

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

**FRA-DMS-
REPLACEMENT-FY19**
CITY OF COLUMBUS
FRANKLIN COUNTY

PROJECT DESCRIPTION

REMOVAL AND REPLACEMENT OF 4 MONOTUBE DMS SUPPORTS AND INSTALLATION OF NEW PEDESTAL OR TRUSS MOUNTED WALK-IN DMS SIGNS AT THE FOLLOWING LOCATIONS: I-70 EB AT COLE ROAD, I-70 WB EAST OF BRICE ROAD, I-71 NB AT HOOVER ROAD, AND I-71 NB SOUTH OF FRANK ROAD.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: N/A (MAINTENANCE PROJECT)
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A (MAINTENANCE PROJECT)
NOTICE OF INTENT EARTH DISTURBED AREA: N/A (MAINTENANCE PROJECT)

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

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.

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LOCATION MAP

LATITUDE: . . . LONGITUDE: . . .

NOT TO SCALE



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

DESIGN DESIGNATION

CURRENT ADT (20)	-----
DESIGN YEAR ADT (20)	-----
DESIGN HOURLY VOLUME (20)	-----
DIRECTIONAL DISTRIBUTION	-----
TRUCKS (24 HOUR B&C)	-----
DESIGN SPEED	-----
LEGAL SPEED	-----
DESIGN FUNCTIONAL CLASSIFICATION	-----

NHS PROJECT -----

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

Call Before You Dig
1-800-362-2764

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE
1-800-925-0988

ENGINEERS SEAL:

SIGNED: *Kenneth Mark Kelley*
DATE: 2/19/2019

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
ITS-14.10	7/17/15	MT-99.60	7/15/16	800	1/18/19		
ITS-14.11	1/18/19			804	1/18/19		
ITS-15.10	7/17/15	HL-30.11	1/18/19	809	1/18/19		
ITS-15.11	7/17/15	HL-30.21	1/17/14	904	1/18/19		
ITS-18.00	1/18/19	HL-30.22	1/17/14				
ITS-30.11	1/15/16	HL-50.11	1/16/15				
ITS-30.12	1/15/16						
ITS-30.13	7/20/18						
ITS-30.14	1/15/16						
ITS-35.11	1/15/16						
ITS-35.12	1/15/16						
ITS-35.13	1/18/19						
ITS-50.10	1/19/18						
ITS-50.11	7/20/18						

APPROVED: *Michael R. Blufford*
DATE: 2/20/19 DISTRICT DEPUTY DIRECTOR

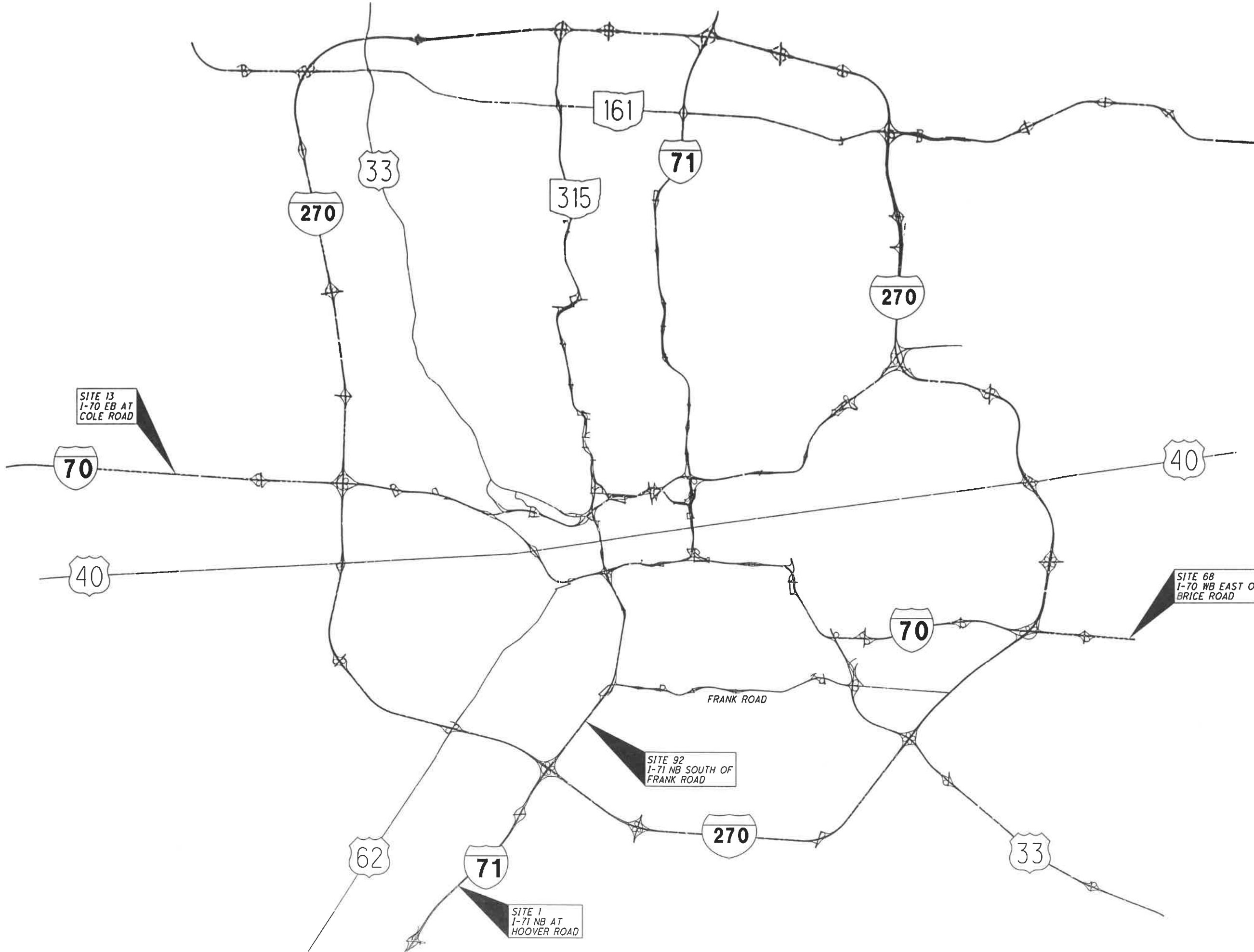
APPROVED: *John Mark...*
DATE: 3/4/19 DIRECTOR, DEPARTMENT OF TRANSPORTATION

