE SIGNS SHOWN, INCLUDE THE APPROPRIATE FOUR-LANE WORK ZONE SIGNS (DTL. DWG. NO. 618-24) WHEN A WORK ZONE FALLS AT THE BEGIN OR END OF THE CONSTRUCTION PROJECT.

⑦ DIVIDED FOUR-LANE IS SHOWN. FOR UN-DIVIDED FOUR-LANE, PLACE SIGNS ON RIGHT SIDE ONLY.

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

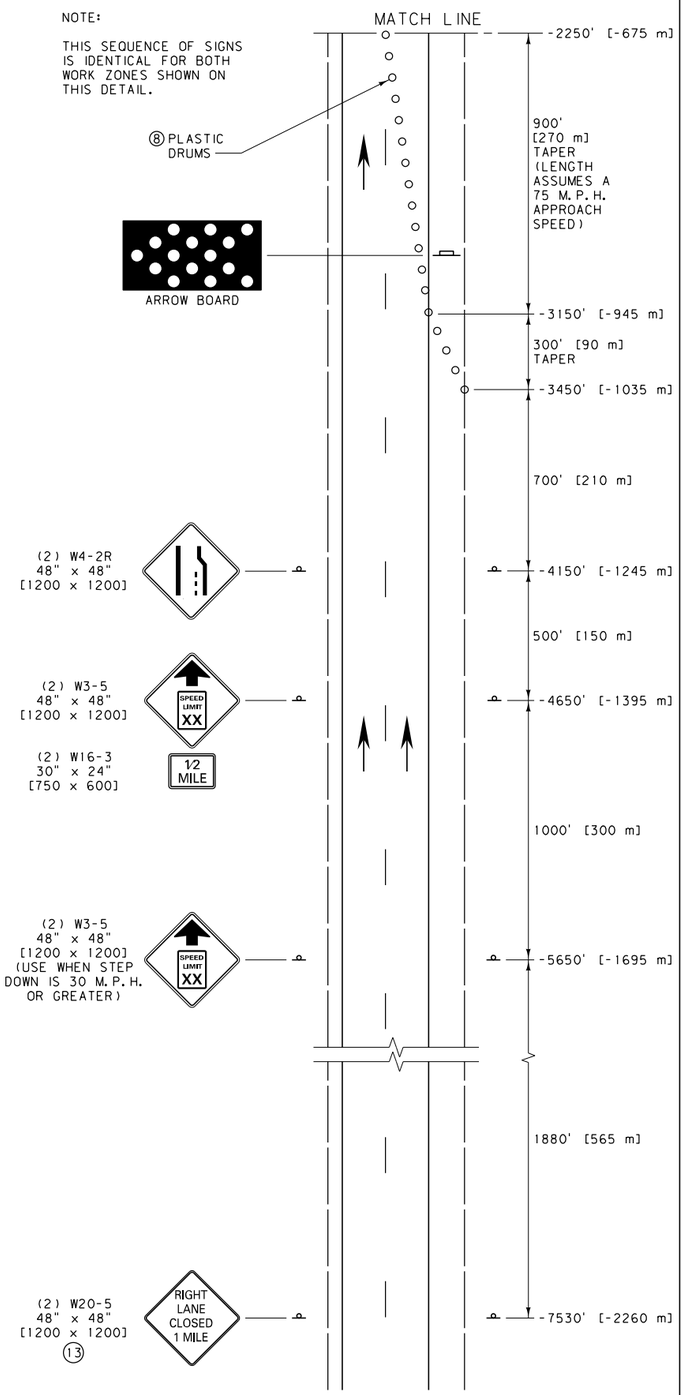
DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-20

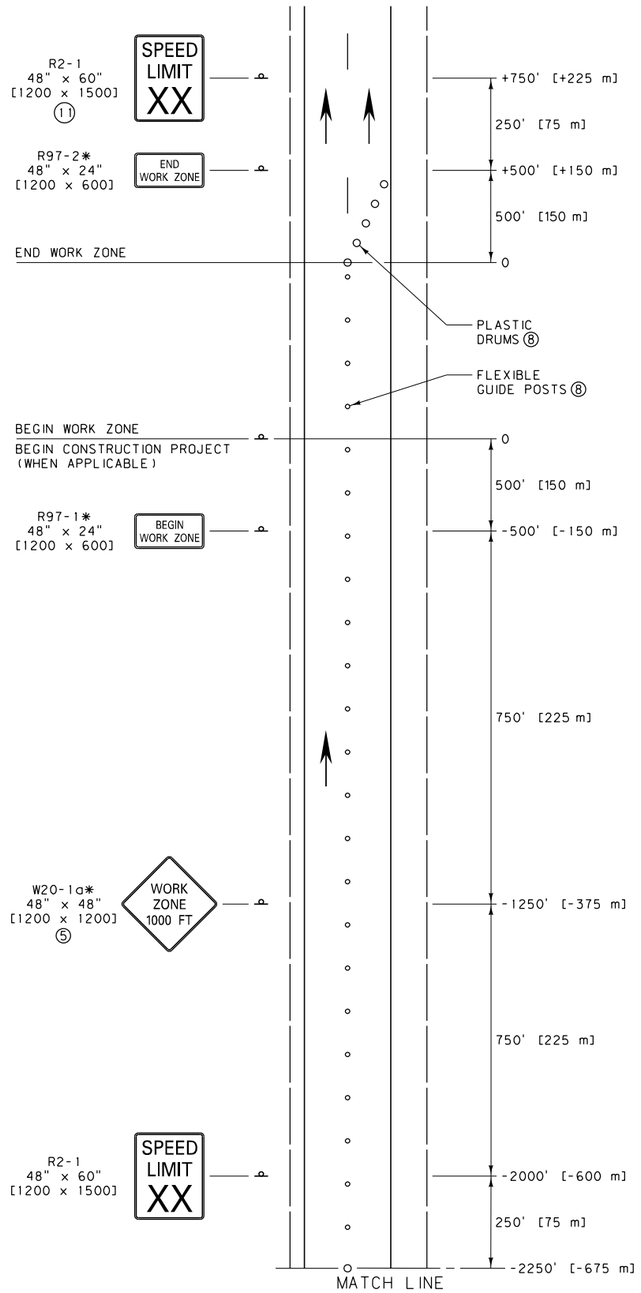
DIVIDED FOUR-LANE CONSTRUCTION PROJECT

--REVISED--	EFFECTIVE: APRIL 2006
APRIL 2012	MDT serving you with pride — MONTANA DEPARTMENT OF TRANSPORTATION

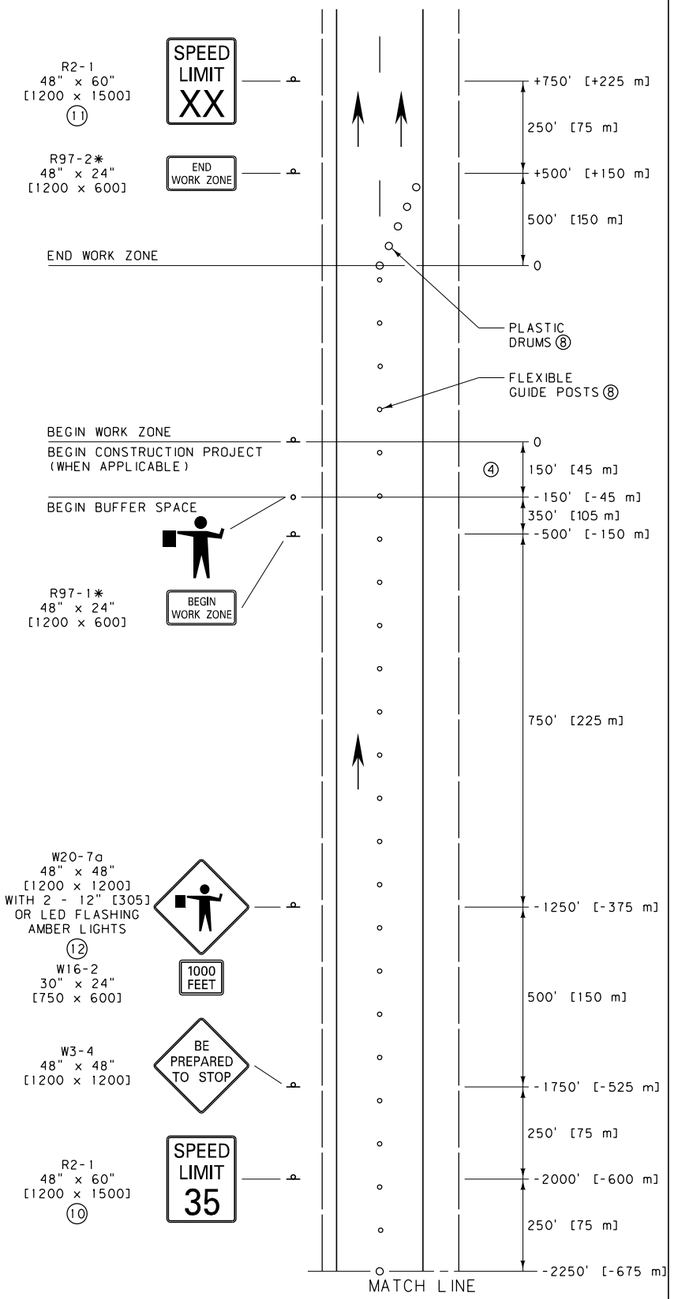
NOTE:

THIS SEQUENCE OF SIGNS IS IDENTICAL FOR BOTH WORK ZONES SHOWN ON THIS DETAIL.





