



TASK NAME: WILC034

TASK DESCRIPTION: FIBER OPTIC CONDUIT PLACEMENT

SITE LOCATION: LACROSSE, WI, USA



3701 COMMUNICATIONS WAY  
EVANSVILLE, IN, 47715



1100 E. WOODFIELD ROAD, SUITE 500  
SCHAUMBURG, ILLINOIS 60173  
TEL: 847-908-8400  
COA# 3620-11  
www.fullerton-us.com

**PROJECT INFORMATION**

TASK NAME: WILC034  
 TASK DESCRIPTION: FIBER OPTIC CONDUIT PLACEMENT  
 SITE LOCATION: LACROSSE, WI, USA  
 SITE TYPE: UNDERGROUND FIBER-OPTIC CONSTRUCTION  
 JURISDICTION: LACROSSE, WI, USA  
 APN: -  
 ZONING CLASSIFICATION: -  
 OCCUPANCY TYPE: -  
 CONSTRUCTION TYPE: -  
 APPLICANT: METRO FIBERNET, LLC  
 ADDRESS: 3701 COMMUNICATIONS WAY  
EVANSVILLE, IN, 47715  
 CONTACT: TARAN WELCHLIN  
 PHONE: (608) 606-2043  
 EMAIL: TARAN.WELCHLIN@METRONET.COM  
 NOTE: DRAWING SCALES ARE FOR 11"x17" SHEETS UNLESS OTHERWISE NOTED

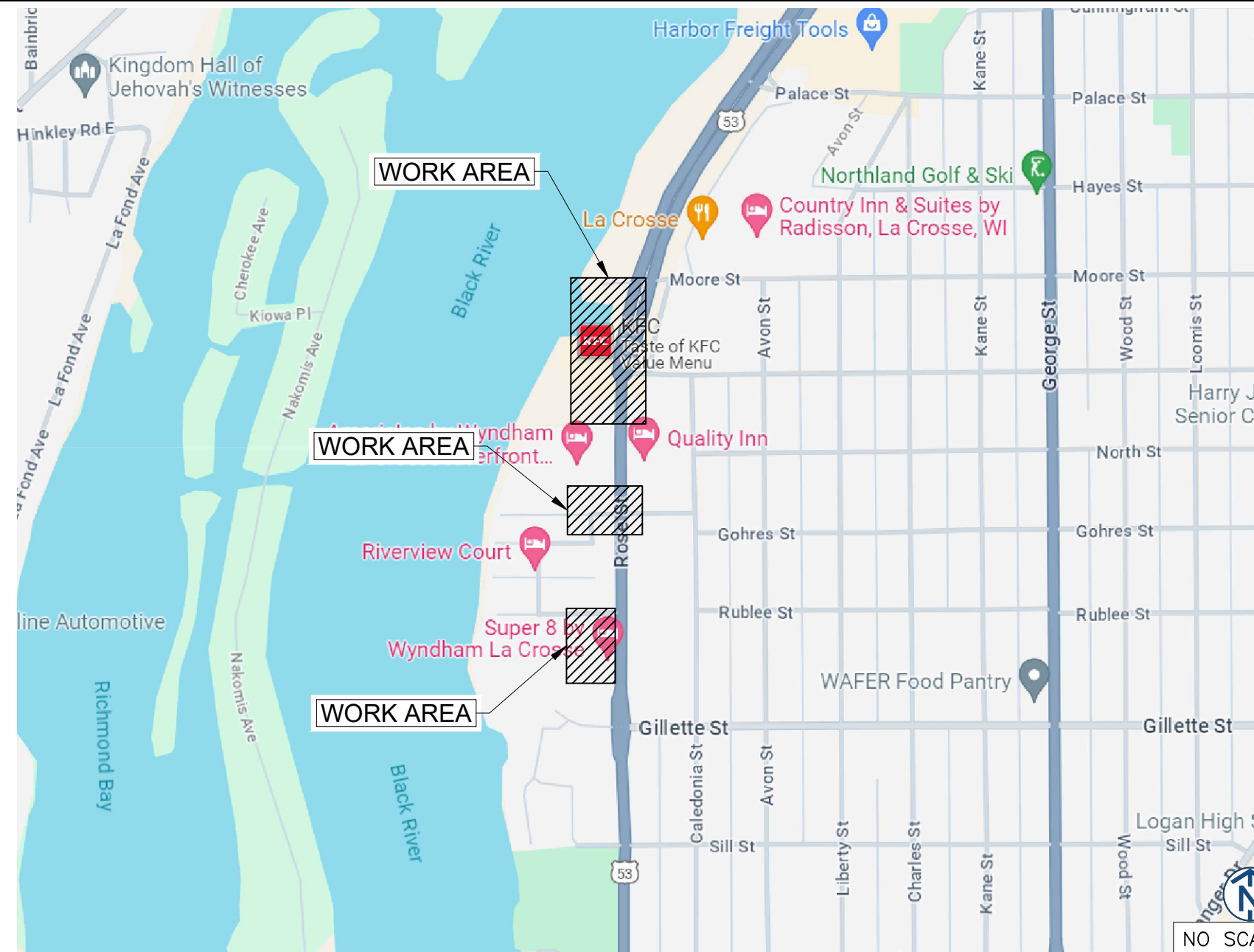
**PROJECT CONSULTANTS**

PROJECT MANAGER: FULLERTON ENGINEERING CONSULTANTS, LLC  
 ADDRESS: 1100 E. WOODFIELD ROAD, SUITE 500  
 CONTACT: MICHELLE KAMINSKI  
 PHONE: (616) 262-5967  
 EMAIL: MKAMINSKI@FULLERTONENGINEERING.COM  
 ENGINEER: FULLERTON ENGINEERING CONSULTANTS, LLC  
 ADDRESS: 1100 E. WOODFIELD ROAD, SUITE 500  
SCHAUMBURG, ILLINOIS 60173  
 EOR: DAN SMITH, P.E.  
 PHONE: 847-908-8521  
 EMAIL: DSMITH@FULLERTONENGINEERING.COM  
 POWER COMPANY:  
 PHONE:  
 TELEPHONE COMPANY:  
 PHONE:

**SCOPE OF WORK**

THE SCOPE OF WORK CONSISTS OF:  
 INSTALLATION OF:  
 • 1,632' OF DIRECTIONAL BORE PATH  
 • 1,632' OF 1.25" CONDUIT  
 • (6) DB-HANDHOLE 12X12X13 (DROP BOX)  
 • (1) B-HANDHOLE 17X30X18(UTILITY BOX)  
 ALL MATERIAL SHALL BE INSTALLED BY THE CONTRACTOR, UNLESS STATED OTHERWISE.

**SITE LOCATION MAP**



REV	DATE	DESCRIPTION	BY
A	06/27/24	ISSUED FOR REVIEW	JS

I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.

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**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
LACROSSE, WI, USA

SHEET SCALE  
N.T.S.

SHEET TITLE  
**TITLE SHEET**

GRID NUMBER

SHEET NUMBER  
T-1

SHEET NUMBER	SHEET TITLE
T-1	TITLE SHEET
T-2	SHEET INDEX
T-3	LEGEND
GN-1	GENERAL NOTES
MAP-1	MAP
C-001	DESIGN LAYOUT
C-002	DESIGN LAYOUT
C-003	DESIGN LAYOUT
C-004	DESIGN LAYOUT
C-005	DESIGN LAYOUT
D-1	DETAILS
D-2	DETAILS
D-3	DETAILS
D-4	DETAILS
TCP-1	TRAFFIC CONTROL STANDARD
TCP-2	TRAFFIC CONTROL STANDARD
TCP-3	TRAFFIC CONTROL STANDARD
TCP-4	TRAFFIC CONTROL STANDARD
TCP-5	TRAFFIC CONTROL STANDARD
TCP-6	TRAFFIC CONTROL STANDARD
TCP-7	TRAFFIC CONTROL STANDARD
TCP-8	TRAFFIC CONTROL STANDARD
TCP-9	TRAFFIC CONTROL STANDARD
TCP-10	TRAFFIC CONTROL STANDARD
TCP-11	TRAFFIC CONTROL STANDARD
TCP-12	TRAFFIC CONTROL STANDARD
TCP-13	TRAFFIC CONTROL STANDARD
TCP-14	TRAFFIC CONTROL STANDARD
TCP-15	TRAFFIC CONTROL STANDARD
TCP-16	TRAFFIC CONTROL STANDARD
TCP-17	TRAFFIC CONTROL STANDARD

SHEET NUMBER	SHEET TITLE

REV. NO	REVISION	DATE:

3701 COMMUNICATIONS WAY  
EVANSVILLE, IN, 47715

DESIGN DEVELOP CONSTRUCT

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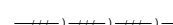





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SHEET NUMBER	<b>T-2</b>

# LEGEND











## PROPOSED

-  PROPOSED OPEN CUT TRENCH
-  PROPOSED DIRECTIONAL BORE
-  PROPOSED BORE PIT
-  PROPOSED L-HANDHOLE(30X48X24)
-  PROPOSED M-HANDHOLE(24X36X18)
-  PROPOSED B-UTILITY BOXES(17X30X18)
-  PROPOSED TERMINAL BOXES(13X24X15)
-  PROPOSED DROP BOXES(11X11X12)



## SEWER

-  EXISTING SEWER MAIN
-  EXISTING SEWER MAIN (ABANDON)
-  EXISTING STORM SEWER MAIN
-  EXISTING STORM MANHOLE
-  EXISTING SEWER MANHOLE
-  EXISTING SEWER CATCH BASIN
-  EXISTING SEWER INLET


## WATER

-  EXISTING WATER MAIN
-  EXISTING WATER MAIN (ABANDON)
-  EXISTING WATER SHUT OFF
-  EXISTING FIRE CISTERN MANHOLE
-  EXISTING WATER CAP
-  EXISTING WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING WATER METER
-  EXISTING FIRE HYDRANT
-  EXISTING WATER REDUCER

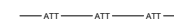
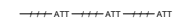
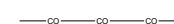
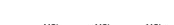










## GAS

-  EXISTING GAS MAIN
-  EXISTING GAS MAIN (DEAD)
-  EXISTING GAS CAP
-  EXISTING GAS REDUCER
-  EXISTING GAS MANHOLE
-  EXISTING GAS VALVE
-  EXISTING GAS METER

## DEO/ELECTRIC

-  EXISTING DEO/ELECTRIC
-  EXISTING STREET LIGHT CONTROL BOX
-  EXISTING TRAFFIC LIGHT CONTROL BOX
-  EXISTING STREET LIGHT HANDHOLE
-  EXISTING TRAFFIC LIGHT HANDHOLE
-  EXISTING RED LIGHT CAMERA POLE
-  EXISTING STREET LIGHT POLE
-  EXISTING TRAFFIC LIGHT POLE
-  EXISTING DEO POLE
-  EXISTING ELECTRIC MANHOLE
-  EXISTING ELECTRIC HANDHOLE
-  EXISTING RED LIGHT FLASH POLE

## COMMUNICATIONS

-  EXISTING AT&T
-  EXISTING AT&T (ABANDON)
-  EXISTING COMMUNICATIONS
-  EXISTING MCI
-  EXISTING SPRINT
-  EXISTING SUNESYS
-  EXISTING VERIZON
-  EXISTING CITY FIBER
-  EXISTING AT&T MANHOLE
-  EXISTING COMMUNICATIONS MANHOLE
-  EXISTING MCI
-  EXISTING SPRINT/NEXTEL MANHOLE
-  EXISTING SUNESYS MANHOLE
-  EXISTING VERIZON MANHOLE

## MISCELLANEOUS

-  EXISTING FENCE
-  EXISTING CONSTRUCTION FENCE
-  EXISTING GUARDRAIL
-  EXISTING PROPERTY LINE/ R.O.W.
-  EXISTING BIKE RACK
-  EXISTING TREE
-  EXISTING BUSH
-  EXISTING STREET SIGN POST
-  EXISTING POST/BOLLARD
-  EXISTING GROUND LIGHT
-  EXISTING UTILITY POLE
-  EXISTING STANDPIPE
-  EXISTING ADA RAMP
-  EXISTING MISCELLANEOUS MANHOLE
-  EXISTING GARBAGE CAN
-  EXISTING PARK DISTRICT MANHOLE
-  EXISTING MONITORING WELL
-  EXISTING FIRE ALARM
-  EXISTING STREET PARKING PAY BOX
-  EXISTING PEDESTAL
-  EXISTING MAILBOX
-  EXISTING NEWSPAPER BOX
-  EXISTING PHONE
-  EXISTING SPRINKLER CONTROL BOX
-  EXISTING SPRINKLER VALVE
-  EXISTING SUPPORT COLUMN

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**T-3**

1. THE ENCLOSED DESIGN MAY IMPLY EXISTING UTILITIES. THE UTILITIES HAVE NOT BEEN FIELD VERIFIED FOR LOCATION. THEREFORE, ALL UTILITIES IMPLIED WITHIN THIS DOCUMENT ARE TO BE REFERRED TO AS A "REFERENCE TOOL". IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND/OR IT'S SUBCONTRACTOR TO VERIFY THESE UTILITIES USING ANY AND ALL METHODS AND INSTRUMENTS AVAILABLE IF/WHEN NECESSARY. FULLERTON CANNOT IN GOOD FAITH GUARANTEE UTILITY LOCATIONS. ANY AND ALL DOCUMENTATION ON EXISTING UTILITIES HAS BEEN IMPLIED UTILIZING INFORMATION RETRIEVAL PROCESSES FROM EACH JURISDICTION INVOLVED (STATE, COUNTY AND/OR MUNICIPALITY, TO INCLUDE OTHERS).
2. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ENSURE ALL CONDUITS ARE PLACED WITHIN THE GIVEN & DEDICATED SPACE LICENSED FOR THIS PARTICULAR CLIENT. FULLERTON ENGINEERING CONSULTANTS, INC. (FULLERTON) WAS NOT RETAINED FOR THE PURPOSE OF SUPPORTING A SURVEY OF THE AREA AND PROPERTY BOUNDARIES, THEREFORE FULLERTON CAN NOT AND WILL NOT SUPPORT THE ACCURACY OF ANY IMPLIED BOUNDARY (I.E. PUBLIC WAY, PRIVATE PROPERTY, EASEMENT ETC.) NOR IS IT TO BE ASSUMED THAT THE SALE OF PROPERTIES HAS NOT OCCURRED DURING & AFTER FULLERTON'S RESPONSIBILITIES FOR THIS PROJECT HAVE PAST. ALL BOUNDARIES, EASEMENTS, PROPERTY LINES, ETC. ARE TO BE USED AS A GUIDELINE OR REFERENCE AND SHOULD NOT BE TAKEN LITERALLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE ASSOCIATED BOUNDARIES SURVEY STAKED IF SO QUESTIONED. ALL ASPECTS OF BOUNDARIES IMPLIED HEREIN, HAVE BEEN DERIVED THROUGH AVAILABLE MEDIA SUCH AS BUT NOT LIMITED TO (SIDWELL, GOOGLE EARTH PRO. MUNICIPAL, STATE, COUNTY, GIS, AND OTHER RECORD TYPES). FULLERTON DOES NOT AGREE NOR DISAGREE WITH THE ABOVE-MENTIONED RECORDS AS THEY ARE USED JUST A REFERENCE TOOL.
3. ALL BURIED OBSTRUCTIONS KNOWN BY FULLERTON ARE SHOWN ON THE CONSTRUCTION DRAWINGS. ANY AND ALL OTHERS ENCOUNTERED DURING CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROTECT.
4. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES 48 HOURS PRIOR TO CONSTRUCTION ACTIVITY.
5. SHORING MAY BE REQUIRED AND SHALL COMPLY TO O.S.H.A. STANDARDS.
6. ALL BURIED CONDUIT/CABLE WILL BE PLACED AT MINIMUM 30"-48" COVER UNLESS SPECIFIED OR OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS.
7. ANY AND ALL IMPROVEMENTS, IF DAMAGED, SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION. THIS INCLUDES BUT IS NOT LIMITED TO: ASPHALT, CONCRETE PAVEMENT, CURBS, GUTTERS, SIDEWALKS, DRAINAGE DITCHES, EMBANKMENTS, SHRUBS, TREES, GRASS SOD, ETC..
8. ALL FIBER INSTALLATIONS SHALL OBSERVE A MINIMUM DYNAMIC BEND RADIUS OF 20X THE CABLE DIAMETER FOR ALL OSP FIBER SHEATHS AND 15X THE CABLE DIAMETER FOR ALL ISP FIBER SHEATHS. ADDITIONALLY, ALL INSTALLATIONS SHALL OBSERVE A MINIMUM STATIC BEND RADIUS OF 15X THE CABLE DIAMETER FOR ALL OSP FIBER SHEATHS AND 10X THE CABLE DIAMETER FOR ALL ISP FIBER SHEATHS. IF THE MANUFACTURER'S SPECIFICATIONS FOR BEND RADIUS ARE GREATER, THEN THEY SHALL BE FOLLOWED.
9. ALL NEW METALLIC AERIAL STRAND SHALL BE BONDED/GROUNDED (PREFERABLY TO THE POWER COMPANY NEUTRAL) PER LOCAL REQUIREMENTS. AT A MINIMUM, THE BONDING/GROUNDING PATTERN SHALL BE THE FIRST AND LAST POLE OF A RUN AND EVERY TENTH POLE IN THE RUN. SHOULD ONE OF THESE DESIGNATED POLES SUPPORT A POWER TRANSFORMER, THE POLES ON EITHER SIDE OF SAID POLE SHALL BE BONDED/GROUNDED AND THE PATTERN SHOULD CONTINUE EVERY TENTH POLE FROM THAT STARTING POINT.
10. ALL AERIAL FIBER OPTIC CABLES SHALL BE SECURELY LASHED TO AERIAL STRAND BY METHOD OF MECHANICAL LASHING CARRIAGE OR APPROVED EQUAL.
11. ALL FIBER OPTIC CABLES INSTALLED BELOW GRADE SHALL BE OF AN ARMORED VARIETY WITH METALLIC INNER SHEATH, OR BE PLACED WITH A METALLIC LOCATING WIRE TO FACILITATE FUTURE LOCATING SERVICES.
12. ALL CONDUIT OR DUCT CONSTRUCTION SHALL INCLUDE THE PLACEMENT OF PULLING TAPE OF SUFFICIENT SIZE AND GRADE TO FACILITATE THE INSTALLATION OF THE SPECIFIED FIBER TYPE THROUGH CONDUIT BEING UTILIZED (JETLINE USE TO BE APPROVED BY CLIENT).
13. ALL FUSION SPLICING SHALL BE COMPLETED BY A QUALIFIED FIBER SPLICER IN A CLEAN TEMPERATURE CONTROLLED TRUCK, TRAILER, OR SHELTER SPECIFICALLY TOOLED OR DESIGNED FOR THE PURPOSE OF FUSION SPLICING FIBER OPTIC CABLES IN A FIELD ENVIRONMENT.
14. ALL MECHANICAL SPLICES AND FACTORY ENDS SHALL BE KEPT CLEAN AND FREE FROM DUST, DIRT, OILS, AND SMEARS. CARE SHOULD BE TAKEN TO MATCH POLISH TYPES ON FACTORY ENDS.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO WORK IDENTIFIED AS UNACCEPTABLE BY CLIENT, ENGINEER, OR INSPECTOR, DURING SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING. CONTRACTOR SHALL ALSO PROVIDE ALL AS-BUILT INFORMATION UPON COMPLETION OF INSPECTION.
16. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS. CONTRACTOR TO RETURN SITE TO PREVIOUS OR BETTER CONDITION.
17. DRAWINGS ARE INTENDED TO SHOW DESIGN INTENT. CONTRACTOR SHALL PROVIDE MATERIALS AND LABOR AS REQUIRED TO PRODUCE A COMPLETE AND FUNCTIONING SYSTEM WHILE MEETING ALL CODES AND SPECIFICATIONS. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS. SUCH MODIFICATIONS SHALL BE INCLUDED IN THE WORK. SAID DESIGN IS INTENDED TO AVOID DISRUPTION OF ANY HANDICAP RAMPS OR STRUCTURES AS DESCRIBED PER THE AMERICANS WITH DISABILITIES ACT OF 1990.
18. CONTRACTOR SHALL WORK WITH CLIENT TO IDENTIFY ALL CONTRACTOR SUPPLIED MATERIALS TO CONSTRUCT NETWORK PER

SPECIFICATIONS.

19. THE CONTRACTOR SHALL PROVIDE ALL MATERIAL, EQUIPMENT, LABOR, INSTALLATION, RESTORATION, UTILITY RELOCATION CHARGES, JOB SITE DELIVERY COSTS AND INCIDENTALS TO COMPLETE THE DESCRIBED OR ILLUSTRATED WORK UNDER THIS CONTRACT.
20. ANY CHANGE-ORDER REQUEST MUST BE PRESENTED IN WRITING TO THE OWNER'S REPRESENTATIVE AND APPROVED PRIOR TO PROCEEDING WITH THE REQUESTED CHANGE.
21. THE ENGINEER WILL NOT BE RESPONSIBLE NOR ASSUME ANY LIABILITY FOR NEGLIGENT ACTS OR ERRORS OF OMISSIONS OF ANY CONTRACTOR, ANY SUBCONTRACTOR, OR ANY OF THE PERSONS (EXCEPT ENGINEER'S OWN EMPLOYEES) AT THE PROJECT SITE OR OTHERWISE PERFORMING ANY OF THE WORK OF THE PROJECT. ANY CONTRACTOR OR SUBCONTRACTOR, AS WELL AS THE ENGINEER, WILL BE RESPONSIBLE FOR HIS OWN SAFETY PROGRAM. NEITHER THE PROFESSIONAL ACTIVITIES OF THE ENGINEER, NOR THE PRESENCE OF THE ENGINEER OR HIS OR HER EMPLOYEES AND SUB-CONSULTANTS AT THE CONSTRUCTION SITE, SHALL RELIEVE ANY CONTRACTOR OF HIS OR HER OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. THE ENGINEER AND HIS OR HER PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR OTHER ENTITY OR THEIR EMPLOYEES IN CONNECTION WITH ANY HEALTH OR SAFETY PRECAUTIONS.
22. ALL MATERIALS INSTALLED WITHIN THE LIMITS OF THIS PROJECT SHALL BE IN CONFORMANCE WITH STANDARD RECOMMENDATIONS OF THE NATIONAL ELECTRIC MANUFACTURER'S ASSOCIATION (NEMA) AND THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
23. THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND COMPLY WITH THE REQUIREMENTS OF ALL AGENCIES HAVING JURISDICTION OVER THE WORK AND SHALL COORDINATE HIS WORK WITH THE WORK PERFORMED BY OTHERS FOR THE PURPOSE OF INSTALLATION. THIS INCLUDES, BUT IS NOT LIMITED TO, ALL WORK WITH ALL PUBLIC AND PRIVATE UTILITIES AS WELL AS CITY AND STATE AGENCIES.
24. CONTRACTOR SHALL RECORD THE LOCATION AND ELEVATION OF ALL UTILITIES ENCOUNTERED, AND INSTALLATION OF NEW WORK, AS THE WORK PROGRESSES AND SHALL PREPARE RECORD DRAWINGS (RED-LINES) BASED ON HIS RECORDS. AS A PART OF THE RECORD DRAWINGS, CONTRACTOR SHALL ALSO PROVIDE HORIZONTAL AND VERTICAL CONFIGURATION OF CONDUITS WHERE MULTIPLE CONDUITS ARE INSTALLED. THESE RECORDS ARE TO BE SUPPLIED TO FULLERTON ENGINEERING AT COMPLETION OF WORK.
25. MAINTAIN MORE THAN 2'-0" VERTICAL CLEARANCE AND MORE THAN 4'-0" HORIZONTAL CLEARANCE BETWEEN EXISTING SEWER OR SEWER STRUCTURES AND UTILITY. IF CITY SEWER FACILITIES ARE DAMAGED DURING CONSTRUCTION, IT MUST BE REPORTED TO CITY ENGINEERING SECTION AND MUST BE REPAIRED BY A LICENSED DRAIN LAYER UNDER THE SUPERVISION OF THE MASON INSPECTOR.
26. NO STORAGE OF EQUIPMENT OR MATERIALS IN THE ROADWAY IS PERMITTED UNLESS THE CONTRACTOR OBTAINS WRITTEN PERMISSION FROM THE CITY, STATE, AND/OR GOVERNING BODY.
27. CONTRACTOR RESPONSIBLE FOR OBTAINING AND PROVIDING REVIEW AND DESIGN OF ANY AND ALL SHORING SYSTEMS PRIOR TO CONSTRUCTION.
28. THE ENGINEER SHALL BE NOTIFIED FOR DISPOSITION OF SITUATIONS WHERE THE CONDUIT CANNOT MAINTAIN SEPARATIONS PER PLAN.
29. THE CONTRACTOR IS RESPONSIBLE FOR THE RESTORATION OF THE AREAS DISTURBED BY CONSTRUCTION ACTIVITIES. CONTRACTOR IS TO PAY ALL FEES AND OBTAIN ALL PERMITS FOR RESTORATION. CONTRACTOR IS TO RESTORE ALL DAMAGED STRUCTURES AND UTILITIES TO THE SATISFACTION OF THE FACILITY OWNER OR THE GOVERNING BODY, IN THE EVENT THAT DAMAGE OCCURS.
30. USE EXTREME CAUTION NEAR ALL GAS FACILITIES DURING CONSTRUCTION AND RELATED EXCAVATION ACTIVITIES, HAND EXCAVATION IS REQUIRED TO VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF GAS MAIN(S) PRIOR TO CROSSING AND WORKING WITHIN 3 FEET OF ALL GAS FACILITIES. A MINIMUM OF 3 FEET HORIZONTAL EDGE TO EDGE CLEARANCE IS REQUIRED FOR GAS MAINS WITH DIAMETERS OF 16 INCHES OR SMALLER, AND 5 FEET EDGE TO EDGE CLEARANCE FOR GAS MAINS WITH DIAMETERS 18 INCHES AND LARGER IN DIAMETER. THE USE OF CONCRETE, FLOW FILL, OR THE LIKE IS PROHIBITED WITHIN 24 INCHES OF ALL GAS FACILITIES, NOR SHALL IT ENCASE ANY GAS FACILITY. SAND IS TO BE USED AS A BUFFER BETWEEN FLOWABLE FILL AND ALL GAS FACILITIES, ANY DAMAGE TO GAS FACILITIES SHALL BE THE RESPONSIBILITY OF THE INSTALLING UTILITY AND THEIR CONTRACTORS.