326-19

FRA - DMS Replacement FY19
 190326 PID - 108892
 Dist 6 5/23/2019
 Contract Proposal Available @
 www.contracts.dot.state.oh.us/home
 11555\5.0 Design (Work) 90-85591\N\F

FEDERAL PROJECT NO.	N/A
PID NO.	108892
CONSTRUCTION PROJECT NO.	
RAILROAD INVOLVEMENT	NONE
FRA - DMS - REPLACEMENT - FY19	
1/16	

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 HORIZONTAL SCALE IN FEET

SCHEMATIC PLAN

**FRA-DMS-
REPLACEMENT-FY19**

UTILITIES

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

ODOT TRAFFIC MONITORING SECTION
1980 W BROAD STREET
COLUMBUS, OH 43223
CONTACT: DAREN DALTON
PHONE: (614) 204-0291
PHONE: (614) 275-1382

FIELD VERIFICATION OF UTILITIES

PRIOR TO ORDERING DMS SUPPORT STRUCTURES, THE CONTRACTOR SHALL FIELD VERIFY THAT THE PROPOSED LOCATION IS CLEAR FROM OVERHEAD AND UNDERGROUND UTILITY CONFLICTS. IN ADDITION TO CONTACTING OUPS FOR UTILITY FIELD MARKINGS, THE CONTRACTOR SHALL ALSO CONTACT ODOT DISTRICT 6 AND ODOT CENTRAL OFFICE ITS LAB TO REQUEST FIELD MARKING OF ANY PUBLIC UNDERGROUND UTILITIES (E.G., LIGHTING AND ITS FACILITIES). THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR IDENTIFYING UTILITY CONFLICTS, AND NOTIFYING THE ENGINEER OF ANY POTENTIAL CONFLICTS. THE SIGN LOCATION SHALL BE ADJUSTED BY THE ENGINEER AS NECESSARY.

ODOT DISTRICT 6 TRAFFIC
400 EAST WILLIAM ST.
DELAWARE, OH 43015
740-833-8198
KEN GREENE

ODOT CENTRAL OFFICE ITS LAB
1606 WEST BROAD STREET
COLUMBUS, OH 43223
614-387-4113
CEN.ITS.LAB@DOT.OHIO.GOV

DYNAMIC MESSAGE SIGN INSTALLATIONS

THE CONTRACTOR SHALL FURNISH AND INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATION 809, AS WELL AS ANY STANDARD CONSTRUCTION DRAWINGS NOTED ON THE PLANS. THE CONTRACTOR SHALL COORDINATE AND PAY FOR THE COMMISSIONING OF EACH DMS, INCIDENTAL TO THE DMS PAY ITEM, AND PROVIDE COPIES OF THE COMMISSIONING REPORTS AND FULL FUNCTIONALITY CHECK LISTS TO ODOT ITS. THE MANUFACTURER SHALL COMMISSION THE SIGNS AND ODOT OFFICE OF TRAFFIC OPERATIONS SHALL BE PRESENT.

DMS & DMS SUPPORT STRUCTURES

THE CONTRACTOR SHALL FURNISH SHOP DRAWINGS TO THE PROJECT ENGINEER FOR APPROVAL. THE DRAWINGS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER FROM THE MANUFACTURER. THE ITEM SHALL NOT BE RELEASED FOR CONSTRUCTION UNTIL APPROVED BY THE OFFICE OF TRAFFIC OPERATIONS.

ITEM 625 - GROUND ROD, AS PER PLAN

THE CONTRACTOR SHALL INSTALL GROUND RODS PER STANDARD CONSTRUCTION DRAWING ITS-50.10. A GROUND ROD SHALL BE INSTALLED AT EACH ELECTRIC PULL BOX INSTALLED ON THIS PROJECT AND CONNECTED TO THE PULL BOX FRAME. AT EACH PULL BOX LOCATION, THE GROUND ROD SHALL BE TIED INTO THE DISTRIBUTION CABLE USED AS THE GROUND WIRE TO SERVICE THE ITS CABINET, IN ORDER TO PROVIDE A COMPLETE GROUNDING SYSTEM.

