

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

FRA-674-2.20
FRANKLIN COUNTY
CANAL WINCHESTER
MADISON TOWNSHIP

PROJECT DESCRIPTION

PAVEMENT PLANING AND RESURFACING FROM SLM 2.20 TO SLM 3.63 (1.43 MILES), AND FROM SLM 3.99 TO SLM 4.54 (0.55 MILES). ALSO MILL AND FILL ONRAMP A - US 33EB TO SR 674. PAVEMENT PLANING AND RESURFACING ON APPROACH SLABS OF STRUCTURE 2517361 OVER US 33. WRONG WAY SIGNING AND MARKING UPGRADE ON US 33 RAMPS A AND F. SIGNAL WORK ON VARIOUS LOCATIONS IN CANAL WINCHESTER.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: N/A* ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A* ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A* ACRES
*MAINTENANCE PROJECT

2019 SPECIFICATIONS

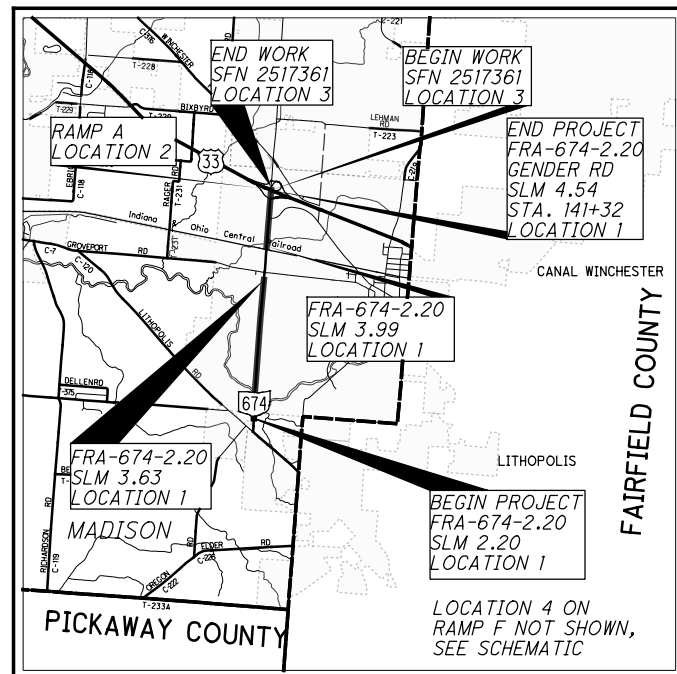
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

PLANS CERTIFIED BY: *[Signature]*
NAME: *[Signature]* DATE: 11/04/19
DISTRICT 6
OHIO DEPT. OF TRANSPORTATION

APPROVED: *[Signature]*
DATE: 11/5/19 DISTRICT DEPUTY DIRECTOR

APPROVED: _____
DATE: _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION



LOCATION MAP

LATITUDE: N 39°50'26" LONGITUDE: W 82°49'47"



PORTION TO BE IMPROVED	—————
INTERSTATE HIGHWAY	—————
FEDERAL ROUTES	—————
STATE ROUTES	—————
COUNTY & TOWNSHIP ROADS	—————
OTHER ROADS	—————

DESIGN DESIGNATION

SEE SCHEMATIC PLAN, SHEET NO. 2.

INDEX OF SHEETS:

TITLE SHEET	1
SCHEMATIC PLAN	2
TYPICAL SECTIONS	3 - 4
TYPICAL DETAILS	5 - 6
GENERAL NOTES	7 - 8
MAINTENANCE OF TRAFFIC NOTES	9 - 11
GENERAL SUMMARY	12 - 13
PAVEMENT SUBSUMMARY	14
PAVEMENT REPAIR SUBSUMMARY	15
PLAN SHEETS	16 - 28
PAVEMENT MARKING SUBSUMMARY	29
TRAFFIC CONTROL PLANS	30 - 58
SIGN QUANTITIES	59
SIGNAL NOTES & DETAILS	60 - 61 60A

UNDERGROUND UTILITIES
Contact Two Working Days
Before You Dig

OHIO811.org
Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:



ENGINEERS SEAL:

FOR TRAFFIC SIGNAL VIDEO DETECTION MODIFICATION ONLY.

