

BERRIEN COUNTY ROAD COMMISSION

**PROPOSAL AND SPECIFICATION
FOR
RED ARROW HIGHWAY
STORM SEWER VIDEO INSPECTION -1,438 FT**

**BOARD OF COUNTY ROAD COMMISSIONERS
OF THE COUNTY OF BERRIEN
2860 EAST NAPIER AVENUE
BENTON HARBOR, MI 49022
1-269-925-1196 OR 1-800-442-0734**

**BERRIEN COUNTY ROAD COMMISSION
NOTICE TO BIDDERS**

Notice is hereby given that sealed bids will be received at the office of the Board of County Road Commissioners of the County of Berrien, 2860 East Napier Avenue, Benton Harbor, Michigan 49022 until 11:00 A.M., Thursday, August 3rd, 2017 at which time and place they will be publicly opened and read aloud for the following:

1. Red Arrow Highway Storm Sewer Video Inspection -1,438 ft.

All bids will be tabulated and presented to the Board of County Road Commissioners at their next regular meeting.

All bids shall be signed in ink and sealed in an envelope with the name of the items bid upon and the name of the bidder plainly marked on the outside. Specifications and proposal blanks may be obtained at the office of the Berrien County Road Commission.

The Road Commission reserves the right to accept or reject any or all bids, to waive defects in a proposal and to award the Bid in any manner deemed to be in the best interest of Berrien County.

BY THE BOARD OF COUNTY ROAD COMMISSIONERS
OF THE COUNTY OF BERRIEN

AUGUST ZIELKE
BILL SMITH
JOE MARGOL
JESS MINKS
WILLIAM HODGE

BENTON HARBOR, MICHIGAN

BERRIEN COUNTY ROAD COMMISSION

GENERAL SPECIFICATIONS

Except as hereinafter provided by Supplemental Specifications or Special Provisions, the method and manner of performing the work and the quantity and quality of materials to be furnished under this contract shall be in strict accordance with the current Standard Specifications for Construction of the Michigan Department of Transportation and the current edition of the Michigan Manual of Uniform Traffic Control Devices.

SUPPLEMENTAL SPECIFICATIONS

101.02 Definitions:

Commission - The Board of County Road Commissioners of the County of Berrien, Michigan.

103.02 Changes in Work

Adjustable Items - This Contract contains no adjustable item; therefore, no adjustments in unit prices for increased or decreased quantities will be allowed.

107.10 Owners Protective Liability Policy covering bodily injury and property damage protection shall be furnished to the Commission.

108.02 Prosecution of the Work - The Contractor shall begin the work within ten (10) days after being notified by the Commission to do so, unless this is inconsistent with the progress clause, with full force and equipment adequate to complete the sections within the time limit therein fixed for completion. In case of failure to proceed with the work as rapidly as is provided in the progress clause, or if it appears at any time that such work is not being prosecuted in such a manner as to insure its completion within time specified, the Commission shall have the right to require the force and equipment as the Commission shall deem necessary to bring the work up to the progress schedule; and in case of the Contractor's neglect to do so, the Commission may place such working force and equipment on the work and charge the Contractor the cost of labor and such rental and depreciation rates for the plant and equipment as in its judgment is reasonable, and for such time as the plant and equipment are in service.

109.06 Partial Payment - PAYMENT WILL BE MADE IN FULL IN NOT MORE THAN THREE (3) PARTIAL PAYMENTS, SUCH PAYMENT TO BE MADE on the basis of ninety percent (90%) of the value of the work done, provided the work is progressing satisfactorily and the orders of the engineer have been complied with and provided that the date for completion, or date granted as extension, has not passed, and provided that the amount is at least \$2,000.00.

BERRIEN COUNTY ROAD COMMISSION

SUPPLEMENTAL SPECIFICATIONS (CONT'D)

1. CANCELLATION OF CONTRACT PROVISIONS:

The Board shall have the right to cancel the Contract for non-performance. Should an inspection by the Board's designated representative reveal that the Contractor's work results in any non-acceptable maintenance condition of one or all specified areas;

The Board's designated representative at the time of the first circumstance shall call for a meeting with the Contractor to insure no misunderstanding on the issues involved.

If the condition should repeat itself a second time, the Board's designated representative shall call for another meeting with the Contractor and issue a written warning of possible Contract termination should the condition continue.

If the condition should repeat itself a third time, the Board's designated representative shall call for another meeting with the Contractor and issue a written Notice of Contract Termination.

2. Submission of bid will be construed as a conclusive presumption that the Contractor is thoroughly familiar with the bid requirements and specifications and that he/she understands and agrees to abide by each and all stipulations and requirements contained therein.
3. The Contractor, his/her employees, agent, and representatives shall conduct themselves in a manner which is conducive to good public relations. They shall display proper respect to the Board, the general public, and surrounding property owners as is applicable.
4. Neither the Contractor nor his/her Subcontractors shall discriminate against any employee or applicant for employment, to be employed in the performance of this Contract, with respect his/her hire, tenure, terms, conditions or privileges of employment, of any matter directly or indirectly related to employment because of his/her race, color, religion, national origin, or ancestry. Breach of this covenant may be regarded as a material breach of the Contract.

