



ANOKA COUNTY TRANSPORTATION DIVISION

1440 BUNKER LAKE BLVD NW

ANDOVER, MN 55304

763-324-3176

highwaypermits@co.anoka.mn.us

RIGHT OF WAY X

COMMERCIAL ACCESS

APPLICATION FOR PERMIT FOR INSTALLATION OF UTILITIES OR PLACING OBSTRUCTIONS ON THE COUNTY HIGHWAY SYSTEM
ALL APPLICANTS MUST BE REGISTERED PRIOR TO PERMIT APPROVAL

APPLICANT NAME Landform

CONTACT PERSON Eric Luth

ADDRESS 105 South Fifth Ave, Suite 513

CITY Minneapolis

PHONE NUMBER 612-638-0261

EMAIL eluth@landform.net

COMPANY OR INDIVIDUAL PERFORMING WORK Northwest

CONTACT PERSON Tyler Enright

EMAIL tylere@northwest-totalsite.com

PERMIT WORK TO START 09/11/2023

PERMIT WORK TO BE COMPLETED 11/15/2024

DURATION OF JOB < 3 days

ARE YOU BEING ASKED TO RELOCATE DUE TO A COUNTY PROJECT? No

ANOKA COUNTY PROJECT NUMBER

WORK SITE ADDRESS Int. of 170th Ave NW & CoRd 7

CITY Andover

METHOD OF INSTALLATION/CONSTRUCTION Typical Construction Meathods

NATURE OF WORK extend 170th ave into new residential development. construct right turn lane (sawcut existing pavement and extend pavement east), restripe intersection for thru lane and left had turn lane. install ditch culvert

SURFACE TO BE DISTURBED

SITE PLAN

IF THE ROADWAY IS ENCROACHED, YOU MUST ATTACH A TRAFFIC CONTROL PLAN AND/OR REFERENCE THE MOST CURRENT VERSION OF THE MN TEMPORARY TRAFFIC CONTROL FIELD MANUAL (3+ DAYS REQUIRES PLANS TO BE SIGNED BY A LICENSED PE).

X DITCH/BLVD



Temp traffic control layouts 6-35

X GRAVEL



X BITUMINOUS

CONCRETE

NONE

IS SIGNING AND STRIPING REQUIRED? Yes

DEPTH FROM SURFACE N/A

(60" minimum under county roads)

SIZE AND KIND OF PIPE/CABLE N/A

NUMBER OF EXCAVATIONS 0

SIZE OF EXCAVATIONS NA

(Length, width, and depth)

LOCATION OF EXCAVATIONS

(Specific written descriptions of excavations - to be protected at all times and backfilled when unattended and/or overnight)

N/A

THIS PERMIT COVERS THE RIGHT OF WAY IN ANOKA COUNTY ONLY

ACTD reserves the right to make changes to these special conditions.



Anoka County

MINNESOTA

Respectful. Innovative. Fiscally Responsible

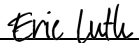
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GENERAL INFORMATION	
One permit must be approved for each county road on which work will be performed prior to any work within the right of way by any utility/contractor. Emergency conditions which threaten the safety of the public and require immediate repair are exceptions to this rule. Under those circumstances, the utility/contractor is permitted to begin and/or complete the necessary repairs. The Anoka County Transportation Division (ACTD) shall be notified of emergency repairs as soon as feasible and a written permit is to be completed within two business days of occurrence.	
A license-permit bond is generally required of the contractor as part of the registration process, the amount of which will be determined by the nature of the utility work.	
A sketch or drawing shall accompany each permit application which will show the location of the proposed work/utility with reference to the county highway center line and right of way line. A complete set of plans is required for all sewer/water projects.	
It shall be the responsibility of the applicant to determine which of the special conditions apply to each permit.	
ACTD reserves the right to revoke any utility permit and halt work, if, upon inspection of any job site, the special conditions are not met, and/or a hazard exists for the applicant or public safety is threatened. The failure to comply with the terms and conditions of any applicable Federal, State, Regional, and local laws, rules and regulations, including any provision of Anoka County's Right-of-Way Ordinance shall be cause for immediate revocation of a permit.	
The applicant shall notify ACTD immediately upon completion of project so that the ACTD can inspect the site to determine if restoration has been satisfactorily completed.	
The undersigned hereby accepts the terms and conditions of this permit and the regulations of Anoka County, and agrees to fully comply therewith to the satisfaction of the ACTD. The county of Anoka, its officials, employees, and agents, shall be held harmless, by the applicant/permittee, from any demands, claims, lawsuits, or damages relating to the work described in this permit.	
APPLICANT'S SIGNATURE	DATE
<div style="border: 1px solid black; padding: 2px;"> <small>DocuSigned by:</small>  <small>87AB7309A36349B...</small> </div>	8/31/2023
AUTHORIZATION OF PERMIT	
In consideration of the applicant's agreement to comply in all respects with the regulations of the ACTD covering such operations, permission is hereby granted for the work to be done as described in the above application. Said work to be done in accordance with the general conditions listed above and the special conditions required as hereby stated. It is expressly understood that this permit is conditioned upon replacement or restoration of the county highway and its right of way to their original or to a satisfactory condition. It is further understood that this permit is issued subject to the approval of local city or township authorities having joint supervision over said street or highway.	
APPROVED BY:	DATE
TITLE: Traffic Technician	

NOT VALID UNLESS SIGNED BY ANOKA COUNTY

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SPECIAL CONDITIONS

TRAFFIC CONTROL

- 1) Detours
 - a) Detailed detour layouts shall be submitted to the traffic engineer for approval.
 - b) No detours shall be permitted without prior approval of the Anoka county traffic engineer.
 - c) A ten day notice must be given prior to the installation of any detour.
 - d) It shall be the responsibility of the applicant to notify Anoka county central communications, local government bodies, and any affected bus companies ten days prior to any road closures/detours.
 - e) Immediately upon completion of work and/or detours, all posts, barricades, and signs shall be removed from the right of way.
- 2) Traffic control devices
 - a) All traffic control devices, barricades, flashers, etc., shall be furnished by the applicant and shall be in accordance with the most recent edition of the Minnesota manual on uniform traffic control devices and temporary traffic control zone layouts – field manual of the same manual.

CONSTRUCTION REQUIREMENTS

- 1) Open cutting of bituminous or concrete surfaced roads will be allowed only at the discretion of the county engineer.
- 2) Neither supplies nor excavation materials shall be placed on the bituminous or concrete surface at any time.
- 3) No trenches will be allowed to remain open overnight.
- 4) Materials removed from the trench shall be used as backfill insofar as they are suitable. All backfill material shall conform to MNDOT specifications for compaction. The use of heavy equipment on top of trench, slapping with backhoe bucket and/or back casting to achieve compaction is prohibited. Any additional material required to back fill to the original grade shall be furnished by the applicant at no expense to the ACTD. All the base and surface courses damaged during construction operations shall be restored to a condition equal to or better than before operations began. The applicant shall be responsible for and restore any settlement.
- 5) All culverts, ditches, shoulders, and backslopes shall be restored to their original condition unless otherwise directed by the ACTD. Shoulders which have been previously constructed or reconstructed with special materials shall be replaced in kind. Restoration of signs, guardrails, guard posts, etc., are the sole responsibility of the applicant and shall be restored to their original condition.
- 6) All roadway maintenance required within the limits of the utility project that is related to the applicant's activities shall be the sole responsibility of the applicant for one year after completion of the project. Upon completion of the restoration work, the applicant shall request a final inspection by the ACTD. The ACTD's approved completion date shall be the starting date of the applicant's one-year responsibility.

HORIZONTAL BORING AND JACKING

- 1) All hard surface roadways shall be jacked or bored.
- 2) All crossings of Anoka County maintained roadbeds, shall be made by boring inside a casing or carrier pipe, or by jacking unless otherwise directed by the Anoka County Engineer. The auger shall lead the casing or carrier pipe by at least six inches whenever possible and never lead the carrier pipe by more than one inch.
- 3) The use of pneumatic devices to facilitate the roadbed crossings will be allowed in most cases with prior approval. In the event approval is not granted and applicant uses a pneumatic device to cross a roadbed and encounters an obstruction and/or unstable subbase material which makes forward or reverse motion of pneumatic device impossible, said pneumatic device then becomes part of the roadway subbase and permission to excavate to retrieve device will not be granted.
- 4) If a pneumatic device is used for the work permitted herein, the installation must be kept to a minimum of four feet below the surface of the roadway if the pneumatic device is less than two inches in diameter, and a minimum of five feet below the surface of the roadway if the pneumatic device is two inches in diameter or larger.

BITUMINOUS RESTORATION

- 1) The locations and dimensions of all openings to be made in the bituminous surface shall be approved by the ACTD prior to any cutting or any surface opening operations.
- 2) All openings in bituminous surfaces shall be cut in a straight line with the sides smooth and vertical. No ragged edges will be permitted. Cutting shall be done with a concrete saw.
- 3) All necessary dust control operations shall be carried out by the applicant at no expense to Anoka County.
- 4) The minimum requirement for subgrade replacement shall be the upper twelve inches of material and shall meet MNDOT specifications for class five placed in six inch layers compacted to one hundred percent of optimum density.
- 5) All manhole casings, gate valves, and other utility structures shall be set one quarter inch below the top of the finished surface.
- 6) Bituminous tack coat materials and application thereof shall conform to MNDOT specification 2357.
- 7) All bituminous surfacing shall be replaced as soon as practicable after the base construction. All bituminous surfacing shall be machine laid. Any exceptions must be approved by the ACTD. Bituminous surfacing shall be replaced to original pavement depth or to a minimum of six inches of bituminous mixture (2360), whichever is greater. Bituminous mixtures must be placed in lifts not exceeding three inches in thickness for base and binder courses and not exceeding two inches for the wear course.
- 8) All surface restoration regardless of size shall conform to existing grades.
- 9) Any unnecessary or negligent damage to bituminous surface in conjunction with the installation and/or repair of a utility shall be cut out and replaced in kind as directed by the ACTD.

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CONCRETE RESTORATION

- 1) Curb and gutter, sidewalks, and driveways shall be restored in accordance with MNDOT specifications 2531 and 2521.

UTILITY LINES

- 1) There shall be only a single pole line on the county right of way on either side of the center line thereof.
- 2) Exact locations of longitudinal installations on county highways shall be located as directed by the ACTD.

SECTION CORNER MONUMENTS

- 1) Utility locations shall not interfere with the location of any section, quarter, witness, or right of way monuments. For assistance in locations, contact the Anoka County Surveyor's Office.
- 2) The applicant shall be responsible for replacement of any existing property irons disturbed during construction.
- 3) The applicant shall notify the Anoka County Surveyor's Office three working days in advance of any anticipated disturbance of any section, quarter, witness, or right of way monuments.
- 4) Any monument disturbed during the course of construction, shall be reset by the Anoka County Surveyor's Office at the expense of the applicant.

ATTACHING TO BRIDGES/STRUCTURES

- 1) No utility is permitted to be hung from, or otherwise attached to, any bridge or structure without having detailed plans approved by the Anoka County Engineer. These plans are to show approaches to the structure, method of installation, type, and dimension of housing for the utility.

ADDITIONAL PROVISIONS

- 1) All subcontractors, installers, and crew shall possess a copy of all documents in relation to the approved permit prior to the commencement of work and be kept on site. This includes, but it not limited to the following:
 - a) Approved permit
 - b) Any/all traffic control plans and/or layouts
- 2) Shall notify Andrea Schmid at 763-324-3128 or andrea.schmid@co.anoka.mn.us
 - a) At least 36 hours prior to the commencement of work
 - b) When there is any change to traffic control set up (ex: stage 1 to stage 2)
 - c) When work is complete - including restorations
- 3) No work during inclement weather or when plows are out in any capacity
- 4) All traffic control shall be in accordance with the most current version of the MnDOT Temporary Traffic Control Field Manual
- 5) Pits/excavations are to be protected at all times and then backfilled when unattended and/or overnight

INITIAL
^{DS}
El

DEVELOPER

JD ANDOVER HOLDINGS, LLC
16380 JUNIPER ST. NW
ANDOVER, MINNESOTA 55304
TEL: 612.252.1224

MUNICIPALITY



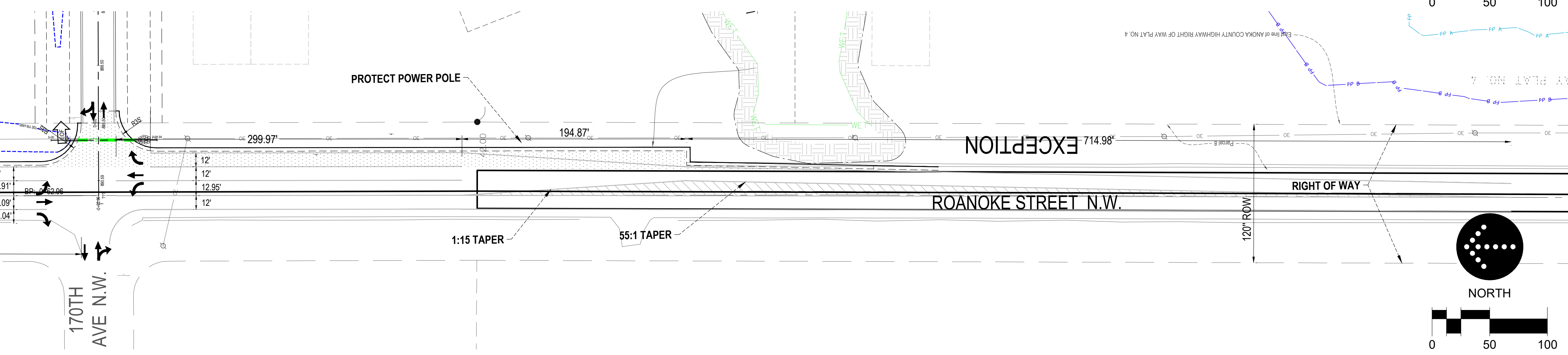
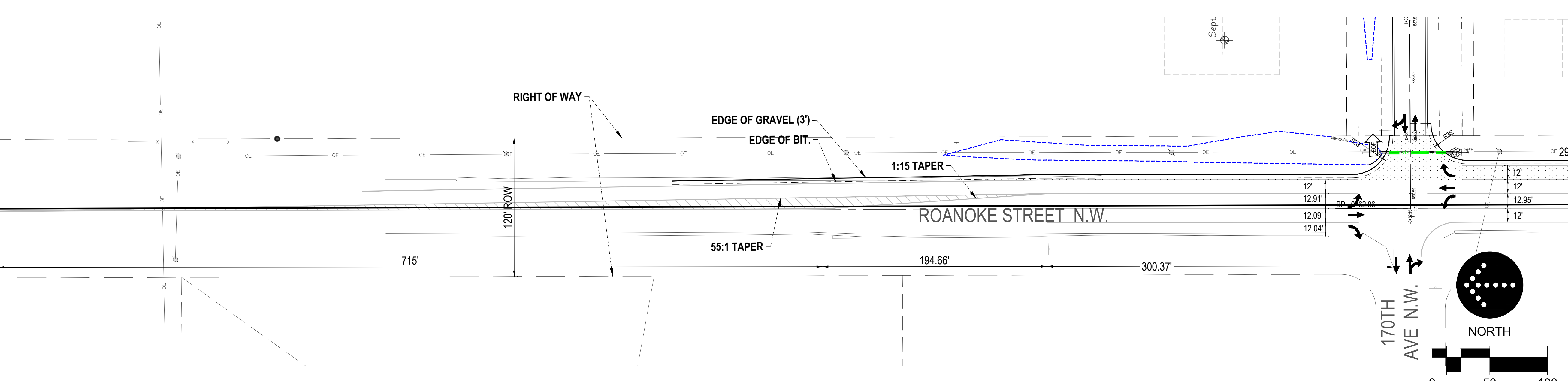
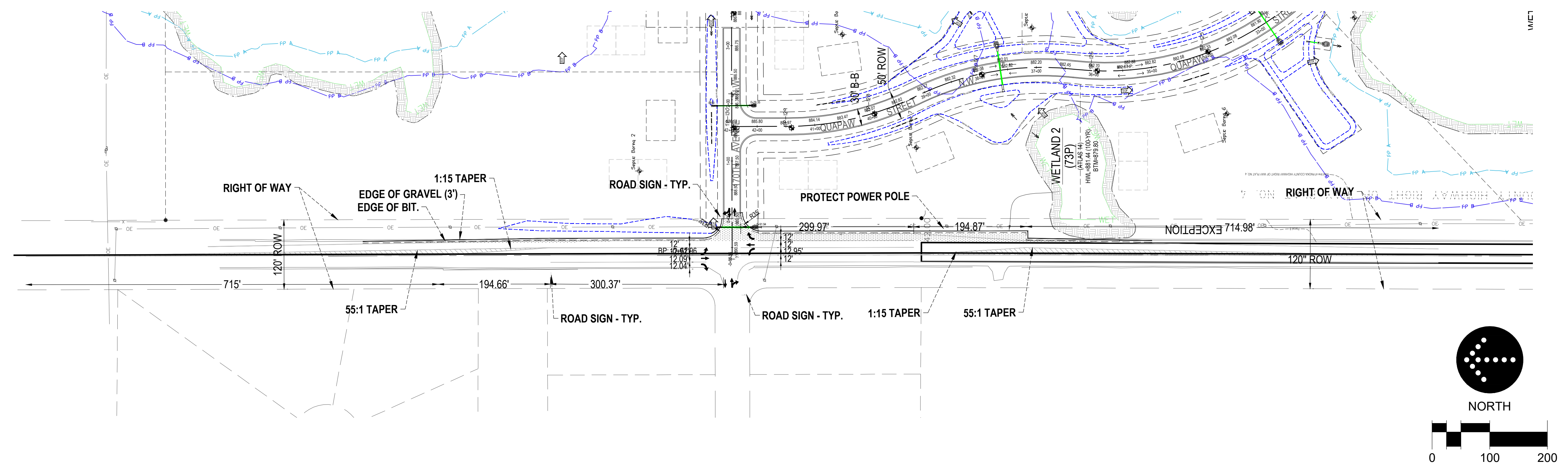
PROJECT