SIGNED: *[Signature]*
DATE: 9-17-2019

ENGINEERS SEAL:

SIGNED: *[Signature]*
DATE: 11/04/19

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
RM-1.1	7/18/14	TC-41.50	10/18/13	800-2019 10/18/19	
		TC-42.20	10/18/13	821 4/20/12	
MT-95.31	7/19/19	TC-52.10	10/18/13	832 10/19/18	
MT-95.32	4/19/19	TC-52.20	7/20/18	921 4/20/12	
MT-97.10	4/19/19	TC-65.10	1/17/14		
MT-97.12	1/20/17	TC-65.11	7/21/17		
MT-98.20	4/19/19	TC-71.10	1/19/18		
MT-98.28	1/20/17	TC-73.20	7/21/17		
MT-98.29	1/20/17				
MT-99.20	4/19/19				
MT-101.60	1/20/17				
MT-101.90	7/21/17				
MT-105.10	7/19/13				
TC-41.20	10/18/13				
TC-41.30	10/18/13				

FEDERAL PROJECT NO. **E190 (140)**
CONSTRUCTION PROJECT NO. **107784**
RAILROAD INVOLVEMENT **NONE**
FRA-674-2.20
1/61

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SHEET NUM.							PART.			ALT (X)	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
8-9	10-11	14	15	29	59	61	01/S<2/PV	02/S<2/PV	03/S<2/PV							
MAINTENANCE OF TRAFFIC																
	150						110	40			614	1110	150	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
	20						16	4			614	12461	20	EACH	WORK ZONE MARKING SIGN, AS PER PLAN	11
	0.96						0.96				614	20550	0.96	MILE	WORK ZONE LANE LINE, CLASS III, 4", 642 PAINT	
	4.19						3.79	0.4			614	21550	4.19	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
	5,472						5,472				614	23680	5,472	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 8", 642 PAINT	
	412						350	62			614	26610	412	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
TRAFFIC SIGNALS																
				1				1			625	31510	1	EACH	PULL BOX REMOVED	
									5		632	90101	5	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	60
TRAFFIC SIGNALS ALTERNATES																
							5			X	816	30001	5	EACH	VIDEO DETECTION SYSTEM, AS PER PLAN (ALTERNATE 1)	60A
							5			X	816	30001	5	EACH	VIDEO DETECTION SYSTEM, AS PER PLAN RZ-4 ADVANCED WDR (BY ITERIS) (ALTERNATE 2)	60
INCIDENTALS																
							LS	LS	LS		614	11000	LS		MAINTAINING TRAFFIC	
							LS	LS	LS		623	10001	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN	9
							LS	LS	LS		624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

FRA -674-2.20

CALCULATED
MAK
CHECKED
GD

TRAFFIC SIGNAL VIDEO DETECTION SPECIFICATIONS

GENERAL

THESE SPECIFICATIONS ARE INTENDED TO DESCRIBE THE TYPE, SIZE AND LOCATION OF THE PRODUCTS AND MATERIALS TO BE PROVIDED AND INSTALLED UNDER THE VARIOUS BID ITEMS RELATED TO TRAFFIC SIGNAL CONTROL. THE CONTRACTOR SHALL FURNISH AND INSTALL TRAFFIC SIGNAL CONTROL DEVICES AND RELATED MATERIALS IN COMPLIANCE WITH THESE SPECIFICATIONS, AS WELL AS THE 2019 OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE STANDARD CONSTRUCTION DRAWINGS ISSUED BY THE OHIO DEPARTMENT OF TRANSPORTATION. THESE SPECIFICATIONS SET FORTH THE MINIMUM PERFORMANCE AND OPERATING REQUIREMENTS OF THE TRAFFIC SIGNAL CONTROL ITEMS REFERRED TO HEREIN.

ALL INCIDENTAL WORK ITEMS CALLED FOR IN THESE SPECIFICATIONS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR AND THE TOTAL COST OF SAID ITEMS SHALL BE INCLUDED IN THE PRICE OF ITS ASSOCIATED BID ITEM.