BID BOND

A Certified Check or Cashier's Check or Bid Bond in the amount of not less than five (5) percent of the bid made payable to the Berrien County Road Commission shall accompany this proposal as a guarantee of good faith.

BERRIEN COUNTY ROAD COMMISSION

TITLE VI

“The Berrien County Road Commission, in accordance with Title VI of Civil Rights Act of 1964, 78 Stat. 252, 42 USC 2000d to 2000d-4 an Title 49, Code of Federal Regulations, Department of Federally-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of gender, disability, race, color, or national origin in consideration for an award”.

BERRIEN COUNTY ROAD COMMISSION

PROGRESS CLAUSE: Start work within ten (10) days after receiving notice of award of contract or on the date agreed upon by the Engineer. In no case shall any work be commenced prior to receipt of a formal notice of award by the Road Commission.

This Contract shall be completed in **10 working days**. Working days will be charged starting on that date that the work is started or the date agreed. All work shall be completed by September 8th, 2017.

The low bidder(s) for the work covered by this proposal will be required to meet with Road Commission representatives to work out a detailed Progress Schedule. The schedule for this meeting will be set within one week after the low bidder(s) is determined.

The named subcontractor(s) for Designated and/or Specialty Items, as shown on the proposal, is recommended to be at the scheduled meeting if such items materially affect the work schedule.

The Project Engineer will arrange the time and place for the meeting.

The Progress Schedule shall include, as a minimum, the controlling work items for the completion of the project and the planned dates (or work day for a work day project) that these work items will be controlling operations. When specified in the bidding proposal, the date the project is to be opened to traffic as well as the final project completion date shall also be included in the Progress Schedule.

If the bidding proposal specifies other controlling dates, these shall also be included in the Progress Schedule.

Failure on the part of the contractor to carry out the provision of the Progress Schedule, as established, may be considered sufficient cause to prevent bidding future projects until a satisfactory rate of progress is again established.

BCRC/KAS

BERRIEN COUNTY ROAD COMMISSION

PROJECT SPECIFICATIONS FOR SPECIAL PROVISIONS

GENERAL

The Standard Specifications for Construction (Standard Specifications) adopted in 2012 by the Michigan Department of Transportation, are hereby incorporated into these contract documents. Copies of these standards are available for inspection at the office of the Engineer. All construction included in this project shall be done in accordance with the Standard Specifications, as modified by these project specifications and special provisions, or as modified by plan notes. Where notes on the plans are in conflict with the standard specifications or there are special provisions, the plan notes shall control.

CONTRACT REQUIREMENTS AND COVENANTS

Where the contract requirements in these Contract Documents conflict with the contract requirements specified in Division 1 of the standard specifications, the contract requirements in these contract documents shall control.

SPECIAL PROVISIONS

The special provisions, which follow, shall modify the standard specifications for the items indicated.

BERRIEN COUNTY ROAD COMMISSION

SPECIAL PROVISION FOR MAINTAINING TRAFFIC 1 OF 2

BCRC/KAS

06/30/17

GENERAL REQUIREMENTS

Traffic shall be maintained by the Contractor throughout the project in accordance with the requirements of Sections 104.11, 812 and 922 of the 2012 MDOT Standard Specifications for Construction and as herein specified. The Contractor is advised that the 2011 Edition, as amended, of the Michigan Manual of Uniform Traffic Control Devices is hereby established as governing all work in connection with traffic control devices, barricade lighting, etc., required on this project. The Contractor shall coordinate this work with other contractors performing work within the construction influence area or adjoining areas to avoid conflicts in the maintenance of traffic, construction signing and the orderly progress of work.

Berrien County Road Commission shall, at the beginning of construction and immediately after the detour is set up, remove all signs that conflict with new construction, and shall install all necessary permanent signing prior to opening to traffic. The Contractor shall be responsible for all temporary signing during construction, and shall coordinate with the Berrien County Road Commission to assure adequate signage during the transitions. As the project nears completion, the Contractor shall coordinate removal of temporary signs, barricades, and traffic control devices with the Berrien County Road Commission's placement of permanent signs and pavement markings to assure a safe transition. The Road Commission shall place permanent signs and pavement markings before the removal of the detour.

The Contractor shall furnish, erect, maintain and upon completion of the work, remove all traffic control devices and barricade lights within the construction influence area for the safety and protection of thru and local traffic. This includes, but is not limited to, advance, regulatory and warning signs, barricades, and channeling devices at the intersecting street on which traffic is to be maintained and all other traffic control devices required to maintain traffic as called for on the plans. The construction influence area (CIA) shall consist of the width of the project right of way from 2,600 feet before the project P.O.B. to 2,600 feet beyond the project P.O.E., 500 feet in all directions along the cross roads, within the project limits.

TRAFFIC RESTRICTIONS

Local and emergency traffic will be maintained.

All work for this project shall be performed during daylight hours. Night work will not be allowed. Red Arrow Highway has a large shoulder for construction activities to take place with requiring minimum traffic control.

Two-way traffic shall be maintained for the duration of the project. Lane Closures shall comply with MDOT Maintaining Traffic Typical M0140a.