ITEM 625 - NO. 4 AWG 600 VOLT DISTRIBUTION CABLE

A MINIMUM OF 10 FEET SLACK CABLE SHALL BE COILED IN EACH ELECTRICAL PULL BOX. THE CABLE QUANTITIES ACCOUNT FOR FOUR DISTRIBUTION CABLES (HOT (2 CABLES), NEUTRAL, AND GROUND) FROM POWER SERVICE TO GROUND MOUNTED ITS CABINET. 10 FEET OF CABLE AT ALL SERVICE TERMINATIONS, 10 FEET OF CABLE FOR EACH PULL BOX, AND 15 FEET OF CABLE BETWEEN ODOT CABINETS AND NEAREST PULL BOX HAS BEEN ACCOUNTED FOR IN THE CABLE QUANTITIES.

ITEM 625 - PULL BOX, 725.08, 32"

THE CONTRACTOR SHALL FURNISH AND INSTALL A 32" ROUND PULL BOX WITH CONCRETE PAD PER STANDARD CONSTRUCTION DRAWING ITS-14.11

ITEM 633 - CABINET FOUNDATION, AS PER PLAN

THE CONTRACTOR SHALL INSTALL A CABINET FOUNDATION FOR EACH ITS GROUND MOUNTED CABINET. SEE SUPPLEMENTAL SPECIFICATION 809 FOR CONDUIT REQUIREMENTS ENTERING THE ITS GROUND MOUNTED CABINET.

ITEM 633 - CONTROLLER WORK PAD, AS PER PLAN

THE CONTRACTOR SHALL INSTALL A WORKPAD AT EACH DMS PEDESTAL SUPPORT PER ODOT STANDARD CONSTRUCTION DRAWING ITS-30.14. IF NECESSARY, THE CONTRACTOR SHALL GRADE THE SURROUNDING AREA SLIGHTLY IN ORDER TO INSTALL A LEVEL WORK PAD AND RESTORE SITE CONDITIONS AS APPROVED BY THE PROJECT ENGINEER. PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR ITEM 633, CONTROLLER WORK PAD, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO CONSTRUCT THE ITEM.

ITS DOWNTIME

THE DMS DOWNTIME SHALL BE LIMITED TO A MAXIMUM OF ONE (1) DAY. THE EXISTING DMS SHALL BE DISCONNECTED AND THE NEW DMS CONNECTED IN THE SAME DAY. THE CONTRACTOR SHALL REDUCE DOWNTIME BETWEEN DISCONNECTING EXISTING DMS AND HAVING NEW DMS FULLY OPERATIONAL BY INSTALLING NEW DMS BEFORE DISCONNECTING POWER, COORDINATING MANUFACTURER COMMISSIONING, ETC.

SEE SUPPLEMENTAL SPECIFICATION 809 FOR DETAILS AND REQUIREMENTS RELATED TO ANY DOWNTIME OF ITS DEVICES (DMS, CCTV, HAR, FIBER, ETC.), INCLUDING INFORMATION REGARDING DISINCENTIVES.

THE CONTRACTOR SHALL REFER TO SUPPLEMENTAL SPECIFICATION 809.17 FOR MAINTAINING ITS DURING CONSTRUCTION. EXISTING WIRELESS COMMUNICATIONS ASSEMBLIES (WIRELESS RADIOS, CAMERAS, ETC.) SHALL BE RELOCATED BY ODOT ITS. THE CONTRACTOR SHALL COORDINATE REMOVAL OF EXISTING DMS AND DMS SUPPORT STRUCTURES WITH ODOT ITS (cen.its.lab@dot.ohio.gov) TO MINIMIZE WIRELESS COMMUNICATIONS DOWNTIME. WIRELESS COMMUNICATION EQUIPMENT SHALL BE MOVED IN THE SAME DAY THAT THE NEW DMS IS ACTIVATED. PAYMENT FOR MAINTAINING ITS DURING CONSTRUCTION SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR ITEM 809, DYNAMIC MESSAGE SIGN (DMS), FULL-SIZE WALK-IN.

TRACER WIRE

TRACER WIRE SHALL BE INSTALLED IN ONE OF THE MULTI-CELL INNERDUCTS IN ALL CONDUIT RUNS. TRACER WIRE SHALL BE NO SMALLER THAN #12 AWG WIRE. THE WIRE SHALL BE HDPE INSULATED, ORANGE IN COLOR, AND CONSTRUCTED OF COPPER CLAD STEEL. APPROXIMATELY 10 FEET OF SLACK OF THE TRACER WIRE SHALL BE LEFT INSIDE THE ADJACENT PULL BOXES CONNECTING THE CONDUIT RUNS. IN SITUATIONS WHERE A TYPE 2 FIBER OPTIC CABLE MARKER IS TO BE INSTALLED IN CONJUNCTION WITH THE TRACER WIRE, THE TRACER WIRE SHALL BE RUN THROUGH THE MARKER AND CONNECTED TO TERMINALS AT THE TOP OF THE MARKER.