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**metronet**

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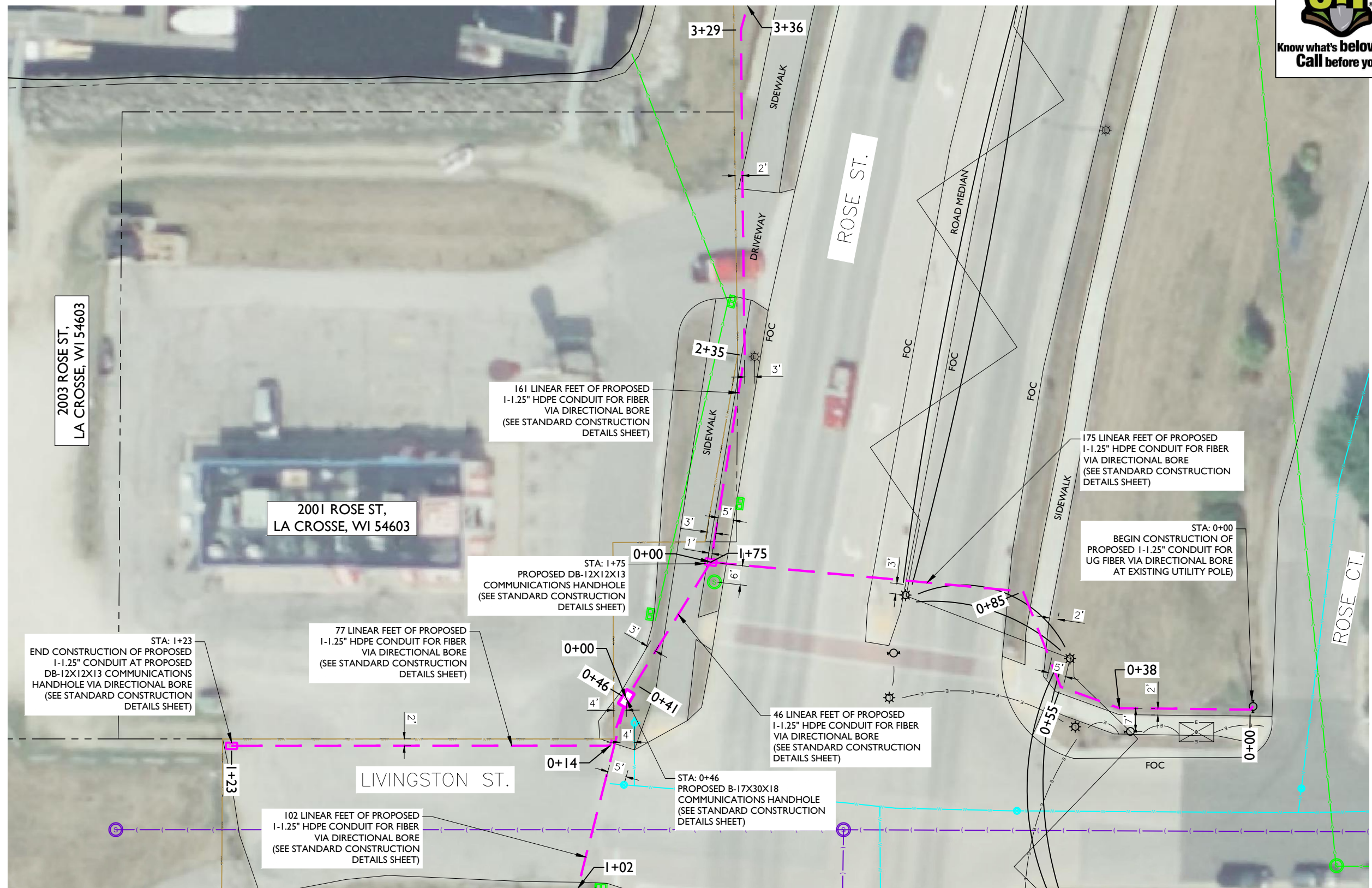
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 1" = 30'-0"

SHEET TITLE  
**DESIGN LAYOUT**

GRID NUMBER  
 SHEET NUMBER  
**C-001**

**NOTE:**

- PROPOSED CONDUIT SHALL AVOID EXISTING SEEPAGE BEDS
- BURY AT 24" MIN. UNDER SOFT SURFACE-BURY AT 36" MIN. UNDER HARD SURFACE
- MAINTAIN 1' FROM BACK OF SIDEWALK, WHEN APPLICABLE.

**NOTE:**

- RIGHT-OF-WAY LINE SHOWN PER INFORMATION PROVIDED IN GIS FILE OBTAINED FROM LA CROSSE CITY

**NOTE:**

- METRONET WILL MAINTAIN 5' CLEARANCE FROM EXISTING INLETS, MANHOLES, VALVES, AND FIRE HYDRANTS & 7.5' CLEARANCE FROM MANHOLES AND CATCH BASINS.

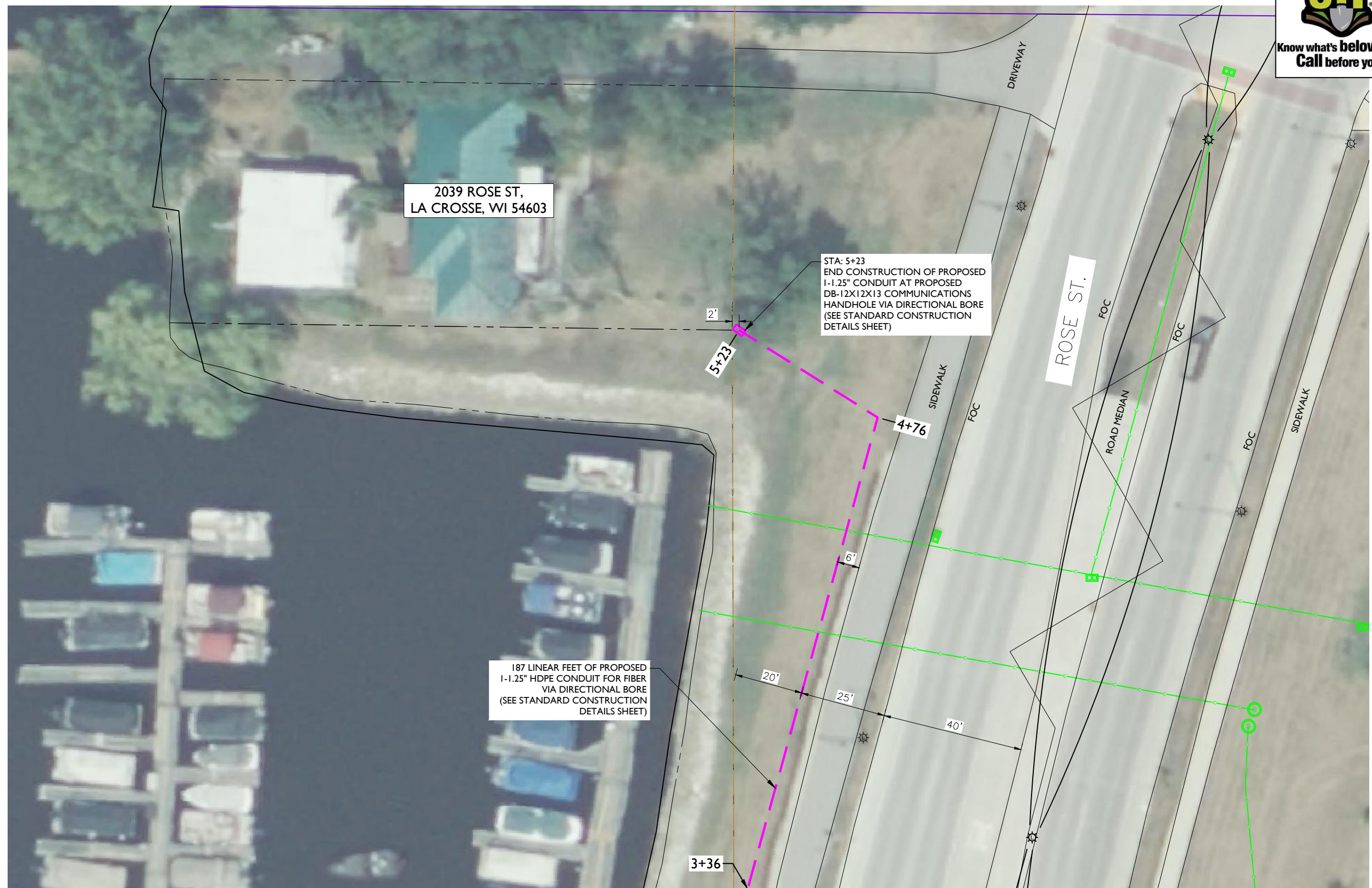




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 SCHAUMBURG, ILLINOIS 60173  
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 COA# 3620-11  
 www.fullerton-us.com



REV	DATE	DESCRIPTION	BY
A	06/27/24	ISSUED FOR REVIEW	JS

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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
 LACROSSE, WI, USA

SHEET SCALE  
 1" = 30'-0"

SHEET TITLE  
**DESIGN LAYOUT**

GRID NUMBER  
 SHEET NUMBER  
**C-002**

**NOTE:**

- PROPOSED CONDUIT SHALL AVOID EXISTING SEEPAGE BEDS
- BURY AT 24" MIN. UNDER SOFT SURFACE-BURY AT 36" MIN. UNDER HARD SURFACE
- MAINTAIN 1' FROM BACK OF SIDEWALK, WHEN APPLICABLE.

**NOTE:**

- RIGHT-OF-WAY LINE SHOWN PER INFORMATION PROVIDED IN GIS FILE OBTAINED FROM LA CROSSE CITY

**NOTE:**

- METRONET WILL MAINTAIN 5' CLEARANCE FROM EXISTING INLETS, MANHOLES, VALVES, AND FIRE HYDRANTS & 7.5' CLEARANCE FROM MANHOLES AND CATCH BASINS.

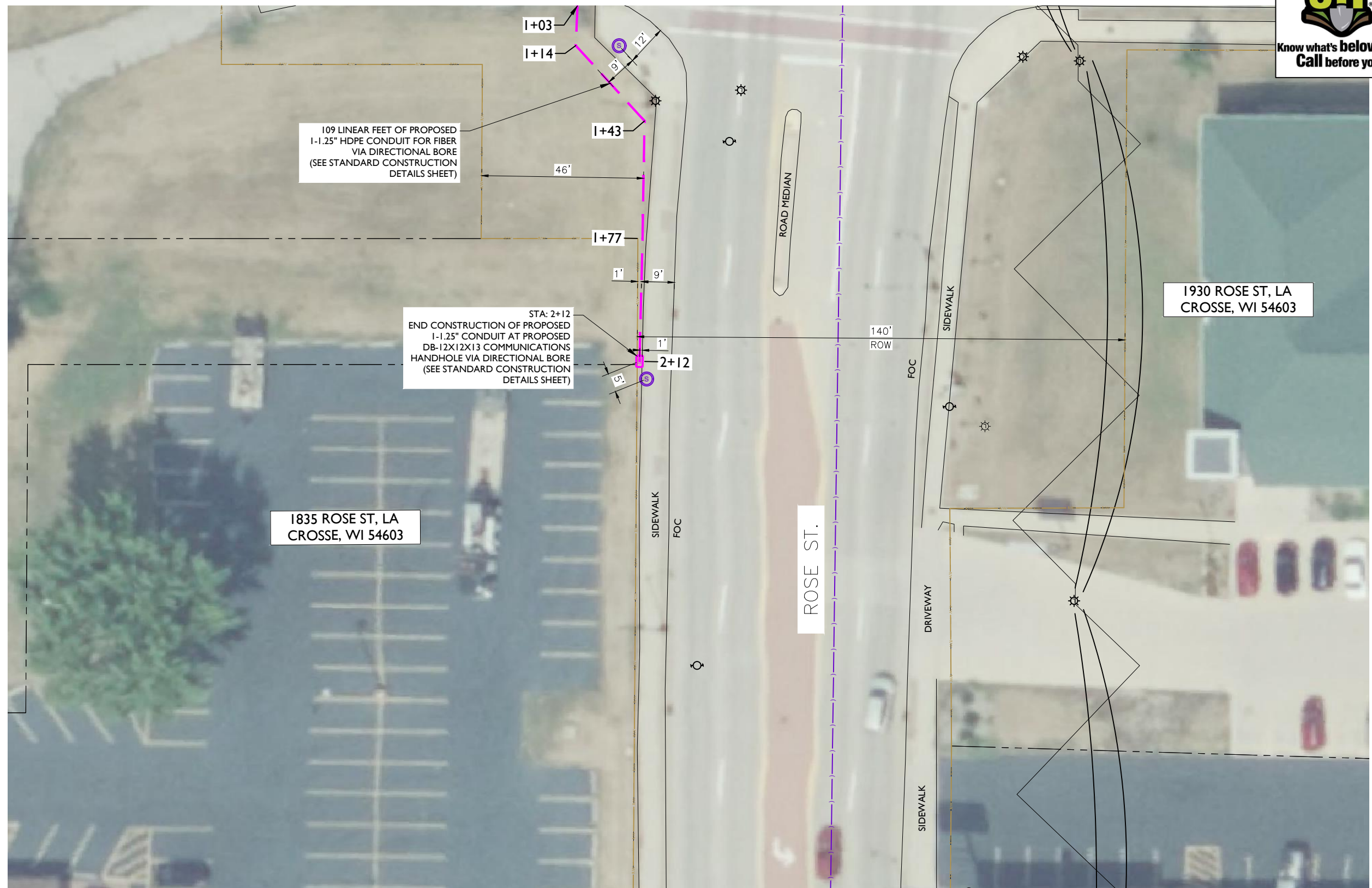




**metronet**  
 3701 COMMUNICATIONS WAY  
 EVANSVILLE, IN, 47715



1100 E. WOODFIELD ROAD, SUITE 500  
 SCHAUMBURG, ILLINOIS 60173  
 TEL: 847-908-8400  
 COA# 3620-11  
 www.fullerton-us.com



1930 ROSE ST, LA  
 CROSSE, WI 54603

1835 ROSE ST, LA  
 CROSSE, WI 54603

REV	DATE	DESCRIPTION	BY
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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT  
 PLACEMENT**

PROJECT AREA  
 LACROSSE, WI, USA

SHEET SCALE  
 1" = 30'-0"

SHEET TITLE  
**DESIGN LAYOUT**

GRID NUMBER  
 SHEET NUMBER  
**C-003**

**NOTE:**

- PROPOSED CONDUIT SHALL AVOID EXISTING SEEPAGE BEDS
- BURY AT 24" MIN. UNDER SOFT SURFACE-BURY AT 36" MIN. UNDER HARD SURFACE
- MAINTAIN 1' FROM BACK OF SIDEWALK, WHEN APPLICABLE.

**NOTE:**

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**NOTE:**

METRONET WILL MAINTAIN 5' CLEARANCE FROM EXISTING INLETS, MANHOLES, VALVES, AND FIRE HYDRANTS & 7.5' CLEARANCE FROM MANHOLES AND CATCH BASINS.



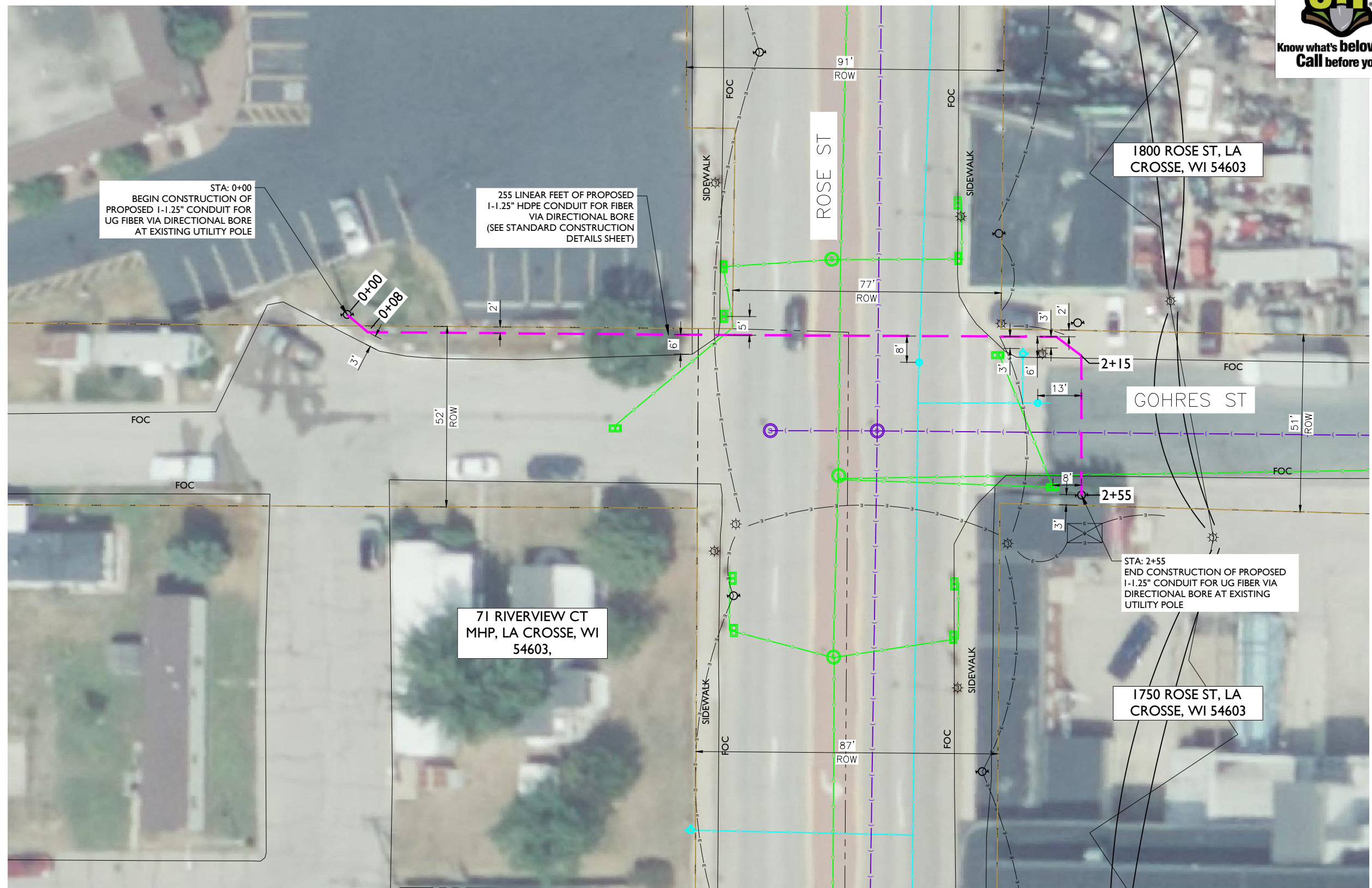




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STA: 0+00  
 BEGIN CONSTRUCTION OF PROPOSED 1-1.25" CONDUIT FOR UG FIBER VIA DIRECTIONAL BORE AT EXISTING UTILITY POLE

255 LINEAR FEET OF PROPOSED 1-1.25" HDPE CONDUIT FOR FIBER VIA DIRECTIONAL BORE (SEE STANDARD CONSTRUCTION DETAILS SHEET)

1800 ROSE ST, LA  
 CROSSE, WI 54603

GOHRES ST

71 RIVERVIEW CT  
 MHP, LA CROSSE, WI  
 54603,

STA: 2+55  
 END CONSTRUCTION OF PROPOSED 1-1.25" CONDUIT FOR UG FIBER VIA DIRECTIONAL BORE AT EXISTING UTILITY POLE

1750 ROSE ST, LA  
 CROSSE, WI 54603

**NOTE:**

- PROPOSED CONDUIT SHALL AVOID EXISTING SEEPAGE BEDS
- BURY AT 24" MIN. UNDER SOFT SURFACE-BURY AT 36" MIN. UNDER HARD SURFACE
- MAINTAIN 1' FROM BACK OF SIDEWALK, WHEN APPLICABLE.

**NOTE:**

- RIGHT-OF-WAY LINE SHOWN PER INFORMATION PROVIDED IN GIS FILE OBTAINED FROM LA CROSSE CITY

**NOTE:**

METRONET WILL MAINTAIN 5' CLEARANCE FROM EXISTING INLETS, MANHOLES, VALVES, AND FIRE HYDRANTS & 7.5' CLEARANCE FROM MANHOLES AND CATCH BASINS.



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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
 LACROSSE, WI, USA

SHEET SCALE  
 1" = 30'-0"

SHEET TITLE  
**DESIGN LAYOUT**

GRID NUMBER  
 SHEET NUMBER  
**C-004**



**metronet**  
 3701 COMMUNICATIONS WAY  
 EVANSVILLE, IN, 47715



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 SCHAUMBURG, ILLINOIS 60173  
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1625 ROSE ST,  
 LA CROSSE, WI 54603

ROSE ST

STA: 5+20  
 END CONSTRUCTION OF PROPOSED  
 1-1.25" CONDUIT AT PROPOSED  
 DB-12X12X13 COMMUNICATIONS  
 HANDHOLE VIA DIRECTIONAL BORE  
 (SEE STANDARD CONSTRUCTION  
 DETAILS SHEET)

156 LINEAR FEET OF PROPOSED  
 1-1.25" HDPE CONDUIT FOR FIBER  
 VIA DIRECTIONAL BORE  
 (SEE STANDARD CONSTRUCTION  
 DETAILS SHEET)

STA: 3+64  
 PROPOSED DB-12X12X13  
 COMMUNICATIONS HANDHOLE  
 (SEE STANDARD CONSTRUCTION  
 DETAILS SHEET)

364 LINEAR FEET OF PROPOSED  
 1-1.25" HDPE CONDUIT FOR FIBER  
 VIA DIRECTIONAL BORE  
 (SEE STANDARD CONSTRUCTION  
 DETAILS SHEET)

STA: 0+00  
 BEGIN CONSTRUCTION OF  
 PROPOSED 1-1.25" CONDUIT FOR  
 UG FIBER VIA DIRECTIONAL BORE  
 AT EXISTING UTILITY POLE

**NOTE:**

- PROPOSED CONDUIT SHALL AVOID EXISTING SEEPAGE BEDS
- BURY AT 24" MIN. UNDER SOFT SURFACE-BURY AT 36" MIN. UNDER HARD SURFACE
- MAINTAIN 1' FROM BACK OF SIDEWALK, WHEN APPLICABLE.