ANDOVER, MINNESOTA

ISSUE / REVISION HISTORY

DATE	ISSUE / REVISION	REVIEW
08/23/2023	PRELIMINARY PLAN SUBMITTAL	CNC
10/03/2022	PRELIMINARY PLAN RESUBMITTAL	CNC
04/19/2023	PRELIMINARY PLAN RESUBMITTAL	CNC
07/07/2023	PRELIMINARY PLAN RESUBMITTAL	CNC
07/12/2023	C3 & C3 S UPDATE	ETL
08/23/2023	FINAL SITE IMPROVEMENT PLANS	ETL



CERTIFICATION

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the state of MINNESOTA.

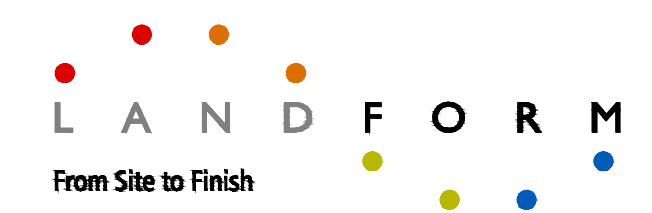
Eric T. Luth

Eric T. Luth, PE
License No: 50475 Date: 08/23/2023

Signature shown is a digital reproduction of original. Wet signed copy of this plan on file at Landform Professional Services, LLC office and is available upon request.

IF THE SIGNATURE, SEAL OR FOUR LINES DIRECTLY ABOVE ARE NOT VISIBLE, THIS SHEET HAS BEEN REPRODUCED BEYOND INTENDED READABILITY AND IS NO LONGER A VALID DOCUMENT. PLEASE CONTACT THE ENGINEER TO REQUEST ADDITIONAL DOCUMENTS.

FINAL SITE IMPROVEMENT PLANS
08/23/2023



105 South Fifth Avenue Tel: 612-252-9070
Suite 513 Fax: 612-252-9077
Minneapolis, MN 55401 Web: landform.net

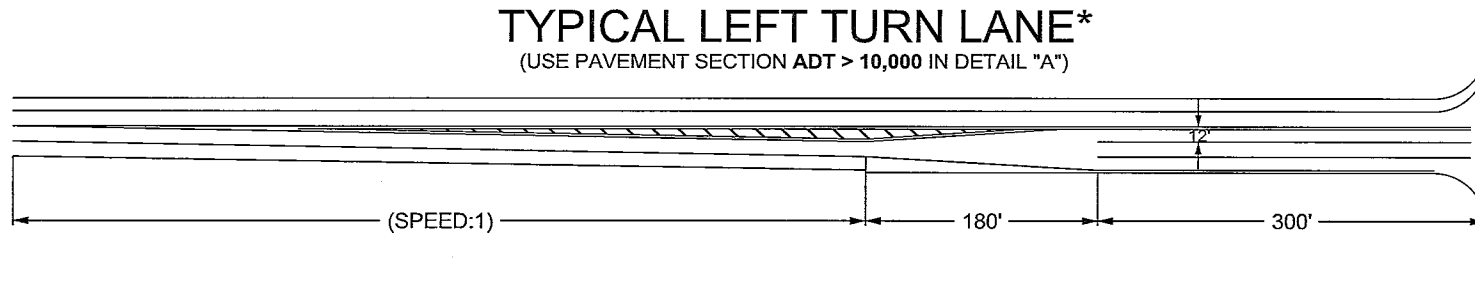
FILE NAME C604LDP002-003.dwg
PROJECT NO. LDP17002.003

STREET PROFILES
7TH AVE. N.W. LANE WIDENING
C6.8

ANOKA COUNTY HIGHWAY DEPARTMENT

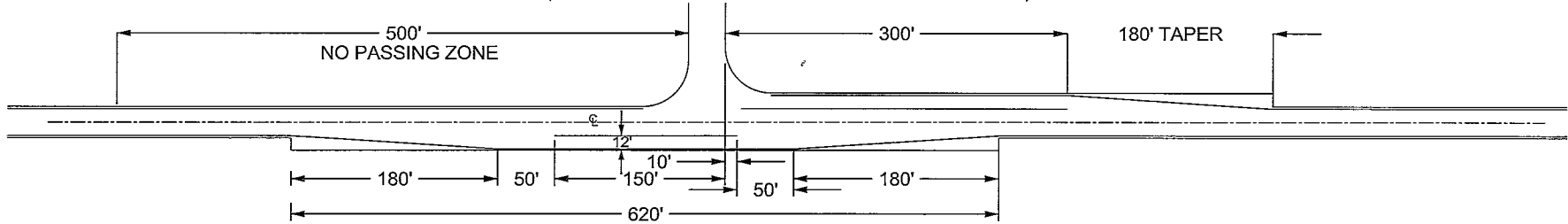
TYPICAL LEFT TURN LANE*

(USE PAVEMENT SECTION ADT > 10,000 IN DETAIL "A")

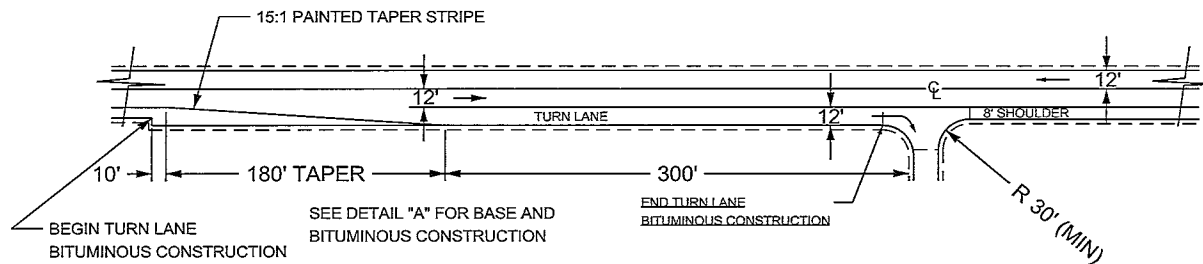


TYPICAL BY-PASS*

(USE PAVEMENT SECTION ADT > 10,000 IN DETAIL "A")



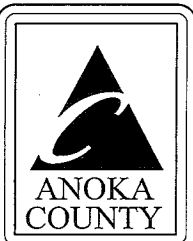
TYPICAL RIGHT TURN LANE



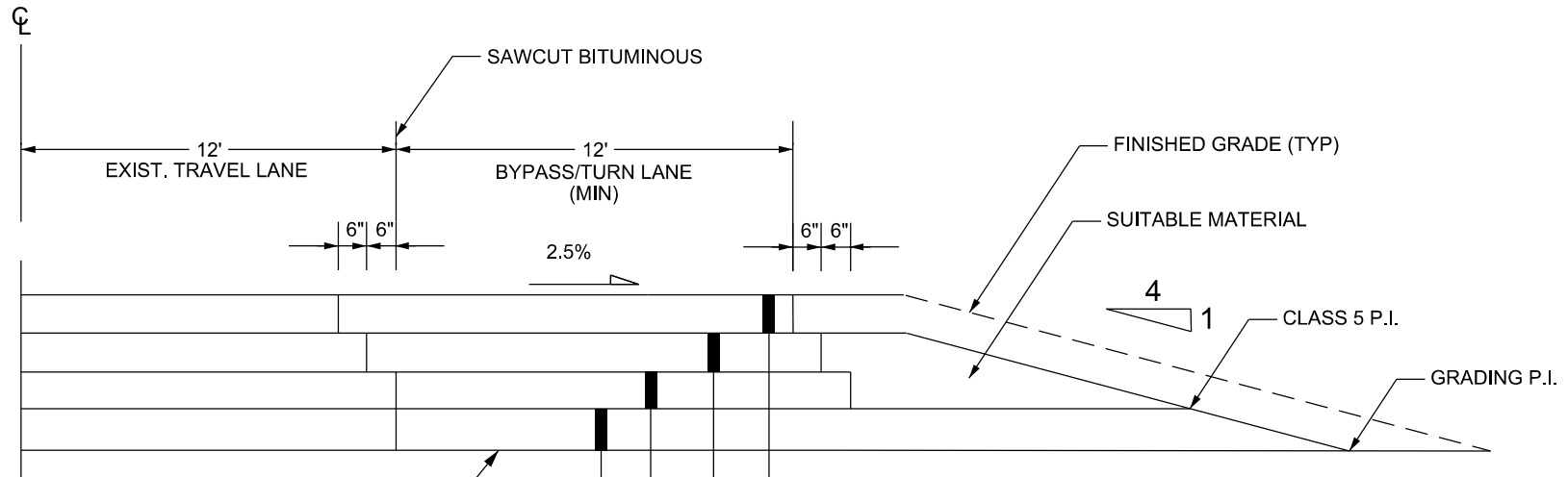
ALL DISTURBED SOIL MUST BE SEEDED, MULCHED, AND DISK ANCHORED IN ACCORDANCE WITH MN/DOT STANDARD SPECIFICATIONS. RAPID-DEGRADABLE STRAW BLANKET SHALL BE USED IN AREAS OF HIGH EROSION.

Turn/Bypass Lane Addition On Existing Highway

EXHIBIT 1
July 2014



ANOKA COUNTY HIGHWAY DEPARTMENT



GRADING GRADE (TYP)

ADT ≤ 5,000	5,000 < ADT ≤ 10,000	ADT > 10,000
2.0" SPWEB340C	1.5" SPWEB340E	2.0" SPWEB340F
2.0" SPWEB340C	1.5" SPWEB340E	2.0" SPWEB340F
N/A	2.0" SPNW330B	2.0" SPNW330B
6.0" CLASS 5	6.0" CLASS 5	6.0" CLASS 5

MIX DESIGN
(2360 SPEC)

ALL DISTURBED SOIL MUST BE SEEDED, MULCHED, AND DISK ANCHORED IN ACCORDANCE WITH MN/DOT STANDARD SPECIFICATIONS. RAPID-DEGRADABLE STRAW BLANKET SHALL BE USED IN AREAS OF HIGH EROSION.



Base and Bituminous Construction Detail

DETAIL A
September 2019

Two-Lane, Two-Way Roads

**A road consisting of two opposing
lanes of undivided traffic.**

Two-Lane
Two-Way

**Drawings Not To Scale*



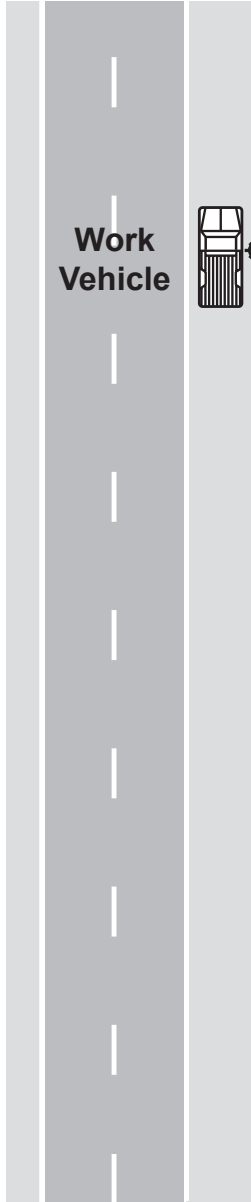
TWO-LANE, TWO-WAY ROADS				
Intermediate Volume Up to 1500 ADT	MOBILE 15 Minutes or Less	SHORT DURATION 1 Hour or Less	SHORT TERM 12 Hours or Less	INTERMEDIATE TERM 3 Days or Less
Lane Closure	11			
Flagger Control	26*		15*	
STOP Sign Control	14			
Work in Center of Road	27*			
All ADTs	MOBILE 15 Minutes or Less	SHORT DURATION 1 Hour or Less	SHORT TERM 12 Hours or Less	INTERMEDIATE TERM 3 Days or Less
Work Vehicle Parked on Shoulder	6		8	
Work on Shoulder	9		8	
Work off Shoulder	8			
Work off Roadway	10			
Shoulder or Parking Lane Closure	8			
Partial Shoulder Closure for Trailer Mounted Devices	7			
Lane Closure	12, 13*			
2 Flagger Control	16*			
Moving Work Spaces	17*			
Near Intersection	20*, 21*			
Near Railroad Xing	22*			
Pilot Car Operation	18*			
Flagging Crossroads and Blind Curves	19*			
Automated Flagger Assistance Device (AFAD)	24*			
Portable Signal Control	25			
Flagging Station Enhancements	23			
Work in Center of Road	28*			
Lane Shift	29			
Turn Lane Closures	33, 34			
Temporary Road Closure (15 minute intervals)	31*			
Temporary Road Closure	32			
Sidewalk Closure	88, 89			
Bike Lane Closure	87			
Gravel Road Maintenance	30			
Crossroad and Confirmation Signing	35			

See Low Volume Roads section for ADTs less than 400.

* This layout may be used for nighttime operations only if the flagging stations are occupied and illuminated with portable lights.

NOTES:

1. The Work Vehicle should be pulled over as far off the roadway as possible, and shall display and operate a 360-degree flashing beacon.



WORK VEHICLE PARKED ON SHOULDER

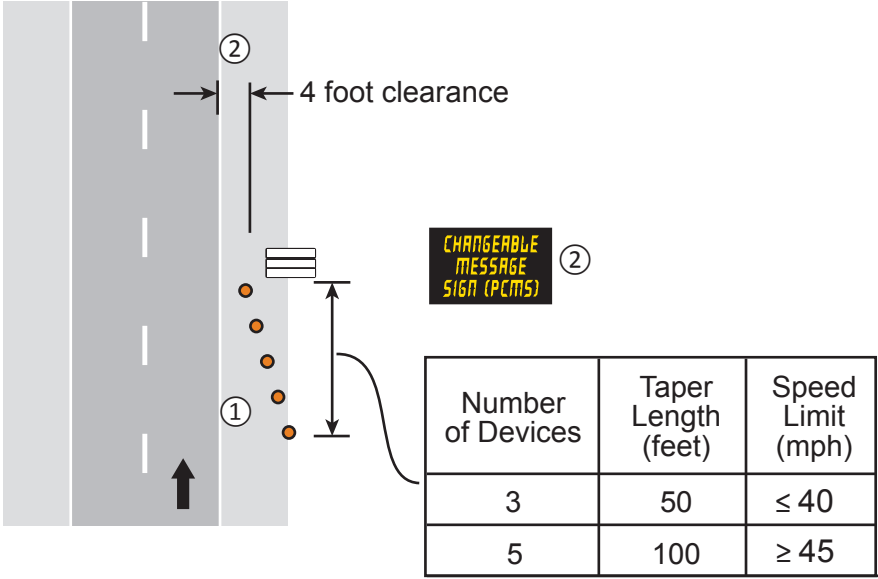
1 HOUR or LESS

6K-6

LAYOUT 6

NOTES:

- ① Type B channelizing devices shall be used in the shoulder taper regardless of the location on the shoulder or the width of the shoulder.
- ② Trailer mounted traffic control devices should be placed at least 4 feet from the traveled lane. If a 4 foot clearance cannot be met, then the taper length shall be doubled.