PAYMENT FOR ALL TRACER WIRE SHALL BE INCLUDED IN THE BID ITEM FOR THE MULTICELL CONDUIT PAY ITEM.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ITEM 625 - TRENCH, 30" DEEP, AS PER PLAN

THIS ITEM CONSISTS OF ALL PARTS, MATERIALS, AND LABOR TO PREPARE A 30" DEEP TRENCH IN A SLOPED AREA. PER CMS 102.05 THE CONTRACTOR SHALL VISIT, INVESTIGATE, AND INSPECT THE SITE IN ORDER TO ESTABLISH A SATISFIED UNDERSTANDING OF ALL CHARACTER, QUALITY, QUANTITIES, AND THE CONDITIONS TO BE ENCOUNTERED IN PERFORMING THE WORK. NOTIFY PROJECT ENGINEER 1 WEEK PRIOR TO BACKFILL.

ITEM 625 - POWER SERVICE, AS PER PLAN

EXISTING POWER SERVICE TO REMAIN. INSTALL A NEW CONNECTION AS INDICATED ON THE PLAN SET FOR THE DYNAMIC MESSAGE SIGN INSTALLATIONS IN ACCORDANCE WITH ITEM 625 AND THE NATIONAL ELECTRIC CODE. SERVICE SHOULD BE COMPLETE 120/240V GROUNDED 4 WIRE SYSTEM TO SERVE EACH DMS INSTALLATION. 4 WIRE SYSTEM TO OBSERVE CONVENTIONAL COLOR CODE: LINE 1 (BLACK), LINE 2 (RED), NEUTRAL (WHITE), GROUND (GREEN).

INSTALL 240/120 VOLT, 100 AMP POWER SERVICE PER SCD ITS-15.10 OR ITS-15.11 AS NECESSARY. PROVIDE POWER BEFORE DISCONNECTING POWER, COORDINATING MANUFACTURER COMMISSIONING, ETC.

ITEM 809 - ITS DEVICE, MISC.: REMOVAL OF DMS CABINET
ITEM 809 - ITS DEVICE, MISC.: REMOVAL OF STEP-DOWN TRANSFORMER AND SUPPORT

ALL EXISTING TRAFFIC SURVEILLANCE EQUIPMENT THAT IS TO BE REMOVED AS SHOWN IN THE PLANS SHALL BE TURNED OVER TO THE ODOT ITS ENGINEER. THE CONTRACTOR SHALL SECURELY STORE THE EQUIPMENT AND CONTACT THE ODOT ITS ENGINEER (CEN.ITS.LAB@DOT.STATE.OH.US) TO SCHEDULE DELIVERY. THE ODOT ITS ENGINEER SHALL PROVIDE THE CONTRACTOR WITH WRITTEN DOCUMENTATION OF ANY ITEMS THAT ARE TO BE DISPOSED OF BY THE CONTRACTOR.

BEFORE ANY EQUIPMENT IS REMOVED THE CONTRACTOR SHALL REVIEW THE ITS DOWNTIME NOTES IN THESE PLANS TO ENSURE THAT THEY ARE IN COMPLIANCE WITH THE NOTIFICATION REQUIREMENTS.

ITEM 625 - LIGHTING, MISC.: STEP-DOWN TRANSFORMER AND SUPPORT

FURNISH AND INSTALL A TRANSFORMER AND SUPPORT AS PER THE DETAILS ON ITS-50.11.

THIS ITEM OF WORK INCLUDES THE TRANSFORMER, SUPPORT AND FOUNDATIONS, GROUND RODS, CONDUIT, AND ALL INCIDENTALS SHOWN IN THE DETAILS ON THIS SHEET AND REQUIRED FOR A STEP-DOWN TRANSFORMER AND SUPPORT, COMPLETE AND IN SERVICE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE CONTRACT UNIT BID FOR ITEM 625 - LIGHTING, MISC.: STEP-DOWN TRANSFORMER AND SUPPORT, EACH, INSTALLED, IN PLACE, FULLY FUNCTIONAL, TESTED AND ACCEPTED.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 4 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: STATIC GNSS
MONUMENT TYPE: (B)

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOD12B

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83(2011)EPOCH:2010.0000
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC

COORDINATE SYSTEM: OHIO STATE PLANE (SOUTH) ZONE
COMBINED SCALE FACTOR: SITE 1 - 1.00005279
SITE 13 - 1.00004934
SITE 68 - 1.00005279
SITE 92 - 1.00005083

ORIGIN OF COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

GENERAL NOTES

FRA - DMS -
REPLACEMENT - FY19

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ITEM 625 - CONDUIT, 4", MULTI-CELL, SCHEDULE 40 B SCHEDULE 80, 725.20

DESCRIPTION:

THIS CONDUIT IS INTENDED FOR THE USE IN UNDERGROUND SITUATIONS REQUIRING MORE THAN ONE SINGLE CONDUIT. THIS INCLUDES THE MAIN CONDUIT RACEWAY ALONG THE FREEWAY, CONNECTION FROM PULL BOXES TO THE ROAD SIDE CABINETS AND FOR RUNS OF CONDUIT FOR MULTIPLE PURPOSES, E.G., AT RAMP METER INSTALLATIONS, FOR LOOP LEAD-IN CABLE, SIGNALS CABLE FOR RAMP METER DISPLAYS, SIGNAL CABLE FOR RAMP METER SIGNING FLASHERS & ILLUMINATION AND POWER. THE CONTRACTOR SHALL PLUG ALL UNUSED CELLS WITH CONDUIT CAPS TO ASSURE AIR AND WATER INTEGRITY OF EACH INDIVIDUAL INNERDUCT.