WORK ZONE WITH NO FLAGGER



WORK ZONE WITH FLAGGER

NOTES:

① THESE SIGN LAYOUTS WORK IN CONJUNCTION WITH THE PERMANENT LAYOUT ILLUSTRATED ON DTL. DWG. NO. 618-20 FOR WORK ZONES LOCATED AT THE BEGIN AND END OF THE CONSTRUCTION PROJECT.

② INCLUDE REGULATORY SIGNING ONLY IF THERE IS REASON TO RESTRICT SPEED WITHIN THE WORK ZONE. MODIFY REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.

③ THE WORK ZONE REFERS TO THE AREA WITHIN THE CONSTRUCTION PROJECT WHERE WORK IS ACTUALLY TAKING PLACE.

④ THE BUFFER SPACE MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.

⑤ USE MORE SPECIFIC SIGNS. WHERE APPLICABLE, SUCH AS W8-3 "PAVEMENT ENDS."

⑥ XX = SPEED DETERMINED BY THE PROJECT MANAGER.

⑦ PROVIDE A SECOND FLAGGER WHEN REQUIRED BY STANDARD SPECIFICATIONS, SECTION 618.

⑧ SPACE FLEXIBLE GUIDE POSTS ON TANGENTS AT INTERVALS IN FEET [METERS] OF NO MORE THAN TWO [0.6] TIMES THE SPEED LIMIT IN M.P.H. SPACE PLASTIC DRUMS IN ALL TAPER SECTIONS AT INTERVALS IN FEET [METERS] OF NO MORE THAN ONE [0.3] TIMES THE SPEED LIMIT IN M.P.H. FOR SPEED LIMITS LESS THAN 35 M.P.H., SPACE CHANNELIZING DEVICES AS DIRECTED BY THE PROJECT MANAGER.

⑨ WHEN PORTABLE SIGNS ARE USED, PLACE AS DIRECTED BY THE PROJECT MANAGER.

⑩ IF FLAGGER IS MORE THAN ONE MILE [1.6 km] FROM THE LANE CLOSURE, INCLUDE W3-5 SIGNS, AS REQUIRED.

⑪ POST THE END OF WORK ZONE SPEED LIMIT APPROPRIATE FOR ALL VEHICLES FOR THE REMAINDER OF THE CONSTRUCTION PROJECT BEFORE RESUMING TO NORMAL POSTED SPEED LIMITS AT THE END OF THE CONSTRUCTION PROJECT.

⑫ INSURE THE 12" [305] AMBER FLASHERS AND THE AMBER LED FLASHERS LIGHTS MEET REQUIREMENTS OF STANDARD SPECIFICATION 715 AND DTL. DWG. NO. 618-01.

⑬ POST THE W20-5 AFTER THE W20-1 OR G20-1 AND THE R2-15 IF THE MERGING TAPER OCCURS AT THE BEGINNING OF THE CONSTRUCTION PROJECT.

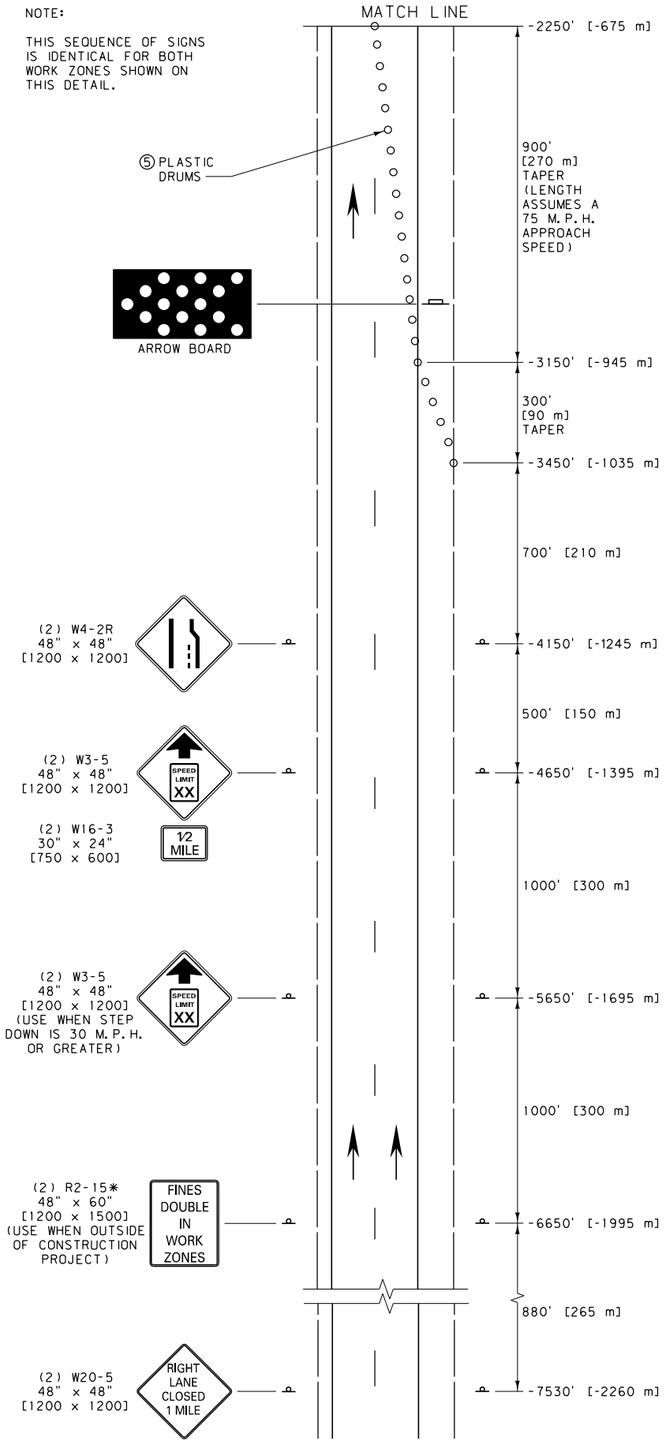
* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

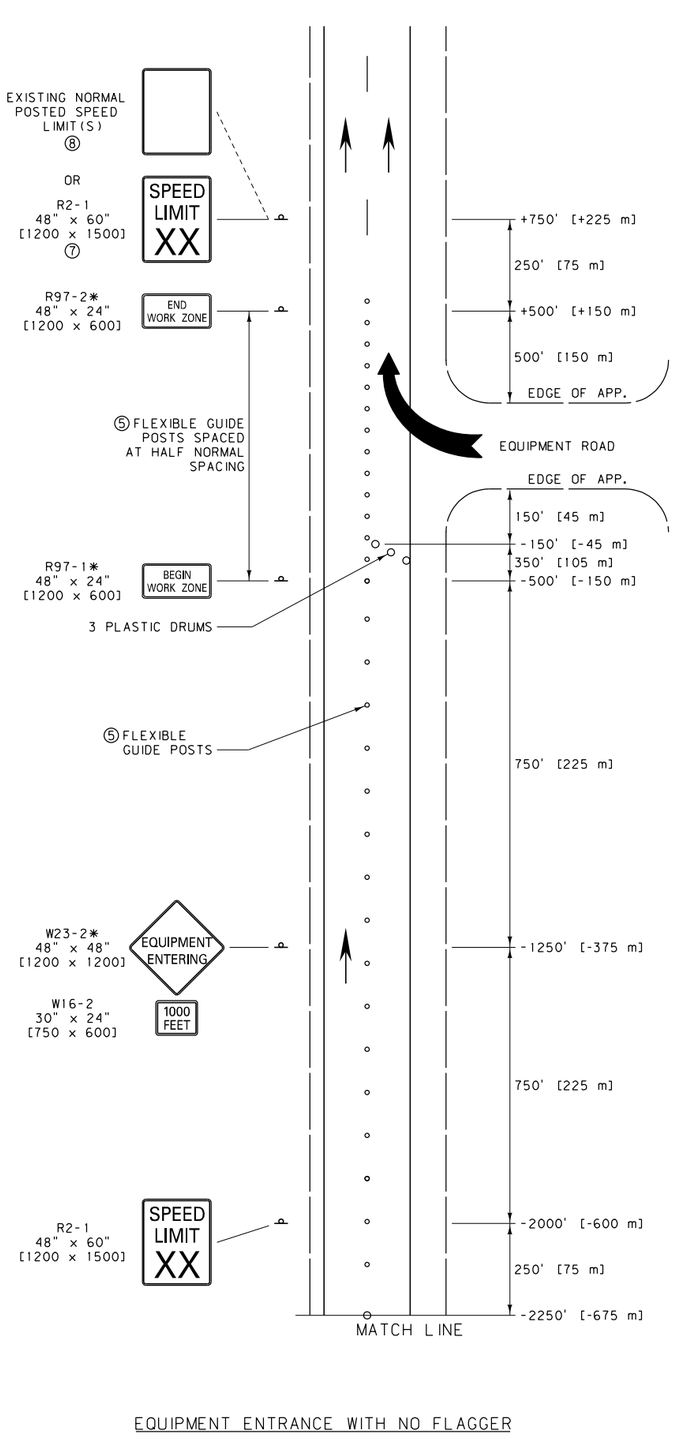
UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618, 715	DWG. NO. 618-24
DIVIDED FOUR-LANE CONSTRUCTION PROJECT WORK ZONES	
--REVISED-- APRIL 2012	EFFECTIVE: APRIL 2006
	MONTANA DEPARTMENT OF TRANSPORTATION (serving you with pride)