BERRIEN COUNTY ROAD COMMISSION

SPECIAL PROVISION FOR MAINTAINING TRAFFIC 2 OF 2

BCRC/KAS

06/30/17

PROJECT - GENERAL

Any utility trenches across all drives shall be maintained by the use of existing or salvaged materials and costs associated with this work included in Minor Traffic Devices.

Necessary emergency work performed by the County due to the negligence of the Contractor will be billed against the Contractor.

Walks, driveways and entrances to building shall not be unnecessarily blocked. Vehicular access shall be maintained to all properties, or as designated by the Engineer, at all times. Construction shall be completed in such a manner as to maintain the required entrance width for traffic at all times. When partial widths of new pavement are available to traffic, access to drives shall be provided immediately.

Where the existing pavement or partial widths of new pavement are to be utilized for the maintenance of local or thru traffic, plastic drums will be require at 50 foot intervals or as directed by the engineer for channeling and directing traffic through the construction area.

TRAFFIC CONTROL DEVICES

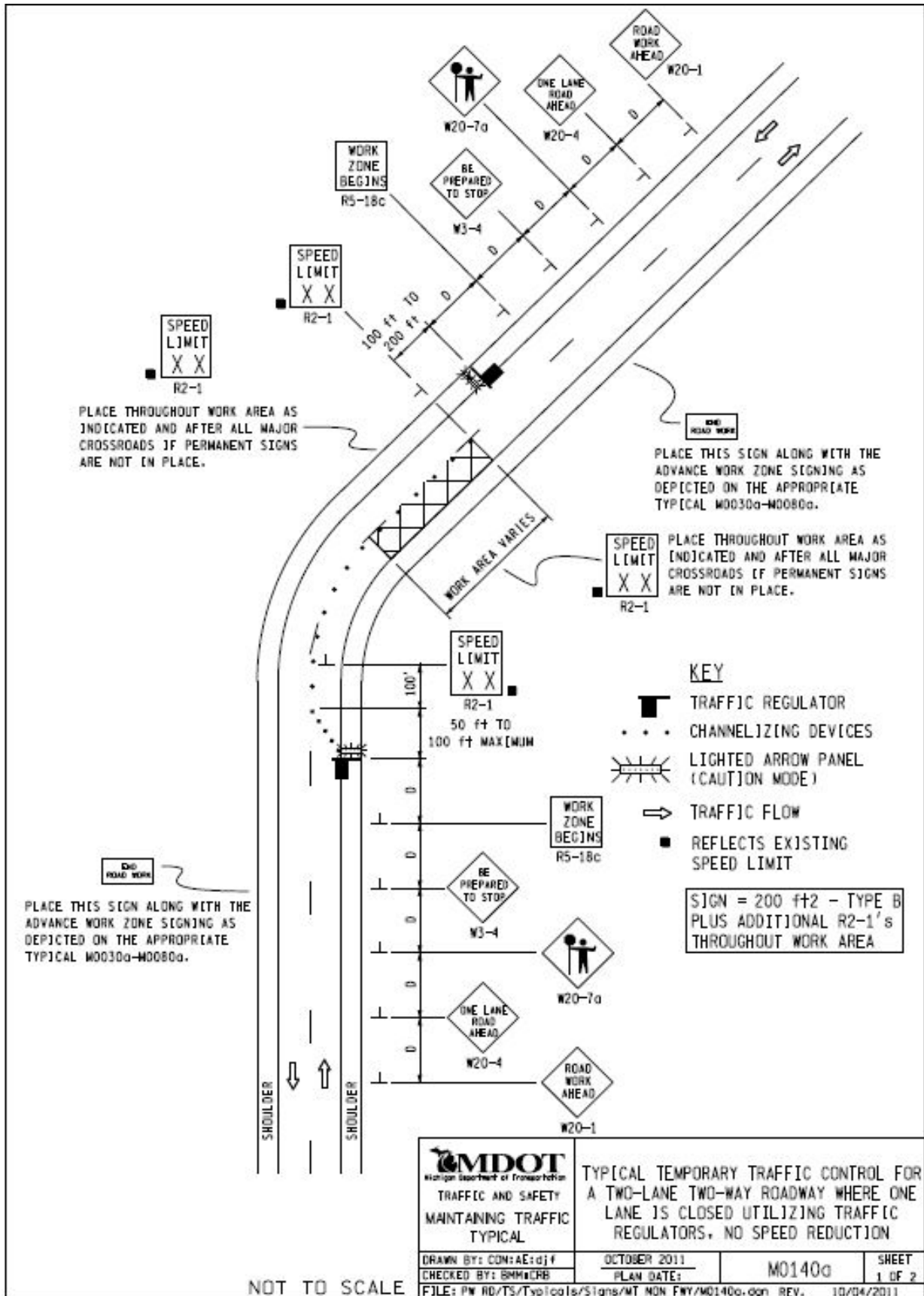
All traffic control devices and their usage shall be in accordance with provisions in the 2011 Edition, as amended, of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD), as amended. All construction signs, unless otherwise noted, shall be 4' x 4', mounted at a bottom height of 7 feet and placed as indicated on the plans. When signs are no longer applicable, they shall be removed or have their legend completely covered with plywood or approved equal, if the posts are driven. Signs can no longer be mounted on Type III Barricades. Signs near Type III Barricades shall have separate supports.