MATERIALS:

THE TRAFFIC SURVEILLANCE RACEWAY SHALL CONSIST OF A FACTORY-ASSEMBLED SYSTEM OF FOUR (4) INNERDUCTS ASSEMBLED WITHIN A PROTECTIVE OUTER DUCT. THE INNERDUCTS SHALL BE NOMINAL 1.25 INCH INSIDE DIAMETER, TYPE DB PVC PER NEMA TC-8 WITH A BELL INSERTION DEPTH OF 1.75 INCHES MINIMUM. THE OUTER DUCT SHALL BE NOMINAL 4 INCH (INSIDE DIAMETER), SCHEDULE 40 PVC. CARLON TYPE SCHEDULE 40 AND 80 OR APPROVED EQUIVALENT.

THE COUPLING SHALL BE DESIGNED IN A MANNER TO PERMIT EASY FIELD ASSEMBLY. THE COUPLING SHALL BE MARKED OR KEYED IN A MANNER TO ENSURE THE INNERDUCTS ARE PROPERLY ALIGNED, ANY COLOR CODES ARE CONTINUED AND THE ADJOINING SECTION IS INSERTED TO THE PROPER DEPTH IN THE BELL. ALL KEYS AND/OR MARKINGS SHALL BE VISIBLE AFTER ASSEMBLY TO ALLOW THE INSPECTION OF EACH JOINT FOR PROPER ASSEMBLY BEFORE BURIAL. THE SEALING SYSTEM SHALL BE DESIGNED TO ASSURE AIR INTEGRITY OF EACH INDIVIDUAL INNERDUCT AND WATER INTEGRITY OF THE ENTIRE SYSTEM.

WHERE INNERDUCT(S) WITHIN A MULTI-CELL DUCT ARE TO REMAIN EMPTY, ONE 1/4-INCH NYLON ROPE SHALL BE INSTALLED IN EACH OF THE OPEN INNERDUCTS, THE ROPE WILL REMAIN TO BE USED FOR A FUTURE CABLE INSTALLATION. ALSO, EACH INNERDUCT SHALL BE PLUGGED TO MAINTAIN THE AIR AND WATER INTEGRITY. IN ADDITION, THE OUTER DUCT SHALL BE CAPPED TO MAINTAIN THE AIR AND WATER INTEGRITY OF THE ENTIRE SYSTEM. FOR MULTI-CELL DUCT INSTALLED IN MEDIAN WALLS, ALL ROPES AND PLUGS SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT.

INSTALLED IN TRENCH:

INSTALLATION WILL BE IN 30-INCH DEEP TRENCH, EXCEPT AS NOTED ON THE PLANS.

ALL JOINTS WILL BE JOINED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, IN ORDER TO PROVIDE AN AIR-TIGHT ENCLOSURE OF THE INTERIOR DUCTS AND A WATER-TIGHT ENCLOSURE OF THE OUTER DUCT. ALL MULTI-CELL CONDUIT INSTALLED OUTSIDE OF THE ROADWAY IN TRENCH SHALL BE SCHEDULE 40 UNLESS DIRECTED BY THE ODOT ENGINEER TO USE SCHEDULE 80 FOR USE IN WELL-TRAVELED VEHICULAR AREAS.

INSTALLED UNDER ROADWAY:

INSTALLATION WILL BE AT LEAST 30 INCHES DEEP JACKED OR DRILLED UNDER PAVEMENT, EXCEPT AS NOTED ON THE PLANS.

ALL JOINTS WILL BE JOINED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, IN ORDER TO PROVIDE AN AIR-TIGHT ENCLOSURE OF THE INTERIOR DUCTS AND A WATER-TIGHT ENCLOSURE OF THE OUTER DUCT. ALL MULTI-CELL CONDUIT INSTALLED UNDER THE ROADWAY SHALL BE SCHEDULE 80.

ABANDON CONDUITS

REMOVE PORTIONS OF FOUNDATIONS PER CMS TO ABANDON UNDERGROUND CONDUITS (ALL SITES).

ITEM 625 - CONDUIT, 4", MULTI-CELL, SCHEDULE 40 B SCHEDULE 80, 725.20 (CONTINUED)

INSTALLED WITHIN 6 FEET OF GUARDRAIL:

INSTALLATION WILL BE AT LEAST 30 INCHES DEEP TRENCH AND ENCASED IN CONCRETE.

ALL JOINTS WILL BE JOINED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, IN ORDER TO PROVIDE AN AIR-TIGHT ENCLOSURE OF THE INTERIOR DUCTS AND A WATER-TIGHT ENCLOSURE OF THE OUTER DUCT. ALL MULTI-CELL CONDUIT INSTALLED UNDER THE ROADWAY SHALL BE SCHEDULE 80.

METHOD OF MEASUREMENT:

THE CONDUIT WILL BE MEASURED BY THE AMOUNT OF CONDUIT IN FEET FURNISHED AND INSTALLED OF EACH TYPE SCHEDULE 40 OR 80 MEASURED FROM CENTER-TO-CENTER OF PULL BOXES, FOUNDATION, ETC., AND WILL INCLUDE ALL FITTINGS AND APPURTENANCES, JOINTS, BENDS, GROUNDS AND CONCRETE ENCASEMENT WHERE SPECIFIED.

THE TRENCH WILL BE MEASURED BY THE NUMBER OF FEET OF TRENCH COMPLETED AS PER C&MS 625.21.