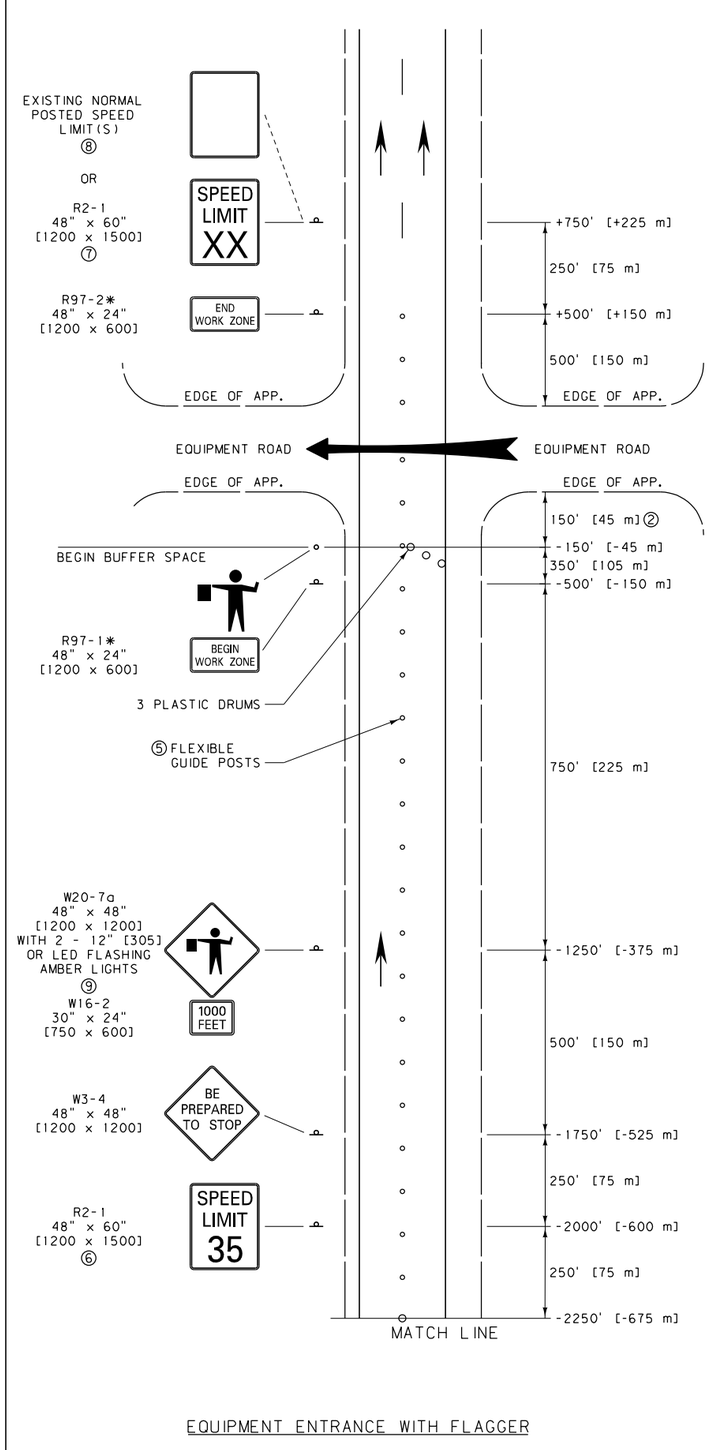
NOTE:

THIS SEQUENCE OF SIGNS IS IDENTICAL FOR BOTH WORK ZONES SHOWN ON THIS DETAIL.





EQUIPMENT ENTRANCE WITH NO FLAGGER



EQUIPMENT ENTRANCE WITH FLAGGER

NOTES:

① INCLUDE SPEED LIMIT SIGNING ONLY IF THERE IS REASON TO RESTRICT SPEED WITHIN THE WORK ZONE. REMOVE OR COVER REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.

② THE BUFFER SPACE MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.

③ XX = SPEED DETERMINED BY THE PROJECT MANAGER.

④ THE WORK ZONE REFERS TO THE AREA WHERE WORK IS ACTUALLY TAKING PLACE. WHEN THIS OCCURS OUTSIDE OF A CONSTRUCTION PROJECT, INCLUDE THE W20-1 AND R2-15* SIGNS.

⑤ SPACE FLEXIBLE GUIDE POSTS ON TANGENTS AT INTERVALS IN FEET [METERS] OF NO MORE THAN TWO [0.6] TIMES THE SPEED LIMIT IN M.P.H. SPACE PLASTIC DRUMS IN ALL TAPER SECTIONS AT INTERVALS IN FEET [METERS] OF NO MORE THAN ONE [0.3] TIMES THE SPEED LIMIT IN M.P.H. FOR SPEED LIMITS LESS THAN 35 M.P.H., SPACE CHANNELIZING DEVICES AS DIRECTED BY THE PROJECT MANAGER.

⑥ IF FLAGGER IS MORE THAN ONE MILE [1.6 km] FROM THE LANE CLOSURE, INCLUDE W3-5 SIGNS, AS REQUIRED.

⑦ POST THE END OF WORK ZONE SPEED LIMIT APPROPRIATE FOR ALL VEHICLES FOR THE REMAINDER OF THE CONSTRUCTION PROJECT BEFORE RESUMING TO NORMAL POSTED SPEED LIMITS AT THE END OF THE CONSTRUCTION PROJECT.

⑧ WHEN OUTSIDE OF A CONSTRUCTION PROJECT, POST THE SPEED LIMIT CONSISTING OF ONE LIMIT WHEN THE NORMAL POSTED SPEED LIMIT FOR ALL VEHICLES IS THE SAME. WHEN CAR AND TRUCK SPEED LIMITS DIFFER, POST BOTH LIMITS ON A SINGLE SIGN.

⑨ INSURE THE 12" [305] AMBER FLASHERS AND THE AMBER LED FLASHERS MEET REQUIREMENTS OF SECTION 715 AND DTL. DWG. NO. 618-01.

⑩ POST THE W20-5 AFTER THE W20-1 OR THE G20-1 AND THE R2-15 IF THE MERGING TAPER OCCURS AT THE BEGINNING OF THE CONSTRUCTION PROJECT

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

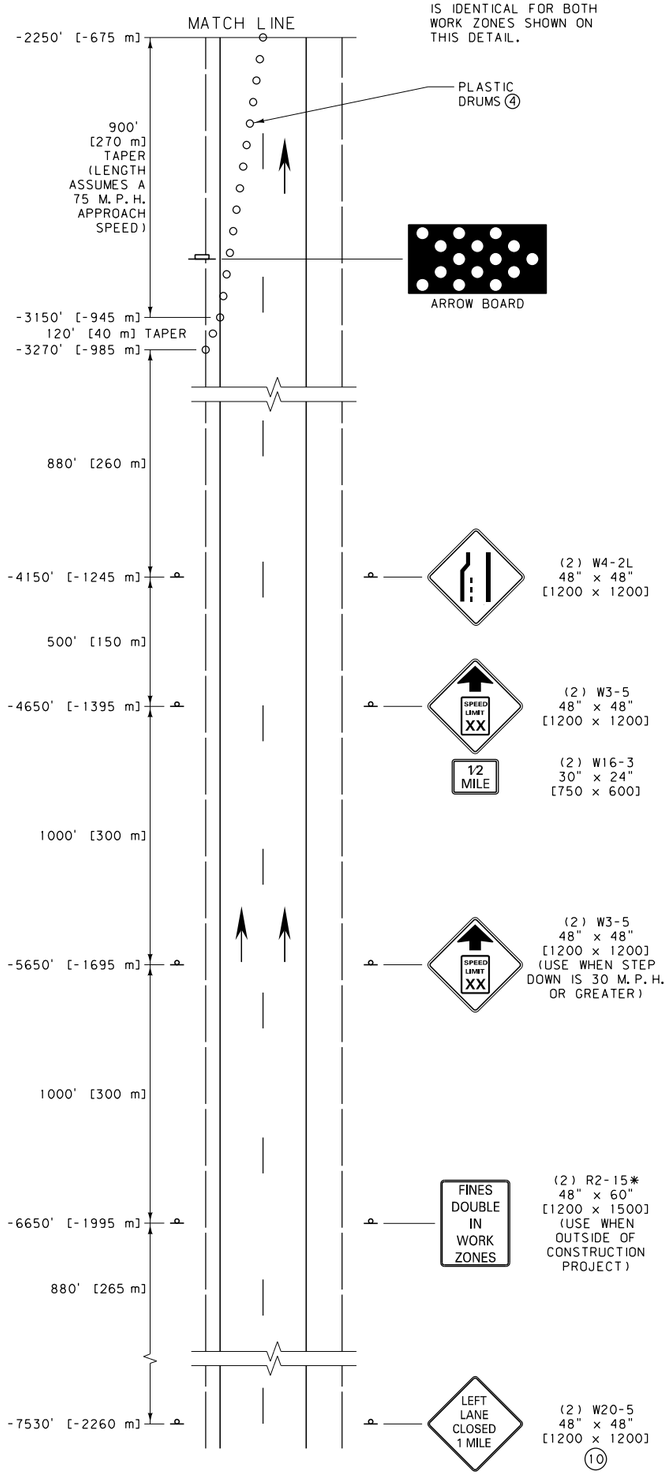
DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-27