**NOTE:**

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**NOTE:**

- METRONET WILL MAINTAIN 5' CLEARANCE FROM EXISTING INLETS, MANHOLES, VALVES, AND FIRE HYDRANTS & 7.5' CLEARANCE FROM MANHOLES AND CATCH BASINS.



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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
 LACROSSE, WI, USA

SHEET SCALE  
 1" = 30'-0"

SHEET TITLE  
**DESIGN LAYOUT**

GRID NUMBER

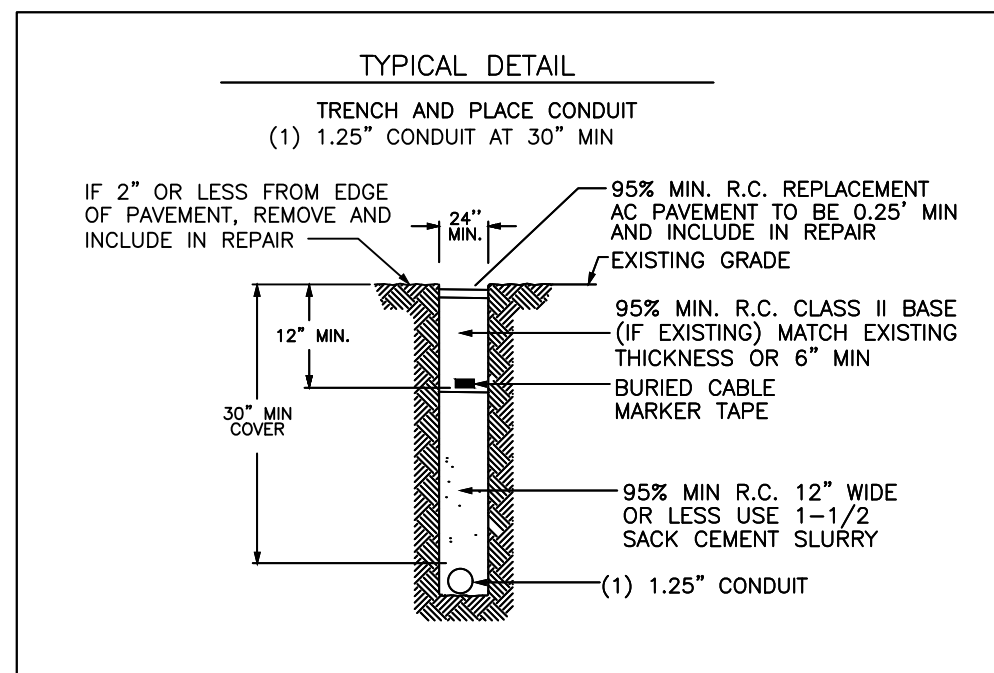
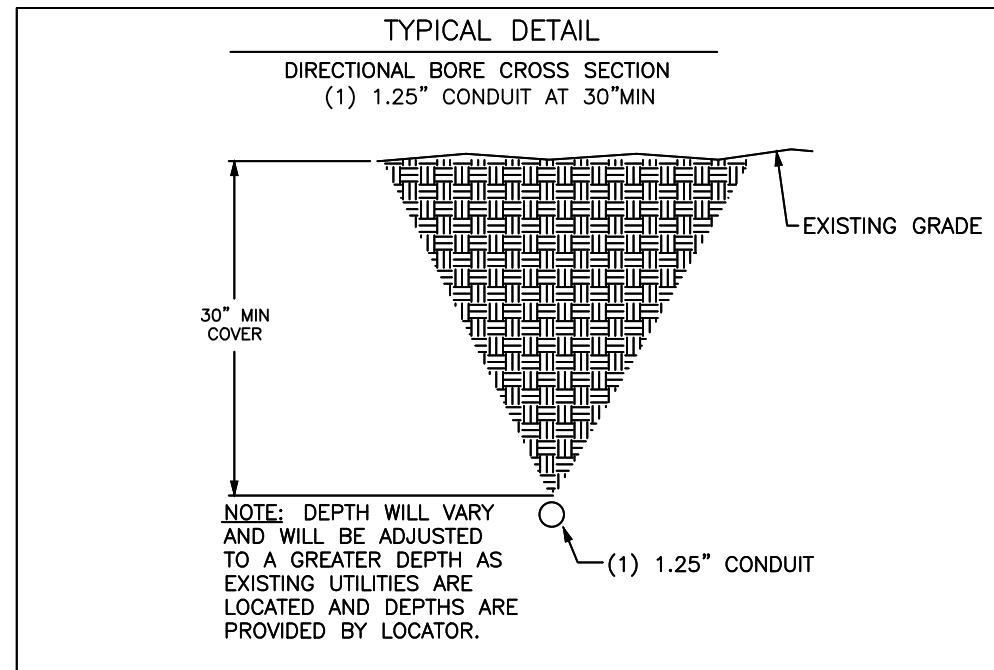
SHEET NUMBER  
**C-005**

**ADDITIONAL NOTES:**

1. EXCEPT AS OTHERWISE NOTED, CONTRACTOR SHALL MAINTAIN A MINIMUM OF 24 INCHES OF SEPARATION FROM EXISTING UTILITIES.
2. CONTRACTOR SHALL POT HOLE EACH UTILITY TO DETERMINE SIZE, LOCATION, AND DEPTH PRIOR TO CROSSING.
3. CONTRACTOR IS CAUTIONED TO PROTECT SEWER MANHOLES, CATCH BASINS, LATERALS AND INLETS.
4. CONTRACTOR WILL PROVIDE BARRICADING TO INSURE CORRECT TRAFFIC CONTROL WHILE MAINTAINING VEHICULAR TRAFFIC AT ALL TIMES.
5. RESTORATION TO BE IN COMPLIANCE WITH APPLICABLE PERMITTING AGENCIES.
6. BONDING AND GROUNDING PER NESC.

**PUBLIC UTILITY NOTE:**

CONTRACTOR SHALL NOTIFY ALL PUBLIC UTILITY COMPANIES (GAS, ELECTRIC, TELEPHONE, SEWER, WATER, ETC) PRIOR TO COMMENCING ANY CONSTRUCTION. THESE COMPANIES WILL LOCATE, ON THE GROUND, THE LOCATION OF ALL CONDUITS, DUCTS, UNDERGROUND PIPING, ETC., ADJOINING & CROSSING PROPOSED CONSTRUCTION.



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**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
 LACROSSE, WI, USA

SHEET SCALE  
 N.T.S.

SHEET TITLE  
**DETAILS**

GRID NUMBER

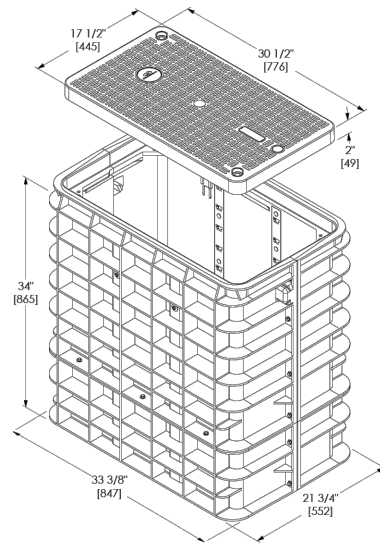
SHEET NUMBER  
**D-1**

BULK 3 Series

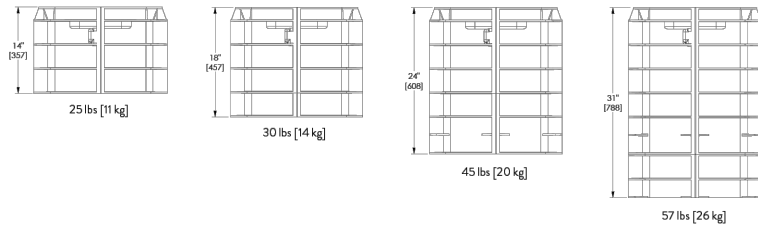
TECHNICAL SPECIFICATIONS

BODY SPECIFICATIONS

Cover Weight 26 lbs [12 kg]  
 Pit Weight 63 lbs [29 kg]  
 Assembled Weight 89 lbs [41 kg]



ADDITIONAL BODY DEPTHS

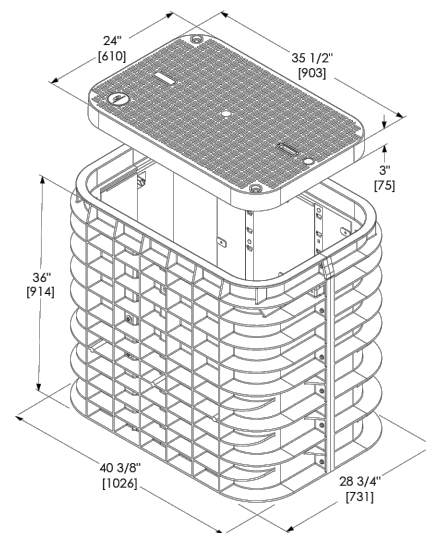


BULK 4 Series

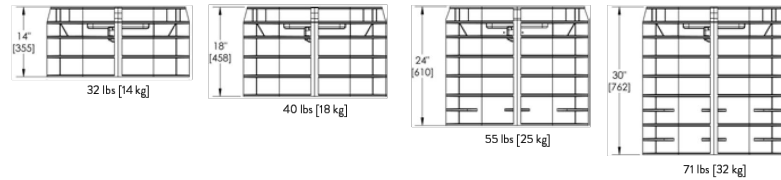
TECHNICAL SPECIFICATIONS

BODY SPECIFICATIONS

Cover Weight 50 lbs [23 kg]  
 Pit Weight 82 lbs [37 kg]  
 Assembled Weight 132 lbs [60 kg]



ADDITIONAL BODY DEPTHS

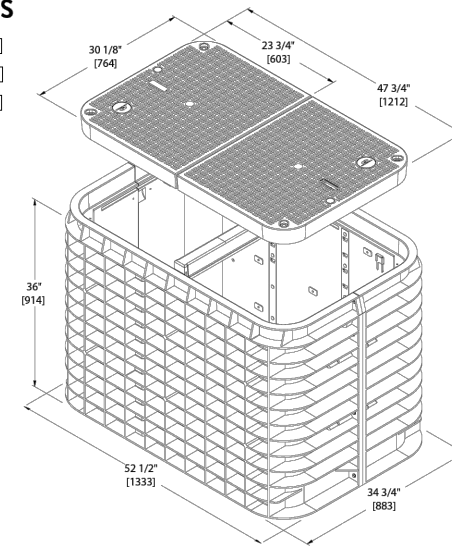


BULK 7 Series

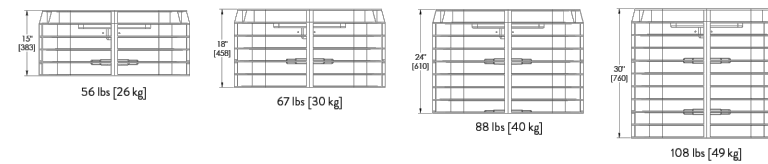
TECHNICAL SPECIFICATIONS

BODY SPECIFICATIONS

Cover Weight (Split 1/2 Cover) 50 lbs [23 kg]  
 Pit Weight 129 lbs [59 kg]  
 Assembled Weight 229 lbs [105 kg]



ADDITIONAL BODY DEPTHS



3701 COMMUNICATIONS WAY  
 EVANSVILLE, IN, 47715



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TASK NAME

WILC034

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT  
 PLACEMENT**

PROJECT AREA  
 LACROSSE, WI, USA

SHEET SCALE  
 N.T.S.

SHEET TITLE  
**DETAILS**

GRID NUMBER

SHEET NUMBER  
 D-2

**SGLB-0** NEW SIGNATURE SERIES GRADE LEVEL BOX WITH **SELFLOCK** PROTECTION



**SELFLOCK**

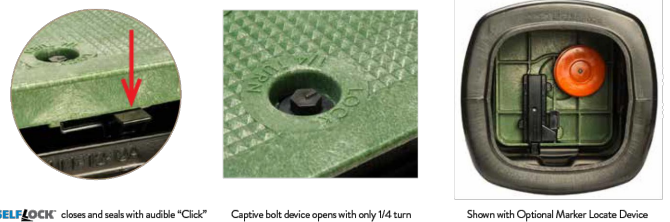
The New Signature Series SGLB High Density Polyethylene (HDPE) grade level box line come standard with Logo Disk and the Patented **SELFLOCK** automatic locking mechanism.

**FEATURES**

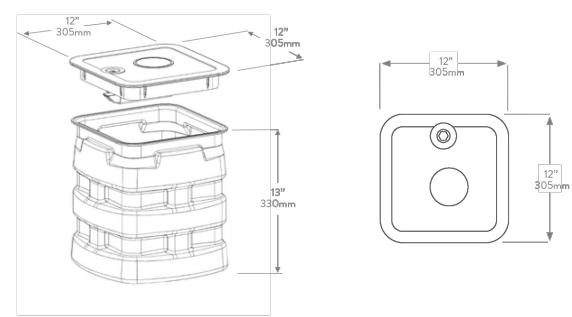
- 13" (330mm) Depth
- No bolts to be lost, misplaced, or not installed back into the unit

- Captive bolt device, that opens with a ¼ turn
- Press/ Push lid closed, and it will automatically lock in place (with an audible "click")
- Protects your investment, and ensures the needed protection for your network
- Eliminates the risk of lids floating off, being throw be lawnmowers (i.e. reduces potentially liability)

**SIMPLE AND WORRY FREE PROTECTION**



**DIMENSIONS**



WORLDWIDE HEADQUARTERS: Channell Commercial Corporation, Rockwall, TX, United States • Tel 800.423.1863 • Fax 951.296.2322  
 CANADA: Channell Canada, Inc., Mississauga, ON, Canada • Tel 905.565.1700 • Fax 905.565.8282  
 EUROPE, MIDDLE EAST, AFRICA: Channell Ltd., Dartford, United Kingdom • Tel 44.1322.312590 • Fax 44.1322.508490  
 AUSTRALIA, ASIA, PACIFIC RIM: Channell Pty. Ltd., Seven Hills, NSW, Australia • Tel 61.2.8884.4111 • Fax 61.2.8814.8841  
[www.channell.com](http://www.channell.com)

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040822 FR1

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 EVANSVILLE, IN, 47715

**Fullerton**  
 DESIGN DEVELOP CONSTRUCT

1100 E. WOODFIELD ROAD, SUITE 500  
 SCHAUMBURG, ILLINOIS 60173  
 TEL: 847-908-8400  
 COA# 3620-11  
[www.fullerton-us.com](http://www.fullerton-us.com)

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**SGLB-2** SIGNATURE SERIES GRADE LEVEL BOX WITH **SELFLOCK** PROTECTION



**SELFLOCK**

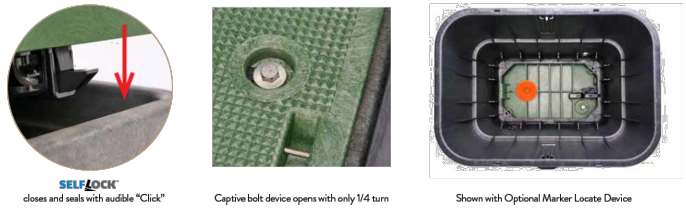
The Signature Series SGLB-2 High Density Polyethylene (HDPE) grade level box line comes standard with Customizable Logo Disk and the Patented **SELFLOCK** automatic locking mechanism.

**FEATURES**

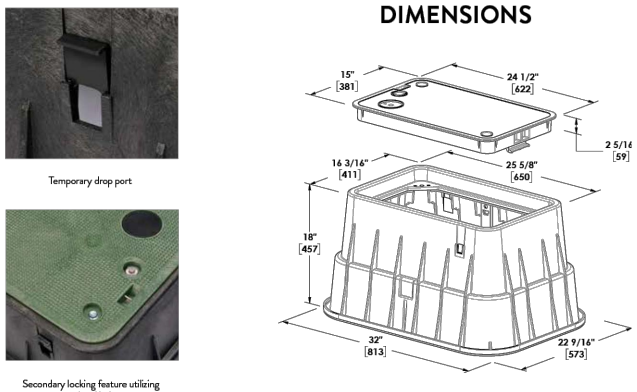
- Designed for Greenbelt/ Pedestrian applications
- Captive bolt device, that opens with a ¼ turn

- No bolts to be lost, misplaced, or not installed back into the unit
- Press/ Push lid closed, and it will automatically lock in place (with an audible "click")
- Secondary lock option
- Temporary drop port
- Protects your investment, and ensures the needed protection for your network
- Eliminates the risk of lids floating off, being thrown by lawnmowers (i.e. reduces potential liability)

**SIMPLE AND WORRY FREE PROTECTION**



**DIMENSIONS**



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022634

TASK NAME

WILC034

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA

LACROSSE, WI, USA

SHEET SCALE

N.T.S.

SHEET TITLE

DETAILS

GRID NUMBER

SHEET NUMBER

D-3

**NOTES:**

1. CALL FOR LOCATES AT LEAST 72 HOURS IN ADVANCE OF ANY CONSTRUCTION FOR MARKINGS.
2. FOR LABEL AND TAG INFORMATION SEE DRAWING OSP 16.
3. THE VAULT W/ BOTTOM ENTRY ELEVATION VIEW SHOWN BELOW ONLY INDICATES THE BACK FILL REQUIREMENTS NECESSARY FOR VAULTS PLACED IN SIDEWALKS, ETC. (WHERE THEY NEED TO COMPLY WITH ADA REQUIREMENTS). TO ENSURE COMPLIANCE WITH CURRENT ADA REQUIREMENTS, THE HEIGHT OF THE BACK FILL IS SHOWN HELD DOWN TO ALLOW CONCRETE TO FLOW DOWN AND AROUND THE LIFTING LUGS/BOLTS WHICH WILL SERVE AS DOWELS INTO THE FINISHED CONCRETE SLAB.

**ADA REQUIREMENTS:**

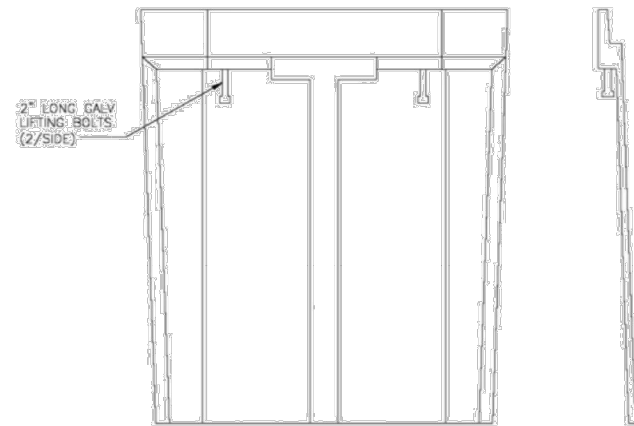
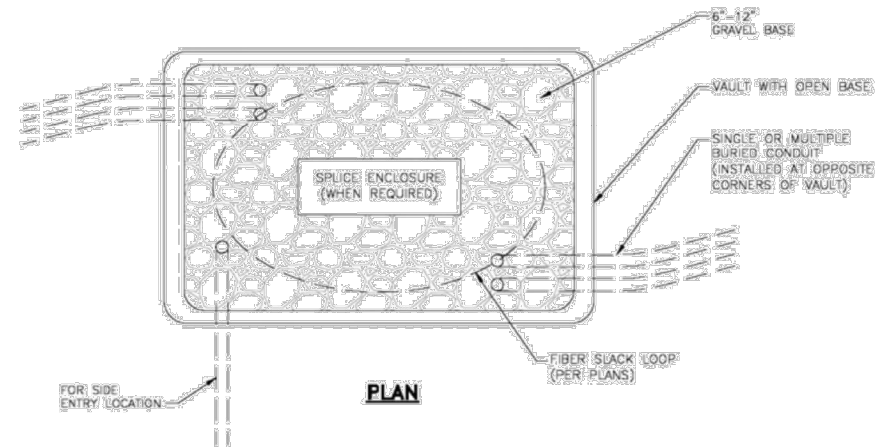
**SURFACE LEVEL CRITERIA:** NO HEIGHT DIFFERENTIALS WITH A RISE GREATER THAN 1/4" IN HEIGHT. EXCEPTIONS: A HEIGHT DIFFERENTIAL BETWEEN 1/4" AND 1/2" IS ACCEPTABLE IF IT IS BEVELED AT A 2:1 SLOPE, OR A HEIGHT DIFFERENTIAL GREATER THAN 1/2" IS ACCEPTABLE IF IT IS RAMPED WITH A SLOPE OF 8.33% (1V:12H) OR LESS.

UTILITY COVERS SHALL HAVE A SLIP RESISTANT TOP, AS MUCH AS POSSIBLE, AND MEET CHANGES IN LEVEL CRITERIA AS STATED ABOVE.

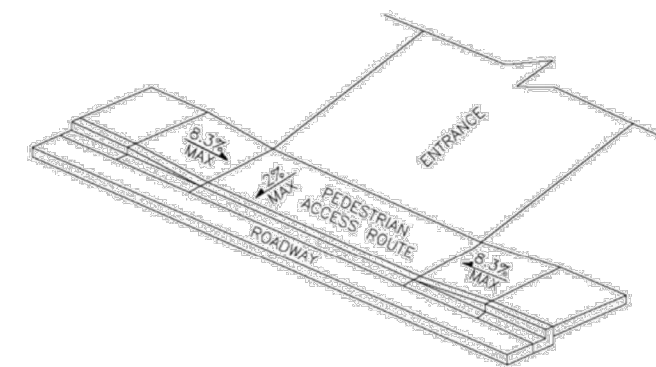
LIFT HOLES FOR UTILITY COVERS SHALL NOT HAVE AN OPENING GREATER THAN 1/2". PLUGGING OF HOLES GREATER THAN 1/2" WITH A MATERIAL APPROVED BY THE ENGINEER IS ACCEPTABLE AS LONG AS IT IS FLUSH WITH THE COVER SURFACE.

A LEVEL PEDESTRIAN ACCESS ROUTE (PAR) OR WALKWAY SHALL BE PROVIDED ACROSS COMMERCIAL AND RESIDENTIAL ENTRANCES, MEETING THE FOLLOWING CRITERIA:

- THE WALKWAY IS AT MINIMUM 3' WIDE.
- CROSS SLOPE OF WALKWAY IS 2% OR LESS.
- WALKWAY IS AT THE SAME GRADE AS THE ADJACENT ROADWAY.
- THE WALKWAY DOES NOT HAVE TO BE MARKED, BUT PROVIDES A STRAIGHT LINE BETWEEN THE ADJOINING SIDEWALKS OR RAMPS.
- THERE IS NOT AN ABRUPT TRANSITION FROM THE DRIVEWAY TO THE ROADWAY FOR VEHICLES, I.E., VEHICLES WILL NOT BOTTOM OUT WHEN DRIVING OVER THE TRANSITION.