PARTIAL SHOULDER CLOSURE
 Trailer Mounted Devices on Shoulder

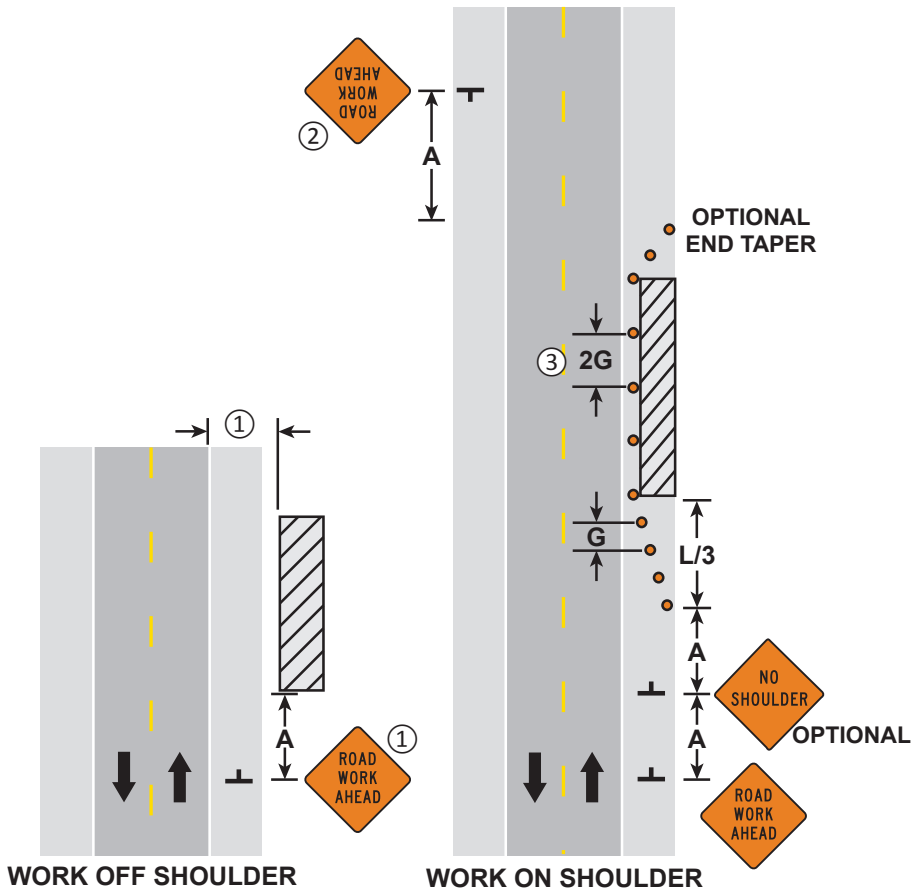
3 DAYS or LESS

6K-7

LAYOUT 7

NOTES:

- ① The ROAD WORK AHEAD sign may be omitted for short term daylight operations if a vehicle is displaying and operating a 360-degree flashing beacon and:
 - a. The distance from curb face to the work space is at least 2 feet, or
 - b. The distance from the edge of the roadway to the work space is at least 15 feet.
- ② This ROAD WORK AHEAD sign shall be installed on two-lane, two-way roads if traffic control devices are installed for a work space in the opposite shoulder.
- ③ If this layout is used to close a parking lane that is normally open to vehicle travel during the time of day the closure will be in effect, the lane shall be considered a traveled lane and not a parking lane. Layout 42 shall be used to provide traffic control for the lane closure.
4. If this layout is used to close a parking lane, channelizer spacing may be reduced from 2G to G in high volume areas.



SHOULDER AND PARKING LANE CLOSURE

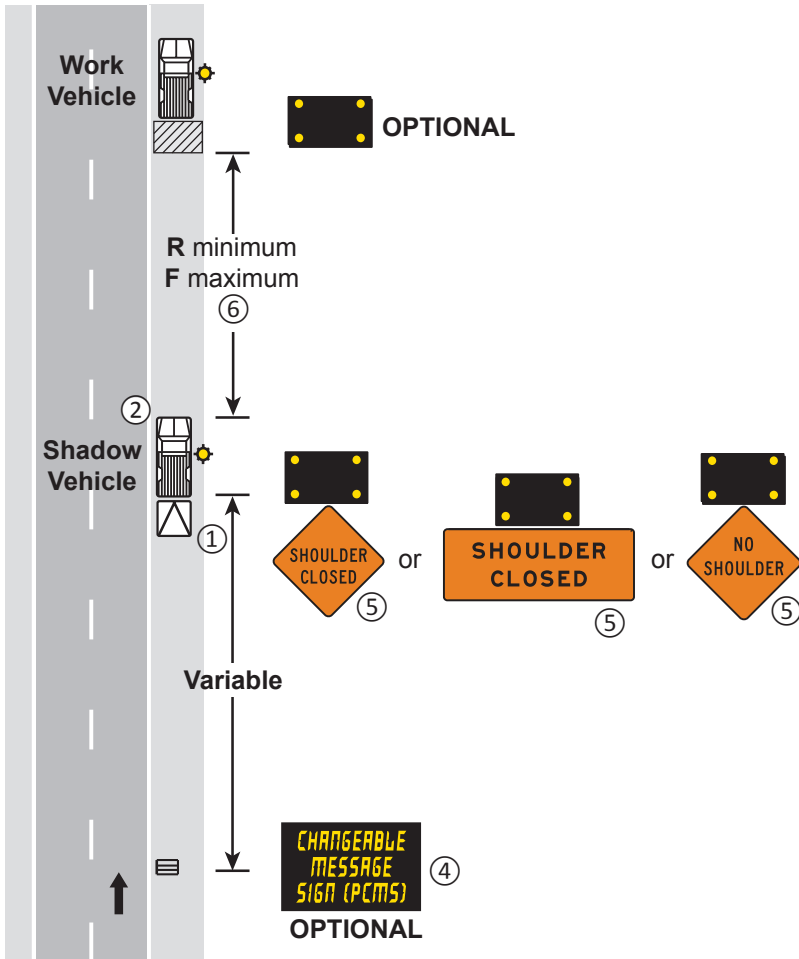
Work On or Near Shoulder

3 DAYS or LESS

LAYOUT 8

NOTES:

- ① Any Shadow Vehicle or Protection Vehicle operating totally or partially in a traffic lane should be equipped with a TMA.
- ② The Shadow Vehicle or Protection Vehicle may encroach into the traffic lane when the shoulder is too narrow to drive on.
- 3. Any vehicle not displaying a Flashing Arrow Board shall display high-intensity rotating, flashing, oscillating, or strobe lights.
- ④ The PCMS shall be used for nighttime operations.
- ⑤ When the PCMS is used, the SHOULDER CLOSED or NO SHOULDER sign becomes optional.
- ⑥ The distance between the work area and the Shadow Vehicle should be adjusted between **R** and **F** based on traffic volume and sight distance.



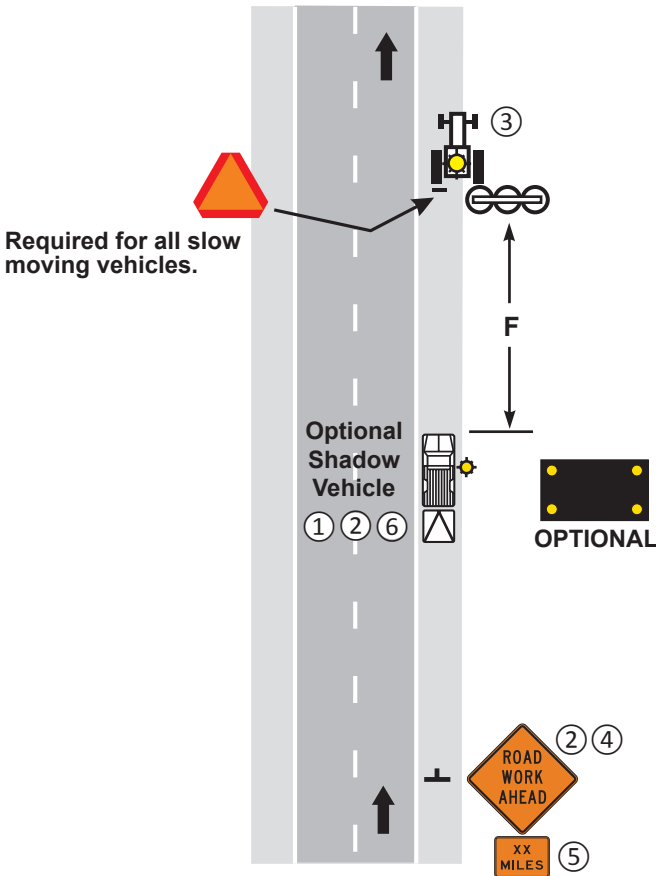
SHOULDER CLOSURE
Mobile and Short Duration

1 HOUR or LESS

LAYOUT 9

NOTES:

- ① A Shadow Vehicle should be used on roadways where Decision Sight Distance (**D**) is frequently restricted and the equipment consistently encroaches within 3 feet of the traffic lane. The Shadow Vehicle may be omitted on roadways with speeds limits of 40 mph or less.
- ② On roadways of less than 400 ADT the Shadow Vehicle and ROAD WORK AHEAD sign may be omitted.
- ③ The vehicle should be as far off the roadway as possible, and shall display and operate a 360-degree flashing beacon.
- ④ The ROAD WORK AHEAD sign may be omitted when there is an adequate approach Decision Sight Distance (**D**) to the equipment along the majority of the route.
- ⑤ When advance warning signs are used, the signs should be no more than 3 miles from the equipment. The location of the signs should be determined by the sources of traffic, such as major cross roads. If the distance is 1 mile or greater, a XX MILES distance plaque should be used and placed directly below or on the lower side of the warning sign nearest traffic.
- ⑥ The Shadow Vehicle should be equipped with a TMA if it encroaches into the traffic lane.



WORK OFF ROADWAY

Mobile Operations Having Little or No Interference with Traffic

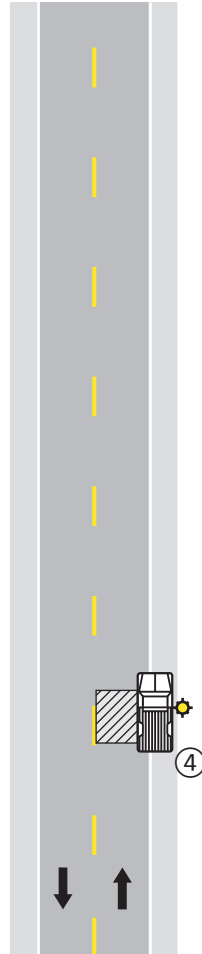
15 MINUTES or LESS

LAYOUT 10

NOTES:

1. If the approach sight distance is restricted, a spotter should be used.
2. If the visibility is poor or the operation does not move at least the Decision Sight Distance (**D**) every 15 minutes, the appropriate stationary layout should be used.
3. This layout may be used for nighttime operations only in locations where the posted speed limit is 40 mph or less.
- ④ The slow moving or stopped Work Vehicle should keep the traffic lane as wide as possible by using the shoulder space whenever possible.

**ONLY FOR ROADS
LESS THAN
1500 ADT**



**LANE CLOSURE
TWO-LANE, TWO-WAY ROAD**

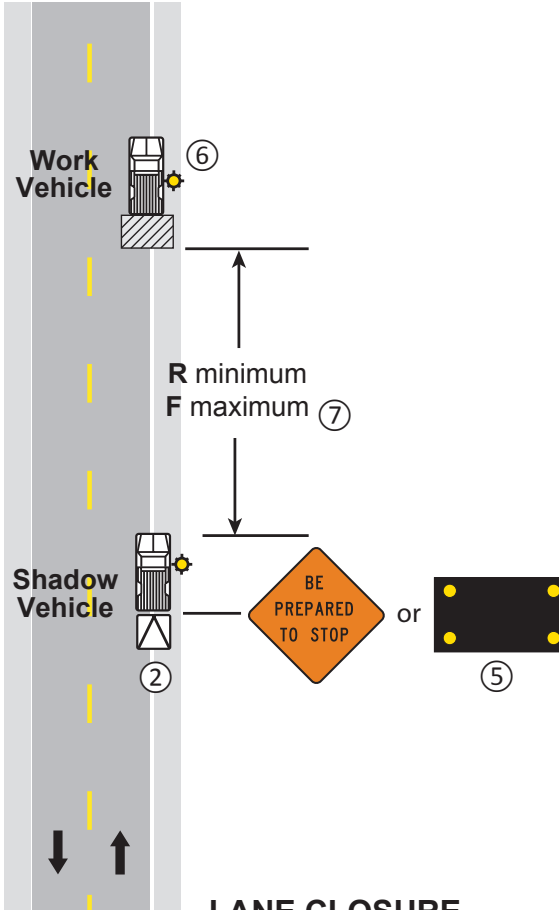
15 MINUTES or LESS

6K-11

LAYOUT 11

NOTES:

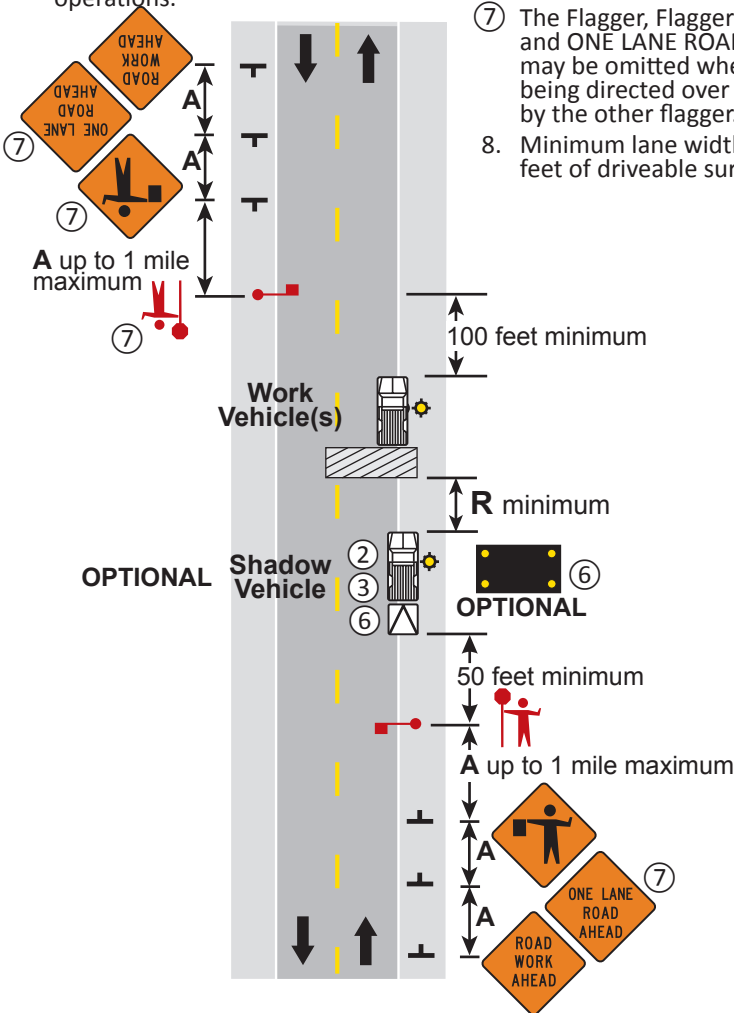
1. Use [Layout 13](#) under any of the following conditions:
 - If the work space is not visible for at least the Decision Sight Distance (**D**),
 - The motorists cannot see beyond the work space, or
 - Traffic volumes do not allow passage.
- ② Any Shadow Vehicle or Protection Vehicle operating totally or partially in a traffic lane should be equipped with a TMA.
3. If the work space does not move at least the Decision Sight Distance (**D**) every 15 minutes, the appropriate stationary layout should be used.
4. This layout may be used for nighttime operations only in locations where the posted speed limit is 40 mph or less.
- ⑤ For nighttime operations, the Flashing Arrow Board shall be used.
- ⑥ The slow moving or stopped Work Vehicle and Shadow Vehicle should keep the traffic lane as wide as possible by using the shoulder space whenever practical.
- ⑦ The distance between the work area and the Shadow Vehicle should be adjusted between **R** and **F** based on traffic volume and sight distance.