BASIS OF PAYMENT:

THE PAYMENT FOR THESE ITEMS WILL BE MADE FOR THE ACCEPTED LINER FOOT QUANTITIES AT THE CONTRACT BID PRICE.

ITEM 630 - REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL
ITEM 630 - REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL
 PRIOR TO THE REMOVAL OF THE DMS, ODOT TRAFFIC OPERATIONS SHOULD BE NOTIFIED A MINIMUM OF THREE (3) DAYS IN ADVANCE IN ORDER TO BE PRESENT AT THE TIME OF REMOVAL. AT SUCH TIME THE SIGN IS TO BE REMOVED, ODOT ITS MAINTENANCE PERSONNEL SHALL BE GIVEN AN OPPORTUNITY TO REMOVE ANY PARTS OR COMPONENTS PRIOR TO THE SIGN BEING REMOVED OR DISPOSED OF. SUCH ITEMS INCLUDE, BUT ARE NOT LIMITED TO, THE DMS POWER SUPPLIES, PIXEL BOARDS, COMMUNICATION EQUIPMENT, ETC.

EXISTING DMS PARTS TO BE DELIVERED TO ODOT ITS. CONTACT cen.its.lab@dot.ohio.gov TO COORDINATE.

ITEM 809 - ITS DEVICE, MISC.; DYNAMIC MESSAGE SIGN FULL COLOR WALK-IN

GENERAL DESCRIPTION

THIS DMS ALTERNATE BID ITEM SHALL INCLUDE ALL REQUIREMENTS FROM SECTION 1500 OF THE OFFICE OF TRAFFIC OPERATIONS HANDBOOK FOR ITEM 809E63000: DYNAMIC MESSAGE SIGN (DMS), FULL-SIZE WALK-IN, EXCEPT FOR DIFFERENCES AS DESCRIBED BELOW:

1.) GENERAL SPECIFICATIONS

THE DMS HOUSING SHALL PROVIDE WALK-IN ACCESS FOR ALL LIGHT EMITTING DIODE (LED) DISPLAY MODULES, ELECTRONICS, ENVIRONMENTAL CONTROL EQUIPMENT, AIR FILTERS, WIRING, AND OTHER INTERNAL DMS COMPONENTS. THE DMS SHALL BE CAPABLE OF DISPLAYING FULL COLOR MESSAGES USING RED, GREEN, AND BLUE LED ASSEMBLIES FOR THE PIXELS.

THE DMS SHALL BE ABLE TO DISPLAY THREE ROWS OF 18" CHARACTERS WITH 17 CHARACTERS PER ROW. THE DMS PIXEL PITCH SHALL BE 20MM OR LESS TO ACHIEVE HIGH QUALITY MESSAGING AND GRAPHICS WITH FULL COLOR.

THE DMS SHALL CONTAIN A FULL DISPLAY MATRIX MEASURING A MINIMUM OF 96 ROWS HIGH BY 336 PIXEL COLUMNS WIDE. THE MATRIX SHALL DISPLAY MESSAGES THAT ARE CONTINUOUS, UNIFORM, AND UNBROKEN IN APPEARANCE TO MOTORISTS AND TRAVELERS.

THE DMS SHALL BE CAPABLE OF BEING CONTROLLED BY AN EXISTING ODOT ATMS SOFTWARE PLATFORM. THE MANUFACTURER SHALL SUBMIT A DMS CONTROLLER WHICH HAS BEEN PRECONFIGURED WITH THE FULL COLOR DMS CHARACTERISTICS TO ODOT FOR TESTING TO MAKE SURE IT'S COMPATIBLE.

THE CONTRACTOR SHALL SUBMIT CUT SHEETS SHOWING COMPLETE DMS SPECIFICATIONS AND TRACEABILITY MATRIX SHOWING THEY MEET ALL REQUIREMENTS. FINAL APPROVAL SHALL BE AT THE SOLE DISCRETION OF ODOT.

PRIMARY PROJECT CONTROL INFORMATION

DMS SITE NUMBER	POINT NUMBER	GRID COORDINATES		SCALED COORDINATES		ORTHOMETRIC HEIGHT (ELEVATION)	DESCRIPTION
		U.S. SURVEY FEET		U.S. SURVEY FEET			
		NORTHING	EASTING	NORTHING	EASTING		
SITE 68	CP#1	703,880.2751	1,880,292.7010	703,917.4362	1,880,391.9705	831.61	IRON PIN CAPPED "IBIGROUP"
	CP#2	703,896.9938	1,880,086.4920	703,934.1558	1,880,185.7506	829.55	IRON PIN CAPPED "IBIGROUP"
SITE 13	CP#3	721,351.7194	1,777,059.2481	721,387.3145	1,777,146.9371	925.87	IRON PIN CAPPED "IBIGROUP"
	CP#4	721,364.7860	1,776,844.5087	721,400.3817	1,776,932.1871	925.14	IRON PIN CAPPED "IBIGROUP"
SITE 1	CP#5	676,581.0657	1,807,318.0194	676,624.2124	1,807,433.2751	812.80	IRON PIN CAPPED "IBIGROUP"
	CP#6	676,727.2977	1,807,481.4822	676,770.4538	1,807,596.7484	811.36	IRON PIN CAPPED "IBIGROUP"
SITE 92	CP#7	694,629.3282	1,821,363.1529	694,664.6386	1,821,455.7390	700.13	IRON PIN CAPPED "IBIGROUP"
	CP#8	694,808.9642	1,821,491.4638	694,844.2837	1,821,584.0564	699.39	IRON PIN CAPPED "IBIGROUP"

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ITEM 614 - MAINTAINING TRAFFIC

THE CONTRACTOR SHALL MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES THROUGHOUT THE DURATION OF THE PROJECT BY USE OF EXISTING AND PROPOSED PAVEMENT AND IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 614. A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED ON ALL ROADS. CONSTRUCTION SHALL BE COMPLETED SUCH THAT ONLY ONE LANE AT ANY GIVEN TIME IS AFFECTED DURING CONSTRUCTION.