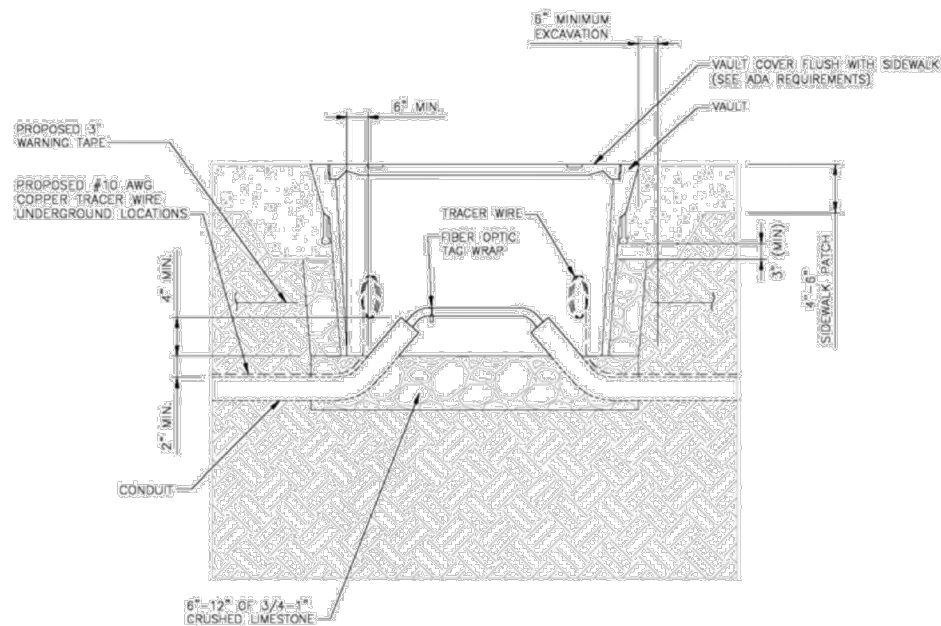
**SIDE VIEW**



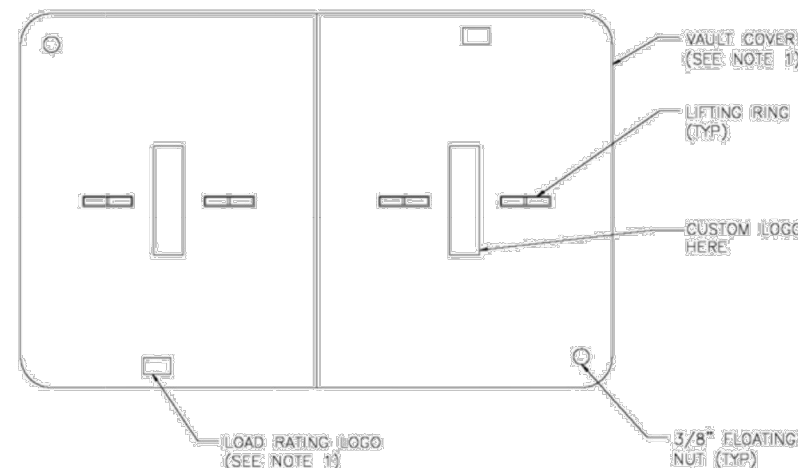
**PEDESTRIAN ACCESS ROUTE**

**NOTE:**

1. ENCLOSURES, BOXES AND COVERS ARE REQUIRED TO MEET OR EXCEED ALL TESTS PROVISIONS OF THE MOST CURRENT ANSI/SCTE 77-2007 "SPECIFICATIONS FOR UNDERGROUND INTEGRITY" FOR TIER 15 (OR BETTER).



**VAULT W/ BOTTOM ENTRY**



**VAULT LID**

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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

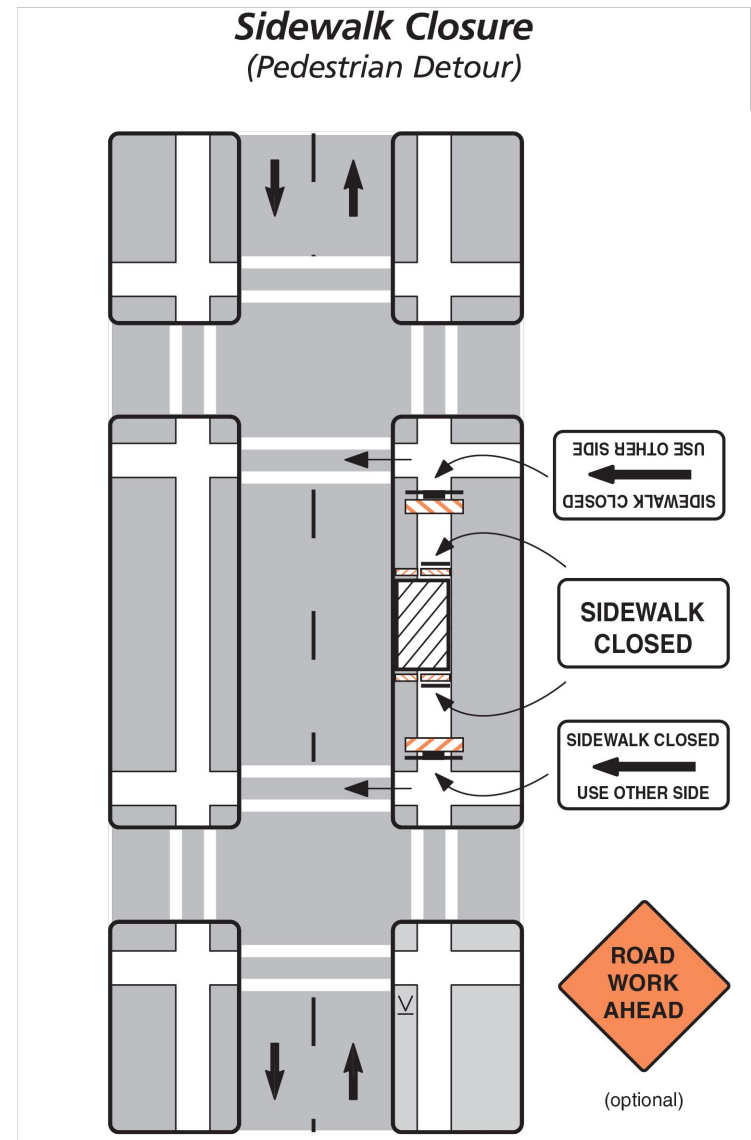
PROJECT AREA  
LACROSSE, WI, USA

SHEET SCALE  
N.T.S.

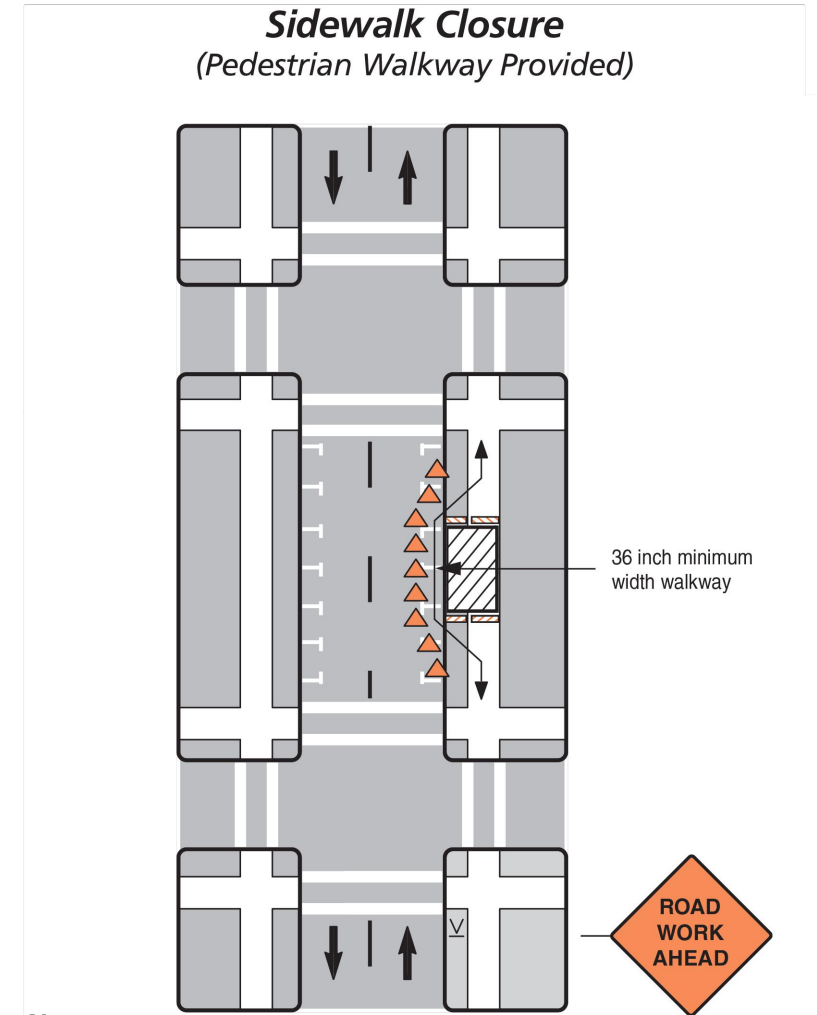
SHEET TITLE  
**DETAILS**

GRID NUMBER

SHEET NUMBER  
D-4



- Notes**
1. Additional advance warning may be necessary.
  2. Only the traffic control devices related to pedestrians are shown. Other devices may be needed to control traffic on the streets such as lane closure signs, ROAD NARROWS or LANE NARROWS signs.
  3. For nighttime closures, Type A flashing warning lights may be used on barricades supporting signs and closing walkways.
  4. Audible devices should be considered to alert pedestrians with visual disabilities of closings and crosswalk changes.



- Notes**
1. Additional advance warning may be necessary.
  2. Only the traffic control devices related to pedestrians are shown. Other devices such as lane closure signs, ROAD NARROWS or LANE NARROWS signs may be needed to control traffic on the streets.
  3. For nighttime closures, Type A flashing warning lights may be used on barricades supporting signs and closing walkways. Type C or Type D steady-burn lights may be used on channelizing devices separating the temporary walkway from vehicular traffic.
  4. Where high speeds are likely, a barrier should separate the temporary walkway from vehicular traffic. Refer to Section 6D.01 of Part 6 of the MUTCD for information on barriers.
  5. Signs may be placed along a temporary walkway to guide pedestrians; for example, Keep Right or Keep Left signs.
  6. Pedestrian walkways should be ADA accessible (i.e., ramps, surfaces).

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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
 LACROSSE, WI, USA

SHEET SCALE  
 N.T.S.

SHEET TITLE  
**TRAFFIC CONTROL STANDARD DETAILS**

GRID NUMBER

SHEET NUMBER  
**TCP-1**

REV	DATE	DESCRIPTION	BY
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TASK NAME

**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
LACROSSE, WI, USA

SHEET SCALE  
N.T.S.

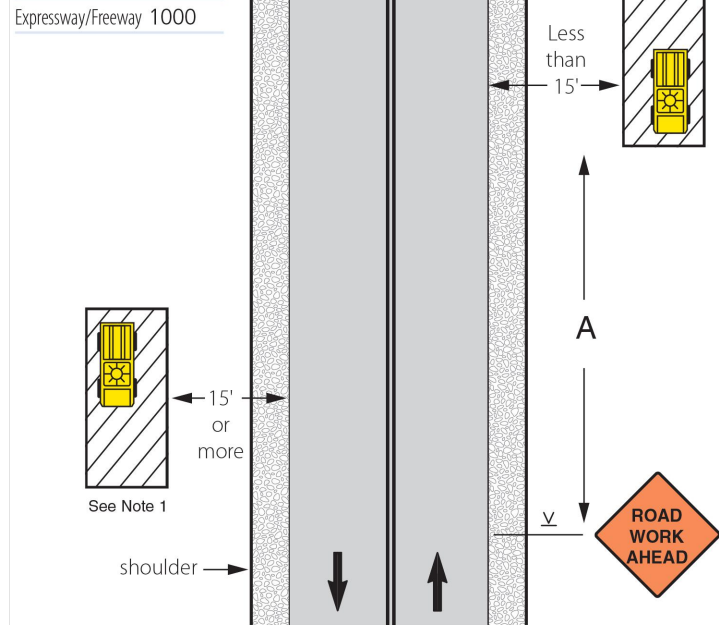
SHEET TITLE  
**TRAFFIC CONTROL STANDARD DETAILS**

GRID NUMBER

SHEET NUMBER  
**TCP-2**

**Work Beyond the Shoulder**

Speed Limit (mph)	Sign Spacing A (ft)
25-30	200
35-40	350
45-55	500
Expressway/Freeway	1000

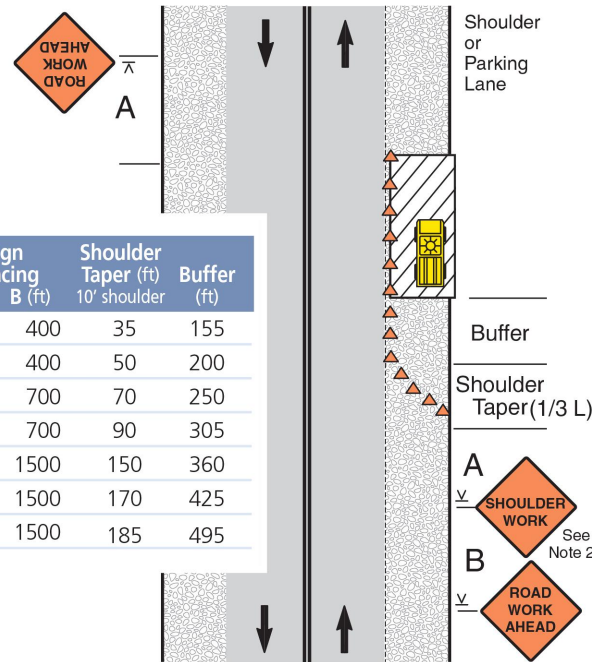


**Notes**

- The warning sign may be omitted where the work area is behind a guard rail, more than 2' behind a curb, 30' or more from the edge of a freeway/expressway, or 15' or more from the edge of any other roadway.
- For short-term, short-duration, or mobile operations, the warning sign may be omitted if a vehicle with activated high intensity light is used. On State Roads, the warning sign can be omitted if the duration of work is less than 60 minutes and activated high intensity lights are used.
- The ROAD WORK AHEAD sign may be replaced with other appropriate signs such as SHOULDER WORK, UTILITY WORK AHEAD, SURVEY CREW, MOWING AHEAD or WORKERS.

**Work on Shoulder or Parking Lane on Two-Lane Two-Way Road**

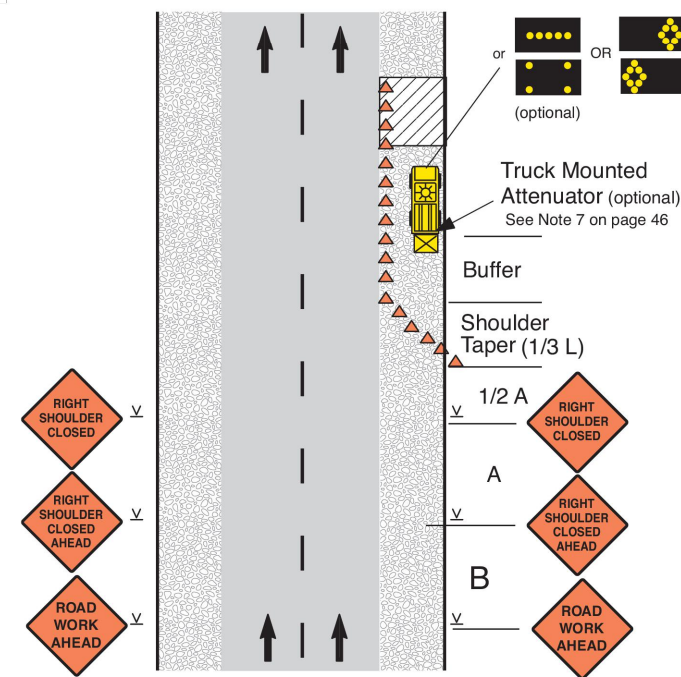
Speed Limit (mph)	Sign Spacing A (ft)	Sign Spacing B (ft)	Shoulder Taper (ft) 10' shoulder	Buffer (ft)
25	200	400	35	155
30	200	400	50	200
35	350	700	70	250
40	350	700	90	305
45	500	1500	150	360
50	500	1500	170	425
55	500	1500	185	495



**Notes**

- Encroachment into the traffic lane is allowable, but a 10-foot minimum travel lane width should be maintained. A lane closure should be considered if there is encroachment on roads with speeds greater than 35 mph, or for other conditions where workers, equipment, or the work activity would benefit from the lateral buffer (see pages 22 and 23).
- If there is encroachment into the traffic lane, a ROAD NARROWS sign may be used instead of SHOULDER WORK. For roads with low volume, the SHOULDER WORK or ROAD NARROWS sign can be omitted.
- For short duration work, the channelizing devices may be omitted if a vehicle with activated high intensity lights is used. For short duration work with no lane encroachment, the signs may also be omitted.
- WORKERS, UTILITY WORK AHEAD, SHOULDER WORK AHEAD, or SURVEY CREW signs may be used instead of SHOULDER WORK or ROAD WORK AHEAD.
- When work area is at least 2' from traffic lane on roads with low volume and speeds of 35 mph or less, the sign on opposite side can be omitted.

**Shoulder or Parking Lane Closed on Divided or One-Way Roadway**



**Notes**

- SHOULDER CLOSED signs should be used on limited-access highways where there is no opportunity for disabled vehicles to pull off the traveled way.
- For short-term stationary work, one SHOULDER CLOSED warning sign can be omitted.
- For short duration work, the channelizing devices can be omitted if a vehicle with activated high intensity lights is used. For short duration work with no lane encroachment, the signs can also be omitted.
- UTILITY WORK AHEAD, SURVEY CREW or WORKERS signs can be used instead of the ROAD WORK AHEAD signs shown.
- If the parking lane is used as a traffic lane follow the lane closure layout. See page 32.

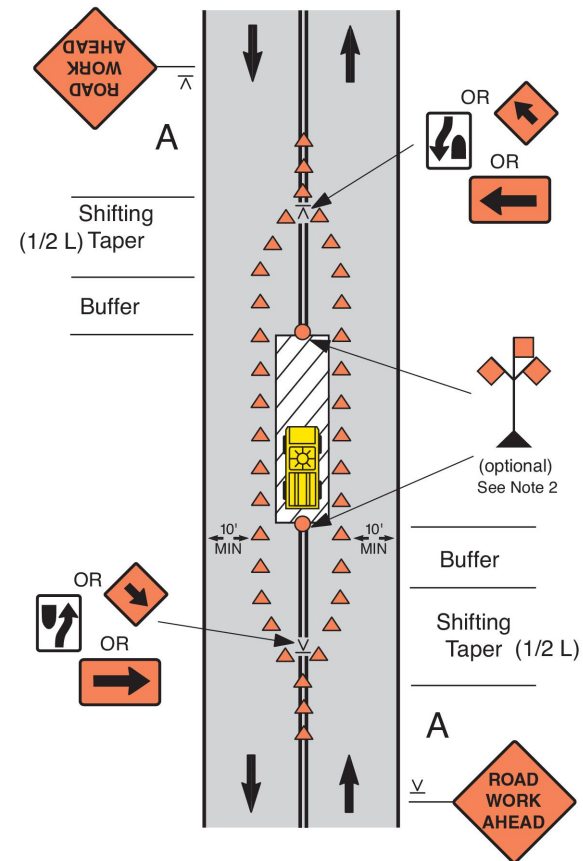
Speed Limit (mph)	Sign Spacing A (ft)	Sign Spacing B (ft)	Shoulder Taper (ft) 10' shoulder	Buffer (ft)
35	350	350	70	250
40	350	350	90	305
45	1000	1000	150	360
50	1000	1000	170	425
55	1000	1000	185	495
60	1000	1500	200	570
65	1000	1500	220	645
70	1000	1500	235	730



REV	DATE	DESCRIPTION	BY
A	06/27/24	ISSUED FOR REVIEW	JS

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**Work in Center of Road**  
(Maintaining Two-Way Traffic, 35 mph or Less)

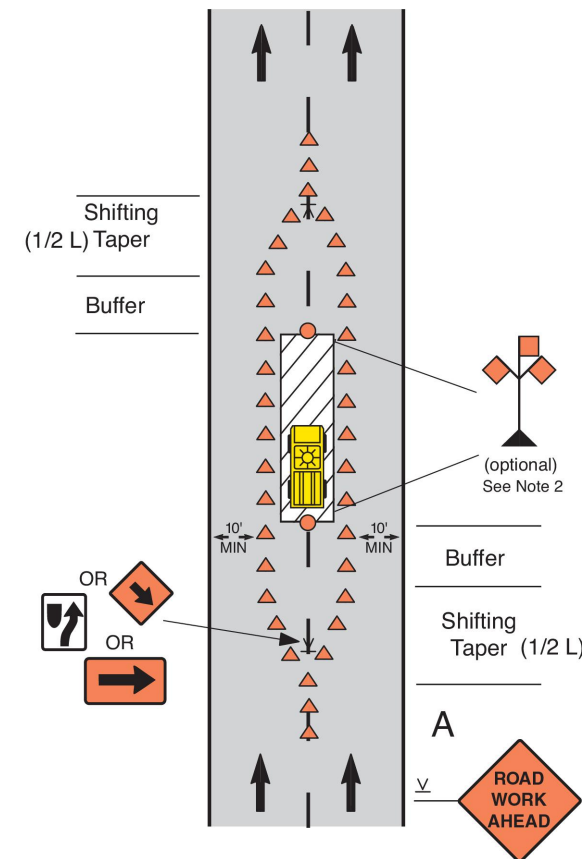


**Notes**

- Additional advance warning signs can be used such as ROAD NARROWS or Reverse Curve/Turn signs. The Reverse Curve/Turn sign is appropriate for larger deviations in the travel path.
- Channelizing devices and high level warning devices may be eliminated on roads with low volumes if a work vehicle with activated high intensity lights is used.
- The Large Arrow sign can be used instead of the Keep Right or Down Arrow sign where space permits.

Speed Limit (mph)	Sign Spacing A, B (ft)	Shifting Taper (ft)		Buffer (ft)
		5'	10'	
25	200	30	55	155
30	200	40	75	200
35	350	55	105	250

**Work in Center of Road on Divided or One-Way Roadway**  
(35 mph or Less)



**Notes**

- Additional advance warning signs can be used such as ROAD NARROWS or Reverse Curve/Turn signs. The Reverse Curve/Turn sign is appropriate for larger deviations in the travel path.
- Channelizing devices and high level warning devices may be eliminated on roads with low volumes if a work vehicle with activated high intensity lights is used.
- The Large Arrow sign can be used instead of the Keep Right or Down Arrow sign where space permits.