LANE CLOSURE
 With Random Work Areas
 TWO-LANE, TWO-WAY ROAD

NOTES:

1. The advance warning signs should be moved or reset after each major road intersection or after each mile whichever comes first.
- ② Any Shadow Vehicle or Protection Vehicle operating totally or partially in a traffic lane should be equipped with a TMA.
- ③ The slow moving or stopped Work Vehicle(s) and Shadow Vehicle should keep the traffic lane as wide as possible by using the shoulder space whenever practical.
4. If the work area does not move at least the Decision Sight Distance (**D**) every 15 minutes, the appropriate stationary layout should be used.
5. This layout may be used for nighttime operations only in locations where the posted speed limit is 40 mph or less.
- ⑥ The Shadow Vehicle with Flashing Arrow Board shall be used during nighttime operations.



- ⑦ The Flagger, Flagger Ahead sign, and ONE LANE ROAD AHEAD sign may be omitted when traffic is not being directed over the center line by the other flagger.
8. Minimum lane widths shall be 10 feet of driveable surface.

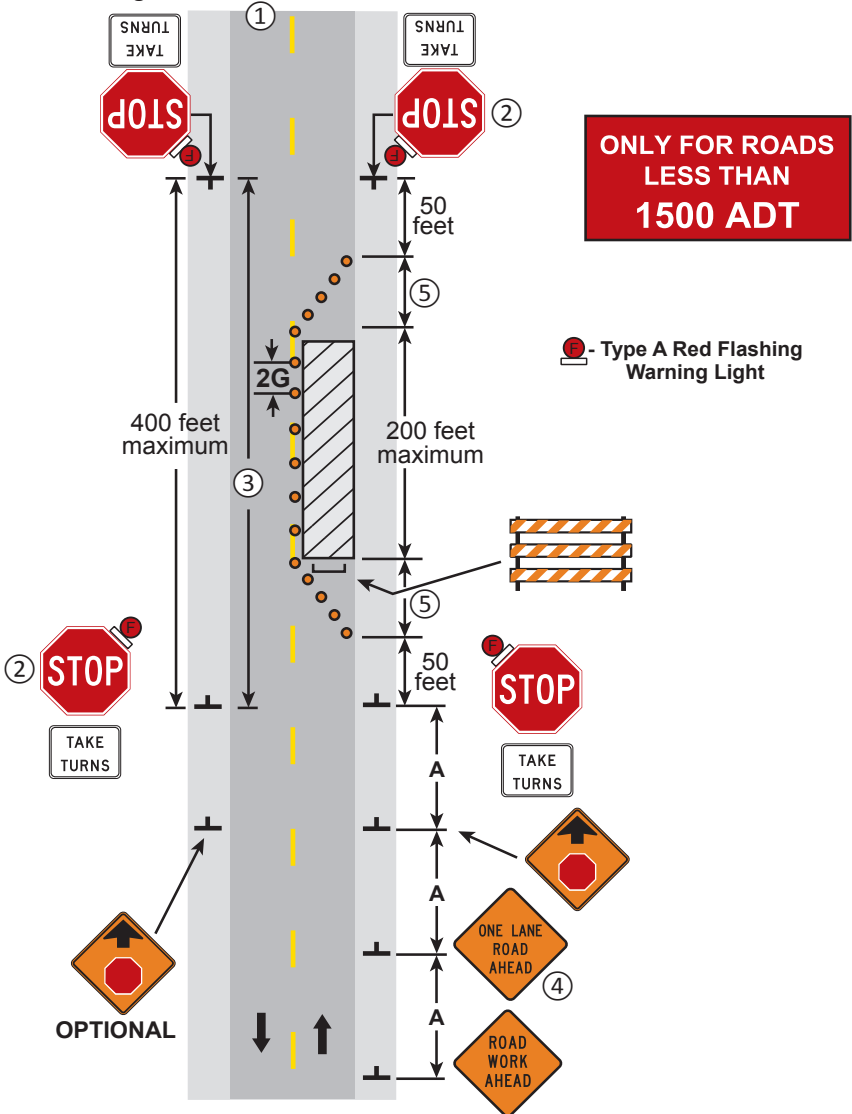
LANE CLOSURE
With a Moving Work Area
TWO-LANE, TWO-WAY ROAD

15 MINUTES or LESS

LAYOUT 13

NOTES:

- ① Approach signs are the same in both directions.
- ② STOP signs shall be 48 x 48 inches. The left-side STOP sign may be 30 x 30 inches.
- ③ If adequate sight distance is not available to recognize a stopped vehicle or traffic volume restricts vehicles from taking turns through the open lane, use Layout 16 or 25.
- ④ The ONE LANE ROAD AHEAD sign may be omitted when the posted speed limit is 40 mph or less.
- ⑤ The two-way taper should be 50 feet in length using 5 equally spaced channelizing devices.



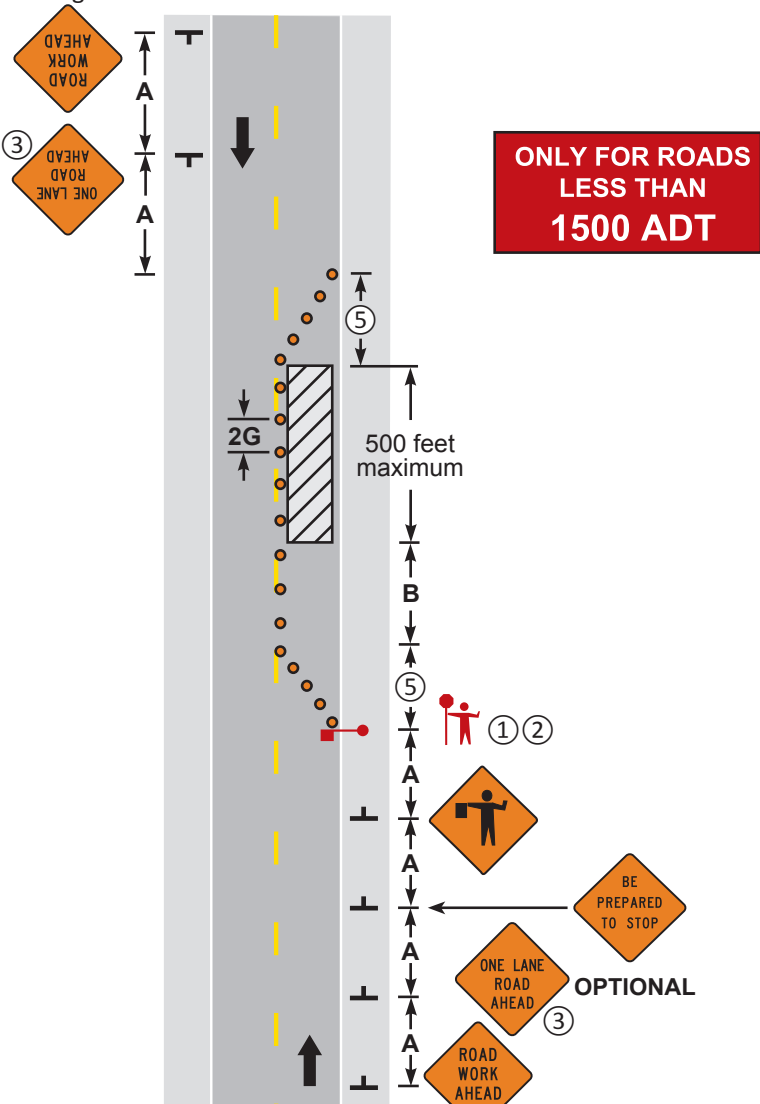
**LANE CLOSURE WITH STOP SIGNS
TWO-LANE, TWO-WAY ROAD**

3 DAYS or LESS

LAYOUT 14

NOTES:

- ① The approach sight distance to the flagger shall be at least the Decision Sight Distance (**D**).
- ② If the flagger's ability to see oncoming motorists beyond the work space is less than the Decision Sight Distance (**D**), two flaggers shall be used - See [Layout 16](#).
- ③ The ONE LANE ROAD AHEAD sign may be omitted when the posted speed limit is 40 mph or less.
- 4. If the work space must be left unattended at night use [Layout 14](#).
- ⑤ The two-way taper should be 50 feet in length and using 5 equally spaced channelizing devices.



**LANE CLOSURE, ONE FLAGGER
TWO-LANE, TWO-WAY ROAD**

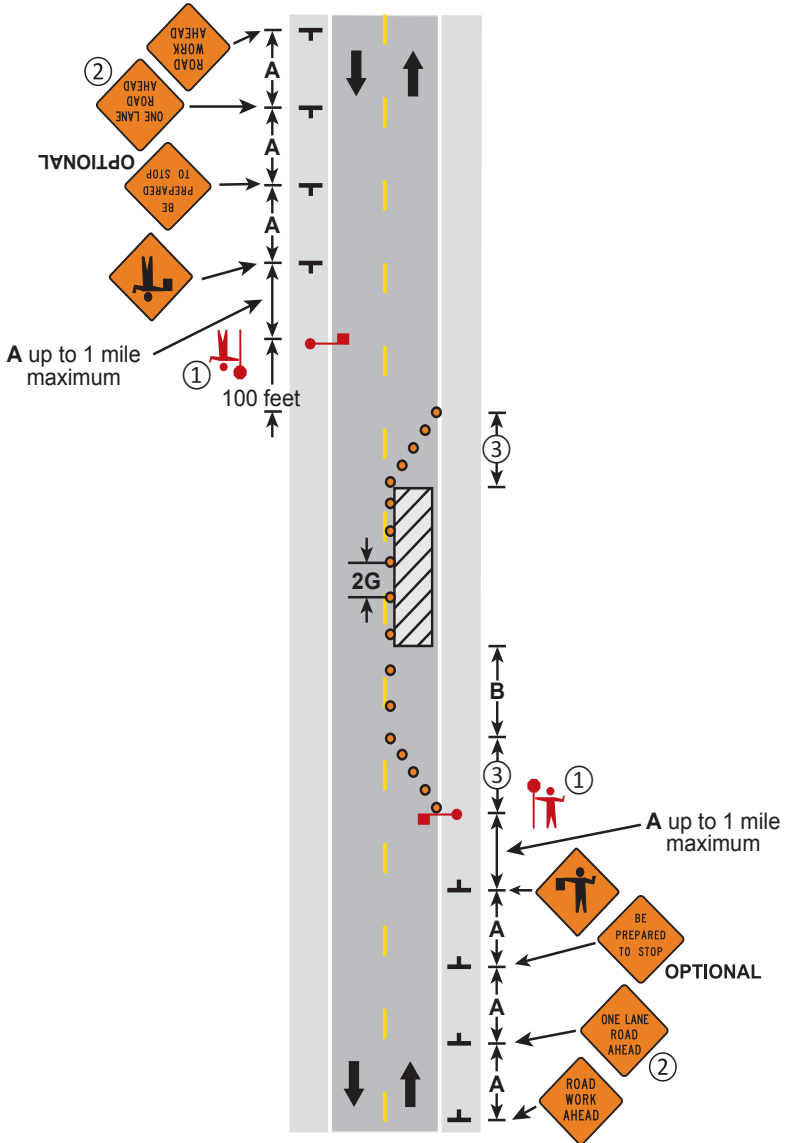
3 DAYS or LESS

6K-15

LAYOUT 15

NOTES:

- ① The approach sight distance to the flagger shall be at least the Decision Sight Distance (**D**).
- ② The ONE LANE ROAD AHEAD sign may be omitted when the posted speed limit is 40 mph or less.
- ③ The two-way taper should be 50 feet in length using 5 equally spaced channelizing devices.
4. If anticipating operational problems, the use of a Pilot Car (see [Layout 18](#)) may improve operations and safety.



**LANE CLOSURE, TWO FLAGGERS
 TWO-LANE, TWO-WAY ROAD**

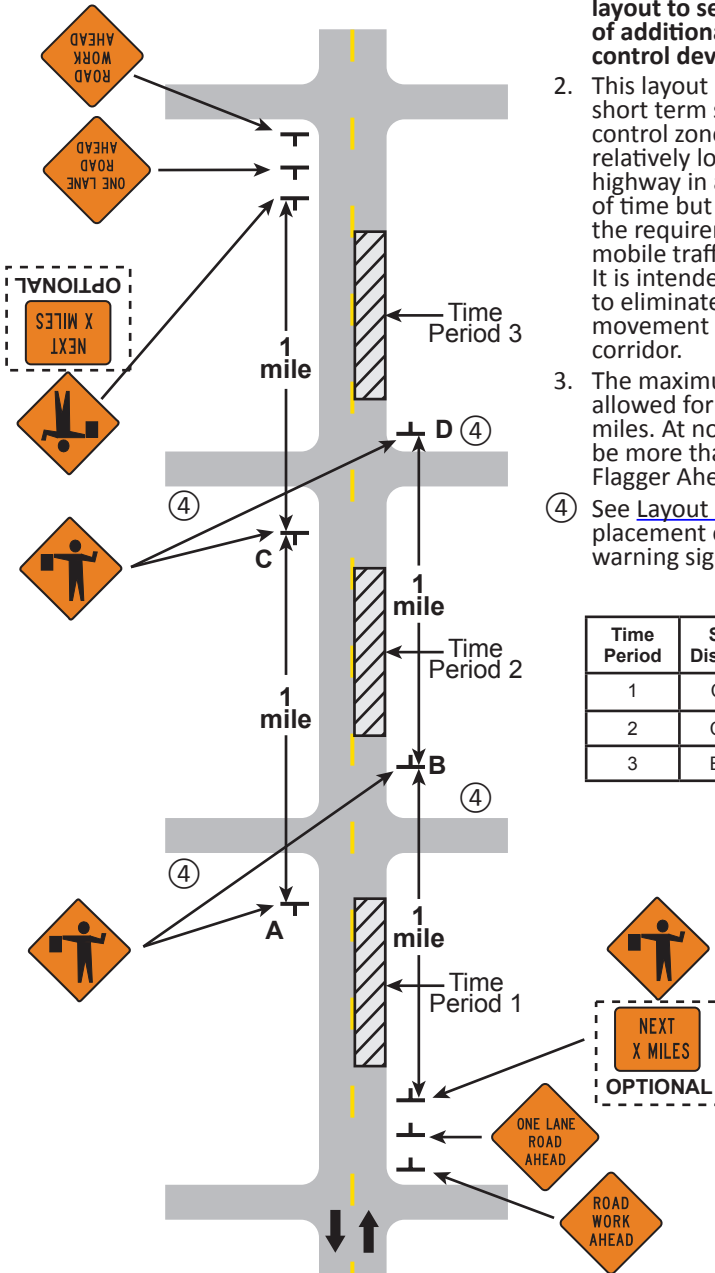
3 DAYS or LESS

6K-16

LAYOUT 16

NOTES:

1. This layout shall be used with the appropriate flagger layout to select the location of additional required traffic control devices.
2. This layout may be used for short term stationary traffic control zones that cover a relatively long segment of highway in a short period of time but do not meet the requirements for a mobile traffic control zone. It is intended to be used to eliminate the multiple movement of signs along a corridor.
3. The maximum distance allowed for this layout is 3 miles. At no time will there be more than 1 mile between Flagger Ahead signs.
- ④ See [Layout 35](#) for required placement of advance warning signs on crossroads.