SPECIFICATION COMPLIANCE

THE CONTRACTOR SHALL FURNISH AND INSTALL TRAFFIC SIGNAL DEVICES IN COMPLIANCE WITH THESE SPECIFICATIONS, THE 2019 ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS INCLUDING ALL SUPPLEMENTAL SPECIFICATIONS, THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE "TC" AND "HL" STANDARD CONSTRUCTION DRAWINGS ISSUED BY THE ODOT. THESE SPECIFICATIONS SET FORTH THE MINIMUM DESIGN AND OPERATING REQUIREMENTS FOR TRAFFIC SIGNAL EQUIPMENT.

TRAFFIC SIGNAL CONTROL EQUIPMENT SHALL MEET OR EXCEED THE STANDARDS SPECIFIED IN THE FOLLOWING DOCUMENTS:

- A) SPECIFICATIONS LISTED HEREIN.
- B) NEMA STANDARDS PUBLICATION NO.TSI-1989 AND/OR TS2-2003 (OR CURRENT NEMA ISSUE).
- C) 2019 ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS AND ANY SUPPLEMENTAL SPECIFICATIONS LISTED HEREIN.

IN CASE OF A CONFLICTING SPECIFICATION STATEMENT, THE SPECIFICATION DOCUMENT HIERARCHY SHALL BE IN THE ORDER LISTED FROM (A), HIGHEST, TO (C), LOWEST.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 90 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR. THE GUARANTEE SHALL COVER THE COMPLETE DETECTION SYSTEM. CUSTOMARY MANUFACTURER'S WARRANTIES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO CANAL WINCHESTER FOLLOWING ACCEPTANCE OF THE EQUIPMENT. THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

DETECTION MAINTENANCE

IF VEHICLE DETECTION BECOMES UNEXPECTEDLY DISABLED, REQUIRES MODIFICATION, OR IS SCHEDULED TO BE TEMPORARILY REMOVED DURING THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER.

IF THE LOSS OF VEHICLE DETECTION IS KNOWN PRIOR TO THE START OF CONSTRUCTION, IT SHALL BE DISCUSSED AT THE PRECONSTRUCTION MEETING. AT SUCH TIME, THE ENGINEER SHALL ADVISE THE CONTRACTOR ON THE APPROPRIATE ACTION TO RECTIFY ANY LOSS OF VEHICLE DETECTION. THIS MAY INCLUDE PLACING THE TRAFFIC SIGNAL ON MINIMUM OR MAXIMUM RECALL, MODIFYING THE MINIMUM GREEN TIMES, AND REMOVING THE MALFUNCTIONING DETECTION FROM SERVICE. WHERE NONINTRUSIVE DETECTION (I.E. VIDEO, RADAR) ALREADY EXISTS OR IS PROPOSED, THE CONTRACTOR SHALL INSURE THAT DETECTION IS OPERATING AND MAINTAINED BY CONFIGURING THE DETECTION UNITS ACCORDINGLY DURING ALL CONSTRUCTION PHASES.

LOCATIONS WHERE NON-INTRUSIVE DETECTION IS PROPOSED AND THE EXISTING VEHICLE DETECTION IS TO BE ABANDONED, THE NON-INTRUSIVE VEHICLE DETECTION SHALL BE INSTALLED, (IN TEMPORARY LOCATIONS IF NEEDED) CONFIGURED AND MADE FULLY FUNCTIONAL PRIOR TO THE EXISTING DETECTION BEING DISABLED. THE CONTRACTOR SHALL CONTINUE TO MAINTAIN AND MODIFY THE DETECTION UNTIL FINAL ACCEPTANCE OF THE TRAFFIC SIGNAL MODIFICATIONS.

CONTRACTOR ACCESS TO EXISTING CONTROL CABINET

THE SIGNALS WITHIN THE GENDER ROAD CORRIDOR AS MODIFIED OR REPLACED BY THIS PROJECT ARE OPERATED AND MAINTAINED BY THE CITY OF CANAL WINCHESTER. THE CONTRACTOR SHALL COORDINATE WITH THE CITY TO DETERMINE IF A REPRESENTATIVE FROM THE CITY MUST BE PRESENT ANYTIME THE CONTRACTOR REQUIRES ENTRY INTO THE EXISTING CONTROLLER CABINET. THE CONTRACTOR SHALL CONTACT 614-834-5100 TO MAKE ARRANGEMENTS. A THREE WORKDAY NOTICE SHALL BE GIVEN. THE REPRESENTATIVE SHALL ACT IN A SUPERVISORY AND/OR INFORMATIONAL CAPACITY ONLY UNLESS OTHERWISE STATED IN THESE SPECIFICATIONS. ALL CONTRACTOR INSTALLED CABLE SHALL BE CONNECTED BY THE CONTRACTOR BUT OVERSEEN BY THE CITY'S REPRESENTATIVE IF REQUIRED BY THE CITY.