IT IS THE INTENTION TO PERFORM THE REQUIRED WORK WITH THE LEAST INCONVENIENCE TO, AND THE MAXIMUM SAFETY OF, THE CONTRACTOR AND THE TRAVELING PUBLIC. ANY VARIANCES FROM THE INTENT OF THESE MAINTENANCE OF TRAFFIC NOTES MUST BE APPROVED IN ADVANCE IN WRITING BY THE ENGINEER. EXCEPT AS MODIFIED BELOW OR AS SHOWN IN THE MAINTENANCE OF TRAFFIC PLANS, THE REQUIREMENTS FOR MAINTAINING TRAFFIC AS INDICATED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION AND PERTINENT ITEMS OF THE SPECIFICATIONS AND PROPOSAL SHALL APPLY.

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF TWENTY-ONE (21) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR MUST ALSO PROVIDE NOTIFICATION TWENTY-ONE (21) DAYS PRIOR TO ANY LANE OR SHOULDER CLOSURES.

TRAFFIC IS TO BE MAINTAINED IN A UNIFORM PATTERN THROUGHOUT THE LANE SHIFTS. ACCESS TO ALL PROPERTY OWNERS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THIS PROJECT. THE CONTRACTOR SHALL ARRANGE HIS OPERATION SO AS TO PREVENT ANY INTERFERENCE TO THE CONTINUOUS FLOW OF TRAFFIC. ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE APPROVED BY THE ENGINEER.

CONSTRUCTION VEHICLES SHALL ALWAYS MOVE WITH AND NOT AGAINST THE FLOW OF TRAFFIC. CONSTRUCTION VEHICLES AND EQUIPMENT SHALL NOT PARK OR STOP EXCEPT WITHIN DESIGNATED WORK AREAS, AND SHALL ENTER AND LEAVE WORK AREAS IN A MANNER WHICH WILL NOT BE HAZARDOUS TO, OR INTERFERE WITH, THE NORMAL FLOW OF TRAFFIC. PERSONAL VEHICLES ARE NOT PERMITTED ON RIGHT-OF-WAY EXCEPT IN SPECIFIC AREAS DESIGNATED BY THE ENGINEER.

ITEM 614 - NOTIFICATION OF TRAFFIC RESTRICTIONS
THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE OFFICE OF COMMUNICATIONS. THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTICE OF CLOSURE SIGN TIME TABLE

ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & ROAD CLOSURES	> 2 WEEKS > 12 HOURS & < 2 WEEKS < 12 HOURS	21 CALENDAR DAYS PRIOR TO CLOSURE 7 CALENDAR DAYS PRIOR TO CLOSURE 4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	> 2 WEEKS < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE 2 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	> 2 WEEKS < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE 2 BUSINESS DAYS PRIOR TO CLOSURE

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTICE TO OFFICE OF COMMUNICATIONS TIME TABLE.

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS
USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE ODOT INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE ODOT, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

-DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

-DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE ODOT, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

-FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN A NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES. LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS (CONTINUED)

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES. ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING THE SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 50 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED. ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

ITEM 622 - PORTABLE BARRIER, 32", AS PER PLAN
THIS ITEM CONSISTS OF ALL TIME, PARTS, LABOR, AND MATERIALS TO PROVIDE AND INSTALL A PORTABLE BARRIER THAT MEETS CMS 622 STANDARDS. THE BARRIER SHOULD BE PLACED IN FRONT OF GUARDRAIL WHERE THE SOIL BEHIND THE GUARDRAIL HAS BEEN DISTURBED/TRENCHED AS PART OF CONSTRUCTION AND SHALL REMAIN IN FRONT OF THE GUARDRAIL UNTIL THE TRENCH AND DISTURBED AREA HAS BEEN FILLED/REPAIRED.

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ITEM SPECIAL - MAINTAIN EXISTING LIGHTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HEREIN.

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF ANY EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY, AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION A WRITTEN RECORD OF THE CONDITION OF THE EXISTING LIGHTING SHALL BE MADE BY ODOT'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE NOT STANDING AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY, AND THE CONTRACTOR.

IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT MADE AND SIGNED AS OUTLINED HEREIN. WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS. REPLACEMENT OF THE KNOCKED DOWN UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A PER UNIT BASIS.

BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENTS.