Time Period	Signs Displayed	Signs Not Displayed
1	C & A	B & D
2	C & B	A & D
3	B & D	A & C

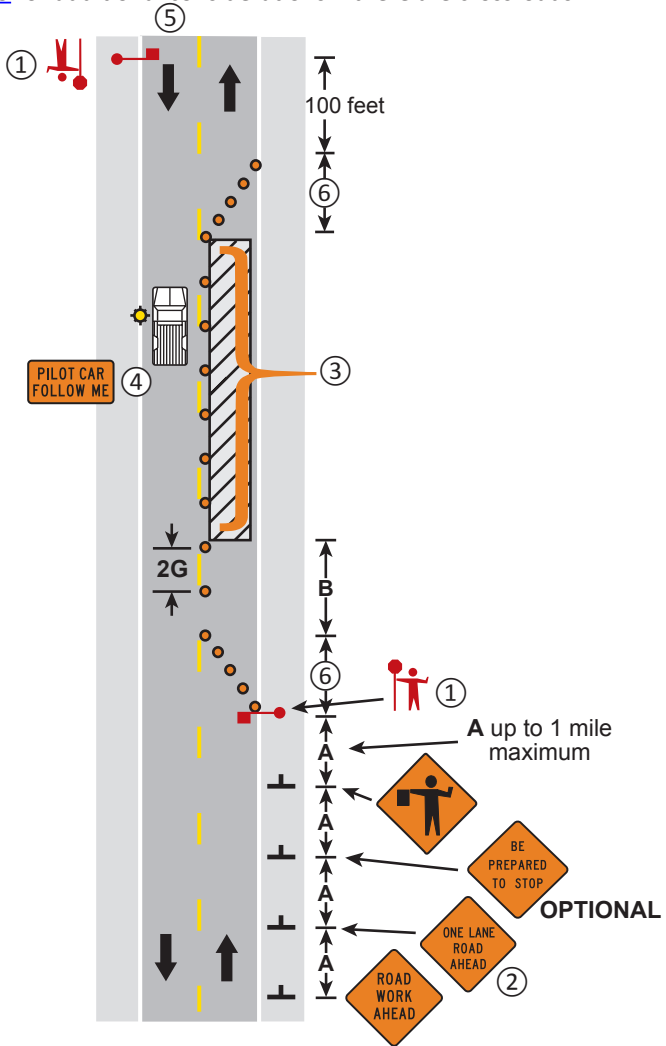
MOVING WORK SPACES

12 HOURS or LESS

LAYOUT 17

NOTES:

- ① The approach sight distance to the flagger shall be at least the Decision Sight Distance (**D**).
 - ② The ONE LANE ROAD AHEAD sign may be omitted when the posted speed limit is 40 mph or less.
 - ③ Channelizing devices along the edge of the work space may be omitted unless traffic is traveling next to longitudinal drop-offs that are greater than 4 inches.
 - ④ Pilot Cars should lead traffic through the work zone at a safe speed. See the Flagging Handbook for additional guidance.
 - ⑤ Advance warning signs are the same for both directions approaching the work area.
 - ⑥ The two-way taper should be 50 feet in length using 5 equally spaced channelizing devices.
7. See [Layout 19](#) for additional considerations if there are crossroads.



**LANE CLOSURE, PILOT CAR METHOD
TWO-LANE, TWO-WAY ROAD**

3 DAYS or LESS

6K-18

LAYOUT 18

NOTES:

- ① See [Layout 16](#) for advance signing and flagger setup. Approach signs are the same in both directions.
- ② When a flagger is positioned at an intersection, they:
 - Shall have 2-way communications with the Pilot Car,
 - Should use hand signals with a flag or flashlight with red glow cone to control traffic movements rather than the typical STOP/SLOW paddle in order to avoid displaying the SLOW paddle to the opposite approach, and
 - May need additional flaggers to direct traffic when the crossroad consistently has multiple vehicles per direction waiting each Pilot Car cycle.
- ③ A flagger may be placed at a blind curve, crest of a hill, or other site obstruction where traffic might enter from other driveways or entrances to warn the Pilot Car that there may be oncoming traffic. When used, the flagger:
 - Shall be located to clearly see traffic from both directions,
 - Shall not be positioned in the open traffic lane,
 - Shall have 2-way communications with the Pilot Car,
 - Shall have a flagger paddle; and
 - Should have a means to warn an errant driver such as an air horn.
4. Consider distributing brochures to local businesses and residents detailing Pilot Car operations.
- ⑤ PILOT CAR FOLLOW ME sign shall be mounted on the Pilot Car.
- ⑥ Channelizers shall be placed near intersections and flagging stations.
- ⑦ [Layout 18](#) indicates which channelizers are optional with Pilot Car operations.

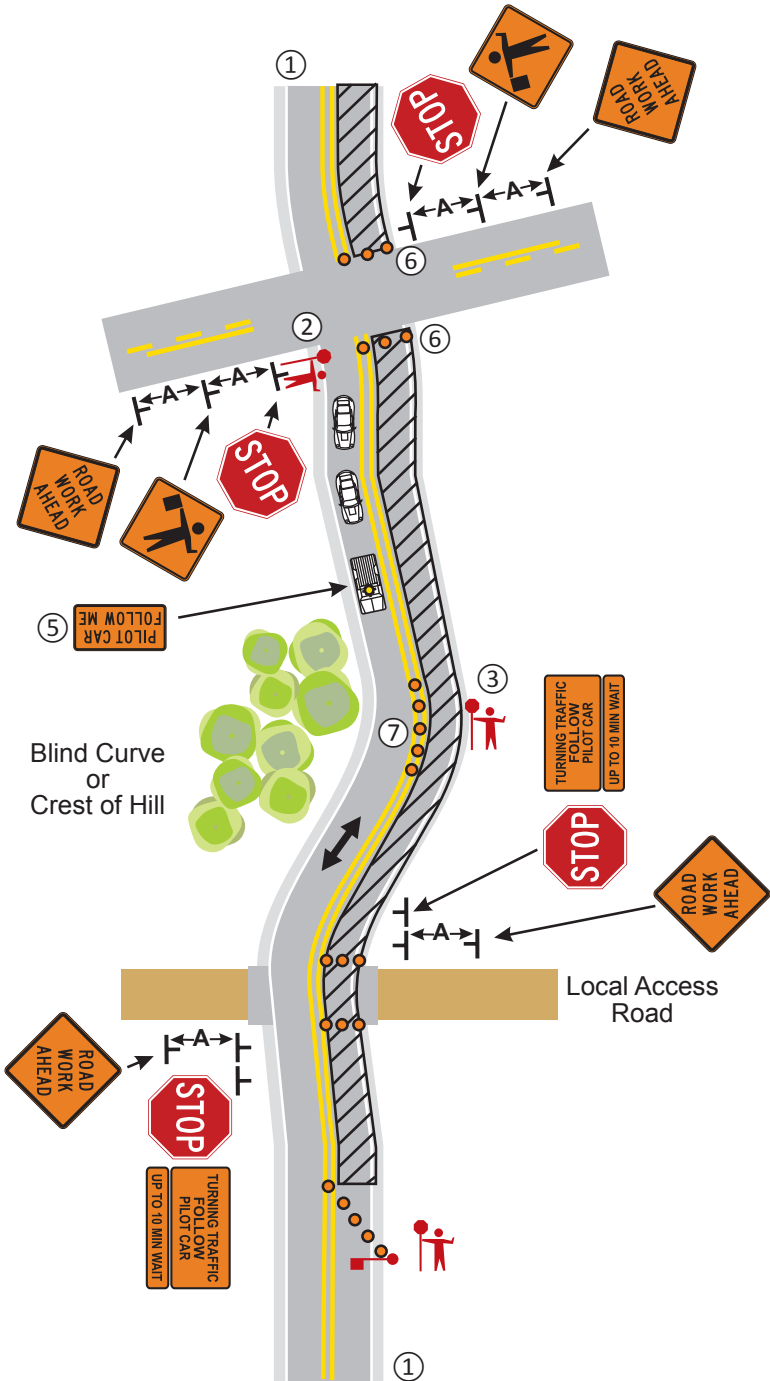
**FLAGGING CROSSROADS AND BLIND CURVES
PILOT CAR OPERATIONS**

3 DAYS or LESS

LAYOUT 19a

LAYOUT 19a & b

6K-19a



FLAGGING CROSSROADS AND BLIND CURVES PILOT CAR OPERATIONS

3 DAYS or LESS

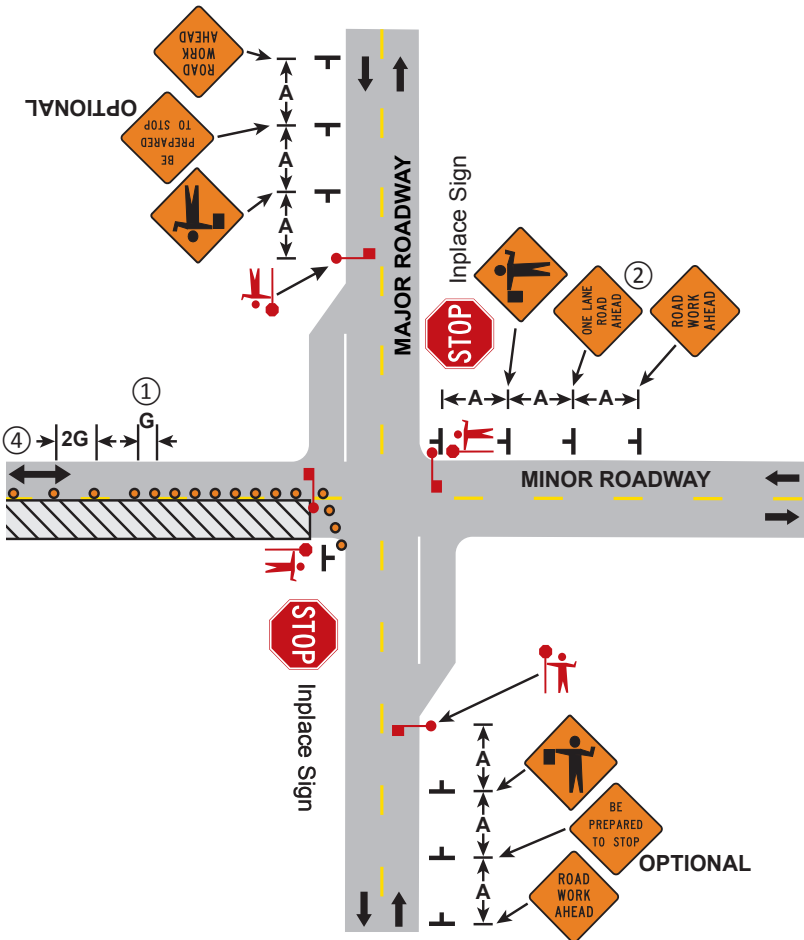
LAYOUT 19b

LAYOUT 19a & b

6K-19b

NOTES:

- ① The spacing between devices should be reduced to **G** or less when the work space is within 300 feet of the intersection. This will help keep motorists from entering into the work space near the intersection.
- ② The ONE LANE ROAD AHEAD sign may be omitted when the posted speed limit is 40 mph or less.
3. When the traffic volume of the minor roadway exceeds 1500 ADT or turning movements cause unsafe operations, the following steps should be considered:
 - a. Control traffic at the intersection with a law enforcement officer;
 - b. Restrict vehicle turns from the major roadway with flagging, signing, and/or closing the turn lanes;
 - c. Completely close a leg of the minor roadway until the work space has left the area near the intersection.
- ④ For other temporary traffic control devices in advance of the work space, see Layouts 4, 15, or 16.



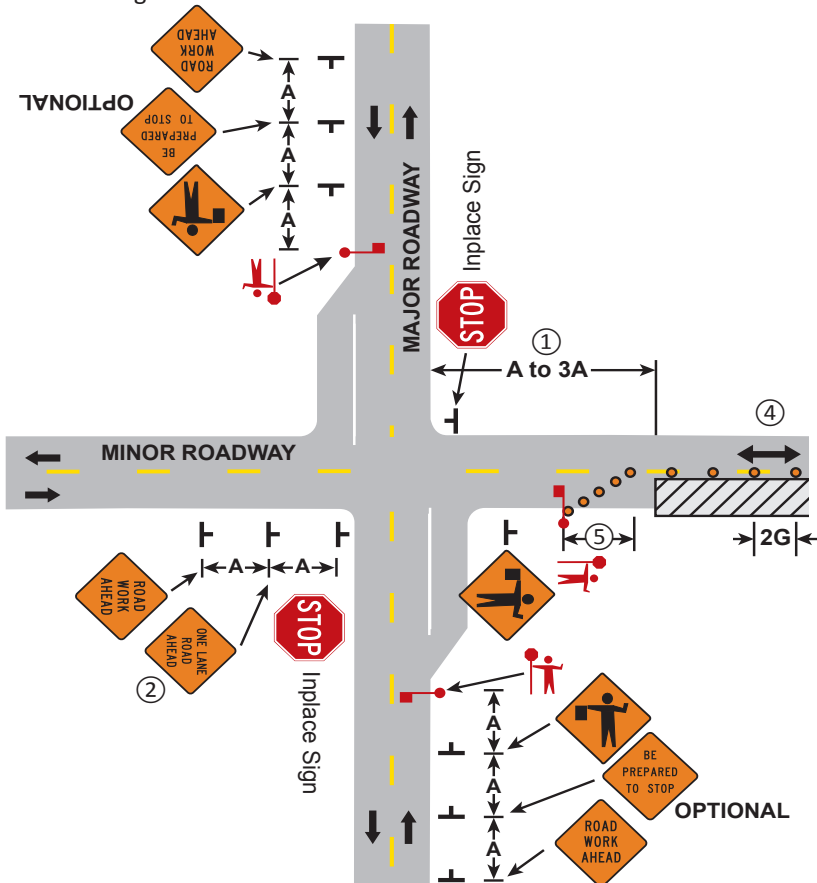
LANE CLOSURE ON MINOR ROAD
 Before Intersection of Major Road
 TWO-LANE, TWO-WAY ROAD

3 DAYS or LESS

LAYOUT 20

NOTES:

- ① When the work space is located between **A** and **3A** beyond a controlled intersection, the normal sign and buffer spacing in the approach area may be reduced during daylight operations. The Flagger Ahead sign should be centered between the flagger station and the intersection.
- ② The ONE LANE ROAD AHEAD sign may be omitted when the posted speed is 40 mph or less.
3. When the traffic volume of the minor roadway exceeds 1500 ADT or turning movements cause unsafe operations, the following steps should be considered:
 - a. Control traffic at the intersection with a law enforcement officer;
 - b. Restrict vehicle turns from the major roadway with flagging, signing, and/or closing the turn lanes; or
 - c. Completely close a leg of the minor roadway until the work space has left the area near the intersection.
- ④ For other temporary traffic control devices in advance of the work space, see Layouts 4, 15, or 16.
- ⑤ The two-way taper should be 50 feet in length using 5 equally spaced channelizing devices.



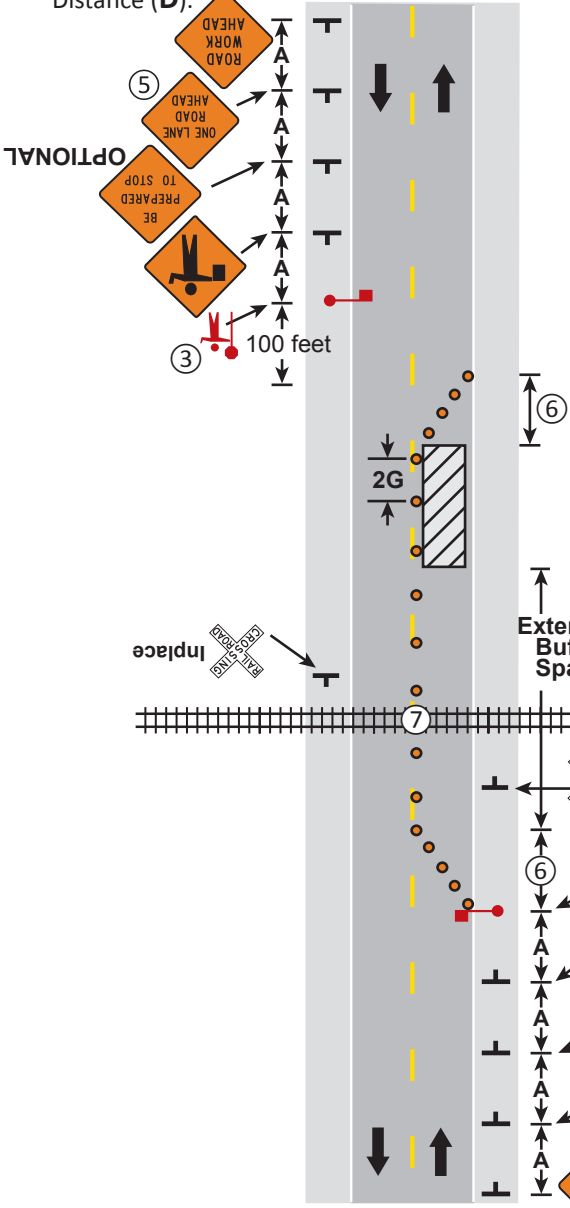
LANE CLOSURE ON MINOR ROAD
Beyond Intersection of Major Road
TWO-LANE, TWO-WAY ROAD

3 DAYS or LESS

LAYOUT 21

NOTES:

1. Users of this layout shall coordinate with the railroad.
2. If the backup of vehicles across active railroad tracks cannot be avoided, a law enforcement officer or a flagger shall be provided at the crossing to prevent vehicles from stopping within the railroad crossing even if automatic warning devices are in place.
- ③ The approach sight distance to the flagger shall be at least the Decision Sight Distance (D).