Speed Limit (mph)	Sign Spacing A, B (ft)	Shifting Taper (ft)		Buffer (ft)
		5'	10'	
25	200	30	55	155
30	200	40	75	200
35	350	55	105	250

TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
LACROSSE, WI, USA

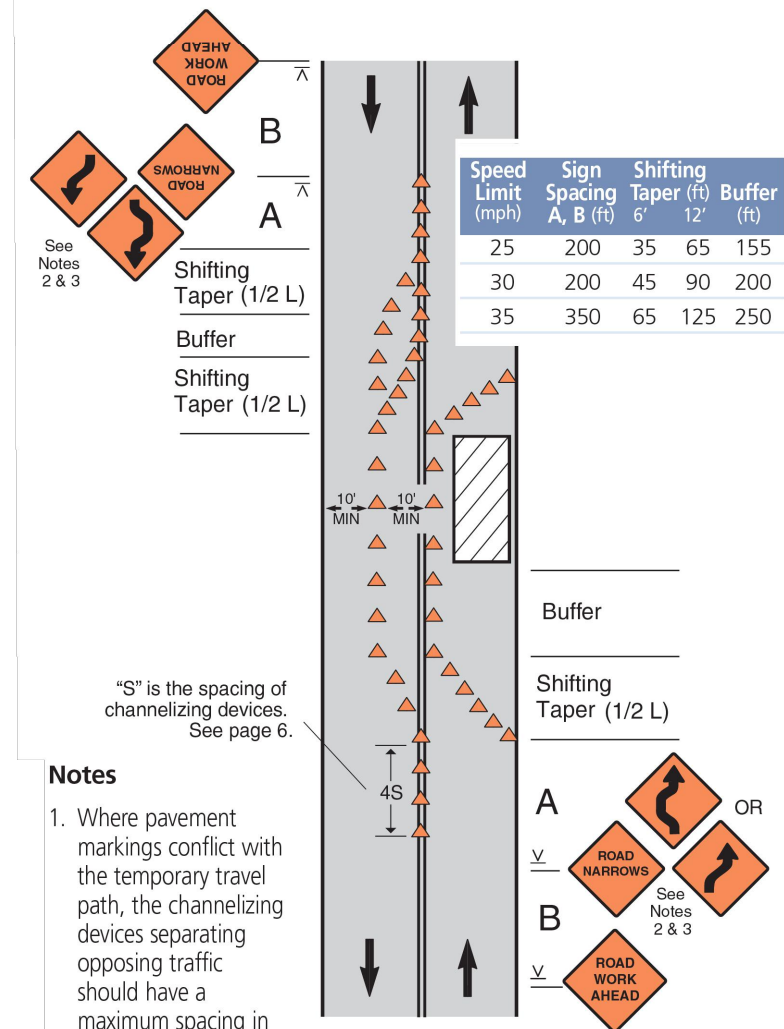
SHEET SCALE  
N.T.S.

SHEET TITLE  
TRAFFIC CONTROL STANDARD DETAILS

GRID NUMBER

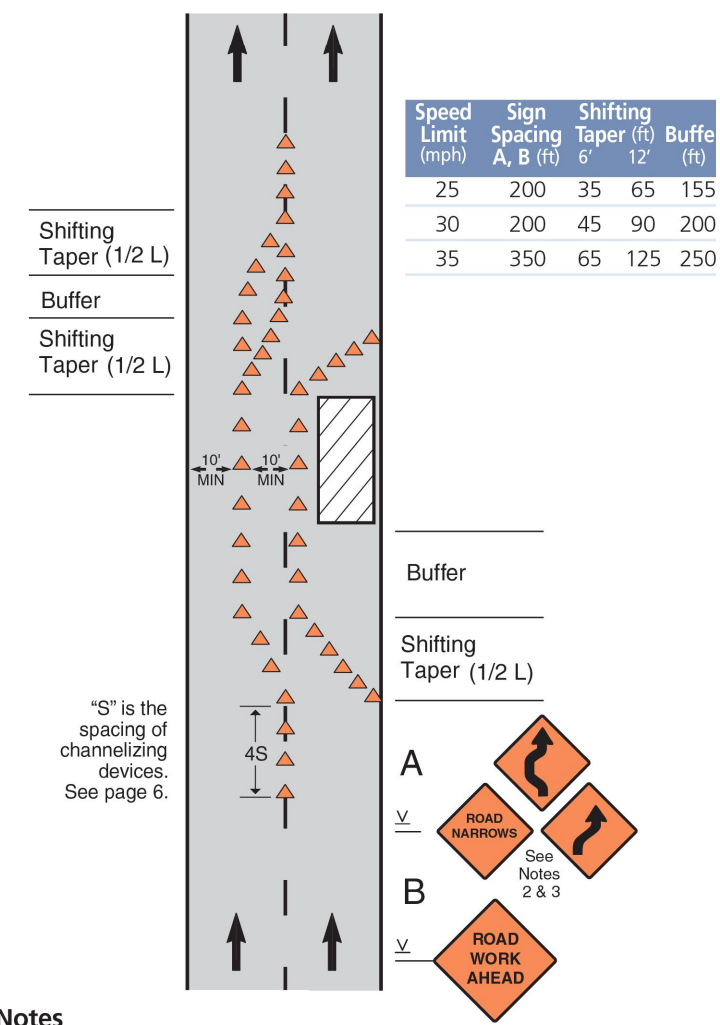
SHEET NUMBER  
TCP-3

**Work in Travel Lane**  
(Maintaining Two-Way Traffic, 35 mph or Less)



- Notes**
- Where pavement markings conflict with the temporary travel path, the channelizing devices separating opposing traffic should have a maximum spacing in feet of 1/2 the speed limit in mph.
  - The ROAD NARROWS or Reverse Curve/Turn sign is optional on roads with low volume or where the lane shift requires only a minor deviation in the travel path. The Reverse Curve/Turn sign is appropriate for larger deviations in the travel path.
  - If the tangent is more than 600', the Reverse Curve/Turn sign should be used instead of the Double Reverse Curve sign.
  - If speeds are 30 mph or less, Reverse Turn signs shall be used instead of Reverse Curve.

**Work in Travel Lane on Divided or One-Way Roadway**  
(35 mph or Less)



- Notes**
- Where pavement markings conflict with the temporary travel path, the channelizing devices separating opposing traffic should have a maximum spacing in feet of 1/2 the speed limit in mph.
  - If the tangent is more than 600 feet, the Reverse Curve/Turn sign should be used instead of the Double Reverse Curve sign.
  - If speeds are 30 mph or less, Reverse Turn signs shall be used instead of Reverse Curve.

REV	DATE	DESCRIPTION	BY
A	06/27/24	ISSUED FOR REVIEW	JS

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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
LACROSSE, WI, USA

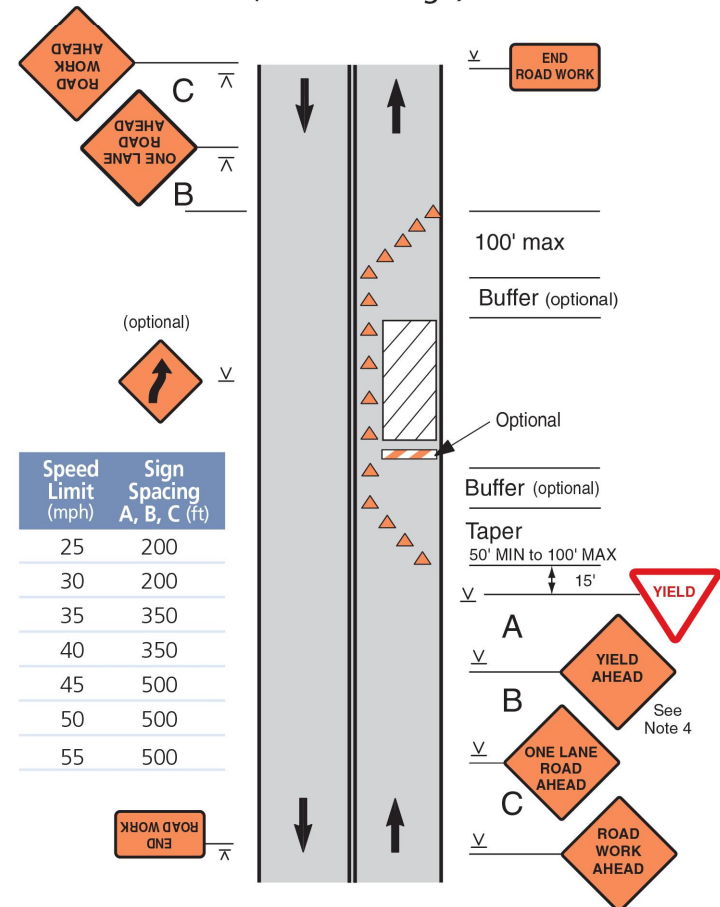
SHEET SCALE  
N.T.S.

SHEET TITLE  
**TRAFFIC CONTROL STANDARD DETAILS**

GRID NUMBER

SHEET NUMBER  
**TCP-4**

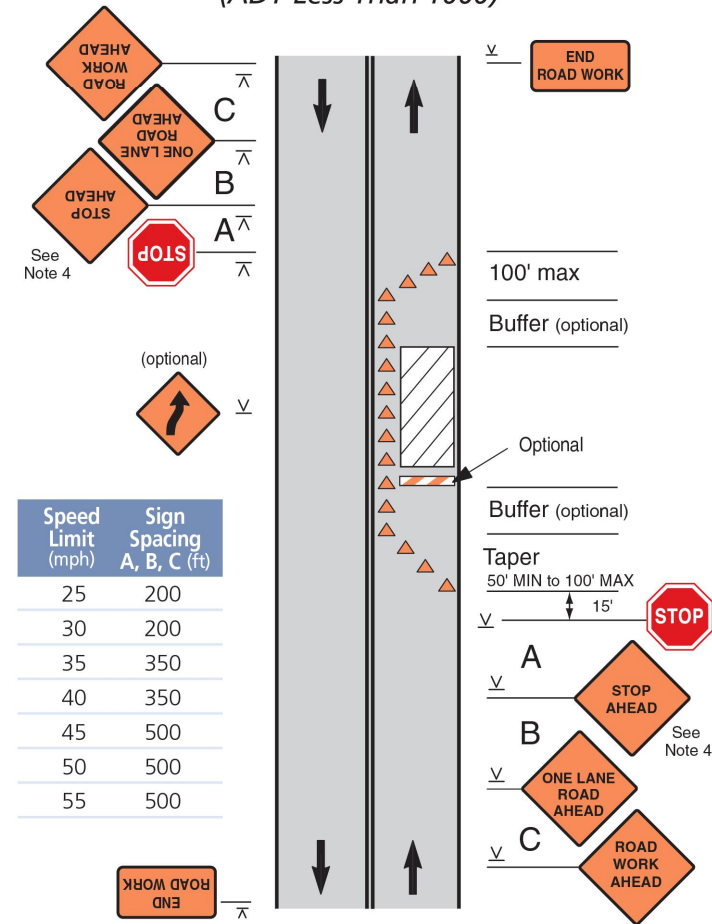
**Lane Closure on a Two-Lane Local Road with Low Volume (with Yield Sign)**



**Notes**

1. This layout may be used when volume is low, work area short, sight distance good, and traffic can see beyond the work area.
2. This layout shall not be used on a state highway, connecting highway or any other roadway officially designated as a "through" highway.
3. The YIELD sign shall only be used with permission from the authority having jurisdiction over the roadway.
4. Set the buffer area lengths based on space at the site. The total length of the temporary traffic control zone must be short enough that drivers can see approaching traffic beyond the work area.
5. YIELD AHEAD symbol sign may be used.

**Lane Closure on a Two-Lane Road with Stop Signs (ADT Less Than 1000)**



**Notes**

1. Consider using this layout when ADT is less than 1000, work area is short, sight distance good, and traffic can see beyond the work area. It could be appropriate for ADT above 1000 if limited to off-peak hours.
2. STOP signs shall only be used with permission from the authority having jurisdiction over the roadway.
3. Determine buffer area length based on space at the site. Total length of the temporary traffic control zone must be short enough that drivers from both directions can see approaching traffic beyond the work area.
4. Stop Ahead symbol sign may be used.
5. On State Roads use the appropriate WisDOT Standard design detail or consult with a WisDOT Regional Work Zone engineer.

REV	DATE	DESCRIPTION	BY
A	06/27/24	ISSUED FOR REVIEW	JS

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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

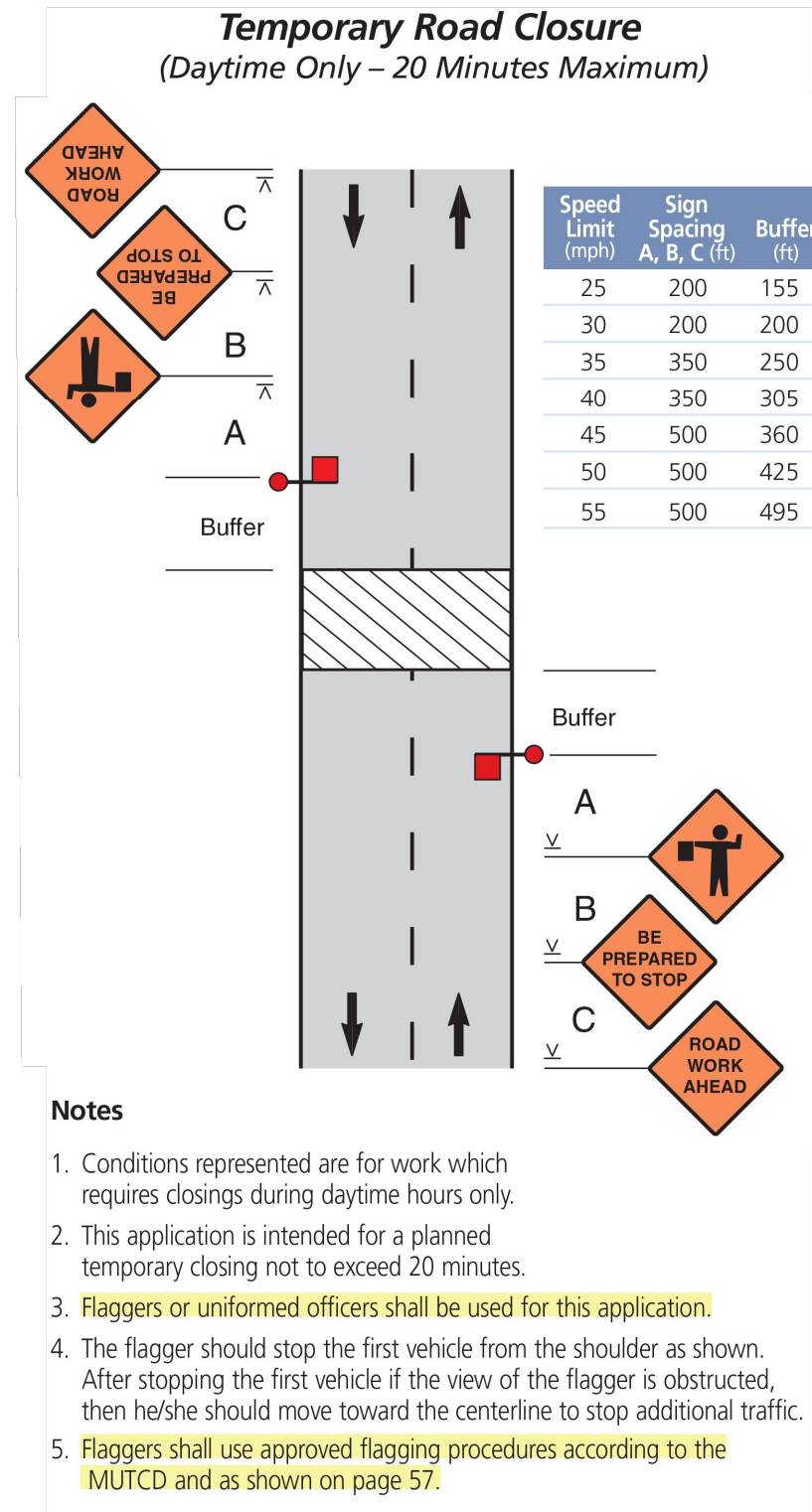
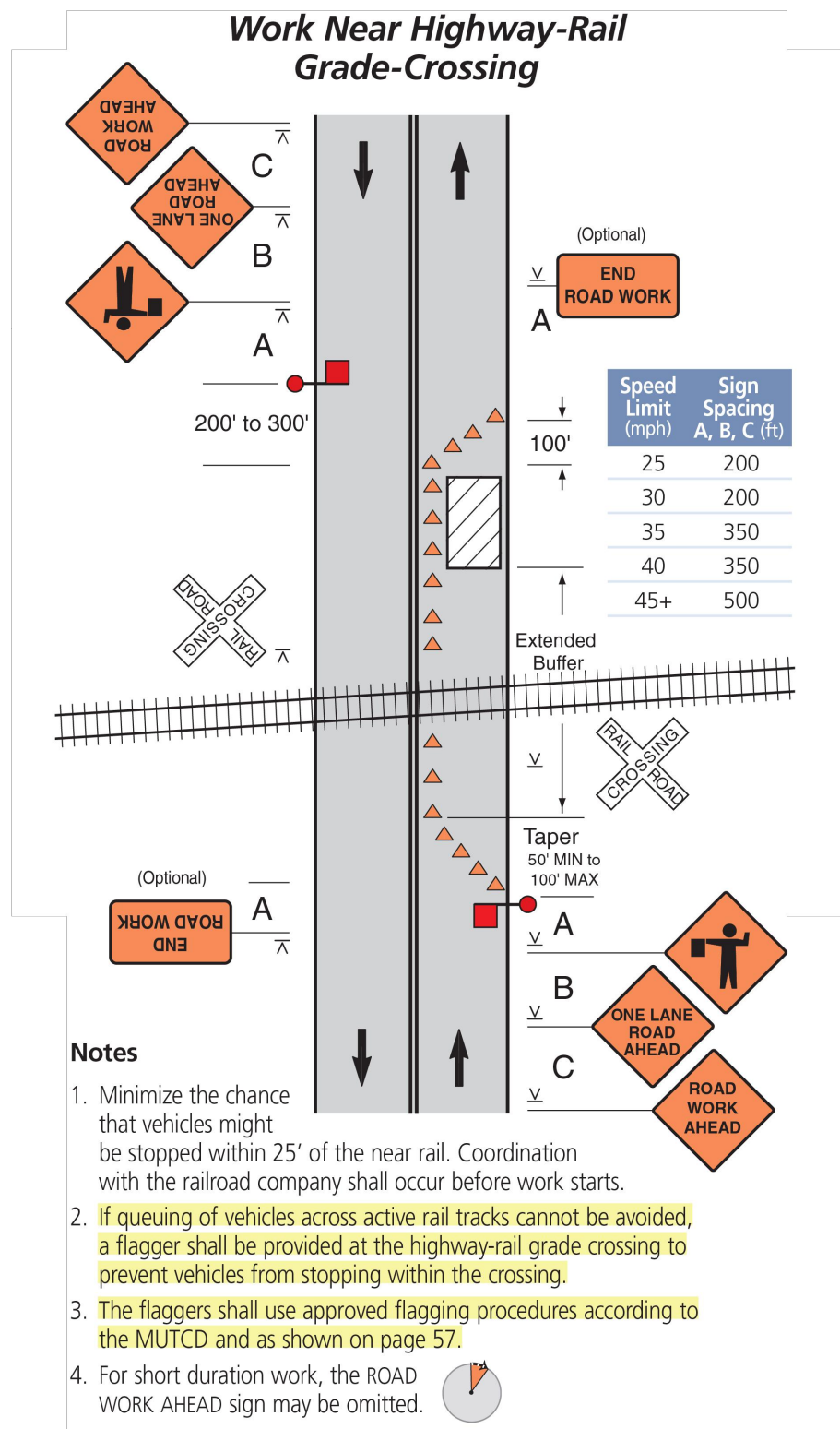
PROJECT AREA  
 LACROSSE, WI, USA

SHEET SCALE  
 N.T.S.

SHEET TITLE  
**TRAFFIC CONTROL STANDARD DETAILS**

GRID NUMBER

SHEET NUMBER  
**TCP-5**



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A	06/27/24	ISSUED FOR REVIEW	JS

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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
LACROSSE, WI, USA

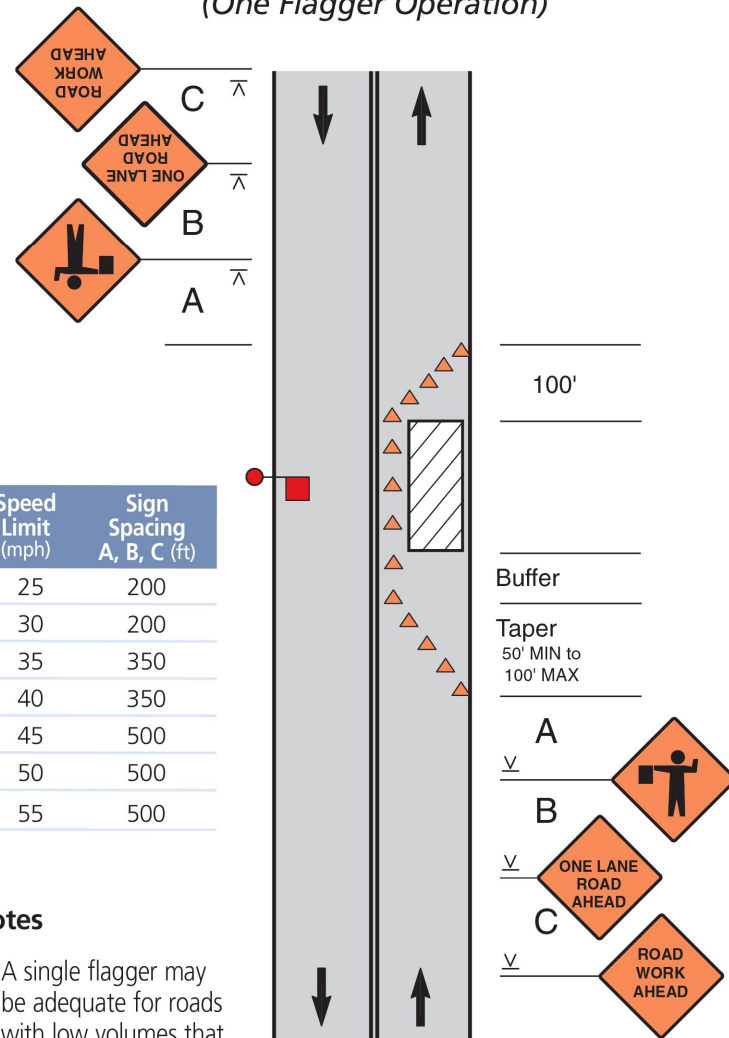
SHEET SCALE  
N.T.S.

SHEET TITLE  
**TRAFFIC CONTROL STANDARD DETAILS**

GRID NUMBER

SHEET NUMBER  
**TCP-6**

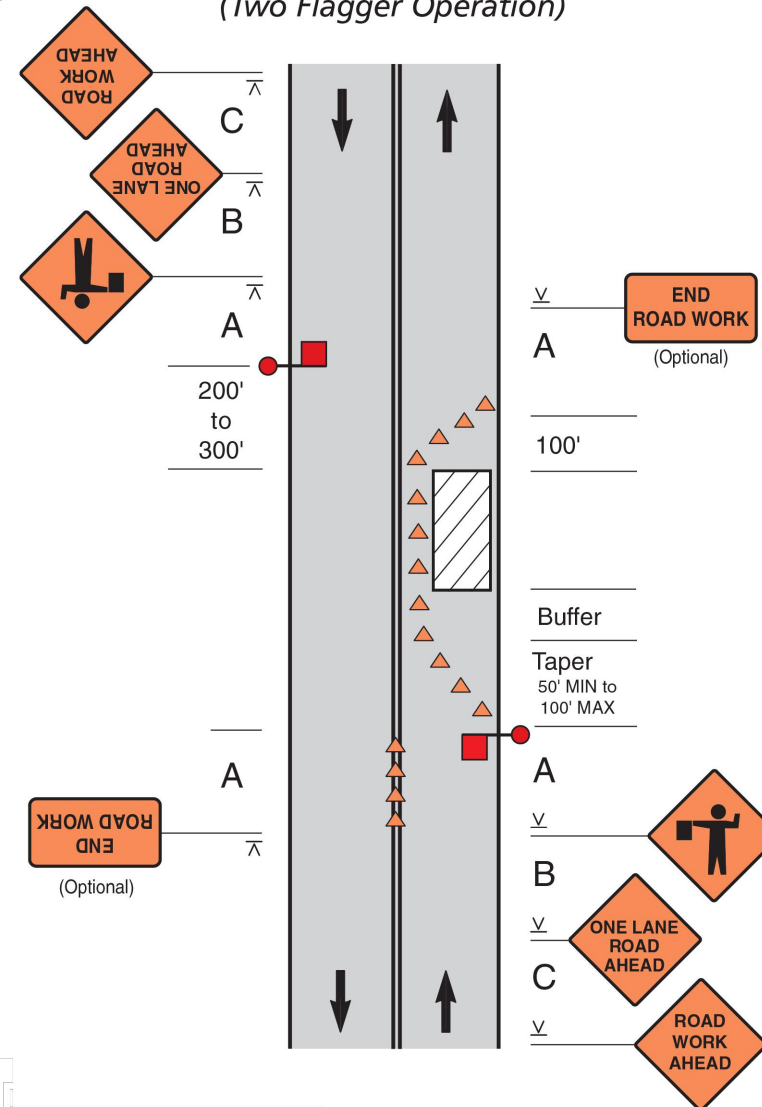
**Lane Closure on a Two-Lane Road  
with Low-Volume  
(One Flagger Operation)**



**Notes**

1. A single flagger may be adequate for roads with low volumes that have short, straight work areas. Where one flagger is used, the flagger should be visible to approaching traffic from both directions.
2. Set the buffer area lengths based on space at the site. The total length of the temporary traffic control zone must be short enough that drivers can see approaching traffic or flagger beyond the work area.
3. The flagger shall use approved flagging procedures according to the MUTCD and as shown on page 57.
4. For short duration work, the ROAD WORK AHEAD sign may be omitted.