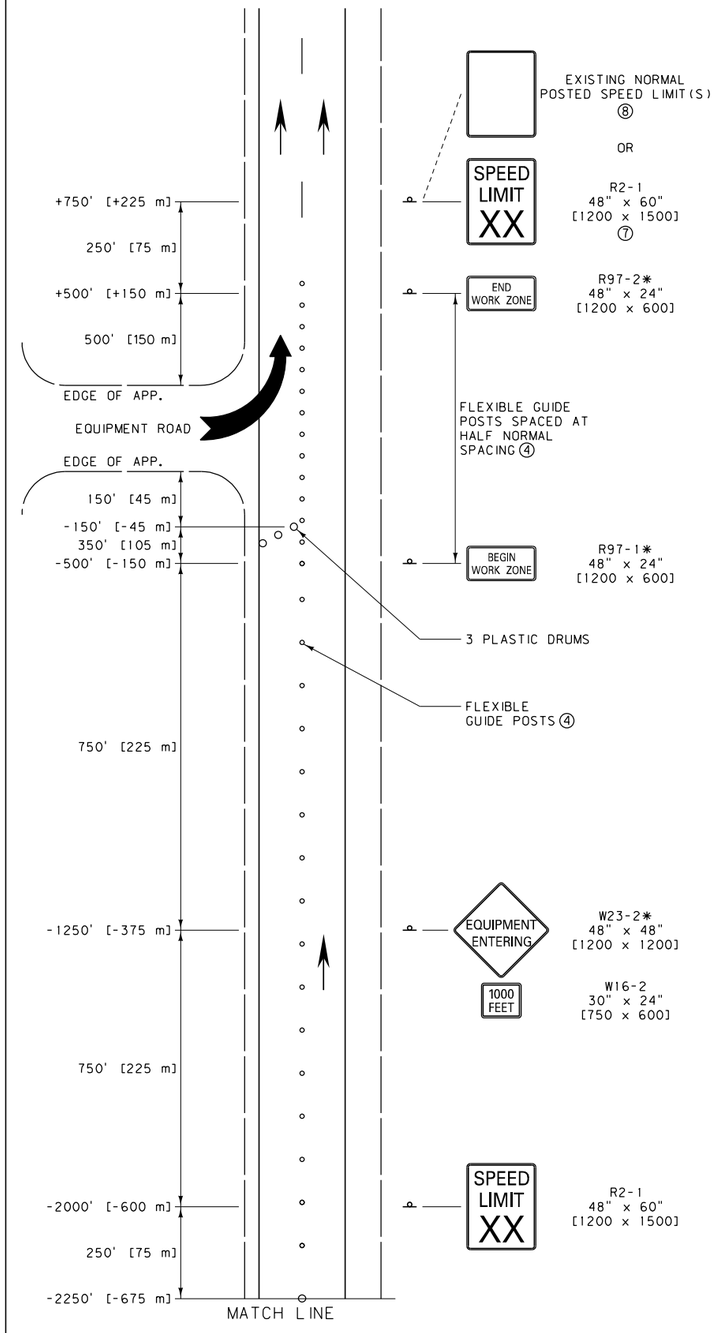
DIVIDED FOUR-LANE EQUIPMENT ENTRANCE

--REVISED--	EFFECTIVE: APRIL 2006
APRIL 2012	MDT serving you with pride — MONTANA DEPARTMENT OF TRANSPORTATION

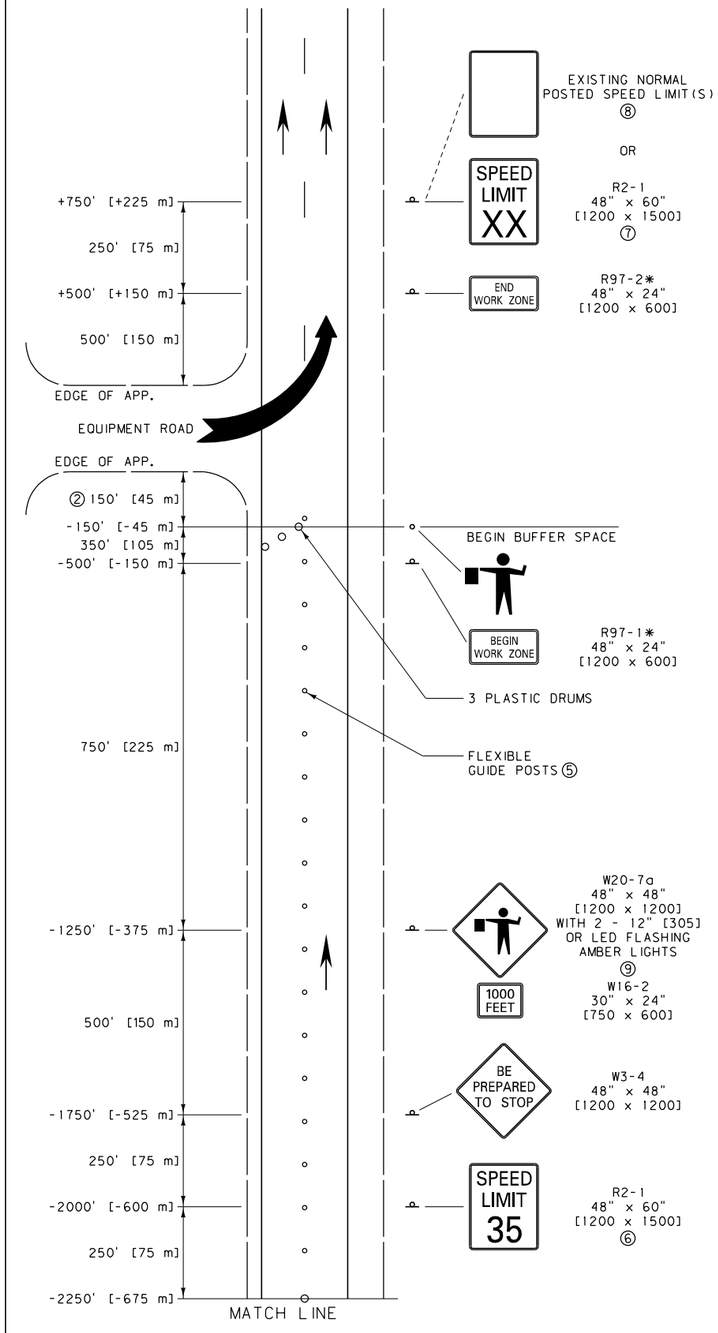
NOTE:

THIS SEQUENCE OF SIGNS IS IDENTICAL FOR BOTH WORK ZONES SHOWN ON THIS DETAIL.





MEDIAN CROSSING WITH NO FLAGGER
(USE WITH WIDE MEDIANS)



MEDIAN CROSSING WITH FLAGGER
(USE WITH NARROW MEDIANS)

NOTES:

① INCLUDE SPEED LIMIT SIGNING ONLY IF THERE IS REASON TO RESTRICT SPEED WITHIN THE WORK ZONE. REMOVE OR COVER REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.

② THE BUFFER SPACE MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.

③ XX = SPEED DETERMINED BY THE PROJECT MANAGER.

④ THE WORK ZONE REFERS TO THE AREA WHERE WORK IS ACTUALLY TAKING PLACE. WHEN THIS OCCURS OUTSIDE OF A CONSTRUCTION PROJECT, INCLUDE THE W20-1 AND R2-15* SIGNS.

⑤ SPACE FLEXIBLE GUIDE POSTS ON TANGENTS AT INTERVALS IN FEET [METERS] OF NO MORE THAN TWO [0.6] TIMES THE SPEED LIMIT IN M.P.H. SPACE PLASTIC DRUMS IN ALL TAPER SECTIONS AT INTERVALS IN FEET [METERS] OF NO MORE THAN ONE [0.3] TIMES THE SPEED LIMIT IN M.P.H. FOR SPEED LIMITS LESS THAN 35 M.P.H., SPACE CHANNELIZING DEVICES AS DIRECTED BY THE PROJECT MANAGER.

⑥ IF FLAGGER IS MORE THAN ONE MILE [1.6 km] FROM THE LANE CLOSURE, INCLUDE W3-5 SIGNS, AS REQUIRED.

⑦ POST THE END OF WORK ZONE SPEED LIMIT APPROPRIATE FOR ALL VEHICLES FOR THE REMAINDER OF THE CONSTRUCTION PROJECT BEFORE RESUMING TO NORMAL POSTED SPEED LIMITS AT THE END OF THE CONSTRUCTION PROJECT.