4. The activity area should be extended beyond the railroad crossing so that the backup of traffic created by the flagging operation will not be extended across the railroad crossing
- ⑤ The ONE LANE ROAD AHEAD sign may be omitted when the posted speed limit is 40 mph or less.
- ⑥ The two-way taper should be 50 feet in length using 5 equally spaced channelizing devices.
- ⑦ Channelizing devices shall not be placed within 8 feet on either side of the railroad track.

**LANE CLOSURE NEAR GRADE CROSSING
 TWO-LANE, TWO-WAY ROAD**

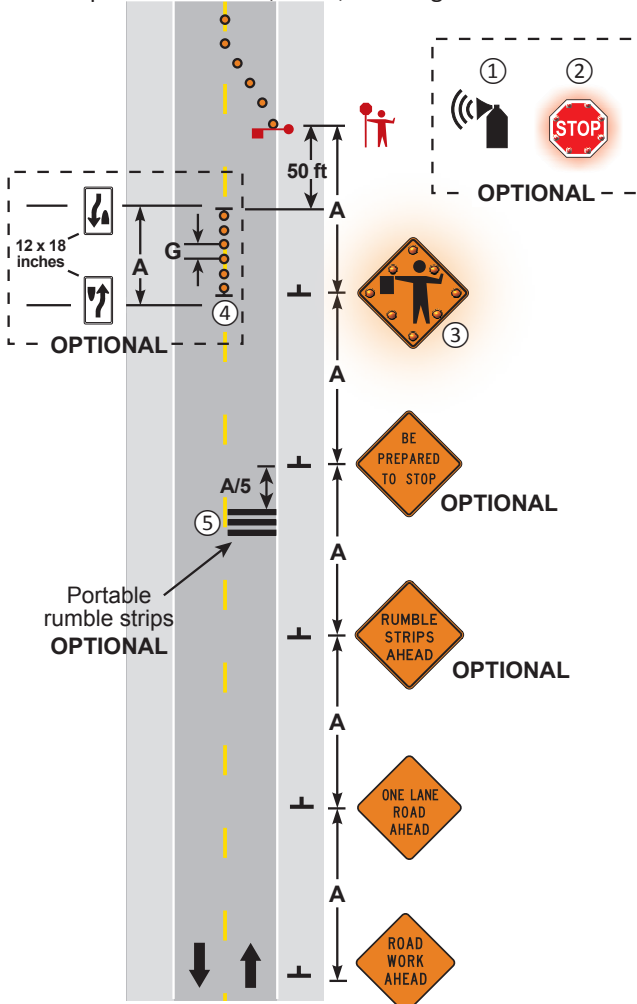
3 DAYS or LESS

LAYOUT 22

NOTES:

- ① The flagger may be equipped with an airhorn.
- ② The STOP/SLOW paddle may be enhanced with flashing conspicuity lights on the signs.
- ③ The Flagger Ahead sign may be enhanced with flashing conspicuity lights on it.
- ④ Keep Right signs and Type A channelizing devices such as weighted channelizers, cones, tubular markers, or centerline delineators are optional.
- ⑤ The portable rumble strips array should consist of 3 strips placed perpendicular to the direction of travel. Spacing of rumble strips should be from center of rumble to center of rumble and based on the posted speed limit:
 - 40 mph or less = 10 feet spacing
 - 45 to 55 mph = 15 feet spacing
 - 60 mph or greater = 20 feet spacing

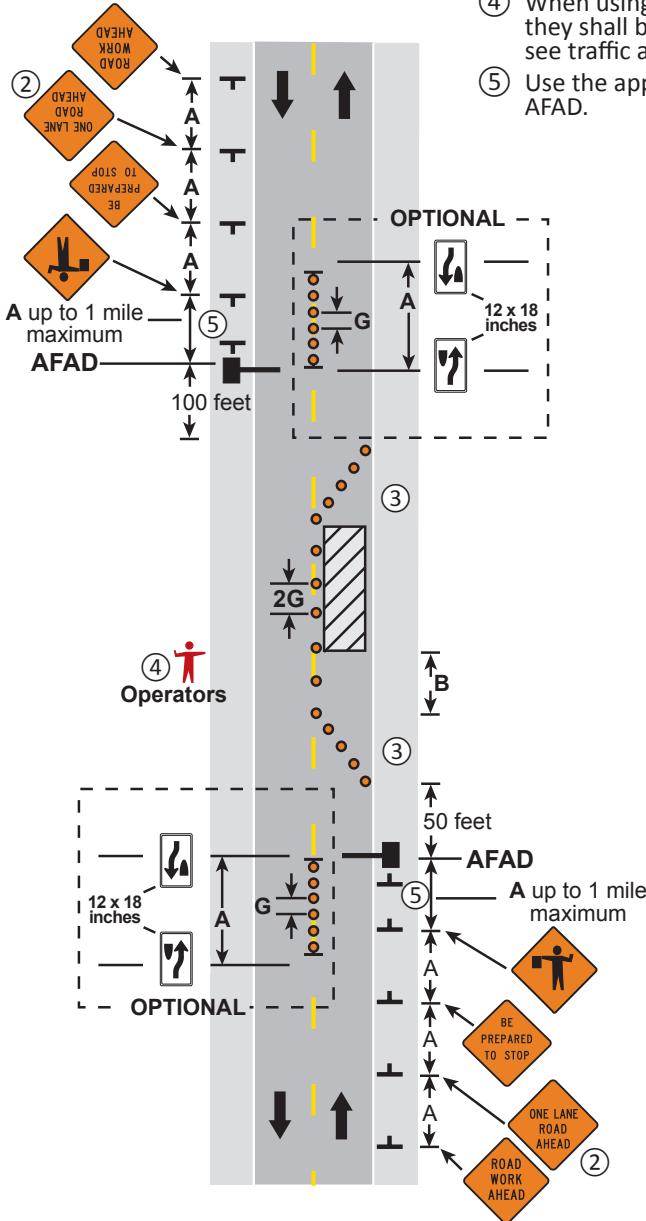
The rumble strips shall be white, black, or orange.



**FLAGGING STATION OPTIONS
 TWO-LANE, TWO-WAY ROAD**

NOTES:

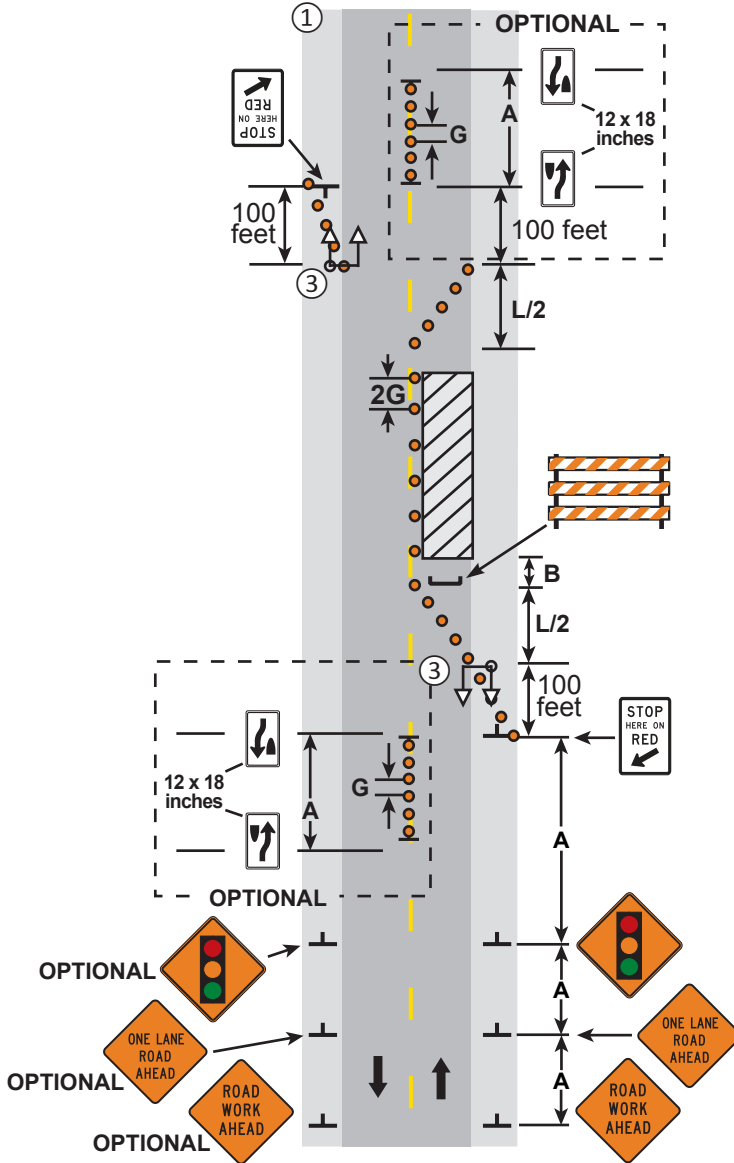
1. The approach sight distance to the Automated Flagging Assistance Device (AFAD) shall be at least the Decision Sight Distance (**D**).
- ② The ONE LANE ROAD AHEAD sign may be omitted when the posted speed limit is 40 mph or less.
- ③ The two-way taper should be 50 feet in length using 5 equally spaced channelizing devices.
- ④ When using a single operator, they shall be located so they can see traffic at both AFAD locations.
- ⑤ Use the appropriate sign on the AFAD.



**LANE CLOSURE, AUTOMATED FLAGGERS
 TWO-LANE, TWO-WAY ROAD**

NOTES:

- ① Approach signs are the same in both directions.
2. Signal timing and signal head locations shall be established by qualified personnel and approved by the road authority.
- ③ Two signal heads shall be installed per approach. The first shall be installed on the right shoulder. The second signal head may be installed on either the left shoulder or mounted overhead on the same structure as the first signal head.



**LANE CLOSURE WITH PORTABLE SIGNALS
 TWO-LANE, TWO-WAY ROAD**

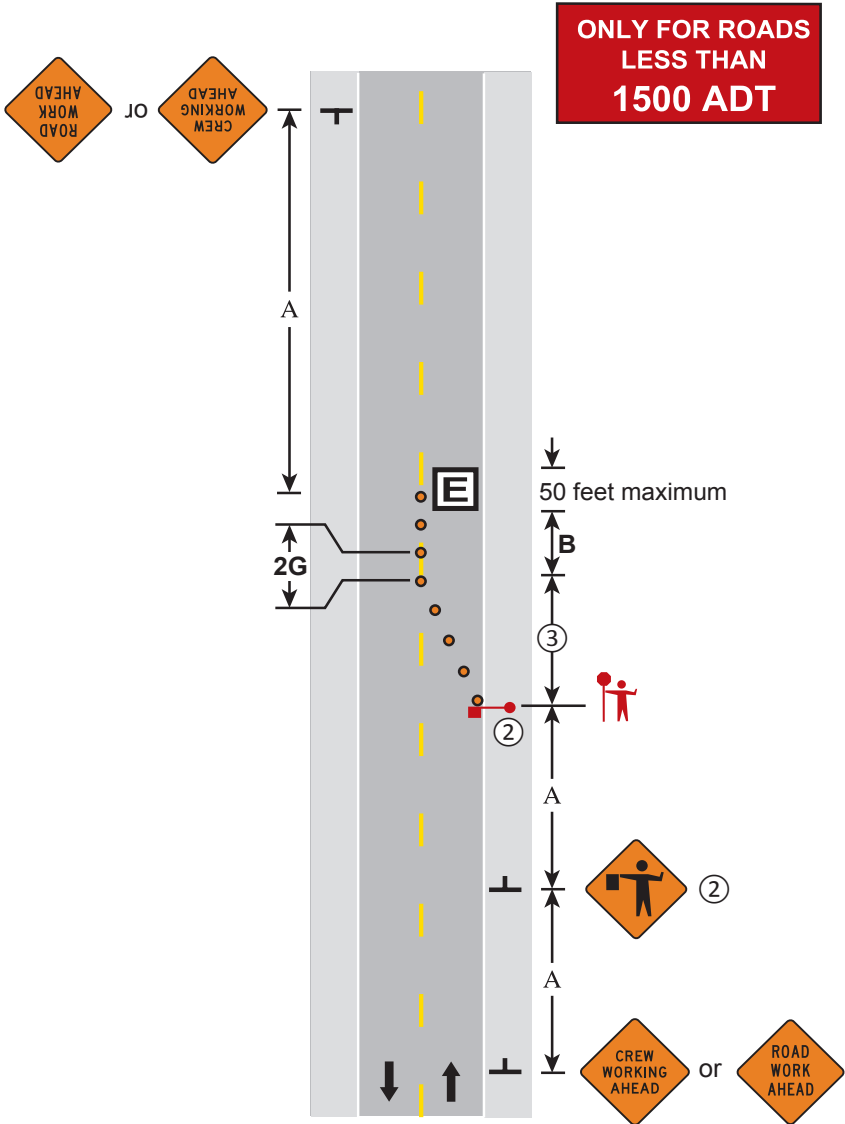
3 DAYS or LESS

6K-25

LAYOUT 25

NOTES:

1. The Work Vehicles shall not be parked on the shoulder opposite of the coned area.
- ② The Flagger and Flagger Ahead sign may be omitted when traffic volumes do not restrict the ability of traffic to regulate itself through the length of the work space.
- ③ The two-way taper should be 50 feet in length using 5 equally spaced channelizing devices.