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATIONS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXISTING SIGNAL INSTALLATIONS WHICH THESE SPECIFICATIONS REQUIRES THE CONTRACTOR TO ADJUST, MODIFY, ADD ON TO, OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES, OR OTHERWISE DISTURBS, FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE TIME THE INSTALLATION HAS SUBSEQUENTLY BEEN REMOVED OR MODIFIED AND THE WORK HAS BEEN ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. THE CONTRACTOR SHALL DISPATCH MAINTENANCE PERSONNEL TO CORRECT THE PROBLEM. THE CONTRACTOR SHALL PROVIDE ONE OR MORE CONTACT PERSONS WHO CAN RECEIVE ALL DEVICE OUT-OF-SERVICE CALLS THAT FALL UNDER THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL PROVIDE THE ENGINEER AND CANAL WINCHESTER WITH ADDRESSES AND PHONE NUMBERS OF THESE CONTACT PERSONS. MAINTENANCE PERSONNEL MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS CONTINUOUSLY AVAILABLE TWENTY-FOUR (24) HOURS A DAY AND SEVEN (7) DAYS A WEEK. THE CONTRACTOR SHALL PROVIDE MAINTENANCE SERVICE ENTIRELY WITH HIS PERSONNEL. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION, THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICULAR ACCIDENT, THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO OR CANNOT RESPOND TO AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT COSTS TO CANAL WINCHESTER FOR POLICE SERVICES AND MAINTENANCE SERVICES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS ON ALL APPROACHES.

ANY VEHICULAR TRAFFIC SIGNAL HEAD WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25. NO COVERED HEAD SHALL BLOCK THE VIEW OF AN OPERATING HEAD. A MINIMUM OF TWO (2) VEHICULAR SIGNAL HEADS PER TRAVELED DIRECTION (SPACED 8' APART MINIMUM AND 12' MAXIMUM) SHALL BE OPERATING AT ALL TIMES.

ANY NON-OPERATING VEHICULAR OR PEDESTRIAN SIGNAL HEAD OR PUSHBUTTON SHALL BE COVERED PER ODOT 632.25. ALL SIGNAL HEADS WHILE COVERED SHALL BE DARK EITHER BY REMOVING, UNSCREWING OR DISCONNECTING THE POWER TO THE BULBS.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE DETECTION ITEMS SPECIFIED HEREIN.

ITEM 632, REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

UNDER THIS ITEM OF WORK THE CONTRACTOR SHALL REMOVE EXISTING DETECTION EQUIPMENT AND DETECTION WIRING FROM THE SPECIFIED INTERSECTIONS. ONLY ITEMS SPECIFIED FOR REMOVAL SHALL BE REMOVED. ALTERNATE METHODS OF TRAFFIC CONTROL SHALL BE APPROVED BY THE ENGINEER AND IN PLACE AND OPERATING PRIOR TO THE DEACTIVATION AND REMOVAL OF ANY EXISTING EQUIPMENT. THE CONTRACTOR SHALL COORDINATE WITH THE CITY TO DETERMINE WHAT REMOVED ITEMS SHALL REMAIN THE PROPERTY OF CANAL WINCHESTER. THESE ITEMS SHALL BE DELIVERED TO A LOCATION SPECIFIED BY THE CITY. ALL OTHER ITEMS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN ALL, OR SIGNIFICANT PORTIONS OF THE REMOVED ITEMS ARE AVAILABLE FOR DELIVERY. ALL EXISTING SIGNAL CABLE SHALL BE REMOVED FROM UNDERGROUND CONDUITS. EXISTING DETECTOR LOOPS MAY BE ABANDONED IN PLACE. EXISTING PULL BOXES THAT ONLY SERVE LOOP DETECTORS SHALL BE REMOVED. THE RESULTING VOID SHALL BE BACKFILLED AND THE SURFACE RESTORED TO MATCH ADJACENT SURROUNDINGS. EXISTING VIDEO DETECTION EQUIPMENT AT THE GENDER ROAD/DIETZ DRIVE INTERSECTION SHALL BE REMOVED AND DELIVERED TO THE CITY OF CANAL WINCHESTER.