**Lane Closure on a Two-Lane Road  
(Two Flagger Operation)**



Speed Limit (mph)	Sign Spacing A, B, C (ft)	Buffer (ft)
25	200	155
30	200	200
35	350	250
40	350	305
45	500	360
50	500	425
55	500	495

**Notes**

1. The flaggers shall use approved flagging procedures according to the MUTCD and as shown on page 57.
2. For short duration work, the ROAD WORK AHEAD sign may be omitted.
3. Pilot cars, Automated Flagger Assistance Device or temporary traffic signals may be used if sight distance is low.

REV	DATE	DESCRIPTION	BY
A	06/27/24	ISSUED FOR REVIEW	JS

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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
LACROSSE, WI, USA

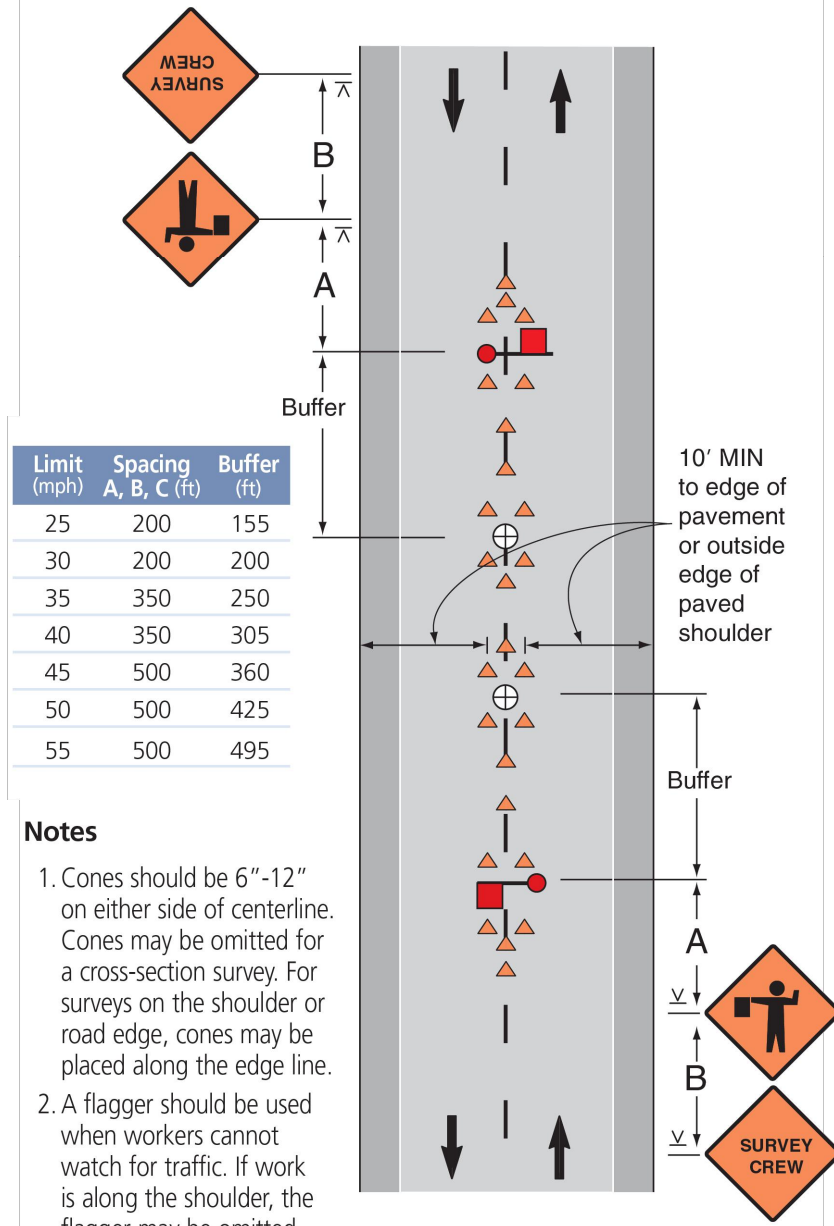
SHEET SCALE  
N.T.S.

SHEET TITLE  
**TRAFFIC CONTROL STANDARD DETAILS**

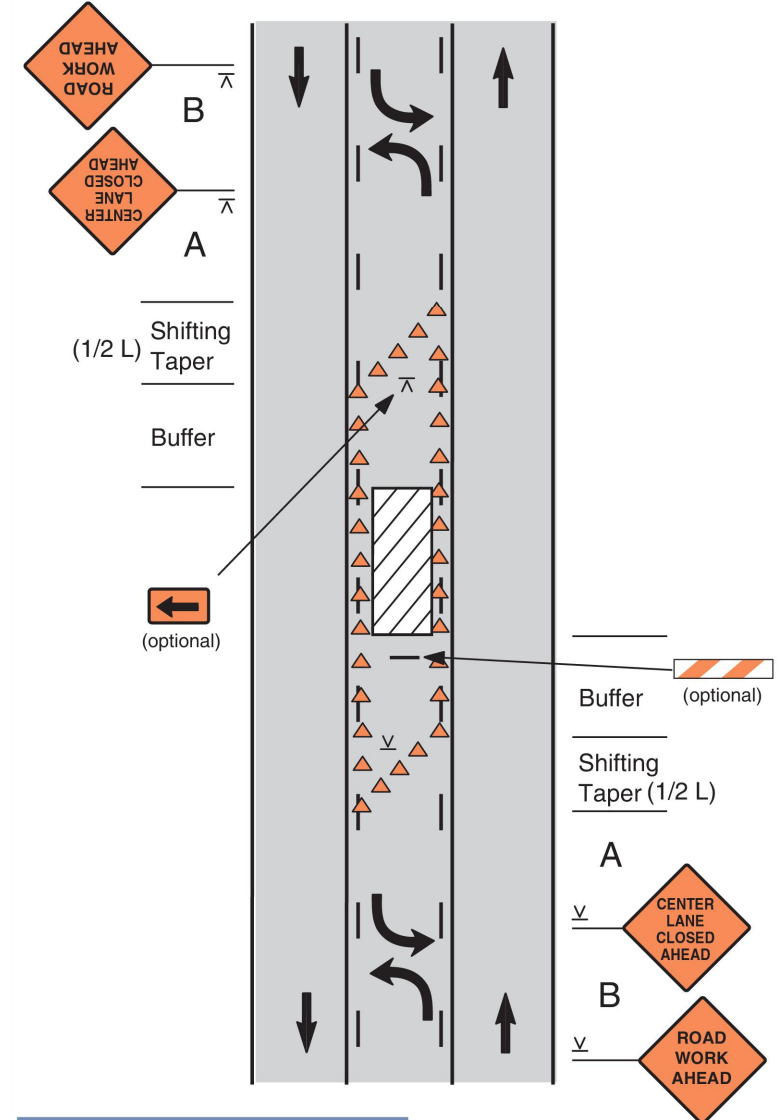
GRID NUMBER

SHEET NUMBER  
**TCP-7**

### Surveying Along Centerline of Road with Low Volume



### Center Turn Lane Closed on a Three-Lane, Two-Way Road



REV	DATE	DESCRIPTION	BY
A	06/27/24	ISSUED FOR REVIEW	JS

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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
LACROSSE, WI, USA

SHEET SCALE  
N.T.S.

SHEET TITLE  
**TRAFFIC CONTROL STANDARD DETAILS**

GRID NUMBER

SHEET NUMBER  
**TCP-8**

REV	DATE	DESCRIPTION	BY
A	06/27/24	ISSUED FOR REVIEW	JS

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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

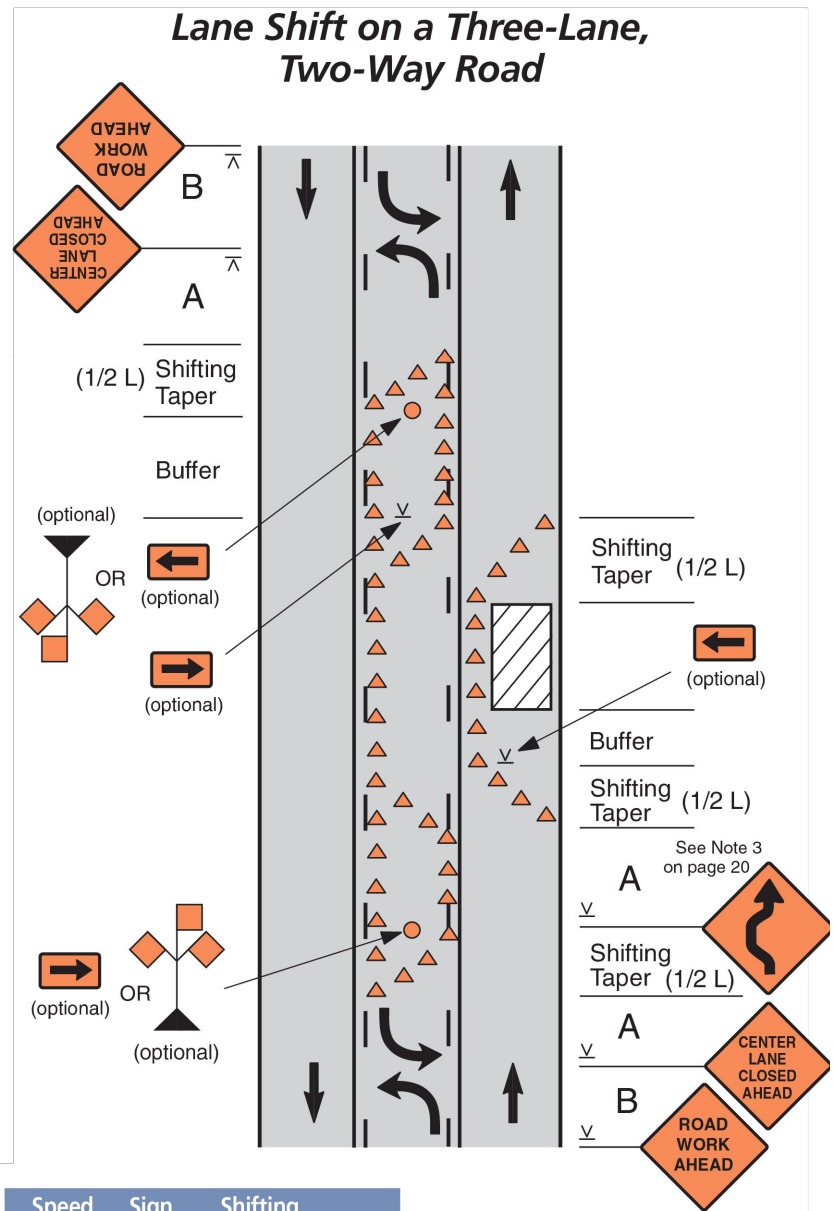
PROJECT AREA  
LACROSSE, WI, USA

SHEET SCALE  
N.T.S.

SHEET TITLE  
**TRAFFIC CONTROL STANDARD DETAILS**

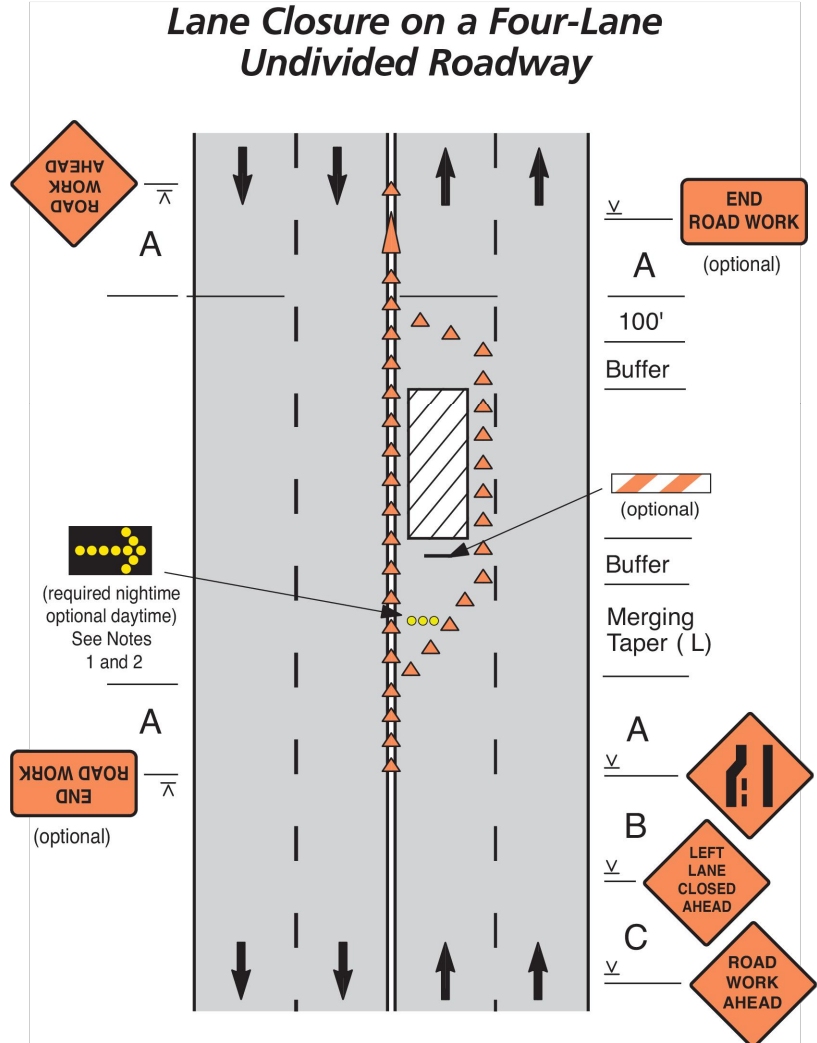
GRID NUMBER

SHEET NUMBER  
**TCP-9**



Speed Limit (mph)	Sign Spacing A, B (ft)	Shifting Taper (ft) for 12' lane	Buffer (ft)
25	200	65	155
30	200	90	200
35	350	125	250
40	350	160	305
45	500	270	360
50	500	300	425
55	500	330	495

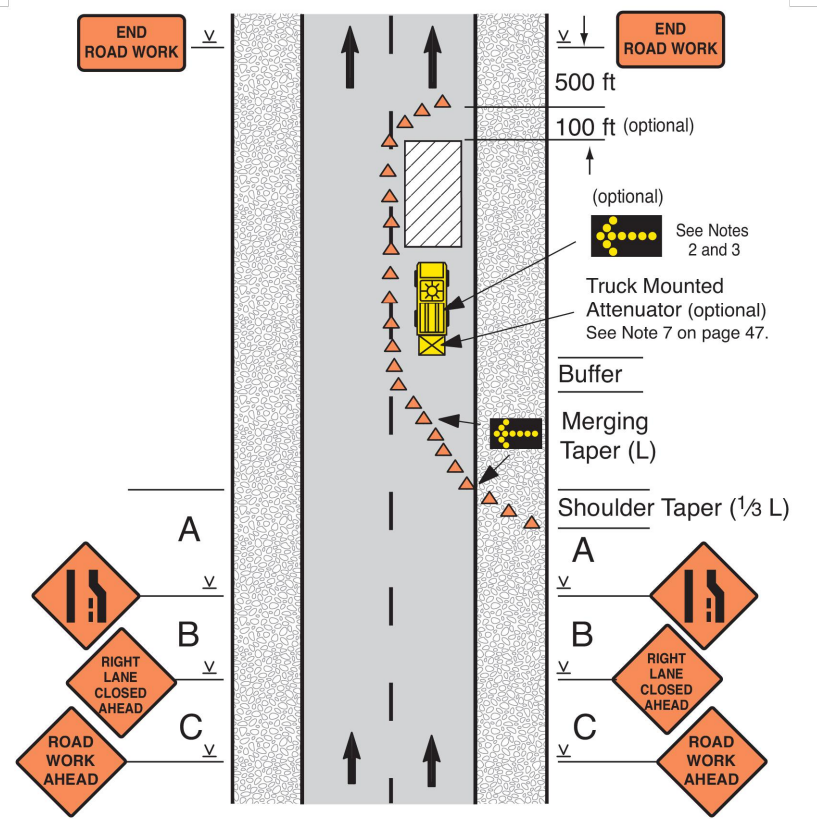
- Notes**
1. Use turn restrictions or close driveways located in the work zone as appropriate.
  2. If speeds are 30 mph or less, Reverse Turn signs shall be used instead of Reverse Curve.



Speed Limit (mph)	Sign Spacing A, B, C (ft)	Merging Taper (ft) for 12' lane	Buffer (ft)
25	200	125	155
30	200	180	200
35	350	245	250
40	350	320	305
45	500	540	360
50	500	600	425
55	500	660	495

- Notes**
1. An arrow board is optional based on traffic volume, speed, and visibility. Generally, it is a good practice on roads with speeds of 35 mph or greater. When used, it should be placed near the beginning of the taper or on a vehicle in the work area.
  2. If an arrow board is not used, a Large Arrow sign or directional indicator barricades in the taper can be used for added guidance.

### Lane Closure on Divided or One-Way Roadway

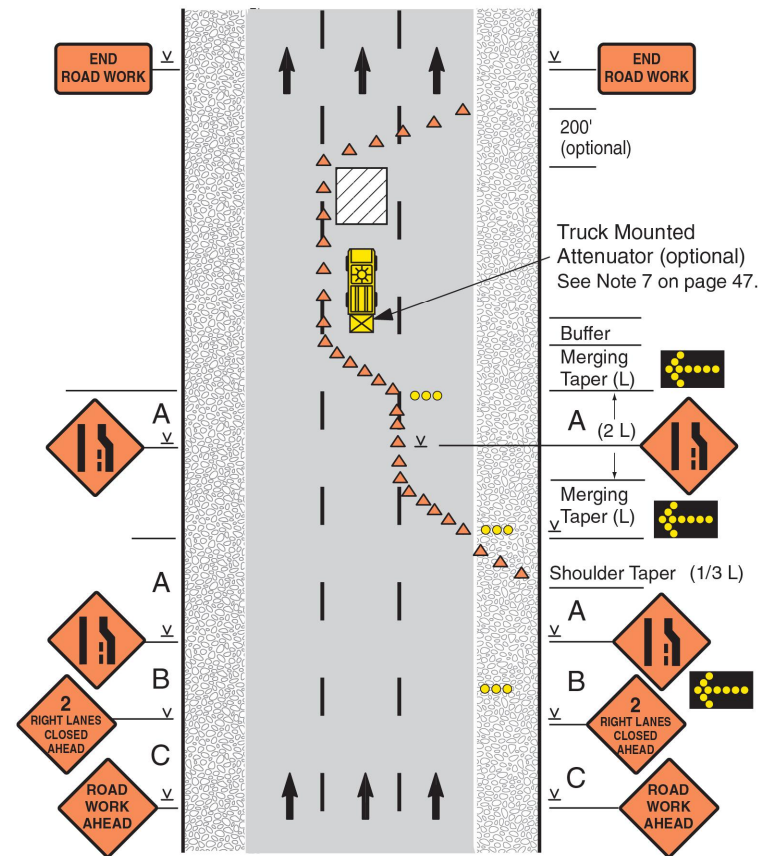


#### Notes

- When a side road intersects the roadway within the work zone, additional devices shall be erected to channelize traffic to/from the side road, and a ROAD WORK AHEAD sign shall be placed on each side of road approach.
- An arrow board shall be used when a freeway lane is closed. When more than one lane is closed, a separate arrow board shall be used for each.
- Except for freeways, an arrow board is optional based on traffic volume, speed, and visibility. Generally, it is a good practice where speeds are 35 mph or greater. When used, it should be placed near the beginning of the taper or on a vehicle in the work area.
- If an arrow board is not used, a Large Arrow sign or directional indicator barricades in the taper can be used to provide added guidance.

Speed Limit (mph)	Sign Spacing (ft)			Merging Taper (ft) for 12' lane	Buffer (ft)
	A	B	C		
30	200	200	200	180	200
35	350	350	350	245	250
40	350	350	350	320	305
45	500	500	500	540	360
50	1000	1500	2640	600	425
55	1000	1500	2640	660	495
60	1000	1500	2640	720	570
65	1000	1500	2640	780	645
70	consult WisDOT				

### Double Lane Closure on Divided or One-Way Roadway



#### Notes

- When a side road intersects the roadway within the work zone, additional devices shall be erected to channelize traffic to/from the side road, and a ROAD WORK AHEAD sign shall be placed on each side road approach.
- An arrow board shall be used for each freeway lane closed. The second arrow board should be placed near the beginning of the second merging taper or on a vehicle in the work area.

Speed Limit (mph)	Sign Spacing (ft)			Merging Taper (ft) for 12' lane	Buffer (ft)
	A	B	C		
35	350	350	350	245	250
40	350	350	350	320	305
45	500	500	500	540	360
50	1000	1500	2640	600	425
55	1000	1500	2640	660	495
60	1000	1500	2640	720	570
65	1000	1500	2640	780	645
70	consult WisDOT				

REV	DATE	DESCRIPTION	BY
A	06/27/24	ISSUED FOR REVIEW	JS

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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
LACROSSE, WI, USA

SHEET SCALE  
N.T.S.