Reflectorized strips are required on both sides when barricades are facing traffic in both directions.

Channelizing devices shall be used to separate traffic from the work and if directed by the Engineer or shown on the plan sheets to separate opposing traffic lanes.

Plastic cones may be used as channelizing devices only during day light hours. If plastic cones are used, they shall be a minimum of 28 inches in height and placed as directed by the Engineer. Metal drums or metal barrels shall not be used as traffic control devices.

All traffic control devices shall meet Traffic Special Details WZD-125-E & WZD-100-A.



NOTES

- 1H. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES AND LENGTH OF LONGITUDINAL BUFFERS
SEE M0020d FOR "D" VALUES.
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- 4A. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES IN THE TAPER AREA(S) SHOULD BE 15 FEET AND SHOULD BE EQUAL IN FEET TO TWICE THE POSTED SPEED IN MILES PER HOUR IN THE PARALLEL AREA(S).
5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.
6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDT WILL BE ALLOWED.
9. ALL TRAFFIC REGULATORS SHALL BE PROPERLY TRAINED AND SUPERVISED.
- 9A. IN ANY OPERATION INVOLVING MORE THAN ONE TRAFFIC REGULATOR, ONE PERSON SHOULD BE DESIGNATED AS HEAD TRAFFIC REGULATOR.
10. ALL TRAFFIC REGULATORS' CONDUCT, THEIR EQUIPMENT, AND TRAFFIC REGULATING PROCEDURES SHALL CONFORM TO THE CURRENT EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUCD) AND THE CURRENT EDITION OF THE MDT HANDBOOK ENTITLED "TRAFFIC REGULATORS INSTRUCTION MANUAL."
11. WHEN TRAFFIC REGULATING IS ALLOWED DURING THE HOURS OF DARKNESS, APPROPRIATE LIGHTING SHALL BE PROVIDED TO SUFFICIENTLY ILLUMINATE THE TRAFFIC REGULATOR'S STATIONS.
- 12E. THE MAXIMUM DISTANCE BETWEEN THE TRAFFIC REGULATORS SHALL BE NO MORE THAN 2 MILES IN LENGTH UNLESS RESTRICTED FURTHER IN THE SPECIAL PROVISIONS FOR MAINTAINING TRAFFIC. ALL SEQUENCES OF MORE THAN 2 MILES IN LENGTH WILL REQUIRE WRITTEN PERMISSION FROM THE ENGINEER BEFORE PROCEEDING.
13. WHEN INTERSECTING ROADS OR SIGNIFICANT TRAFFIC GENERATORS (SHOPPING CENTERS, MOBILE HOME PARKS, ETC.) OCCUR WITHIN THE ONE-LANE TWO-WAY OPERATION, INTERMEDIATE TRAFFIC REGULATORS AND APPROPRIATE SIGNING SHALL BE PLACED AT THESE LOCATIONS.
14. ADDITIONAL SIGNING AND/OR ELONGATED SIGNING SEQUENCES SHOULD BE USED WHEN TRAFFIC VOLUMES ARE SIGNIFICANT ENOUGH TO CREATE BACKUPS BEYOND THE W3-4 SIGNS.
15. THE HAND HELD (PADDLE) SIGNS REQUIRED BY THE MMUCD TO CONTROL TRAFFIC WILL BE PAID FOR AS PART OF FLAG CONTROL.
- 28E. THE TRAFFIC REGULATORS SHOULD BE POSITIONED AT OR NEAR THE SIDE OF THE ROAD SO THAT THEY ARE SEEN CLEARLY AT A MINIMUM DISTANCE OF 500 FEET. THIS MAY REQUIRE EXTENDING THE BEGINNING OF THE LANE CLOSURE TO OVERCOME VIEWING PROBLEMS CAUSED BY HILLS AND CURVES.

SIGN SIZES

DIAMOND WARNING - 48" x 48"
 R2-1 REGULATORY - 48" x 60"
 R5-18c REGULATORY - 48" x 48"



TYPICAL TEMPORARY TRAFFIC CONTROL FOR A TWO-LANE TWO-WAY ROADWAY WHERE ONE LANE IS CLOSED UTILIZING TRAFFIC REGULATORS, NO SPEED REDUCTION