DETECTION EQUIPMENT AND DETECTION WIRING SHALL BE REMOVED FROM THE FOLLOWING INTERSECTION:

- 1. GENDER ROAD / US 33 SB RAMPS
- 2. GENDER ROAD / WINCHESTER BOULEVARD
- 3. GENDER ROAD / CANAL STREET
- 4. GENDER ROAD / FOX HILL
- 5. GENDER ROAD / DIETZ DRIVE

PAYMENT SHALL BE AS PER ITEM 632.

ITEM 816, VIDEO DETECTION SYSTEM, AS PER PLAN RZ-4 ADVANCED WDR (BY ITERIS)

UNDER THIS ITEM OF WORK, THE CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE VIDEO VEHICLE DETECTION SYSTEM AT THE INTERSECTIONS SPECIFIED BELOW.

- 1. GENDER ROAD / US 33 SB RAMPS - RZ-4 ADVANCED WDR (BY ITERIS)
- 2. GENDER ROAD / WINCHESTER BLDV. - RZ-4 ADVANCED WDR (BY ITERIS)
- 3. GENDER ROAD / CANAL STREET - RZ-4 ADVANCED WDR (BY ITERIS)
- 4. GENDER ROAD / FOX HILL - RZ-4 ADVANCED WDR (BY ITERIS)
- 5. GENDER ROAD / DIETZ DRIVE - RZ-4 ADVANCED WDR (BY ITERIS)(EASTBOUND AND WESTBOUND)
- VANTAGE VECTOR HYBRID (BY ITERIS)(NORTHBOUND AND SOUTHBOUND)

VIDEO DETECTION FOR THE NORTHBOUND AND SOUTHBOUND APPROACHES ON GENDER ROAD AT DIETZ DRIVE SHALL BE SUPPLEMENTED WITH RADAR DETECTION. A COMBINATION VIDEO/RADAR UNIT SHALL BE USED TO ACCOMMODATE ADVANCED DETECTION REQUIREMENTS.

THE VIDEO VEHICLE DETECTION SYSTEM SHALL MONITOR VEHICLES ON ALL APPROACHES TO THE INTERSECTION VIA PROCESSING OF VIDEO IMAGES OR RADAR RETURN AND PROVIDE STANDARD DETECTOR OUTPUTS TO THE EXISTING TRAFFIC SIGNAL CONTROLLER. THE SYSTEM SHALL BE FULLY COMPATIBLE WITH EXISTING CONTROLLER AND INCLUDE IMAGE SENSORS (CAMERAS) FOR EACH APPROACH, ONE COMMUNICATIONS HUB FOR THE INTERSECTION AND ALL NECESSARY MATING CABLES. WIRING, COUPLERS, MODIFICATION OF THE CABINET FACILITIES, AND ALL OTHER DEVICES, WHETHER OR NOT SPECIFICALLY SPECIFIED, SHALL BE PROVIDED AND INSTALLED AS REQUIRED TO RENDER THE VIDEO SYSTEM COMPLETELY OPERATIONAL IN COMPLIANCE WITH THE OHIO DEPARTMENT OF TRANSPORTATION STANDARDS, SUPPLEMENTAL SPECIFICATIONS 816 AND 907 AND THE MANUFACTURERS RECOMMENDATIONS. ALL MAJOR COMPONENTS OF THE VIDEO VEHICLE DETECTION SYSTEM SHALL BE SUPPLIED BY THE SAME MANUFACTURER AS A COMPLETE SYSTEM, READY TO OPERATE.