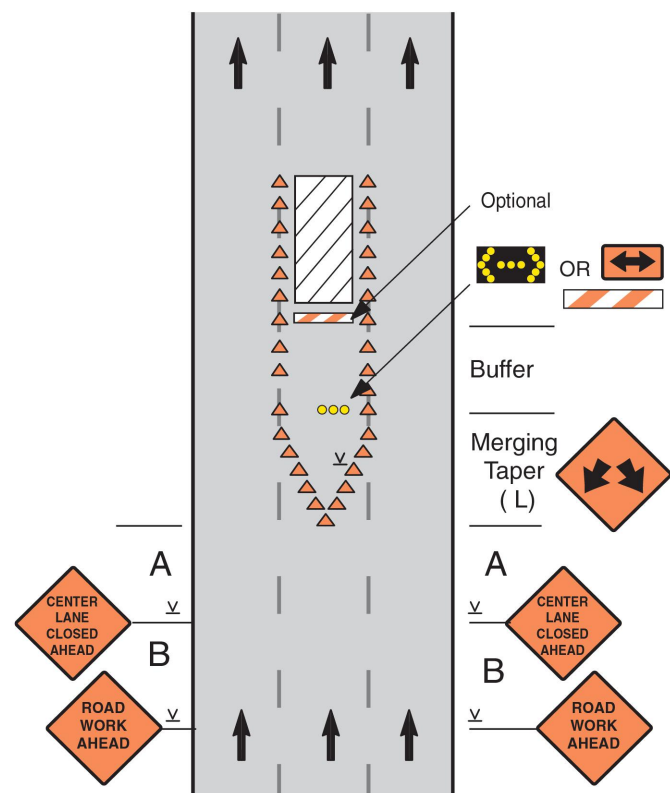
SHEET TITLE  
**TRAFFIC CONTROL STANDARD DETAILS**

GRID NUMBER

SHEET NUMBER  
**TCP-10**



### Center Lane Closure on Divided or One-Way Multi-Lane Roadway (Speeds of 35 mph or Less)

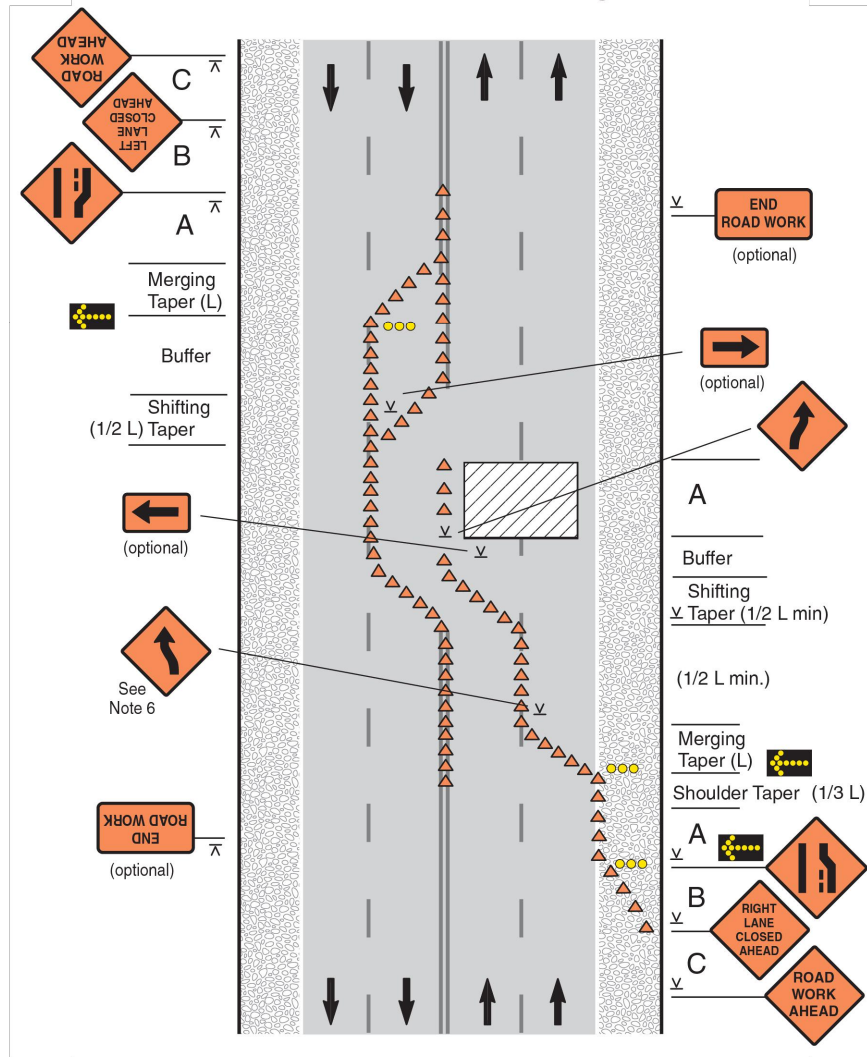


#### Notes

- The merging taper shall direct traffic into either the right or left lane but not both. Consider turning volumes and bus stop locations to determine the direction for the merging taper.
- An arrow board shall be used when a freeway lane is closed.
- When an arrow board is used, it should be placed in the closed lane near the end of the merging taper or on a vehicle in the work area.
- If an arrow board is not used, a Large Double Arrow sign may be used to provide added guidance.

Limit (mph)	Spacing (ft)		Taper (ft) for 12' lane	Buffer (ft)
	A	B		
25	200	200	125	155
30	200	200	180	200
35	350	350	245	250

### Half Road Closure on Multi-Lane Roadway



Speed Limit (mph)	Sign Spacing A, B, C (ft)	Merging Taper (ft) for 12' lane	Shifting Taper (ft) for 12' lane	Buffer (ft)
25	200	125	65	155
30	200	180	90	200
35	350	245	125	250
40	350	320	160	305
45	500	540	270	360
50	500	600	300	425
55	500	660	330	495

REV	DATE	DESCRIPTION	BY
A	06/27/24	ISSUED FOR REVIEW	JS

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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
LACROSSE, WI, USA

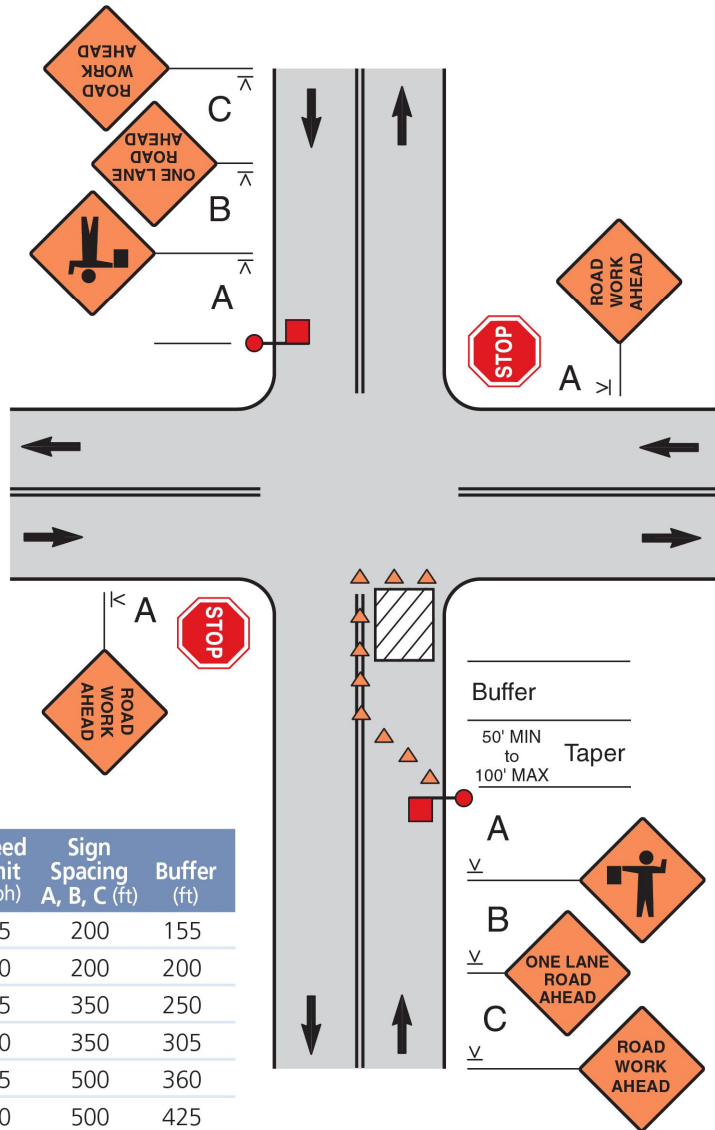
SHEET SCALE  
N.T.S.

SHEET TITLE  
**TRAFFIC CONTROL STANDARD DETAILS**

GRID NUMBER

SHEET NUMBER  
**TCP-11**

### Lane Closure in Advance of an Intersection (Work Area on the Through Road)

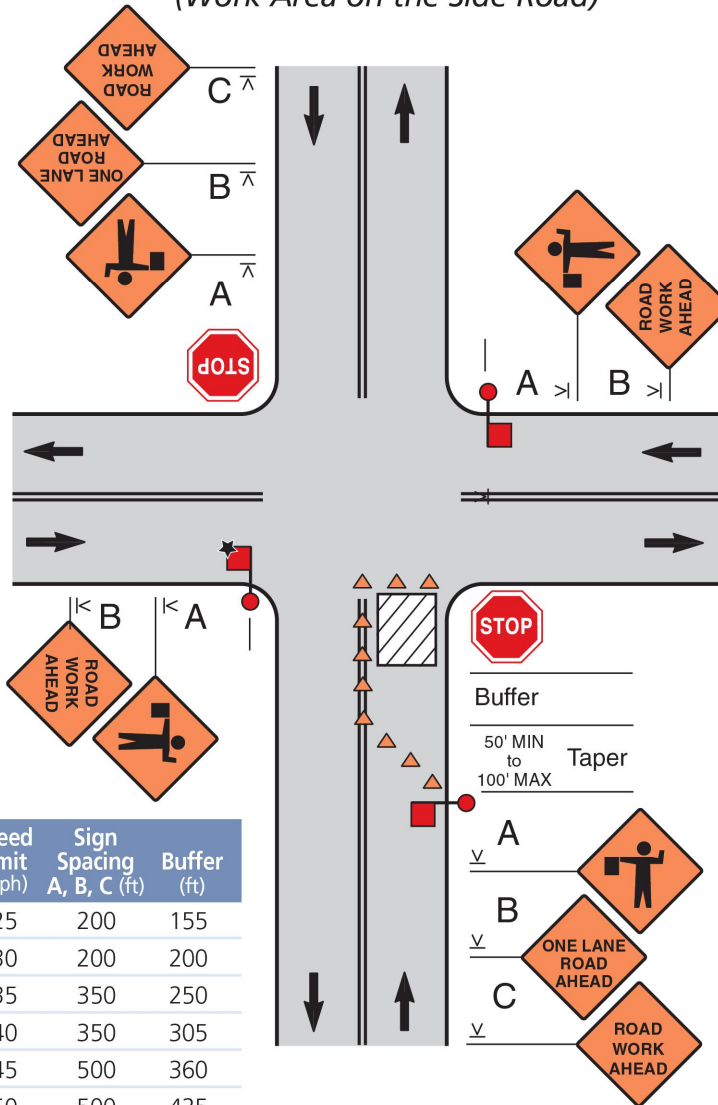


Speed Limit (mph)	Sign Spacing A, B, C (ft)	Buffer (ft)
25	200	155
30	200	200
35	350	250
40	350	305
45	500	360
50	500	425
55	500	495

#### Notes

- Depending on traffic conditions, consider additional traffic control on the side road approaches, such as flaggers and appropriate signs.
- The flaggers shall use approved flagging procedures according to the MUTCD and as shown on page 57.

### Lane Closure in Advance of an Intersection (Work Area on the Side Road)

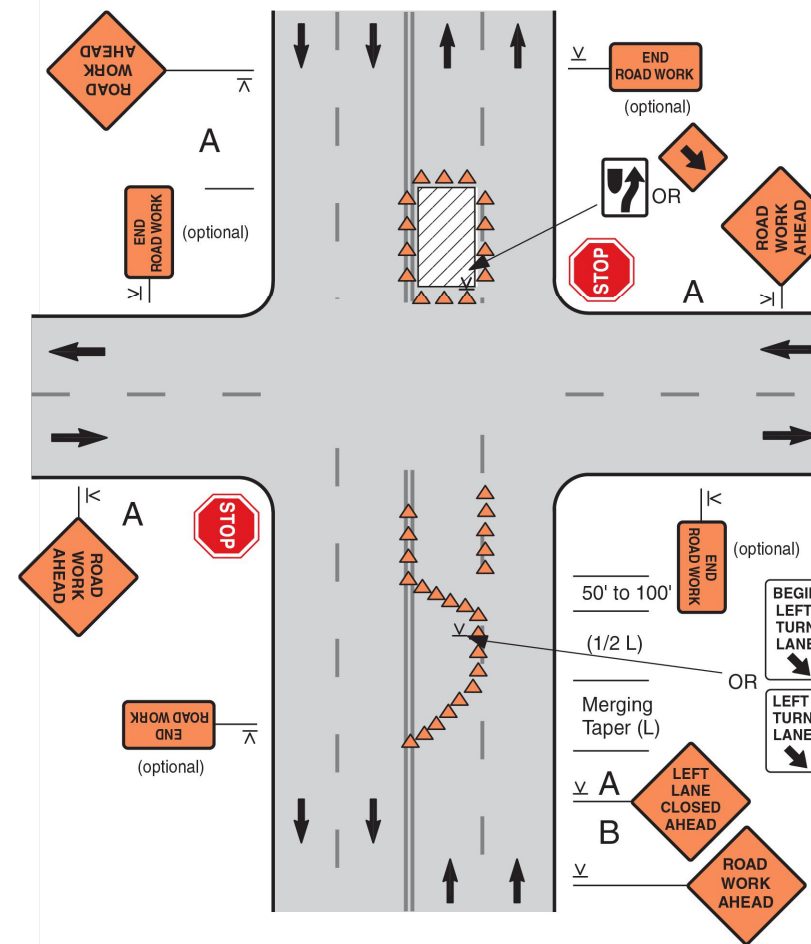


Speed Limit (mph)	Sign Spacing A, B, C (ft)	Buffer (ft)
25	200	155
30	200	200
35	350	250
40	350	305
45	500	360
50	500	425
55	500	495

#### Notes

- Depending on traffic conditions, consider additional traffic control, such as flaggers and appropriate signs.
- The middle flagger has the best view of traffic from all directions and would normally be **lead flagger** and coordinate the other flaggers.
- The flaggers shall use approved flagging procedures according to the MUTCD and as shown on page 57.
- A temporary STOP sign on the main street can also be used.

### Lane Closure on Far Side of Intersection (Speeds of 35 mph or Less)



#### Notes

- This layout is only appropriate for roads with speeds of 35 mph or less. For higher speeds, see page 32 for advance signing and taper layout.
- Normal procedure is to close any lane that is not carried through the intersection on the near side of the intersection. However, if this results in the closure of a lane having significant turning movements, then that lane may be converted to a turn bay, and/or the lane may be restricted to turns only, as shown.
- A Large Arrow sign or Arrow Board could be used instead of the Keep Right or Down Arrow sign where space permits.

Speed Limit (mph)	Sign Spacing A (ft)	Sign Spacing B (ft)	Merging Taper (ft) for 12' lane
25	200	200	125
30	200	200	180
35	350	350	245

REV	DATE	DESCRIPTION	BY
A	06/27/24	ISSUED FOR REVIEW	JS

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TASK NAME

WILC034

TASK DESCRIPTION  
FIBER OPTIC CONDUIT  
PLACEMENT

PROJECT AREA

LACROSSE, WI, USA

SHEET SCALE

N.T.S.

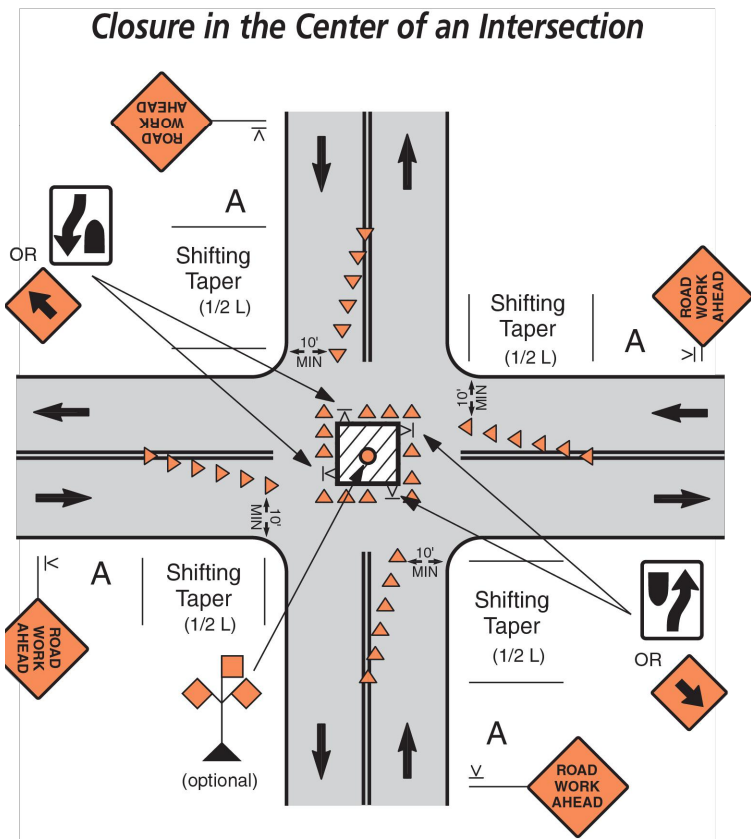
SHEET TITLE

TRAFFIC CONTROL  
STANDARD DETAILS

GRID NUMBER

SHEET NUMBER

TCP-12



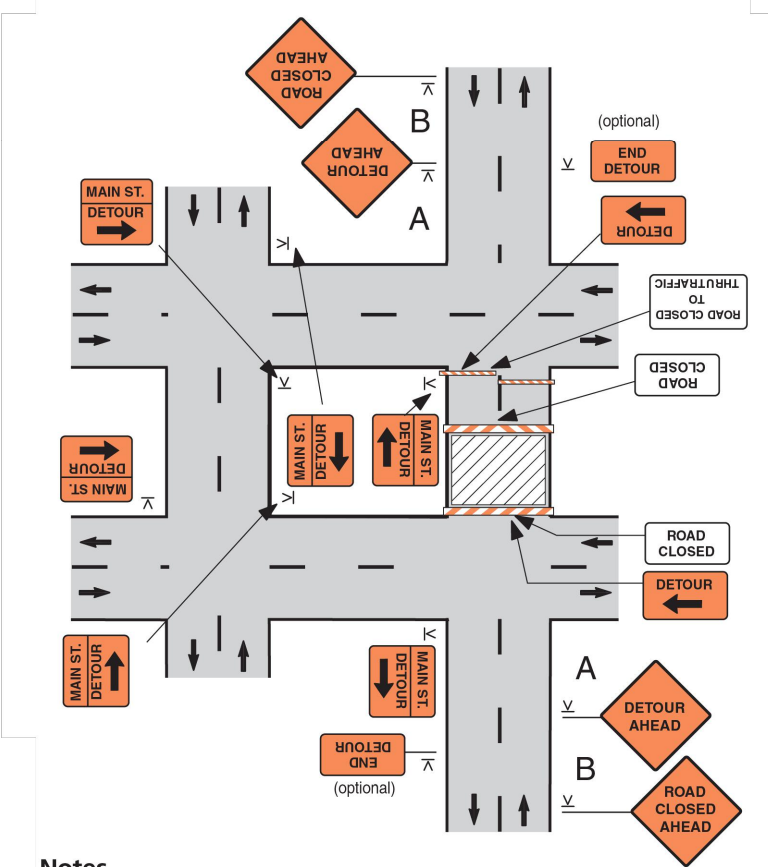
**Notes**

1. Consider additional advance warning signs such as ROAD NARROWS or Reverse Curve/ Turn. The Reverse Curve/ Turn sign is appropriate for larger deviations in the travel path.
2. Left turns may be prohibited as required by traffic conditions. Unless the streets are wide, it may be physically impossible to turn left, especially for large vehicles.
3. For short duration work, the channelizing devices may be eliminated if a vehicle with activated high intensity lights is positioned in the work space.

Speed Limit (mph)	Sign Spacing A, B (ft)	Shift Taper (ft)	
		5' shift	10' shift
25	200	30	55
30	200	40	75
35	350	55	105
40	350	70	135
45	500	115	225
50	500	125	250
55	500	140	275



**Street Closure with Detour**



**Notes**

1. This layout should be used for streets and roads without posted route numbers. See figure 6H-8 and 6H-9 of the MUTCD Part 6 for closing and detouring a numbered highway.
2. When a side road intersects the roadway within the work zone, place Type III barricades and ROAD CLOSED signs at the intersections, and provide advance signing of the closure on the side road approaches.
3. A street name sign may be mounted with the DETOUR sign and should be used if a local road is detoured onto a state highway. If used, the street nameplate goes above the DETOUR sign.
4. A DETOUR sign with an advance turn arrow may be used in advance of a turn and should be used on multilane streets.
5. DETOUR signs may be located on the far side of intersections.

Speed Limit (mph)	Sign Spacing A, B (ft)
25-30	200
35-40	350
45-55	500

REV	DATE	DESCRIPTION	BY
A	06/27/24	ISSUED FOR REVIEW	JS

I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.

TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
LACROSSE, WI, USA

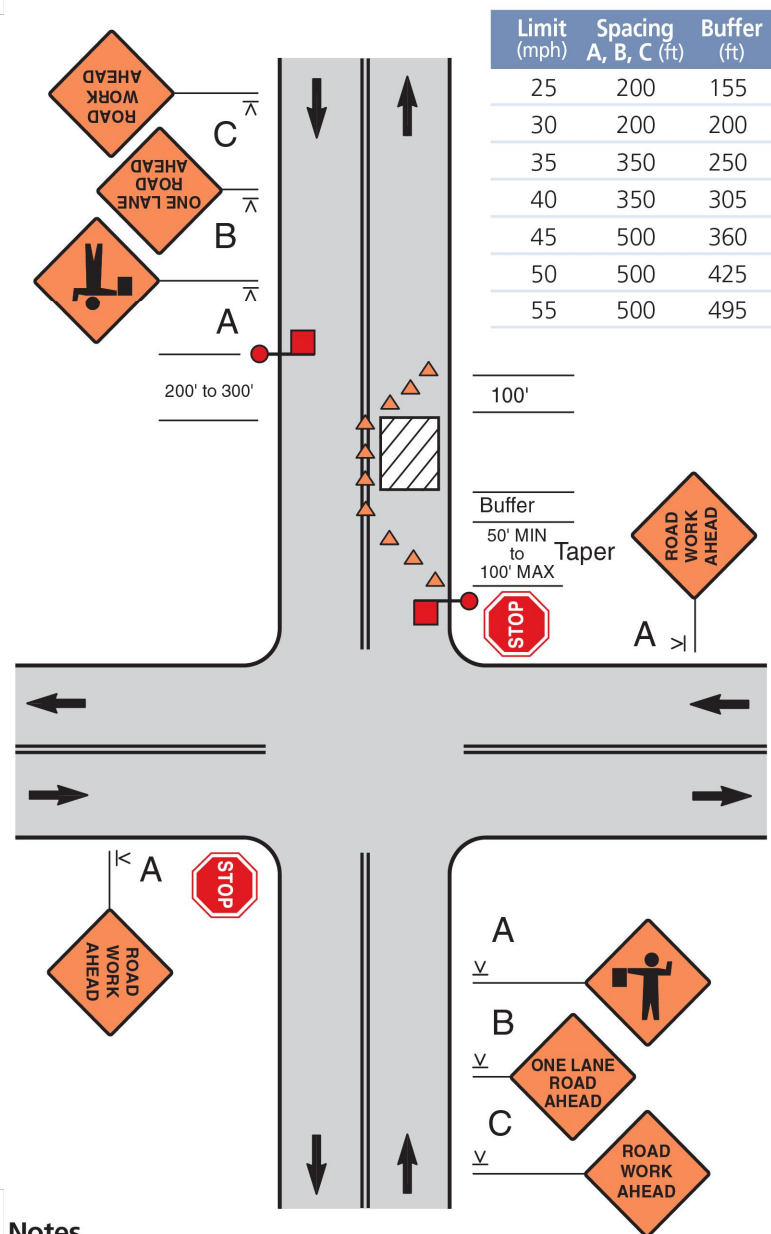
SHEET SCALE  
N.T.S.