DRAWN BY: CON:AE:djf

OCTOBER 2011

CHECKED BY: BMM:CRB

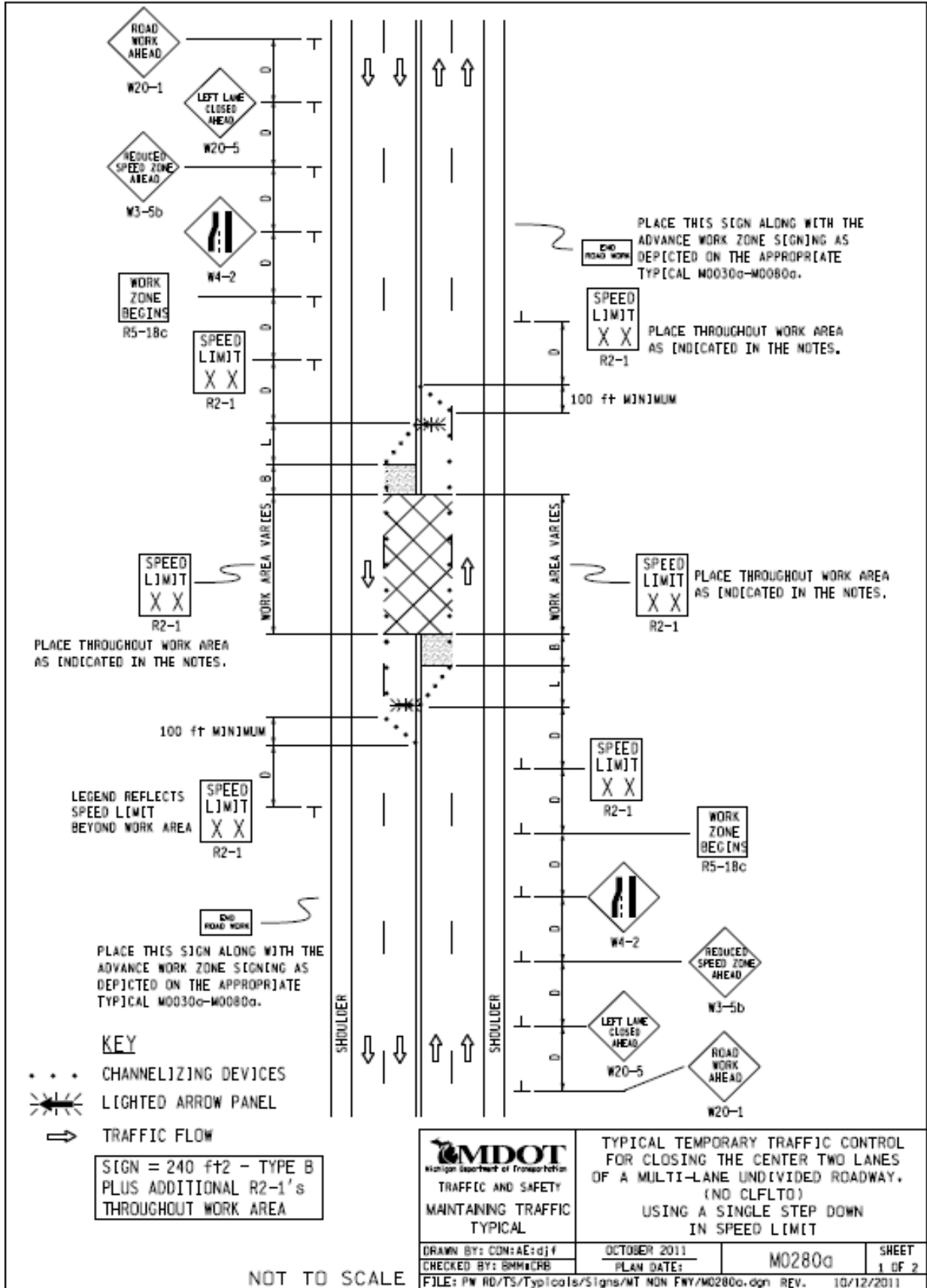
PLAN DATE:

M0140d

SHEET
2 OF 2

NOT TO SCALE

FILE: PW RD/TS/Typicals/Signs/MT NON Fwy/M0140a.dgn REV. 10/04/2011




NOT TO SCALE

NOTES

- 1B. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
 L = MINIMUM LENGTH OF TAPER
 B = LENGTH OF LONGITUDINAL BUFFER
 SEE M0020a FOR "D," "L," AND "B" VALUES
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- 4B. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON MERGING TAPER(S), TWICE THE POSTED SPEED IN THE PARALLEL AREA(S), AND 25 FEET IN THE DOWNSTREAM TAPER AREA(S).
5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.
6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.
8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
- 16A. ADDITIONAL SPEED LIMIT SIGNS REFLECTING THE REDUCED SPEED SHALL BE PLACED AFTER EACH MAJOR CROSSROAD THAT INTERSECTS THE WORK AREA WHERE THE REDUCED SPEED IS IN EFFECT, AND AT INTERVALS ALONG THE ROADWAY SUCH THAT NO SPEED LIMIT SIGNS REFLECTING THE REDUCED SPEED ARE MORE THAN TWO MILES APART.
- 16B. WHEN REDUCED SPEED LIMITS ARE UTILIZED IN THE WORK AREA, ADDITIONAL SPEED LIMIT SIGNS RETURNING TRAFFIC TO ITS NORMAL SPEED SHALL BE PLACED BEYOND THE LIMITS OF THE REDUCED SPEED AS INDICATED.
- 16E. WHEN EXISTING SPEED LIMITS ARE REDUCED MORE THAN 10 MPH, THE SPEED LIMIT SHALL BE STEPPED DOWN IN NO MORE THAN 10 MPH INCREMENTS.
21. ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DAYTIME-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.
- 26C. THE LIGHTED ARROW PANEL SHALL BE LOCATED AT THE BEGINNING OF THE MERGING TAPER AS SHOWN. WHEN PHYSICAL LIMITATIONS RESTRICT ITS PLACEMENT AS INDICATED, THEN IT SHALL BE PLACED AS CLOSE TO THE BEGINNING OF THE MERGING TAPER AS POSSIBLE.