⑧ WHEN OUTSIDE OF A CONSTRUCTION PROJECT, POST THE SPEED LIMIT CONSISTING OF ONE LIMIT WHEN THE NORMAL POSTED SPEED LIMIT FOR ALL VEHICLES IS THE SAME. WHEN CAR AND TRUCK SPEED LIMITS DIFFER, POST BOTH LIMITS ON A SINGLE SIGN.

⑨ INSURE THE 12" [305] AMBER FLASHERS AND THE AMBER LED FLASHERS MEET REQUIREMENTS OF SECTION 715 AND DTL. DWG. NO. 618-01.

⑩ POST THE W20-5 AFTER THE W20-1 OR G20-1 AND THE R2-15 IF THE MERGING TAPER OCCURS AT THE BEGINNING OF THE CONSTRUCTION PROJECT.

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING

REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-28

DIVIDED FOUR-LANE MEDIAN CROSSING

--REVISED-- APRIL 2012	EFFECTIVE: APRIL 2006

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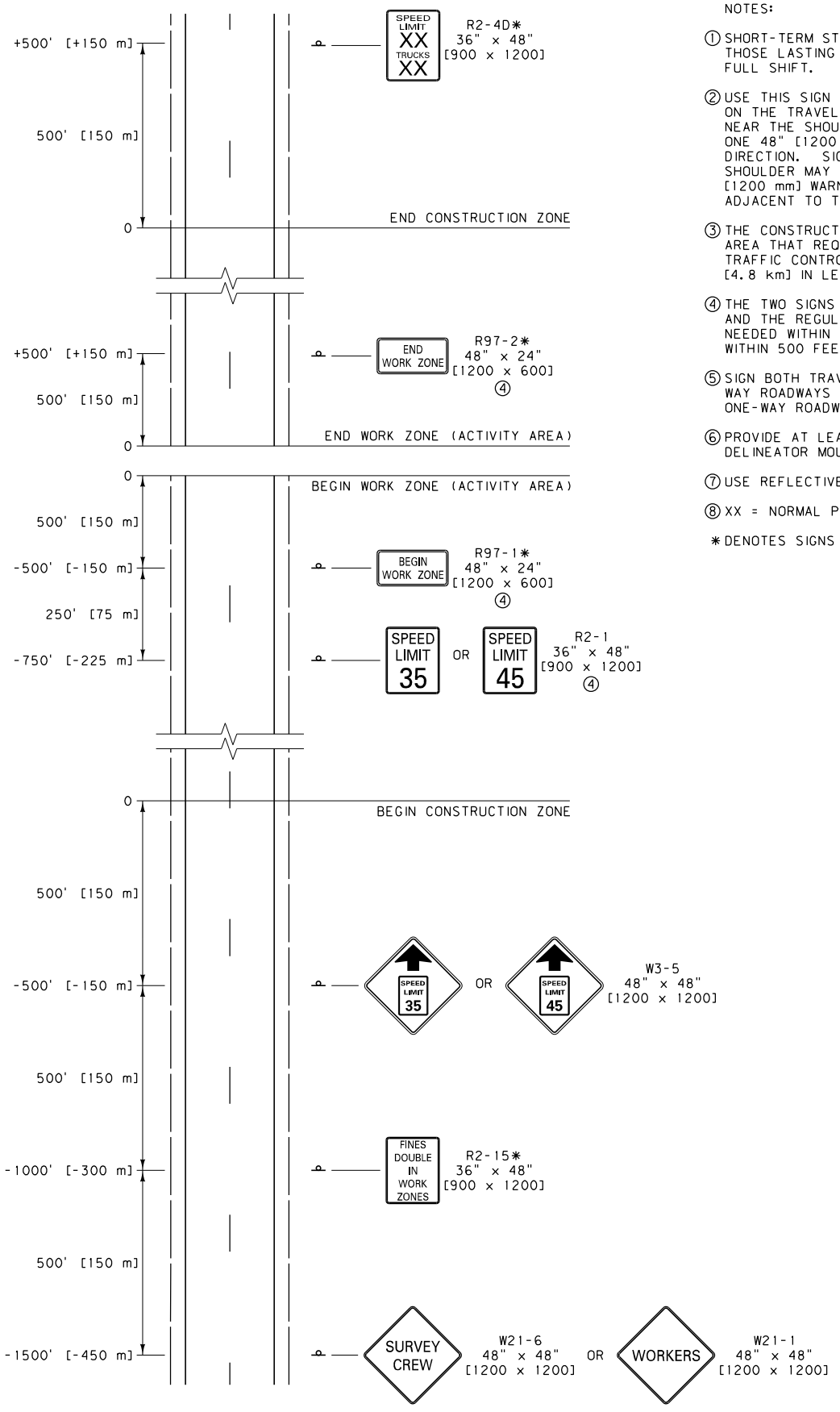

NOTES:

① SHORT-TERM STATIONARY ACTIVITIES ARE DEFINED AS THOSE LASTING GREATER THAN ONE HOUR, UP TO A FULL SHIFT.

② USE THIS SIGN LAYOUT WHEN WORK IS TO TAKE PLACE ON THE TRAVELED WAY. SIGNING FOR WORK ON OR NEAR THE SHOULDER MAY BE LIMITED TO THE USE OF ONE 48" [1200 mm] WARNING SIGN FOR EACH TRAVEL DIRECTION. SIGNING FOR WORK OUTSIDE THE SHOULDER MAY BE LIMITED TO THE USE OF ONE 48" [1200 mm] WARNING SIGN FOR THE TRAVEL DIRECTION ADJACENT TO THE WORK.

③ THE CONSTRUCTION ZONE REFERS TO THE GENERAL AREA THAT REQUIRES TEMPORARY WORK ZONE TRAFFIC CONTROL. IT SHOULD NOT EXCEED 3 MILES [4.8 km] IN LENGTH.

④ THE TWO SIGNS MARKING THE WORK ZONE BOUNDARIES AND THE REGULATORY SPEED SIGN MUST MOVE AS NEEDED WITHIN THE CONSTRUCTION ZONE TO REMAIN WITHIN 500 FEET [150 m] OF THE WORK ACTIVITY.

⑤ SIGN BOTH TRAVEL DIRECTIONS ON TWO-LANE, TWO-WAY ROADWAYS OR BOTH SHOULDERS ON TWO-LANE, ONE-WAY ROADWAYS.

⑥ PROVIDE AT LEAST THE DISTANCE SHOWN FOR DELINEATOR MOUNTED SIGNS.

⑦ USE REFLECTIVE DEVICES.

⑧ XX = NORMAL POSTED SPEED LIMIT(S).

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING

REFERENCE STANDARD SPEC. SECTION 618

DWG. NO. 618-36

SHORT-TERM STATIONARY CREW SIGNING

--REVISED--
APRIL 2012

EFFECTIVE: APRIL 2006

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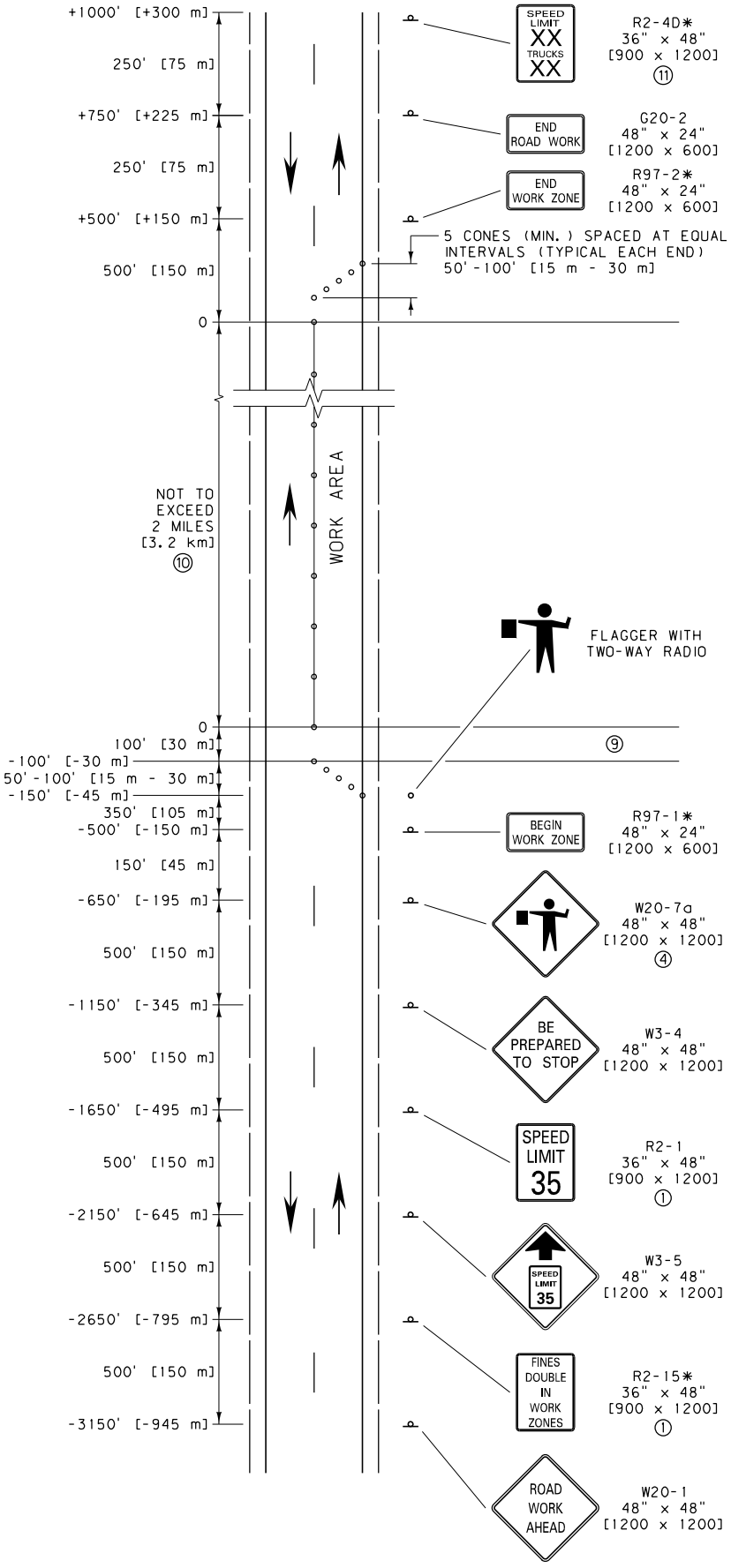
MONTANA DEPARTMENT OF TRANSPORTATION