ALL VIDEO DEVICES, EXCEPT THE IMAGE SENSORS, SHALL BE HOUSED IN THE CONTROLLER CABINET. WIRING SHALL BE RUN INSIDE THE EXISTING TRAFFIC SIGNAL SUPPORTS. THE USE OF EXTERNAL CONDUIT RISERS IS PROHIBITED. ALL DEVICES SHALL BE MOUNTED SO ALL CABLE CONNECTIONS ARE ACCESSIBLE AND ALL DEVICE DOORS CAN BE FULLY OPENED FOR SERVICING. THE VIDEO VEHICLE DETECTION SYSTEM SHALL BE CAPABLE OF BEING CONTROLLED VIA A REMOTE SUPERVISOR COMPUTER, EITHER ON-LINE OR OFF-LINE. THE USER SHALL BE ABLE TO CREATE EDIT, STORE AND DELETE DETECTION ZONES FROM EITHER THE SUPERVISOR COMPUTER OR AT THE REMOTE INTERSECTION LOCATION.

THE IMAGE SENSOR SHALL BE EQUIPPED WITH AN ADJUSTABLE FOCAL LENGTH, AUTO-IRIS LENS. THE IMAGE SENSOR SHALL BE HOUSED IN AN ENVIRONMENTAL ENCLOSURE THAT IS WATERPROOF AND DUST TIGHT TO NEMA-4 SPECIFICATIONS. THE ENCLOSURE SHALL BE HEATED TO PREVENT THE ACCUMULATION OF ICE AND CONDENSATION ON THE LENS. ALL EXPOSED EXTERIOR SURFACES OF THE VIDEO IMAGE SENSOR, MOUNTING HARDWARE, AND RELATED ITEMS SHALL BE PAINTED TO MATCH THE SIGNAL SUPPORTS.

THIS ITEM OF WORK SHALL INCLUDE FURNISHING A 5 INCH LCD, PORTABLE, BATTERY/AC OPERATED MONITOR (LEAVE IN CABINET).

ALL DEVICES, WIRING, AND CABINET MODIFICATIONS REQUIRED TO MAKE THE VIDEO VEHICLE DETECTION SYSTEM FULLY OPERATIONAL SHALL BE PROVIDED, INSTALLED AND PAID FOR UNDER THIS ITEM OF WORK.

DETECTION ZONES SHALL BE ESTABLISHED PER THE TABLE PROVIDED HEREIN. AFTER THE ZONES HAVE BEEN ESTABLISHED THEY SHALL BE REVIEWED AND APPROVED BY THE ENGINEER. ANY MODIFICATIONS OR ADJUSTMENTS REQUESTED BY THE ENGINEER SHALL BE IMPLEMENTED BY THE CONTRACTOR.

PAYMENT FOR ALL OF THE ABOVE WILL BE MADE AT THE CONTRACT UNIT PRICE BID, INCLUDING ALL LABOR, MATERIALS, AND APPURTENANCES FOR EACH COMPLETE VIDEO VEHICLE DETECTION SYSTEM AT ONE INTERSECTION, INSTALLED, TESTED, AND ACCEPTED.

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SR 674 (GENDER ROAD)
TRAFFIC SIGNAL MODIFICATION NOTES

FRA -674-2.20

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ITEM 816, VIDEO DETECTION SYSTEM, AS PER PLAN

UNDER THIS ITEM OF WORK, THE CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE VIDEO VEHICLE DETECTION SYSTEM AT THE INTERSECTIONS SPECIFIED BELOW.

1. GENDER ROAD / US 33 SB RAMPS
2. GENDER ROAD / WINCHESTER BLDV.
3. GENDER ROAD / CANAL STREET
4. GENDER ROAD / FOX HILL
5. GENDER ROAD / DIETZ DRIVE

VIDEO DETECTION FOR THE NORTHBOUND AND SOUTHBOUND APPROACHES ON GENDER ROAD AT DIETZ DRIVE SHALL BE SUPPLEMENTED WITH RADAR DETECTION. A COMBINATION VIDEO/RADAR UNIT SHALL BE USED TO ACCOMMODATE ADVANCED DETECTION REQUIREMENTS.