SIGN SIZES

DIAMOND WARNING - 48" x 48"
 RECTANGULAR REGULATORY - 48" x 60"
 R5-18c REGULATORY - 48" x 48"

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR CLOSING THE CENTER TWO LANES OF A MULTI-LANE UNDIVIDED ROADWAY, (NO CLFLTO) USING A SINGLE STEP DOWN IN SPEED LIMIT						
DRAWN BY: CDN:AE:djf CHECKED BY: BMM:CRB	<table style="width: 100%; border: none;"> <tr> <td style="border: none;">OCTOBER 2011</td> <td style="border: none;">M0280a</td> <td style="border: none;">SHEET</td> </tr> <tr> <td style="border: none;">PLAN DATE:</td> <td style="border: none;"></td> <td style="border: none;">2 OF 2</td> </tr> </table>	OCTOBER 2011	M0280a	SHEET	PLAN DATE:		2 OF 2
OCTOBER 2011	M0280a	SHEET					
PLAN DATE:		2 OF 2					
FILE: PW RD/TS/Typicals/Signs/MT NON Fwy/M0280a.dgn REV. 10/12/2011							

NOT TO SCALE

For existing storm sewers with plugs or bulkheads, remove plugs or bulkheads without damaging the existing sewer and make watertight joint connections. Take possession and dispose of the removed material in accordance with subsection 204.03.B.

If tapping an existing pipe, cut an opening in the receiving pipe at least 6 inches larger than the outside diameter of the inlet pipe. Insert the inlet pipe and cut flush with the inner wall of the receiving pipe. Pack a layer of mortar at least 3 inches thick around the inlet pipe and strike smooth with the inner wall of the receiving pipe. Encase the inlet pipe on the outside of the connection with concrete to provide bearing under the pipe. Repair or replace existing pipe damaged by Contractor tapping operations at no additional cost to the Department.

Do not direct tap sewer inlet pipes with outside diameters greater than half the inside diameter of the trunk sewer. Construct a manhole structure for these taps in accordance with section 403. Obtain the Engineer's approval before using other methods for tapping existing sewers.

E. **Sewer Bulkheads.** Construct sewer bulkheads using Grade S3 concrete or brick or block masonry. Extend the bulkhead at least 1 foot into the pipe from the inner wall of the drainage structure. Construct masonry bulkheads in accordance with subsection 403.03.

F. **Backfilling.** Backfill in accordance with subsection 401.03.D.

G. **Corrugated Steel Sewer.** In a single line of pipe, do not use dissimilar base metals or coatings on steel.

H. **Sewer Jacked in Place.** Jack sewers in place in accordance with subsection 401.03.G.

I. **Disposal of Surplus Material.** Take possession and dispose of surplus material in accordance with subsection 205.03.P.

J. **Cleanout.** Maintain storm sewers installed on the project. Ensure installed sewers are free of silt, debris, and other deleterious material at the time of final acceptance.

K. **Video Inspection of Sewer Pipe.** Use closed circuit television to inspect required storm sewers. Dewater or divert flow in sewers for inspection. Video inspection is not required for extensions of existing catch basin leads less than 20 feet.

After backfilling and compacting the trench, and from 5 to 10 working days before pavement surfacing or completion of final grade, conduct the

402.03

inspection of sewers under pavement, unless otherwise approved by the Engineer.

For sewers not under pavement, conduct the inspection as close to project completion as possible, but allow time for corrective action determined by the video inspection and directed by the Engineer.

1. **Traffic Control.** Obtain the Engineer's approval of traffic control measures at least 5 days before beginning work. Propose a traffic control plan in accordance with the Michigan Manual of Uniform Traffic Control Devices.

Unless otherwise approved by the Engineer, keep traffic lanes open. For necessary lane or shoulder closures, use traffic control measures in accordance with the traffic control plan.

2. **Equipment.** Use a camera designed and constructed for inspecting sewers, equipped with the following features:
 - a. A pan and tilt head external to the main body of the camera to allow inspection of the sewer joints and cracks or other defects;
 - b. Lighting to allow a clear picture of the perimeter of the pipe; and
 - c. Underwater operation, capable of producing a picture quality satisfactory to the Engineer.

If the Engineer determines the video quality is not satisfactory, re-inspect the pipes to obtain acceptable results, at no additional cost to the Department.

Use continuous running video capable of recording audio and video information. Include the date, the month, day and year, and camera location. Provide a continuous record of the sewer section, from manhole to manhole or from end to end. Use high quality, color, DVD format at a standard play speed. Obtain the Engineer's approval before using other recording media.

3. **Sewer Flow Control.** Provide flow control to bring the depth of flow in the sewer pipe within the range specified in subsection 402.03.K.3.a for video inspection. Submit to the Engineer for approval, the proposed method of sewer flow control before starting work.
 - a. **Depth of Flow.** Lower the depth of flow in the sewer during the videotaping operation to less than 2 inches. Reduce flow by plugging or blocking the flow, or by pumping the flow and bypassing the pipe section during inspection, as approved by the Engineer.