SHEET TITLE  
**TRAFFIC CONTROL STANDARD DETAILS**

GRID NUMBER

SHEET NUMBER  
**TCP-13**

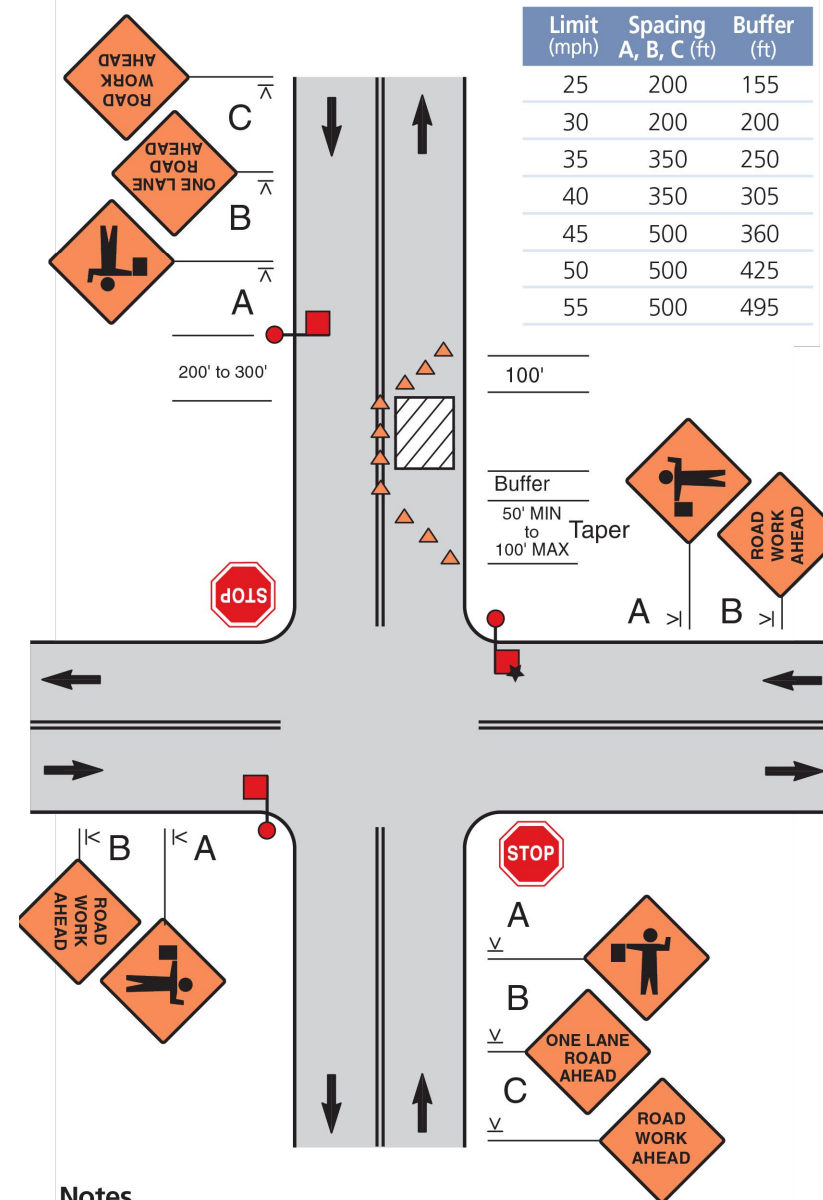
### Lane Closure Beyond an Intersection (Work Area on the Through Road)



#### Notes

- Depending on traffic conditions, consider additional traffic control, such as flaggers and appropriate signs.
- The flaggers shall use approved flagging procedures according to the MUTCD and as shown on page 57.

### Lane Closure Beyond an Intersection (Work Area on the Side Road)



#### Notes

- Depending on traffic conditions, consider additional traffic control, such as flaggers and appropriate signs.
- The middle flagger would normally be *lead flagger* and would coordinate the other flaggers.
- The flaggers shall use approved flagging procedures according to the MUTCD and as shown on page 57.

REV	DATE	DESCRIPTION	BY
A	06/27/24	ISSUED FOR REVIEW	JS

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TASK NAME

WILC034

TASK DESCRIPTION

FIBER OPTIC CONDUIT  
PLACEMENT

PROJECT AREA

LACROSSE, WI, USA

SHEET SCALE

N.T.S.

SHEET TITLE

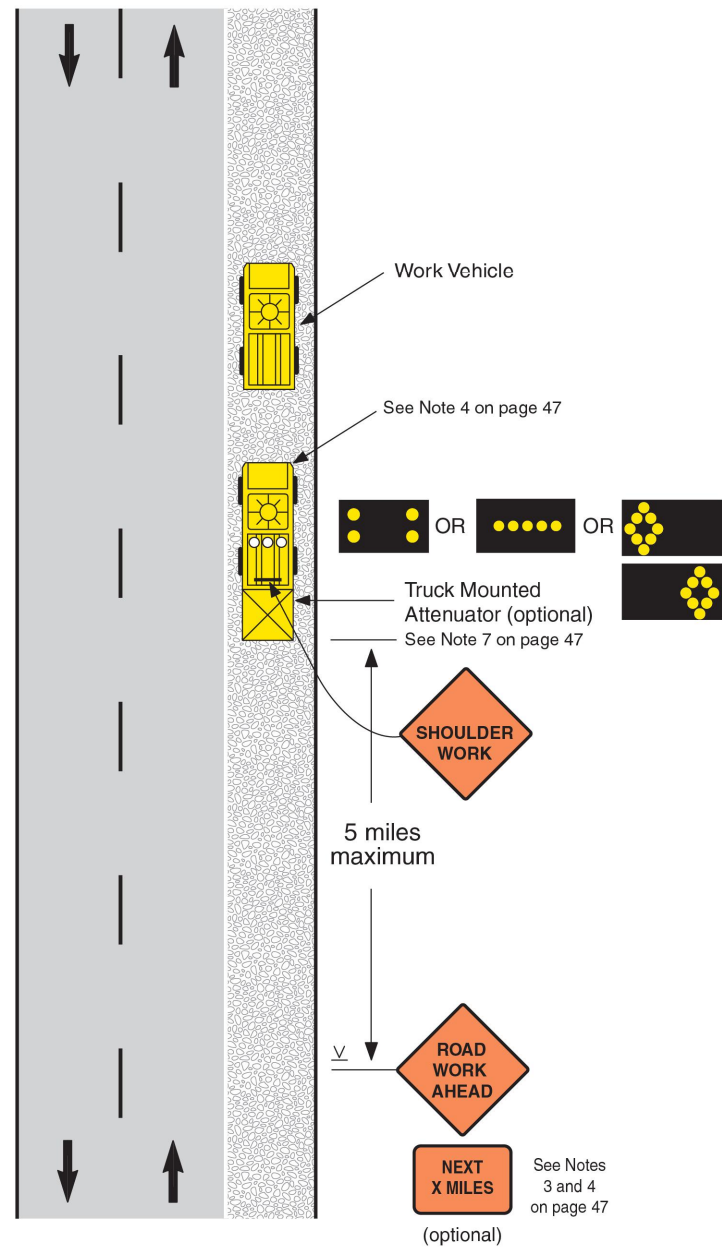
TRAFFIC CONTROL  
STANDARD DETAILS

GRID NUMBER

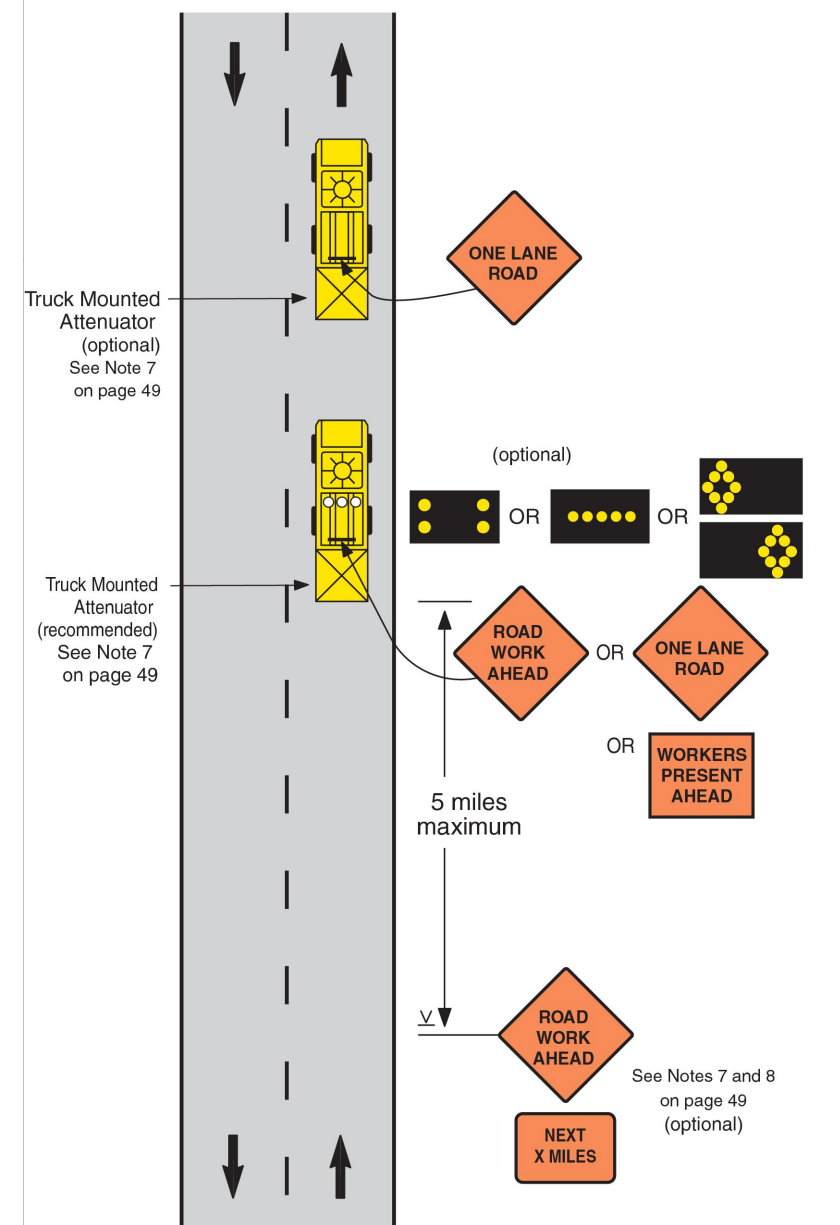
SHEET NUMBER

TCP-14

**Mobile Operation on the Shoulder**



**Mobile Operation on a Two-Lane Road**



REV	DATE	DESCRIPTION	BY
A	06/27/24	ISSUED FOR REVIEW	JS

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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
 LACROSSE, WI, USA

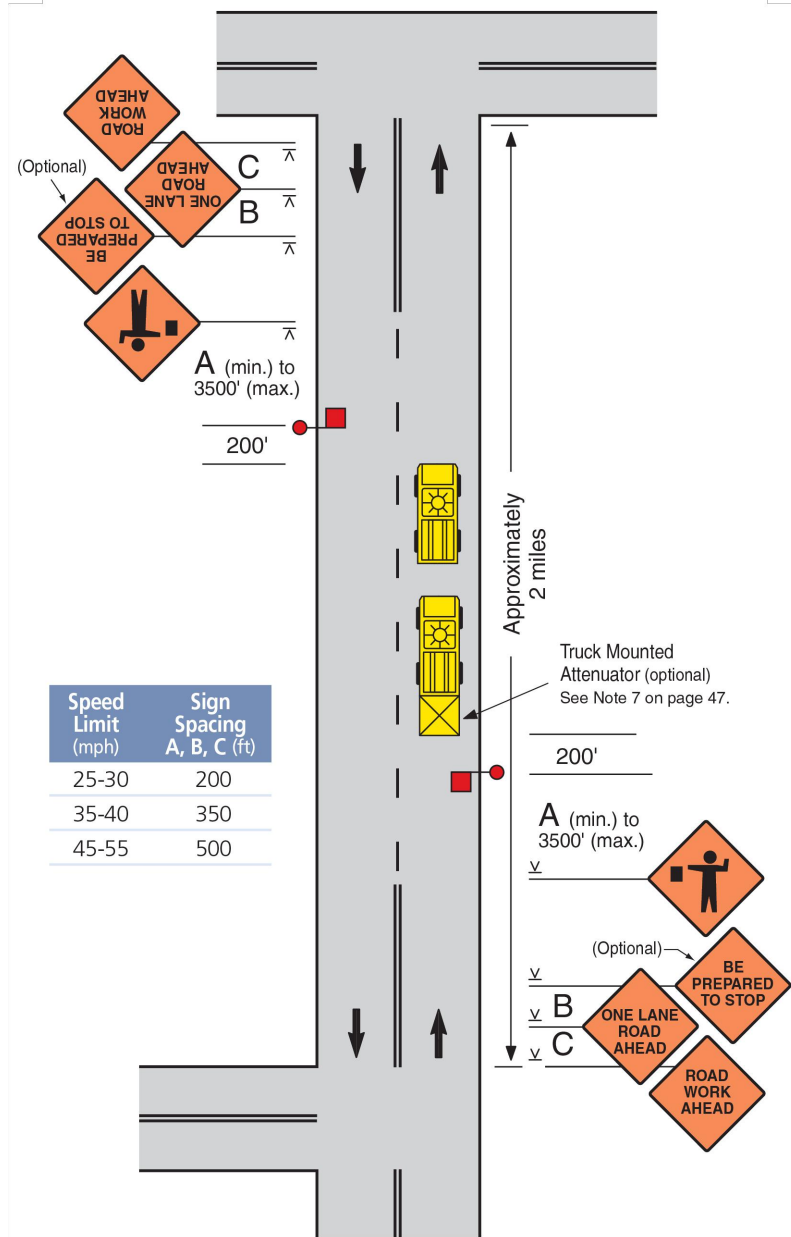
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SHEET TITLE  
**TRAFFIC CONTROL STANDARD DETAILS**

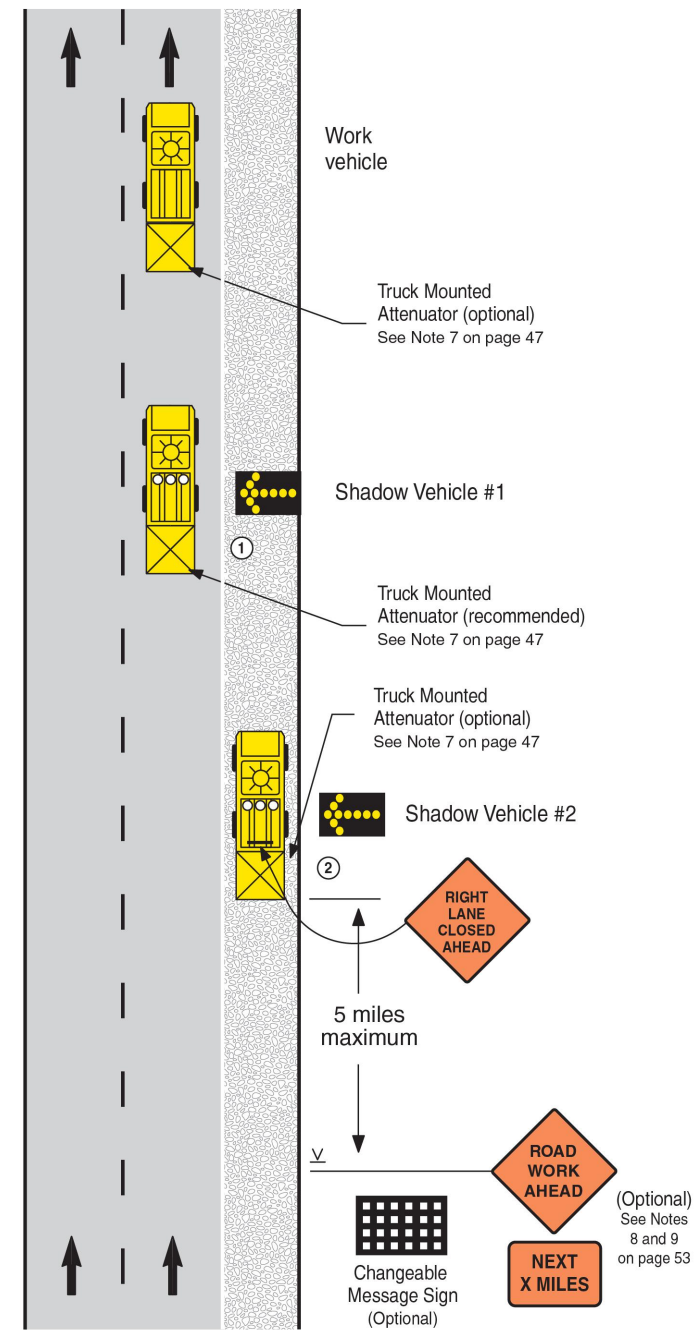
GRID NUMBER

SHEET NUMBER  
**TCP-15**

**Mobile Operation on a Two-Lane Road Using Flaggers**  
(Traveling at less than 3 mph)



**Mobile Operation on a Multi-Lane Road**



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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
LACROSSE, WI, USA

SHEET SCALE  
N.T.S.

SHEET TITLE  
**TRAFFIC CONTROL STANDARD DETAILS**

GRID NUMBER

SHEET NUMBER  
**TCP-16**

REV	DATE	DESCRIPTION	BY
A	06/27/24	ISSUED FOR REVIEW	JS

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TASK NAME  
**WILC034**

TASK DESCRIPTION  
**FIBER OPTIC CONDUIT PLACEMENT**

PROJECT AREA  
LACROSSE, WI, USA

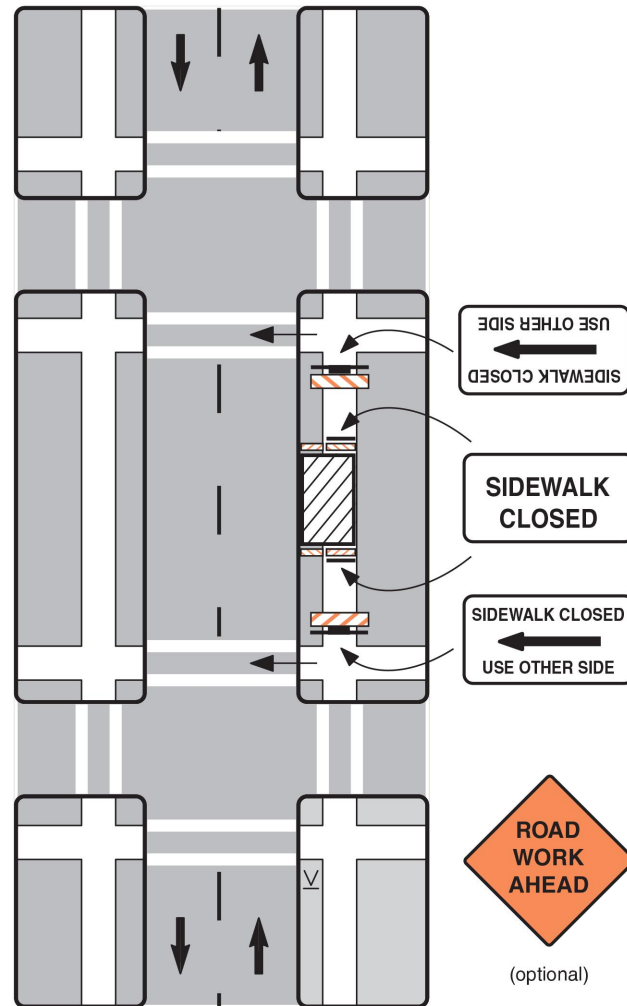
SHEET SCALE  
N.T.S.

SHEET TITLE  
**TRAFFIC CONTROL STANDARD DETAILS**

GRID NUMBER

SHEET NUMBER  
**TCP-17**

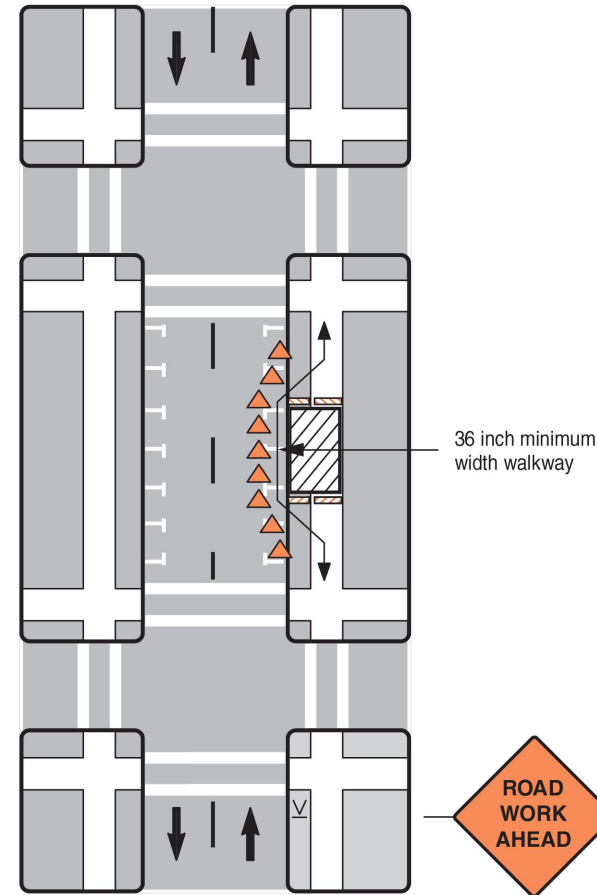
**Sidewalk Closure**  
(Pedestrian Detour)



**Notes**

1. Additional advance warning may be necessary.
2. Only the traffic control devices related to pedestrians are shown. Other devices may be needed to control traffic on the streets such as lane closure signs, ROAD NARROWS or LANE NARROWS signs.
3. For nighttime closures, Type A flashing warning lights may be used on barricades supporting signs and closing walkways.
4. Audible devices should be considered to alert pedestrians with visual disabilities of closings and crosswalk changes.

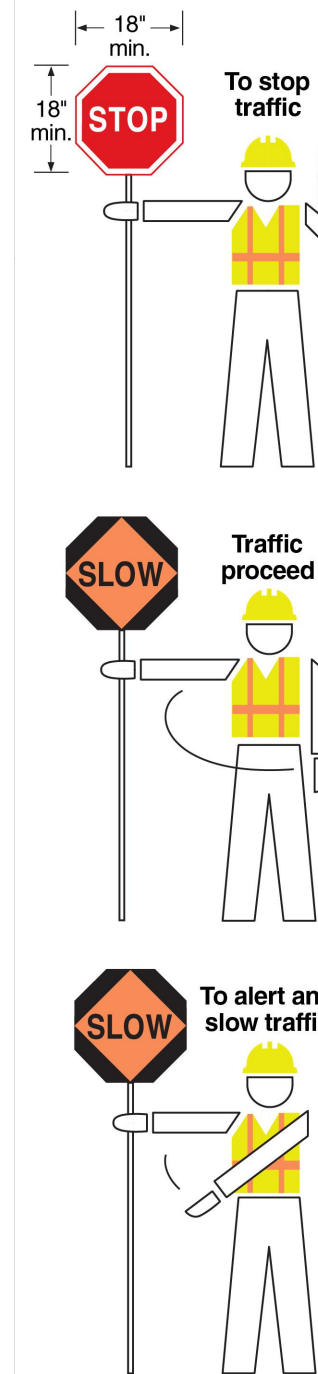
**Sidewalk Closure**  
(Pedestrian Walkway Provided)



**Notes**

1. Additional advance warning may be necessary.
2. Only the traffic control devices related to pedestrians are shown. Other devices such as lane closure signs, ROAD NARROWS or LANE NARROWS signs may be needed to control traffic on the streets.
3. For nighttime closures, Type A flashing warning lights may be used on barricades supporting signs and closing walkways. Type C or Type D steady-burn lights may be used on channelizing devices separating the temporary walkway from vehicular traffic.
4. Where high speeds are likely, a barrier should separate the temporary walkway from vehicular traffic. Refer to Section 6D.01 of Part 6 of the MUTCD for information on barriers.
5. Signs may be placed along a temporary walkway to guide pedestrians; for example, Keep Right or Keep Left signs.
6. Pedestrian walkways should be ADA accessible (i.e., ramps, surfaces).

**Flagging Procedures**



**Properly trained flaggers**

- give clear messages to drivers as shown
- allow time and distance for drivers to react
- never stand in moving traffic lane
- coordinate with other flaggers

**Properly equipped flaggers use**

- approved sign paddles
- approved safety vest, shirt or coat
- brightly colored hat for better visibility
- retroreflective night equipment

**Proper flagging stations have**

- good approach sight distance
- high visibility to traffic
- illumination at night

**Proper advance warning**

- always use warning signs
- allow reaction distance from signs
- remove signs when not flagging

Flags should only be used in emergency situations. *Flags used for signaling shall be a minimum of 24" x 24", red in color and mounted on a staff about 3' long.*

See the **Flagger's Handbook** for more information on flagging procedures. Transportation Information Center—LTAP University of Wisconsin—Madison [epd.wisc.edu/tic](http://epd.wisc.edu/tic)