**EQUIPMENT IN TRAFFIC LANE
TWO-LANE, TWO-WAY ROAD**

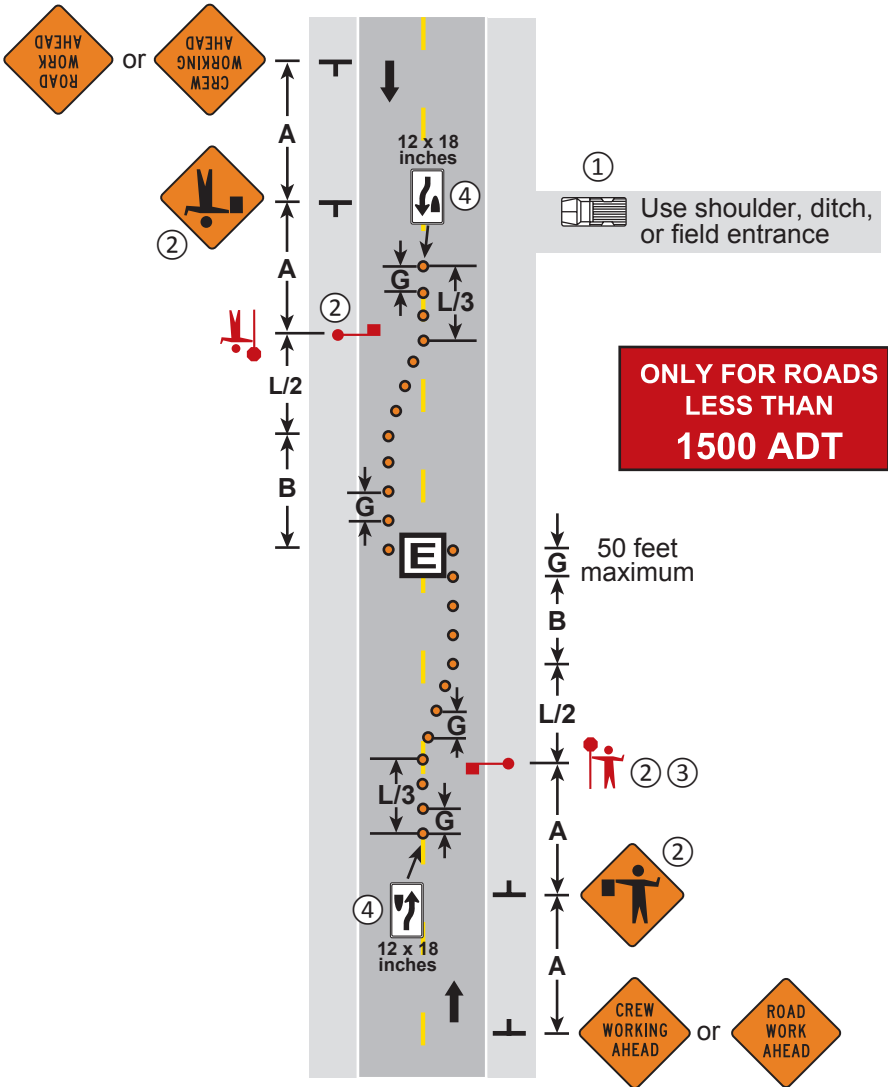
1 HOUR or LESS

6K-26

LAYOUT 26

NOTES:

- ① The Work Vehicle shall be parked off of the roadway. Do not obstruct the shoulder in the coned areas.
- ② The Flaggers and the Flagger Ahead signs may be omitted if the posted speed limit is 40 mph or less and there is at least 10 feet of driveable surface outside of the channelizing devices.
- ③ The flagger shall be visible for at least the Decision Sight Distance (**D**).
- ④ The Keep Right sign may be omitted if the posted speed limit is 40 mph or less.



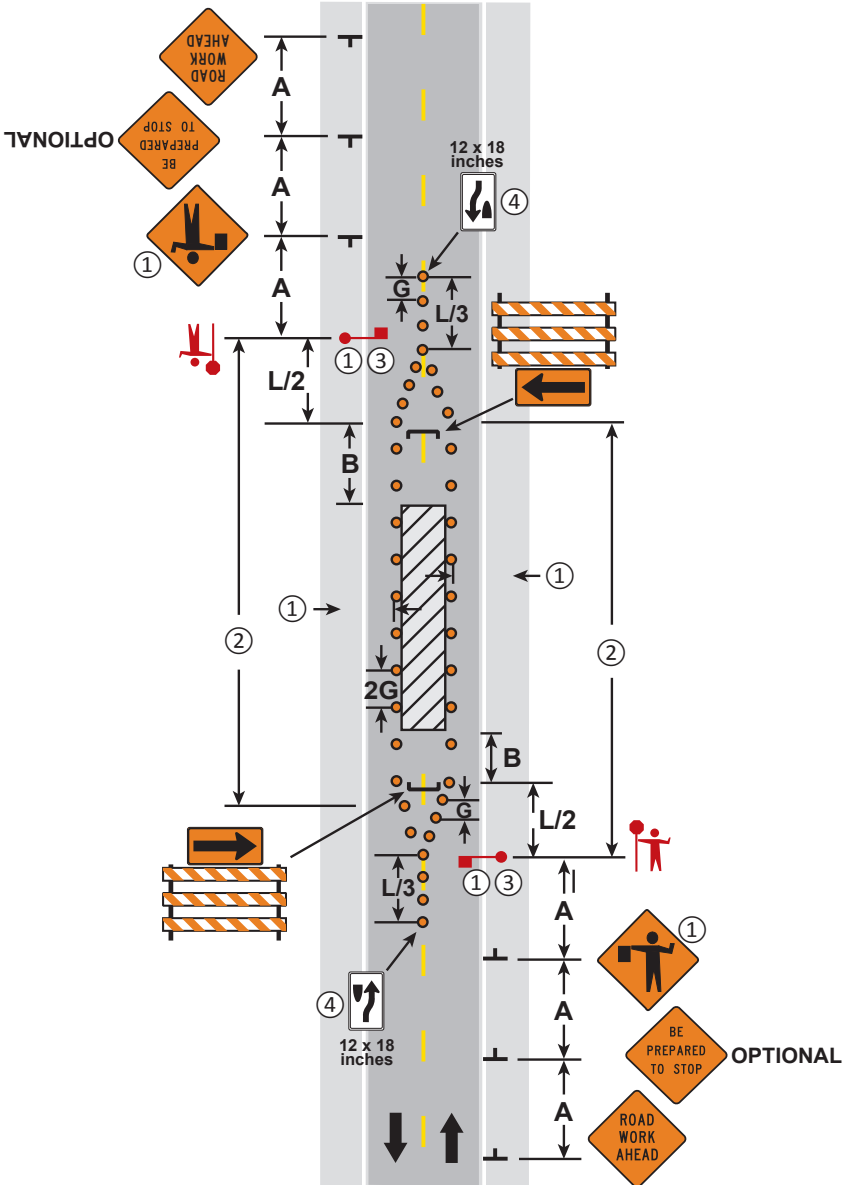
**EQUIPMENT ON CENTERLINE
TWO-LANE, TWO-WAY ROAD**

1 HOUR or LESS

LAYOUT 27

NOTES:

- ① The Flaggers and the Flagger Ahead signs may be omitted if the posted speed limit is 40 mph or less and there is at least 10 feet of driveable surface outside of the channelizing devices.
- ② Parking and stopping should be prohibited along the work area and tapers.
- ③ The flagger shall be visible for at least the Decision Sight Distance (D).
- ④ The Keep Right sign may be omitted if the posted speed limit is 40 mph or less.



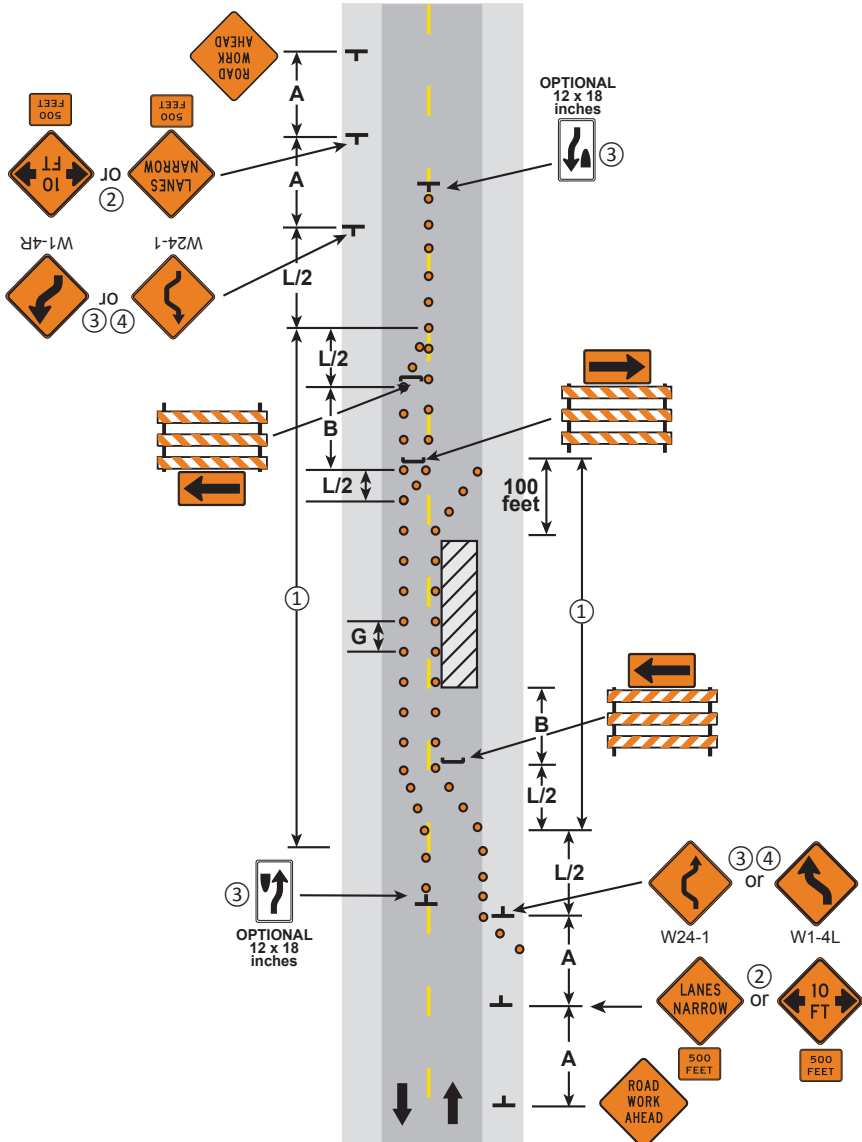
**WORK SPACE IN CENTER OF ROAD
 TWO-LANE, TWO-WAY ROAD**

12 HOURS or LESS

LAYOUT 28

NOTES:

- ① Parking and stopping should be prohibited along the work area and tapers.
- ② Minimum lane widths shall be 10 feet of driveable surface. When temporary lane widths are less than existing lane widths a LANES NARROW sign or a Narrow Lane (width shown) sign with advisory plaque placed directly below or on the lower side of the warning sign nearest traffic should be used.
- ③ The Double Reverse Curve, Reverse Curve, and/or Keep Right signs may be omitted when the posted speed limit is 40 mph or less.
- ④ If tangent length of activity area is 600 feet or less, use the Double Reverse Curve sign.



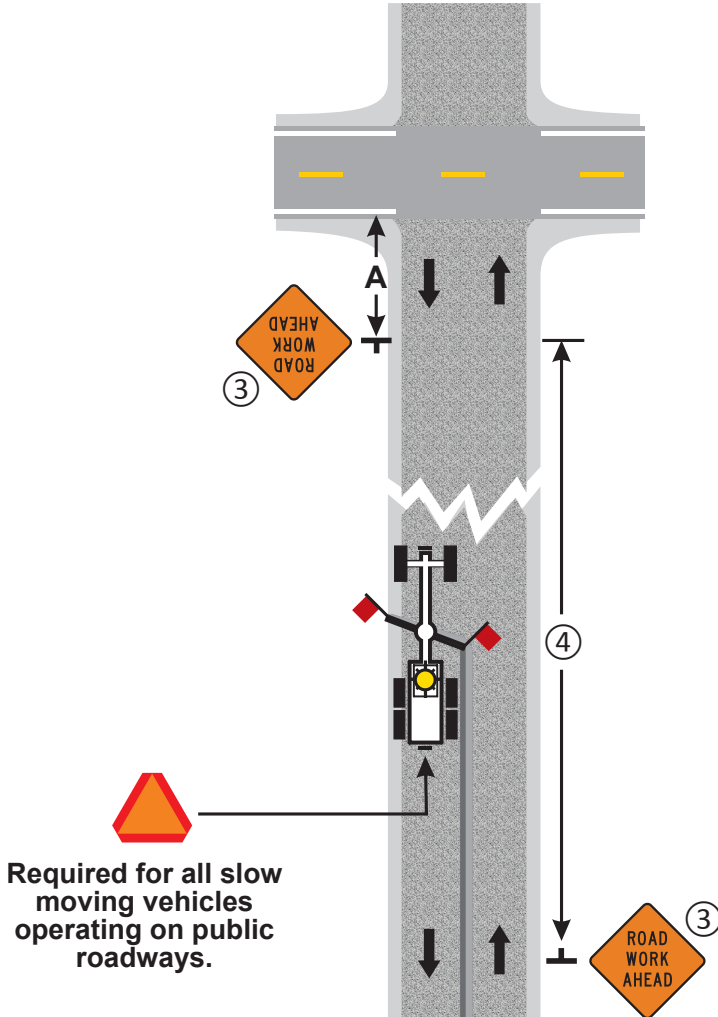
**WORK SPACE OCCUPIES ONE HALF OF ROAD
 TWO-LANE, TWO-WAY ROAD**

3 DAYS or LESS

LAYOUT 29

NOTES:

1. Motor Graders shall be equipped with operating vehicle warning lights visible for 360 degrees around the vehicle at a minimum height of 3 1/2 feet and a radius of 60 feet or greater.
2. Motor Grader blade end(s) may be marked with red or orange flags to provide additional warning and make the equipment more visible to passing vehicles.
- ③ The ROAD WORK AHEAD signs may be omitted when there is an adequate approach Decision Sight Distance (**D**) to the Motor Grader along the majority of the route.
- ④ When advance warning signs are used, the signs should be no more than 3 miles from the Work Vehicle. The location of the signs should be determined by the sources of traffic, such as major cross roads.



GRAVEL ROAD MAINTENANCE
Grading Operations
TWO-LANE, TWO-WAY ROAD

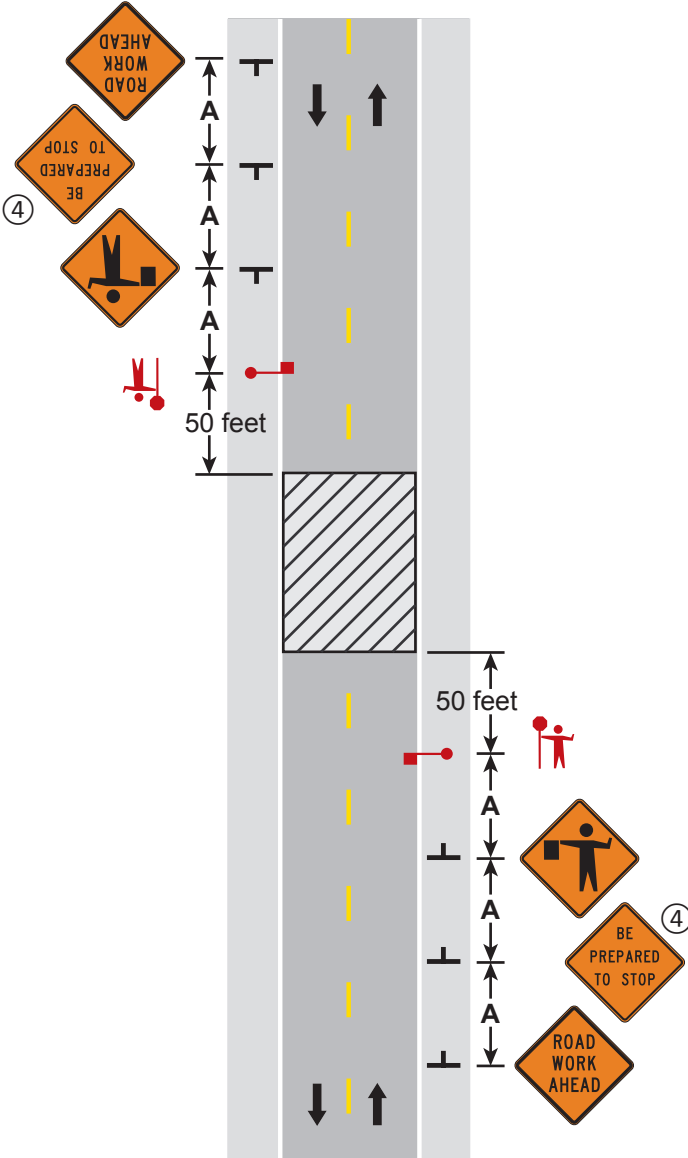
12 HOURS or LESS

6K-30

LAYOUT 30

NOTES:

- 1. Road authority shall be contacted prior to closure.
- 2. If the volume is less than 400 ADT, traffic control devices may be substituted with law enforcement.
- 3. Traffic should not be stopped for intervals of greater than 15 minutes.
- ④ The BE PREPARED TO STOP sign may be omitted when the posted speed limit is 40 mph or less.