- b. **Plugging or Blocking.** Insert a sewer line plug into the line upstream of the section undergoing inspection. Use a plug designed to allow the release of portions of the flow. During video inspection, reduce the flow depth to 2 inches. Restore normal flow after completing the work. Meter flow discharge to prevent erosion.
 - c. **Pumping and Bypassing.** For pumping and bypassing, supply the pumps, conduits, and other equipment to divert the flow around the sewer section undergoing inspection. Provide a bypass system with a capacity to handle existing flow plus additional flow that may occur during a rain event. Provide the labor and supervision required to set up and operate the pumping and bypassing system.
 - d. **Flow Control Precautions.** If the flow in a sewer line is plugged, blocked, or bypassed, protect the sewer lines from damage that may result from sewer surcharging. Ensure sewer flow control operations do not cause flooding or damage to public or private property.
4. **Procedure.** Move the camera through the line at a rate no greater than 0.5 feet per second, stopping as required to document the joint and pipe conditions. Use winches, cable, powered rewinds, or other devices that do not obstruct the camera view or interfere with proper documentation of the pipe conditions.

Adjust the camera to travel above the level of the flow in the pipe. If the camera encounters a dip in the pipe such that the water rises above the springline of the pipe, or if the camera lens becomes submerged, withdraw the camera and re-insert it from the other end as far as possible. Do not back the camera into a pipe undergoing inspection.

Measure the distance to the location of defects above ground using a meter device. The Engineer will not allow marking defect locations on the cable to measure the distance to defects. Provide a distance meter with an accuracy within 1 foot and check using a walking meter, roll-a-tape, or other device.

5. **Documentation.** After completing the video inspection, provide two copies of the video to the Engineer. Include a written log of damages or installation defects, including pipe deformation, cracking, joint separation, corrosion, perforation or other features identified in the video. Provide two copies of the log to the Engineer. Locate the damage or defect by meter marking of the video in the inspection

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log. Label the videos to describe the reaches of sewer or culverts contained in the videos, including street location and manhole numbers. If manhole numbers are not provided, assign a numbering system to allow identification in the inspection report and video.

402.04. Measurement and Payment.

Pay Item	Pay Unit
Sewer, CI __, __ inch, Tr Det __	Foot
Sewer, Reinf Conc Ellip, CI __, (rise) by (span) inch, Tr Det __	Foot
Sewer, CI __, (type), __ inch, Jacked in Place	Foot
Sewer Tap, __ inch	Each
Sewer Bulkhead, __ inch	Each
Trench Undercut and Backfill	Cubic Yard
Dewatering System, Trench	Foot
Video Taping Sewer and Culv Pipe	Foot

A. **Sewer and Sewer, Reinforced Concrete Elliptical.** The Engineer will measure **Sewer** and **Sewer, Reinf Conc, Ellip**, of the size, class, and trench detail required, in place from center to center of manholes, catch basins, or inlets. The unit price for **Sewer** and **Sewer, Reinf Conc, Ellip** includes the cost of excavation, backfill, geotextile fabric and mandrel testing.

B. **Sewer, Jacked in Place.** The Engineer will measure **Sewer, Jacked in Place**, of the size and class required, by multiplying the number of units jacked by the commercial laying length. The unit price for **Sewer, Jacked in Place** includes excavating the pit; providing and installing sheeting, bracing, and other safety devices; providing jacking equipment; drainage and dewatering; and other items associated with the operation.

C. **Sewer Tap.** The Engineer will measure **Sewer Tap**, based on the inlet pipe size required, by each tap into an existing system. If tapping an existing sewer line using a drainage structure, the Department will pay for one sewer tap in addition to the drainage structure.

D. **Sewer Bulkhead.** The Engineer will only measure sewer bulkheads for storm sewers with a diameter larger than 12 inches. The cost of constructing sewer bulkheads for pipes with a diameter less than or equal to 12 inches, or constructed as part of abandoning or removing drainage structures as shown on the plans, is included in the unit prices for related pay items.

The Department will pay separately for bulkheading pipes greater than 12 inches.

E. **Trench Undercut and Backfill.** The Engineer will measure **Trench Undercut and Backfill** by calculating the volume from the length, depth, and width of undercut authorized by the Engineer and shown on the plans. The Engineer will not make allowance for sloping the sides of the trench. The unit price for **Trench Undercut and Backfill** includes the cost of excavation and disposal of material; and providing, placing, and compacting 6A, 17A, or 34R aggregate to the bottom of trench elevation shown on the plans.

F. **Rock Excavation.** The Engineer will measure and the Department will pay separately for rock excavation in accordance with subsection 205.04.

G. **Dewatering System, Trench.** If the contract does not include a pay item for **Dewatering System, Trench** and the Contractor uses a dewatering system, the Department will not pay separately for the system, but will consider the cost to be included in the unit prices for related pay items.

H. **Tunneling.** The Engineer may authorize tunneling, in place of open-cut construction methods. The Department will delete, or proportionally reduce pay item quantities required for corresponding open-cut construction from the contract if the Engineer authorizes tunneling. The Department will not make an adjustment in the pay items of **Minor Traffic Devices** or **Flag Control**.