THE VIDEO VEHICLE DETECTION SYSTEM SHALL MONITOR VEHICLES ON ALL APPROACHES TO THE INTERSECTION VIA PROCESSING OF VIDEO IMAGES OR RADAR RETURN AND PROVIDE STANDARD DETECTOR OUTPUTS TO THE EXISTING TRAFFIC SIGNAL CONTROLLER. THE SYSTEM SHALL BE FULLY COMPATIBLE WITH EXISTING CONTROLLER AND INCLUDE IMAGE SENSORS (CAMERAS) FOR EACH APPROACH, ONE COMMUNICATIONS HUB FOR THE INTERSECTION AND ALL NECESSARY MATING CABLES. WIRING, COUPLERS, MODIFICATION OF THE CABINET FACILITIES, AND ALL OTHER DEVICES, WHETHER OR NOT SPECIFICALLY SPECIFIED, SHALL BE PROVIDED AND INSTALLED AS REQUIRED TO RENDER THE VIDEO SYSTEM COMPLETELY OPERATIONAL IN COMPLIANCE WITH THE OHIO DEPARTMENT OF TRANSPORTATION STANDARDS, SUPPLEMENTAL SPECIFICATIONS 816 AND 907 AND THE MANUFACTURERS RECOMMENDATIONS. ALL MAJOR COMPONENTS OF THE VIDEO VEHICLE DETECTION SYSTEM SHALL BE SUPPLIED BY THE SAME MANUFACTURER AS A COMPLETE SYSTEM, READY TO OPERATE.

ALL VIDEO DEVICES, EXCEPT THE IMAGE SENSORS, SHALL BE HOUSED IN THE CONTROLLER CABINET. WIRING SHALL BE RUN INSIDE THE EXISTING TRAFFIC SIGNAL SUPPORTS. THE USE OF EXTERNAL CONDUIT RISERS IS PROHIBITED. ALL DEVICES SHALL BE MOUNTED SO ALL CABLE CONNECTIONS ARE ACCESSIBLE AND ALL DEVICE DOORS CAN BE FULLY OPENED FOR SERVICING. THE VIDEO VEHICLE DETECTION SYSTEM SHALL BE CAPABLE OF BEING CONTROLLED VIA A REMOTE SUPERVISOR COMPUTER, EITHER ON-LINE OR OFF-LINE. THE USER SHALL BE ABLE TO CREATE EDIT, STORE AND DELETE DETECTION ZONES FROM EITHER THE SUPERVISOR COMPUTER OR AT THE REMOTE INTERSECTION LOCATION.

THE IMAGE SENSOR SHALL BE EQUIPPED WITH AN ADJUSTABLE FOCAL LENGTH, AUTO-IRIS LENS. THE IMAGE SENSOR SHALL BE HOUSED IN AN ENVIRONMENTAL ENCLOSURE THAT IS WATERPROOF AND DUST TIGHT TO NEMA-4 SPECIFICATIONS. THE ENCLOSURE SHALL BE HEATED TO PREVENT THE ACCUMULATION OF ICE AND CONDENSATION ON THE LENS. ALL EXPOSED EXTERIOR SURFACES OF THE VIDEO IMAGE SENSOR, MOUNTING HARDWARE, AND RELATED ITEMS SHALL BE PAINTED TO MATCH THE SIGNAL SUPPORTS.

THIS ITEM OF WORK SHALL INCLUDE FURNISHING A 5 INCH LCD, PORTABLE, BATTERY/AC OPERATED MONITOR (LEAVE IN CABINET).

ALL DEVICES, WIRING, AND CABINET MODIFICATIONS REQUIRED TO MAKE THE VIDEO VEHICLE DETECTION SYSTEM FULLY OPERATIONAL SHALL BE PROVIDED, INSTALLED AND PAID FOR UNDER THIS ITEM OF WORK.

DETECTION ZONES SHALL BE ESTABLISHED PER THE TABLE PROVIDED HEREIN. AFTER THE ZONES HAVE BEEN ESTABLISHED THEY SHALL BE REVIEWED AND APPROVED BY THE ENGINEER. ANY MODIFICATIONS OR ADJUSTMENTS REQUESTED BY THE ENGINEER SHALL BE IMPLEMENTED BY THE CONTRACTOR.

PAYMENT FOR ALL OF THE ABOVE WILL BE MADE AT THE CONTRACT UNIT PRICE BID, INCLUDING ALL LABOR, MATERIALS, AND APPURTENANCES FOR EACH COMPLETE VIDEO VEHICLE DETECTION SYSTEM AT ONE INTERSECTION, INSTALLED, TESTED, AND ACCEPTED.

CALCULATED
BER
CHECKED
JDS

**SR 674 (GENDER ROAD)
TRAFFIC SIGNAL MODIFICATION NOTES**

FRA -674-2.20

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