**TEMPORARY ROAD CLOSURE
TWO-LANE, TWO-WAY ROAD**

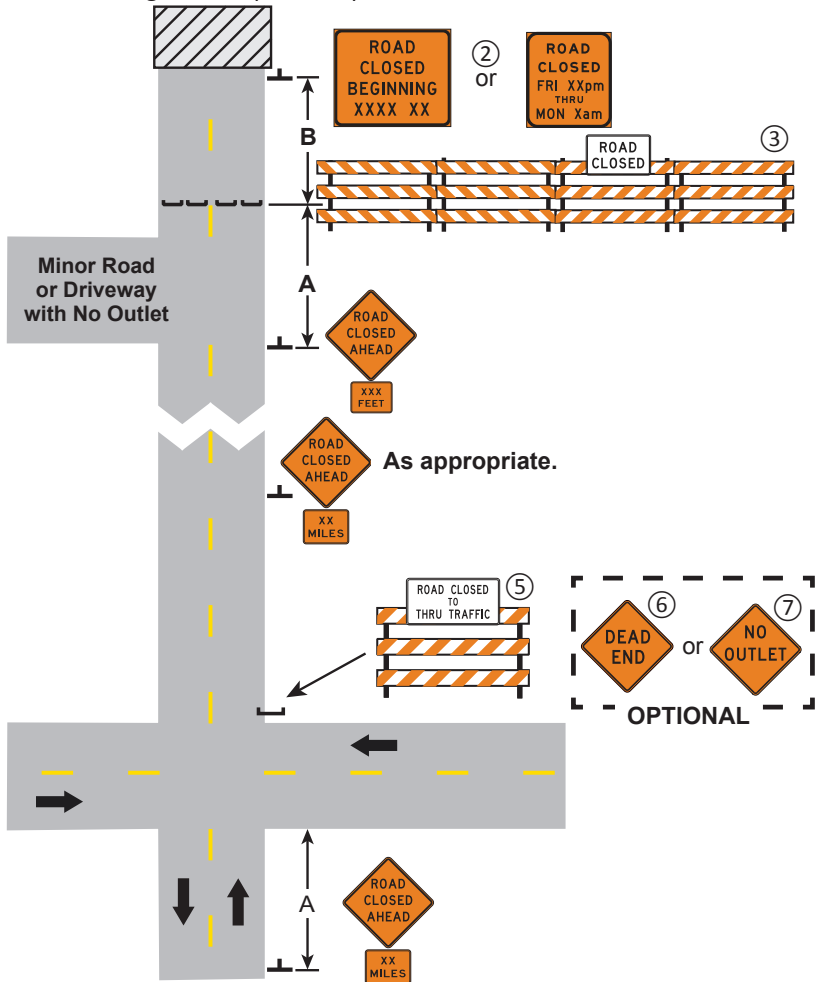
12 HOURS or LESS

6K-31

LAYOUT 31

NOTES:

1. The road authority shall be contacted prior to closure. The road authority may provide requirements related to sign placement, detours, emergency services, etc.
- ② A Road Closure Notice sign should be installed in advance (timewise) as required by the road authority.
- ③ Install Type III barricade at the last driveway or intersection beyond which there is no public access. Barricade shall span the entire roadway including traversable shoulders.
4. Road user safety and usability must be maintained up to the full closure.
- ⑤ ROAD CLOSED TO THRU TRAFFIC barricade assembly may be placed on the center line; stripes on barricade shall slope downward toward the appropriate traffic direction (for both directions of the roadway).
- ⑥ DEAD END sign shall be used only when there is a dead end and there are no alternate through routes past this point.
- ⑦ NO OUTLET sign shall be used only when there are no outlets and there are no alternate through routes past this point.



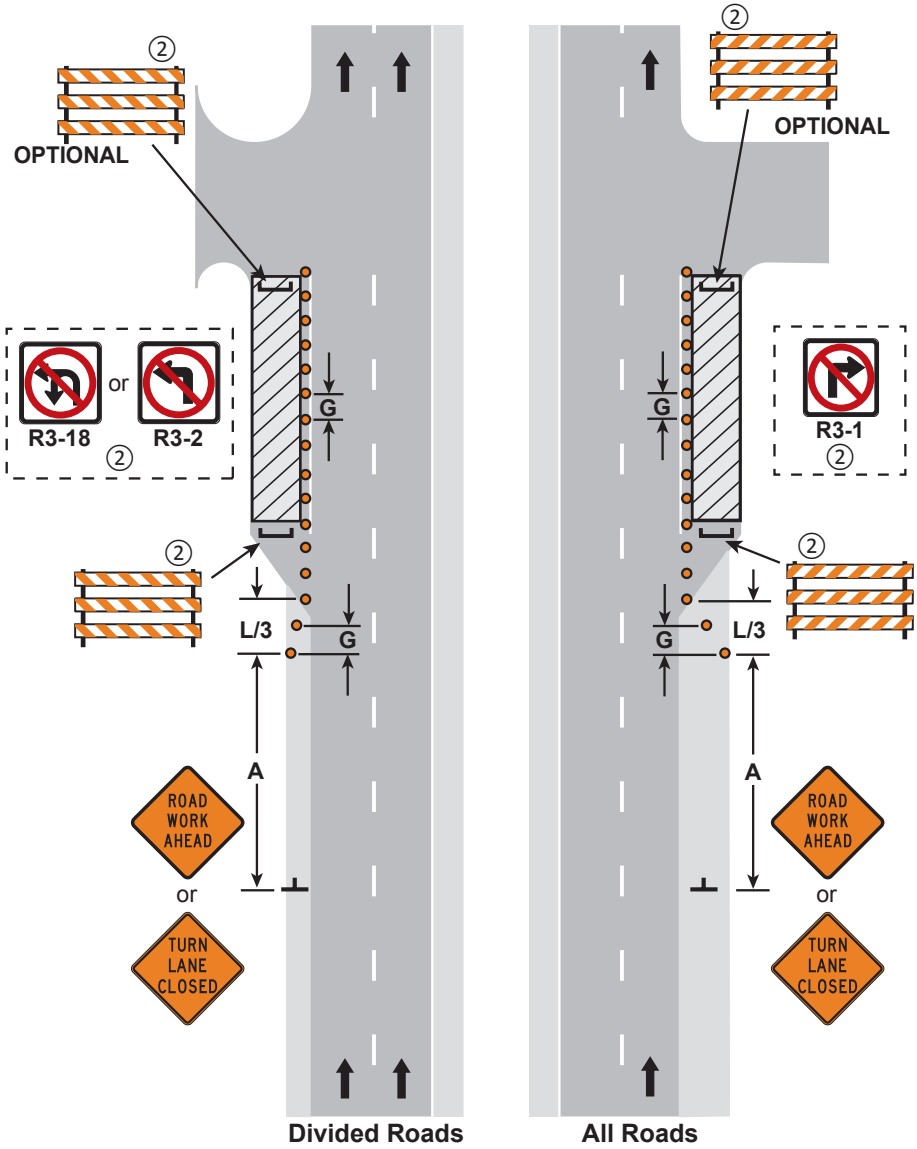
ROAD CLOSURE

3 DAYS or LESS

LAYOUT 32

NOTES:

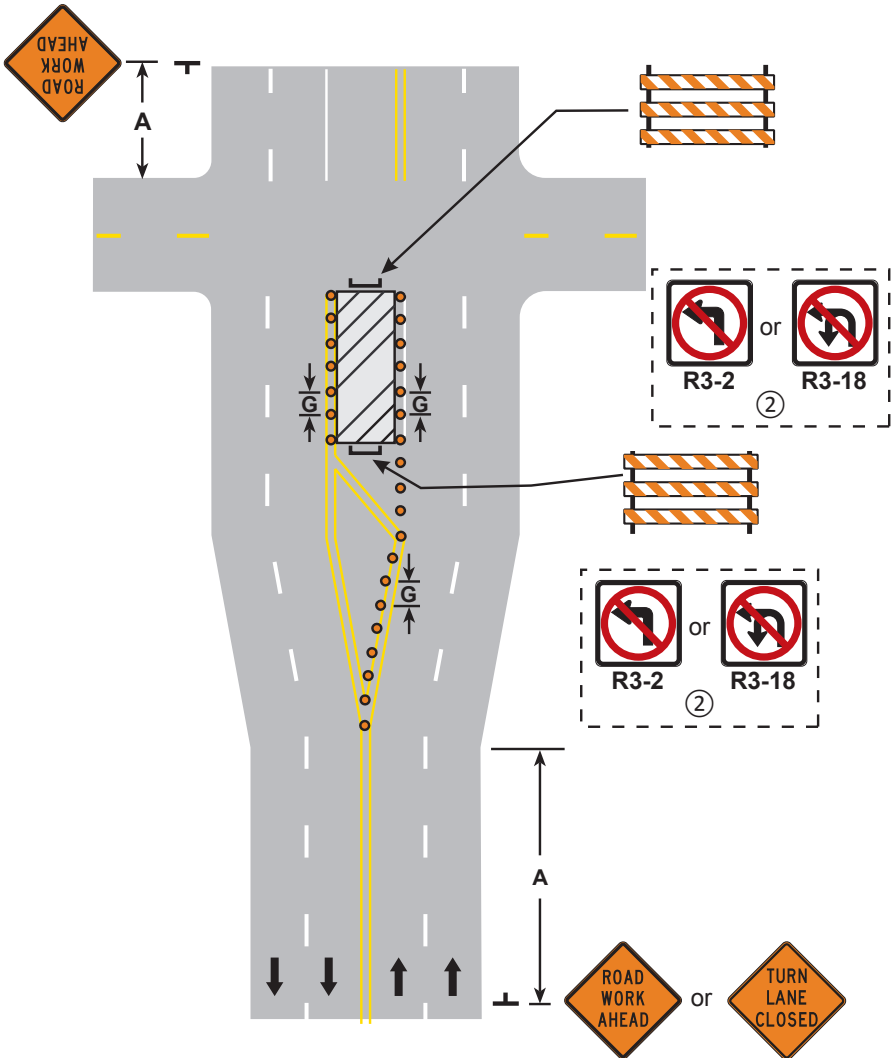
- 1. Contact the appropriate road authority for signal timing modifications before beginning work at any signalized intersection.
- ② Optional R3-1, R3-2, or R3-18 signs may be placed on sign stand or top of barricades on side closest to traffic. Signs are required if turns are prohibited.



TURN LANE CLOSURES

NOTES:

1. Contact the appropriate road authority for signal timing modifications before beginning work at any signalized intersection.
- ② Optional R3-2 or R3-18 signs may be placed on sign stand or top of barricades on side closest to traffic. Signs are required if turns are prohibited.



**LEFT TURN LANE CLOSURE
TWO-LANE, TWO-WAY or
MULTI-LANE UNDIVIDED ROAD**

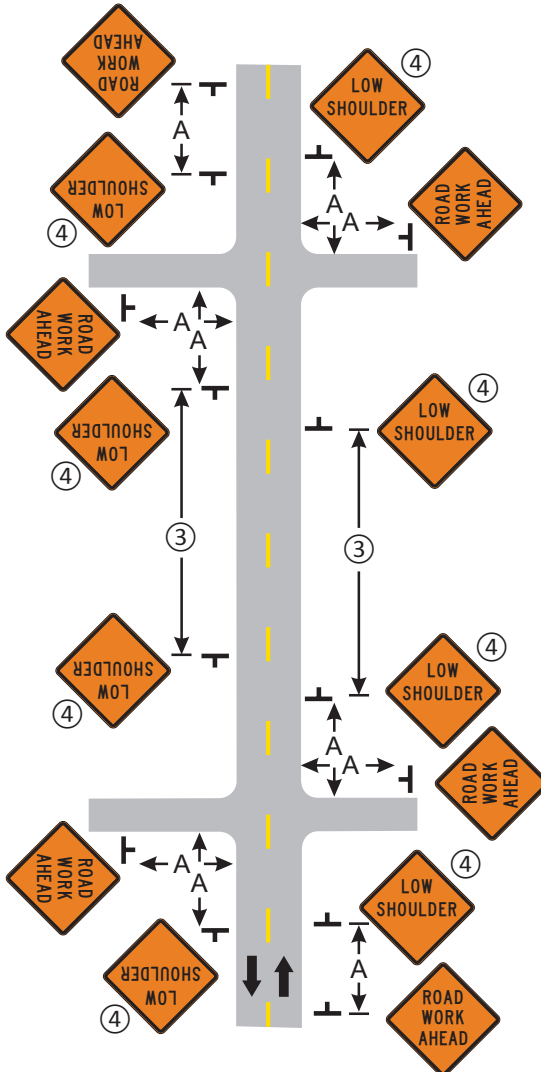
3 DAYS or LESS

6K-34

LAYOUT 34

NOTES:

1. This layout should be used for those stationary temporary traffic control zones that extend over a relatively long segment of roadway.
2. The appropriate layout shall be used for the active work space (such as re-surfacing operations, area of paving, etc).
- ③ Confirmation signing for a continuous condition should be placed after every intersection and approximately 1 mile spacing for speeds 45 mph or greater, or 1/4 mile spacing for speeds 40 mph or less.
- ④ Use the appropriate advance warning sign for the roadway condition, i.e. GROOVED PAVEMENT, LOOSE GRAVEL, ROUGH ROAD. An advisory Motorcycle plaque may be placed directly below or on the lower side of the warning sign nearest traffic if the warning is directed primarily to motorcyclists.
5. Consider delineating raised structures (manhole covers, etc.)



CROSSROAD & CONFIRMATION SIGNING

Traffic Control Zone

3 DAYS or LESS

LAYOUT 35

Certificate Of Completion

Envelope Id: F8EE3F4C45C6498DB0927065BD59B5A8	Status: Delivered
Subject: Eric Luth - ROW Permit Application	
Source Envelope:	
Document Pages: 40	Signatures: 1
Certificate Pages: 4	Initials: 1
AutoNav: Enabled	Envelope Originator:
Envelopeld Stamping: Enabled	Highway Permits
Time Zone: (UTC-06:00) Central Time (US & Canada)	Anoka County Government Center
	2100 3rd Avenue
	Anoka, MN 55303
	HighwayPermits@co.anoka.mn.us
	IP Address: 208.45.160.106

Record Tracking

Status: Original	Holder: Highway Permits	Location: DocuSign
8/31/2023 1:34:38 PM	HighwayPermits@co.anoka.mn.us	
Security Appliance Status: Connected	Pool: StateLocal	
Storage Appliance Status: Connected	Pool: Anoka County	Location: DocuSign

Signer Events

Eric Luth
 eluth@landform.net
 Security Level:
 DocuSign.email
 ID: 1
 8/31/2023 1:34:39 PM

Signature

DocuSigned by:

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 Signature Adoption: Pre-selected Style
 Using IP Address: 208.45.160.106

Timestamp

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 Viewed: 8/31/2023 1:34:50 PM
 Signed: 8/31/2023 1:59:15 PM

Electronic Record and Signature Disclosure:

Accepted: 8/31/2023 12:43:58 PM
 ID: feff5c44-c56b-4ca1-ac72-d0bfc4d90029

Susan Burgmeier
 Susan.Burgmeier@co.anoka.mn.us
 Associate Traffic Technician
 Anoka County
 Signing Group: Highway Permits
 Security Level: Email, Account Authentication (Optional)

Sent: 8/31/2023 1:59:18 PM
 Viewed: 8/31/2023 2:35:45 PM

Electronic Record and Signature Disclosure:

Accepted: 8/17/2023 11:01:03 AM
 ID: f61312c5-7d0a-462b-b725-5863d4fb2a0d

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	Status	Timestamp
Agent Delivery Events	Status	Timestamp
Intermediary Delivery Events	Status	Timestamp
Certified Delivery Events	Status	Timestamp
Carbon Copy Events	Status	Timestamp
Witness Events	Signature	Timestamp
Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	8/31/2023 1:34:38 PM
Envelope Updated	Security Checked	8/31/2023 1:59:15 PM
Certified Delivered	Security Checked	8/31/2023 2:35:45 PM

Payment Events	Status	Timestamps
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You may change your preferred method of contact whether electronically, or paper copies, or change your email address. You may also request paper copies of certain information from us, or withdraw your prior consent to receive documents. Please use the contact information below for your request and in the body of your correspondence, identify your desired action. If you are

changing an email address, please include your prior email address as well as your new address. If you no longer wish to receive future documents in electronic format, please include that request in the body of your email.

Email: helpdesk@co.anoka.mn.us

Phone: (763)-324-4110

Address: Anoka County Government Center
Attn: Information Technology, #300
2100 3rd Avenue
Anoka, MN 55303

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