If the contract does not include a unit price for tunneling of the proposed pipe size, the Department will pay for tunneling as Extra Work at an agreed upon price. Payment for the work performed by tunneling methods will not exceed the unit price bid for the open-cut method.

I. **Video Taping Sewer and Culvert Pipe.** The unit price for **Video Taping Sewer and Culv Pipe** includes the cost of dewatering, flow control, video inspection, and documentation.

The Department will pay separately for traffic maintenance and control in accordance with subsection 812.04.

BERRIEN COUNTY ROAD COMMISSION

NOTICE TO BIDDERS

TESTING OF MATERIALS

All materials must be tested and approved in accordance with Section 105 of the 2012 Standard Specifications, or as provided herein, before they enter into the construction of the project. Testing may be performed by the Local Agency or a Commercial Testing Company. Cost of the testing shall be the responsibility of the Local Agency and may be eligible for federal participation.

INSURANCE

The Contractor shall provide for an in behalf of the State, the Commission, the Department, its employees, and all agencies specifically named below and their interests may appear, Owner's Protective Public Liability Insurance. Such insurance shall provide coverage and limits the same as the Contractor's Public Liability Insurance.

The agencies are the Board of County Road Commissioners of The County of Berrien, and the Berrien County Road Commission.

BERRIEN COUNTY ROAD COMMISSION

HOLD HARMLESS

This Agreement made this _____ day of _____, 20__ by and between the Berrien County Road Commission and the Board of County Road Commissioners of the County of Berrien (hereinafter referred to as the BOARD) and _____ (hereinafter referred to as the CONTRACTOR).

Said Contractor hereby agrees to undertake the following work in the status of independent contractor performing the following operations:

RED ARROW HIGHWAY STORM SEWER VIDEO INSPECTION – 2.35 MILE

Said Contractor shall at all times exercise extreme care and shall assume any and all liability for bodily injury, death or property damage arising out of the above stated operation or by anyone else acting in concert or under the control or direction of said Contractor, and will indemnify and hold harmless the Berrien County Road Commission, its Commissioners, employees, attorneys and agents for any and all claims for bodily injury, death or property damage arising out of this agreement.

It is also agreed while engaged in such operation, that the Contractor shall maintain insurance, naming the Board of Berrien County Road Commissioners, the Berrien County Road Commission; their Officers, Agents and Employees as an additional named insured with policy limits of:

Bodily Injury and Property Damage Liability:

Each Occurrence	\$1,000,000
Aggregate	\$2,000,000

Statutory Workmen's Compensation Insurance

Additionally said Contractor shall furnish to the Board a certificate of insurance providing above requested limits.

It is also agreed if the Board is involved in any litigation arising out of said operation, that the Contractor will indemnify and hold harmless the Board for any and all legal fees or cost incurred by the Board in defense of said Board.

WITNESSED BY:

_____	_____
	Contractor
_____	_____
	Berrien County Road Commission

BERRIEN COUNTY ROAD COMMISSION

RED ARROW HIGHWAY STORM SEWER VIDEO INSPECTION – 0.7 MILE

PROPOSAL

Date_____

Board of County Road Commissioners of the County of Berrien,
2860 E. Napier Avenue, Benton Harbor, Michigan 49022-0768

Gentlemen:

The undersigned has examined the plans, specifications, and location of the work described herein and is fully informed as to the nature of the work and the conditions relating to its performances and understands that the quantities shown in the estimate are approximate only and are subject to either increase or decrease; and hereby proposes to furnish all necessary machinery, tools, apparatus and other means of doing the work, do all the work, furnish all the materials except as otherwise specified herein, and, for the unit prices named in the accompanying unit price schedule, to complete the work in strict accordance with the plans and specifications therefore.

The undersigned further proposes to do such extra work as may be ordered by you, prices for which are not included in the itemized bid, compensation therefore to be made on the basis agreed upon before such extra work is begun.

The undersigned agrees to begin work within ten (10) days after being notified to do so, and to **complete all items of work within 10 working days. ALL WORK SHALL BE COMPLETED BY September 8th, 2017.**

Signed_____

By_____

Post Office of Bidder_____

In case the bidder is a co-partnership, each member must sign this proposal.

In case the bidder is a Corporation this proposal must be executed by its duly authorized officials in accordance with its articles of incorporation and a certified copy of such articles must be attached hereto.

BERRIEN COUNTY ROAD COMMISSION

2860 EAST NAPIER AVENUE

BENTON HARBOR, MICHIGAN 49022

TELEPHONE 925-1196

PROJECT: RED ARROW HIGHWAY STORM SEWER VIDEO INSPECTION 1,438 ft
ITEMIZED UNIT PRICE SCHEDULE

QUANTITY	ITEM OF WORK	UNIT PRICE	AMOUNT
1 LS	MOBILIZATION, MAX. ____		
1,438 FT	VIDEO TAPING SEWER AND CULV. PIPE		
1 LS	TRAFFIC REGULATOR CONTROL		
1 LS	MINOR TRAFFIC DEVICES		
256 SFT	SIGN, TYPE B, TEMP, PRISMATIC, FURN.		
256 SFT	SIGN, TYPE B, TEMP, PRISMATIC, OPER.		

TOTAL OF BID \$ _____

Signed Bidder

Date