NOTES:

(1) MINIMUM REGULATORY SIGN SIZE IS 24" X 30" [600 x 750]ON TWO-LANE ROADS.

(2) ON ROADWAYS WITH HIGH TRAFFIC VOLUMES OR VISIBILITY RESTRICTIONS, A 500' [150 m] SPACING FOR ALL SIGNS IS RECOMMENDED.

(3) SPACE CHANNELIZING DEVICES AT INTERVALS IN FEET [METERS]EQUAL TO TWICE [0.6 TIMES]THE SPEED LIMIT IN M.P.H. THROUGH THE BUFFER AND WORK AREA.

(4) IF A NEED ARISES TO INCREASE VEHICLE STORAGE, ADD AN ADDITIONAL W20-7a "FLAGGER AHEAD" SIGN BETWEEN THE R2-1 AND W3-4 SIGNS AND/OR CONSIDER AN ADDITIONAL ADVANCE FLAGGER.

(5) A MIRROR IMAGE OF THIS SIGN SEQUENCE IS REQUIRED FOR THE TRAFFIC FROM THE OPPOSITE DIRECTION.

(6) FOR MORE INFORMATION OR CLARIFICATION CONTACT THE DISTRICT TRAFFIC ENGINEER. FOR EXAMPLE, IF WORK ZONE IS CLOSE TO A HORIZONTAL CURVE, A VERTICAL CURVE, A BRIDGE, INTERCHANGE, POOR SIGHT DISTANCE, OR OTHER SPECIAL CONDITION.

(7) COVER ANY CONFLICTING SIGNS IN THE WORK ZONE.

(8) SHORT-TERM WORK ZONE SIGNING IS NOT REQUIRED TO BE POST MOUNTED.

(9) THE BUFFER SPACE CAN BE LATERAL AND LONGITUDINAL AND MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.

(10) TYPICALLY 2 MILES [3.2 km]IS THE MAX. WORK AREA. HOWEVER, WHEN SIGHT DISTANCE, BUFFER ZONES OR ACCOMPLISHMENT RATES FOR EQUIPMENT ARE CONSIDERED, SOME MINOR ADJUSTMENTS TO THIS MAX. MAY BE CONSIDERED.

(11) XX = NORMAL POSTED SPEED LIMIT(S).

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING

REFERENCE STANDARD SPEC. SECTION 618

DWG. NO. 618-M1

MAINTENANCE GUIDELINE FOR SHORT-TERM TWO-LANE CRACK SEALING WORK ZONE

--REVISED--
APRIL 2012

EFFECTIVE: APRIL 2006

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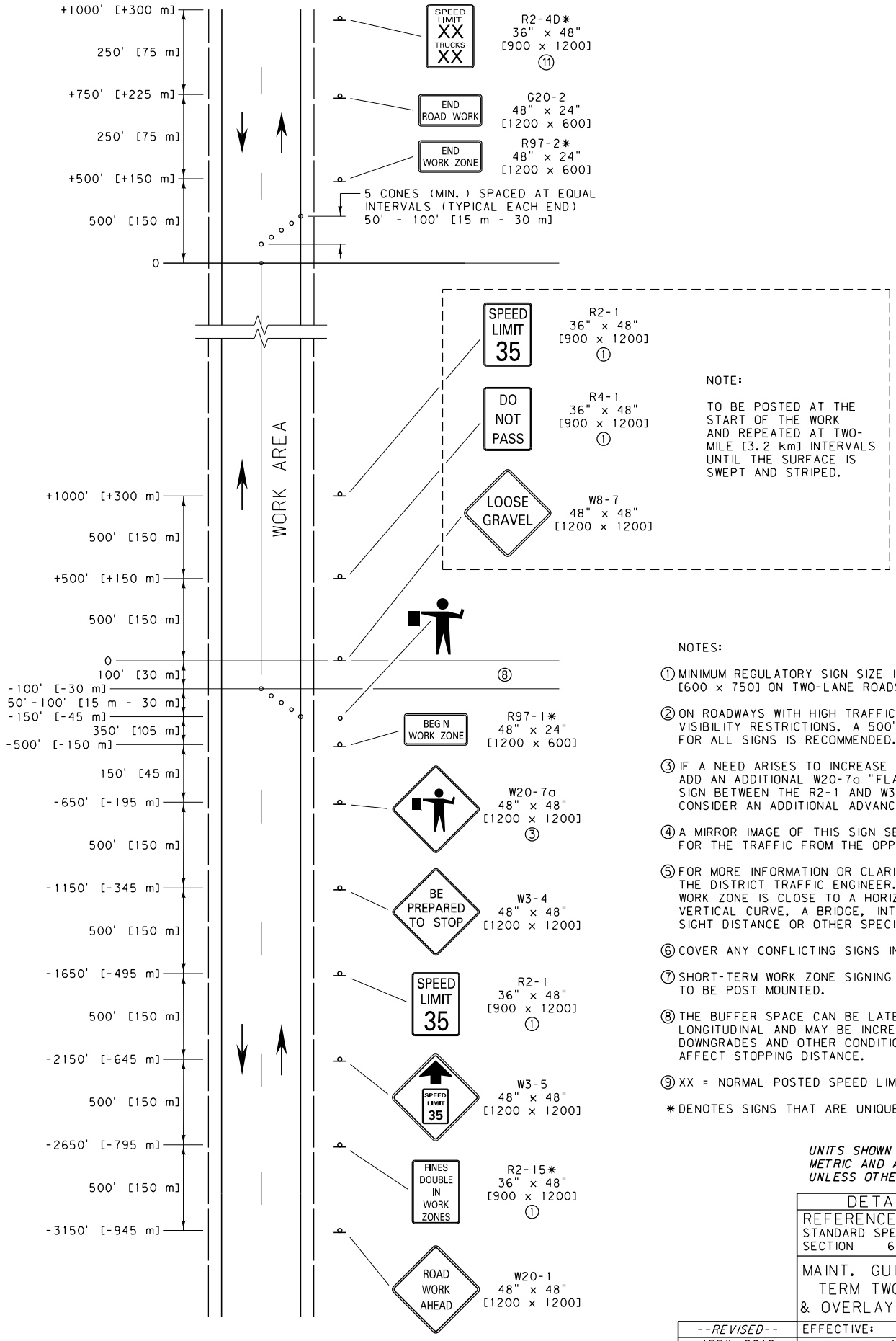

NOTES:

(1) MINIMUM REGULATORY SIGN SIZE IS 24" x 30" [600 x 750] ON TWO-LANE ROADS.

(2) ON ROADWAYS WITH HIGH TRAFFIC VOLUMES OR VISIBILITY RESTRICTIONS, A 500' [150 m] SPACING FOR ALL SIGNS IS RECOMMENDED.

(3) IF A NEED ARISES TO INCREASE VEHICLE STORAGE, ADD AN ADDITIONAL W20-7a "FLAGGER AHEAD" SIGN BETWEEN THE R2-1 AND W3-4 SIGNS AND/OR CONSIDER AN ADDITIONAL ADVANCE FLAGGER.

(4) A MIRROR IMAGE OF THIS SIGN SEQUENCE IS REQUIRED FOR THE TRAFFIC FROM THE OPPOSITE DIRECTION.

(5) FOR MORE INFORMATION OR CLARIFICATION CONTACT THE DISTRICT TRAFFIC ENGINEER. FOR EXAMPLE, IF WORK ZONE IS CLOSE TO A HORIZONTAL CURVE, A VERTICAL CURVE, A BRIDGE, INTERCHANGE, POOR SIGHT DISTANCE OR OTHER SPECIAL CONDITION.

(6) COVER ANY CONFLICTING SIGNS IN THE WORK ZONE.

(7) SHORT-TERM WORK ZONE SIGNING IS NOT REQUIRED TO BE POST MOUNTED.

(8) THE BUFFER SPACE CAN BE LATERAL AND LONGITUDINAL AND MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.

(9) XX = NORMAL POSTED SPEED LIMIT(S).

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING

REFERENCE STANDARD SPEC. SECTION 618

DWG. NO. 618-M2

MAINT. GUIDELINE FOR SHORT-TERM TWO-LANE CHIP SEAL & OVERLAY (PILOTED TRAFFIC)

--REVISED-- APRIL 2012

EFFECTIVE: APRIL 2006

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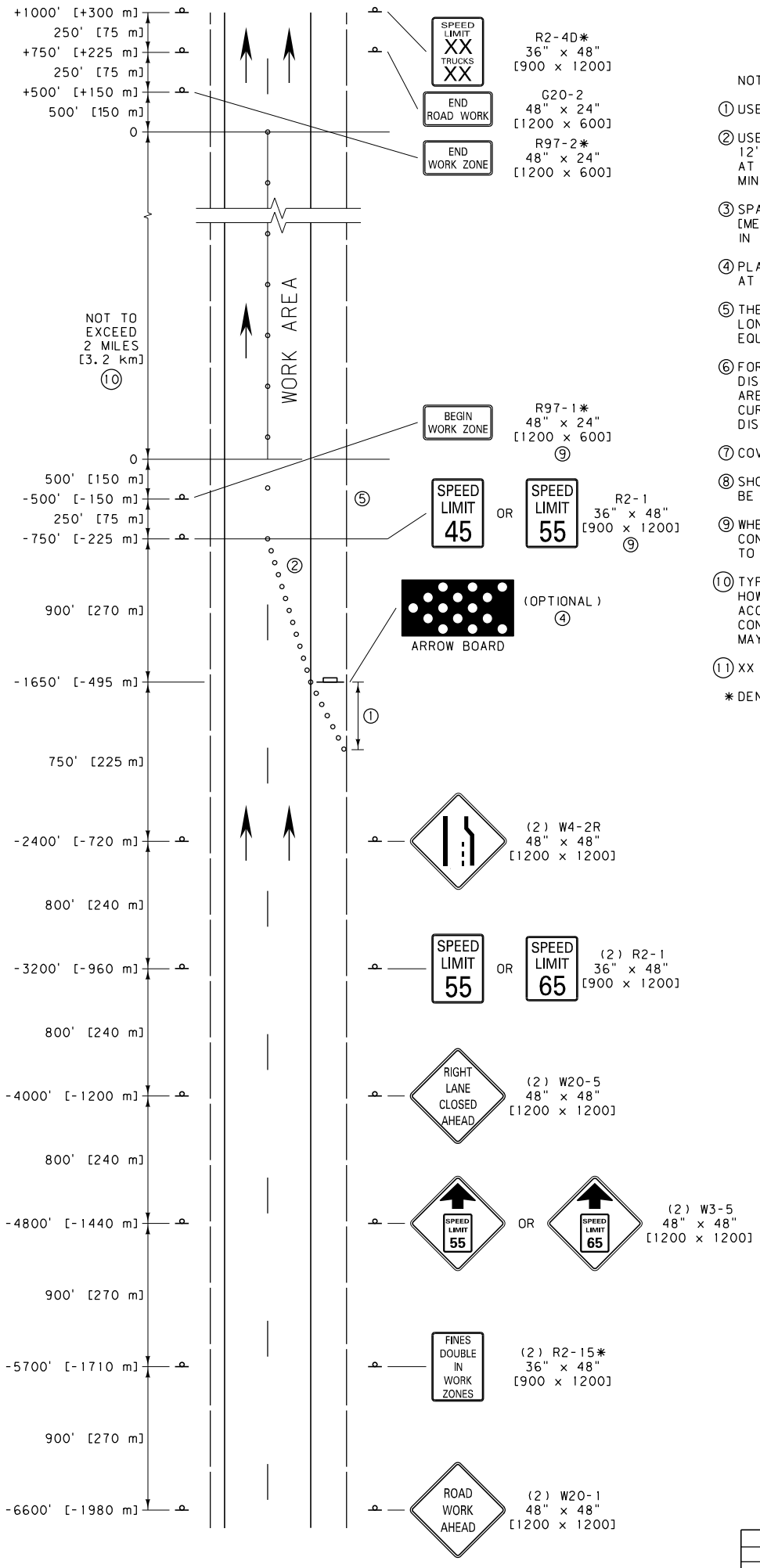
MONTANA DEPARTMENT OF TRANSPORTATION



NOTES:

① USE A MINIMUM 300' [90 m] SHOULDER TAPER.

② USE THIRTEEN APPROVED CHANNELIZING DEVICES FOR A 12' [3.6 m] LANE CLOSURE TAPER (75 M.P.H. SPACED AT 75' [22.5 m].) ASSURE THAT THE TAPER IS A MINIMUM LENGTH OF 900' [270 m].

③ SPACE CHANNELIZING DEVICES AT INTERVALS IN FEET [METERS] EQUAL TO TWICE [0.6 TIMES] THE SPEED LIMIT IN M.P.H. THROUGH THE BUFFER AND WORK AREA.

④ PLACE THE ARROW BOARD (IF USED) ON THE SHOULDER AT THE START OF THE TRAVEL LANE CLOSURE TAPER.

⑤ THE BUFFER SPACE CAN BE LATERAL AND LONGITUDINAL. KEEP THE BUFFER SPACE CLEAR OF EQUIPMENT AND PERSONNEL.

⑥ FOR MORE INFORMATION OR CLARIFICATION CONTACT THE DISTRICT TRAFFIC ENGINEER. FOR EXAMPLE, IF WORK AREA IS CLOSE TO A HORIZONTAL CURVE, A VERTICAL CURVE, A BRIDGE, INTERCHANGE, POOR SIGHT DISTANCE OR OTHER SPECIAL CONDITION.

⑦ COVER ANY CONFLICTING SIGNS IN THE WORK AREA.

⑧ SHORT-TERM WORK ZONE SIGNING IS NOT REQUIRED TO BE POST MOUNTED.

⑨ WHEN THE WORK ZONE CHANGES WITHIN THE CONSTRUCTION ZONE, THESE SIGNS SHOULD BE MOVED TO REFLECT THE ACTUAL WORK ZONE.

⑩ TYPICALLY 2 MILES [3.2 km] IS THE MAX. WORK AREA. HOWEVER, WHEN SIGHT DISTANCE, BUFFER ZONES OR ACCOMPLISHMENT RATES FOR EQUIPMENT ARE CONSIDERED, SOME MINOR ADJUSTMENTS TO THIS MAX. MAY BE CONSIDERED.

⑪ XX = NORMAL POSTED SPEED LIMIT(S).

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING

REFERENCE STANDARD SPEC. SECTION 618

DWG. NO. 618-M3

MAINTENANCE GUIDELINE FOR SHORT-TERM LANE CLOSURE ON INTERSTATE

--REVISED-- APRIL 2012

EFFECTIVE: APRIL 2006

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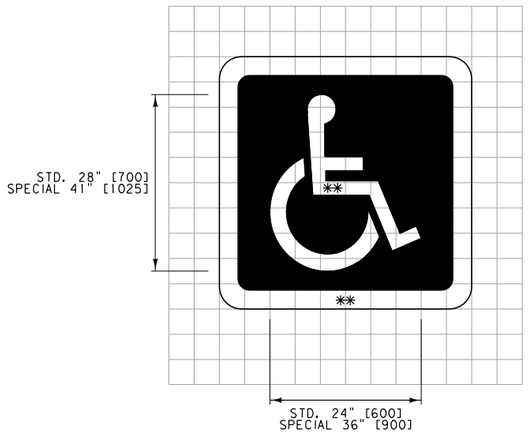
ACCESSIBILITY PARKING SPACE SYMBOL

AREA = 11.04 FT² [0.99 m²]
P = 0.10 GAL. [0.38 L]
E = 0.14 GAL. [0.50 L]
(1 SQUARE = 4" [100])

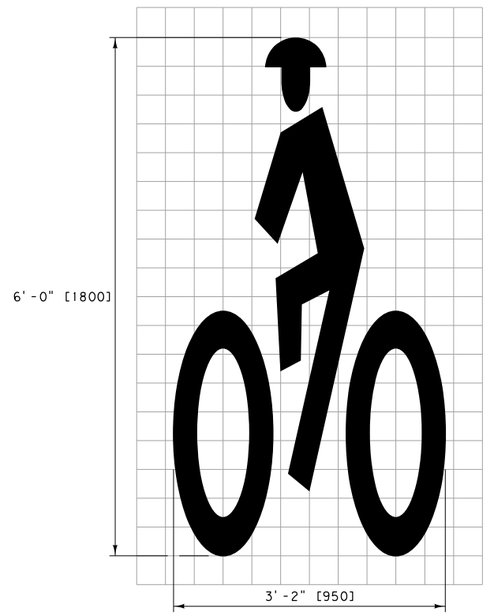


NOTE: CENTER SYMBOL IN PARKING STALL

** STROKE WIDTH:
STD. 3" [75]
SPECIAL 4" [100]

BIKE LANE SYMBOL

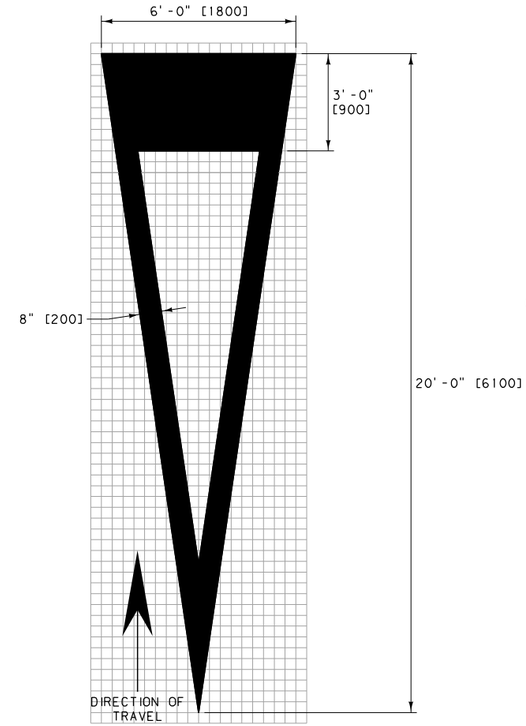
AREA = 5.95 FT² [0.54 m]
P = 0.06 GAL. [0.21 L]
E = 0.07 GAL. [0.27 L]
(1 SQUARE = 4" [100])



YIELD AHEAD TRIANGLE

(HIGH SPEED)

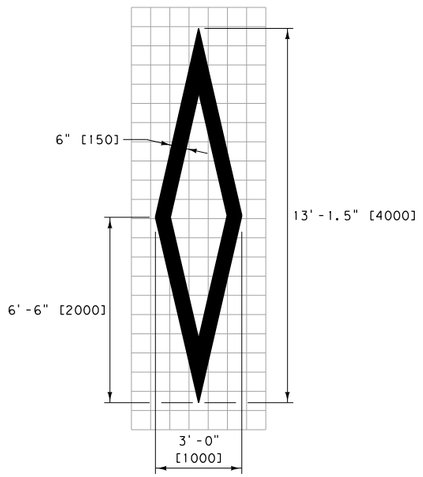
AREA = 36.54 FT² [3.33 m²]
P = 0.34 GAL. [1.27 L]
E = 0.46 GAL. [1.69 L]
(1 SQUARE = 4" [100])



NOTE: FOR LOW SPEED INSTALLATIONS, THE 3'-0" [900] AND 20'-0" [6100] DIMENSIONS MAY BE REDUCED TO 2'-6" [750] AND 13'-0" [4000] RESPECTIVELY.

PREFERENTIAL LANE SYMBOL

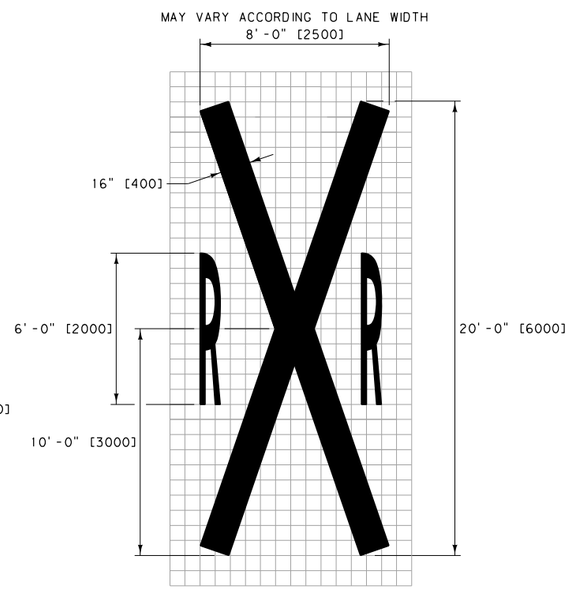
AREA = 11.16 FT² [1.05 m²]
P = 0.10 GAL. [0.40 L]
E = 0.14 GAL. [0.53 L]
(1 SQUARE = 0.65' [200])



RAILROAD CROSSING SYMBOL

AREA = 58.10 FT² [5.42 m²]
P = 0.54 GAL. [2.07 L]
E = 0.73 GAL. [2.75 L]
(1 SQUARE = 8" [200])

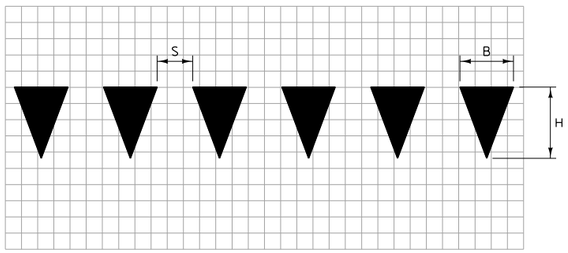
MAY VARY ACCORDING TO LANE WIDTH



YIELD LINE LAYOUT

(QUANTITIES PER TRIANGLE)

(B = 2'-0" [600])
AREA = 3.00 FT² [0.27 m²]
P = 0.03 GAL. [0.10 L]
E = 0.04 GAL. [0.14 L]



B = 2'-0" [600]
H = 3'-0" [900]
S = 12" [300]

NOTES:

① ALL PAVEMENT MARKINGS ARE TO CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND "STANDARD HIGHWAY SIGNS" PUBLICATIONS, FROM THE FEDERAL HIGHWAY ADMINISTRATION.

② ALL SYMBOLS ARE TO BE WHITE EXCEPT FOR THE ACCESSIBILITIY PARKING SPACE SYMBOL WHICH HAS A BLUE BACKGROUND AND WHITE BORDER OPTIONS.

③ DO NOT EXCEED MORE THAN ONE LANE IN WIDTH FOR ANY PAVEMENT MARKINGS EXCEPT IN THE CASE OF THE WORD "SCHOOL". SEE DTL. DWG. NO. 620-10 FOR MORE INFORMATION.

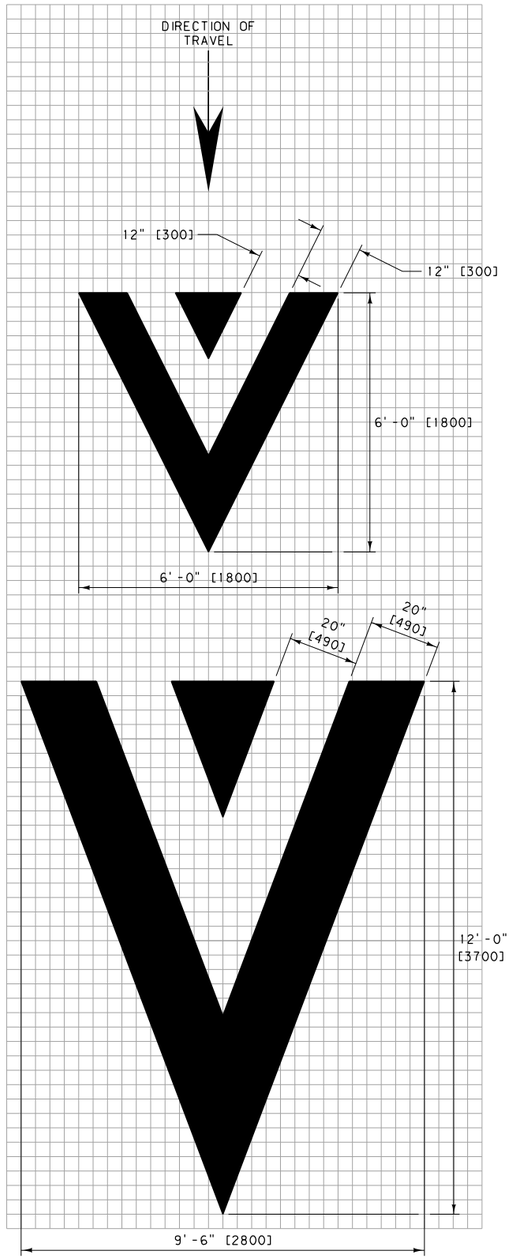
④ WHEN WORDS AND SYMBOLS ARE USED IN COMBINATION, SPACE THEM AT LEAST FOUR TIMES THE HEIGHT OF CHARACTERS FOR LOW-SPEED ROADS, BUT NOT MORE THAN TEN TIMES THE HEIGHT OF THE CHARACTERS UNDER ANY CONDITION.

⑤ QUANTITIES ARE BASED ON THE SIZES OF PAVEMENT MARKINGS SHOWN AND ARE FOR ESTIMATING PURPOSES ONLY.

⑥ (P) - PAINT VOLUMES ASSUME A 15 MIL [0.381] THICKNESS.
(E) - EPOXY VOLUMES ASSUME A 20 MIL [0.508] THICKNESS.

SPEED HUMP MARKINGS

AREA = 50.42 FT² [4.56 m²]
P = 0.47 GAL. [1.74 L]
E = 0.63 GAL. [2.32 L]
(1 SQUARE = 4" [100])



UNITS SHOWN IN BRACKETS [] ARE METRIC AND ARE IN MILLIMETERS (mm) UNLESS OTHER UNITS ARE SHOWN.

DETAILED DRAWING

REFERENCE STANDARD SPEC. SECTION 620	DWG. NO. 620-20

PAVEMENT MARKINGS (SYMBOLS)

--REVISED--	EFFECTIVE: FEBRUARY 2005
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