SPECIAL, MAINTAIN EXISTING LIGHTING, 1 LUMP SUM

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

PERMITTED LANE CLOSURE TIMES
SHORT TERM LANE CLOSURES ARE THOSE WHICH ARE PERMITTED BY THE LANE CLOSURE NOTE. THESE TIMES SHALL NOT BE REVISED WITHOUT PRIOR APPROVAL FROM THE DISTRICT 8 WORK ZONE TRAFFIC CONTROL MANAGER. SHORT TERM LANE CLOSURES SHALL ONLY BE IMPLEMENTED WHEN WORK IS BEING CONTINUOUSLY PERFORMED IN THE LANE. THE CLOSURE SHALL BE REMOVED AS SOON AS POSSIBLE AFTER THE WORK HAS STOPPED. PERMITTED LANE CLOSURES SHALL ONLY BE ALLOWED DURING THE TIMES SPECIFIED IN THE LANE VALUE TABLE INCLUDED IN THESE PLANS. NO LANE OR SHOULDER CLOSURE SHALL BE IN PLACE WHEN NO WORK IS BEING PERFORMED.

LANE VALUE CONTRACT TABLE

DESCRIPTION OF CRITICAL LANE/RAMP TO BE MAINTAINED	RESTRICTED TIME PERIOD	TIME UNIT	DISINCENTIVE \$ PER TIME UNIT
ALL LANES/RAMPS OPEN TO TRAFFIC	SEE PERMITTED LANE CLOSURE	15 MINUTE	\$1,875

THE PERMITTED LANE CLOSURE SCHEDULE IS LOCATED ON THE ODOT WEBSITE:

[HTTP://PLCM.DOT.STATE.OH.US/](http://plcm.dot.state.oh.us/)

THE LATEST REVISION, 14 DAYS PRIOR TO THE BID, SHALL BE IN EFFECT FOR THIS PROJECT.

DATE: 2/20/2009
BY: [Signature]

MAINTENANCE OF TRAFFIC GENERAL NOTES

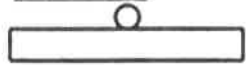









FRA - DMS - REPLACEMENT - FY19

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SHEET NUM.							PART.	AL T	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
5	6	8					01/INS/01	(X)	EXT	TOTAL				
		200					200		606	15050	200	FT	ROADWAY GUARDRAIL, TYPE MGS	
		87.5					87.5		606	15250	87.5	FT	GUARDRAIL, TYPE MGS QUARTER POST SPACING	
		1					1		606	26150	1	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
		5					5		606	26550	5	EACH	ANCHOR ASSEMBLY, MGS TYPE I	
		2,288					2,288		625	23000	2,288	FT	TRAFFIC SURVEILLANCE NO. 4 AWG 600 VOL T DISTRIBUTION CABLE	
		306					306		625	25408	306	FT	CONDUIT, 2", 725.051	
		478					478		625	25750	478	FT	CONDUIT, 4", MULTICELL, 725.20, EPC-40	
		517					517		625	29011	517	FT	TRENCH, 30" DEEP, AS PER PLAN	3
		4					4		625	30700	4	EACH	PULL BOX, 725.08, 18"	
		4					4		625	30710	4	EACH	PULL BOX, 725.08, 32"	
		11					11		625	32001	11	EACH	GROUND ROD, AS PER PLAN	3
		4					4		625	34001	4	EACH	POWER SERVICE, AS PER PLAN	3
		517					517		625	36000	517	FT	PLASTIC CAUTION TAPE	
	LS						LS		SPECIAL	62540000	LS		MAINTAIN EXISTING LIGHTING	6
		1					1		625	98000	1	EACH	LIGHTING, MISC.: STEP-DOWN TRANSFORMER AND SUPPORT	3
		1					1		630	70000	1	EACH	OVERHEAD SIGN SUPPORT, DMS TRUSS, 80'	
		3					3		630	70044	3	EACH	OVERHEAD SIGN SUPPORT, DMS PEDESTAL	
		1					1		630	70050	1	EACH	CATWALK, DMS TRUSS	
		3					3		630	70060	3	EACH	CATWALK, DMS PEDESTAL	
		2					2		630	70080	2	EACH	OVERHEAD SIGN SUPPORT FOUNDATION, DMS TRUSS	
		3					3		630	70082	3	EACH	OVERHEAD SIGN SUPPORT FOUNDATION, DMS PEDESTAL	
		4					4		630	87400	4	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
		4					4		630	89702	4	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL	
		1					1		633	67101	1	EACH	CABINET FOUNDATION, AS PER PLAN	3
		4					4		633	67201	4	EACH	CONTROLLER WORK PAD, AS PER PLAN	3
		1,193					1,193		809	64550	1,193	FT	ETHERNET CABLE, OUTDOOR-RATED	
		2					2		809	65040	2	EACH	ITS CABINET - DMS	4
		2					2		809	65990	2	EACH	ITS DEVICE, MISC.: REMOVAL OF DMS CABINET	3
		1					1		809	65990	1	EACH	ITS DEVICE, MISC.: REMOVAL OF STEP-DOWN TRANSFORMER AND SUPPORT	3
50							50		614	11110	50	HOUR	MAINTENANCE OF TRAFFIC LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		4					4		614	12337	4	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), AS PER PLAN	6
		400					400		622	41001	400	FT	PORTABLE BARRIER, 32", AS PER PLAN	5
							LS		614	11000	LS		INCIDENTALS MAINTAINING TRAFFIC	
							LS		623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
							LS		624	10000	LS		MOBILIZATION	
		4					4	X	809	63000	4	EACH	TRAFFIC SURVEILLANCE ALTERNATES DYNAMIC MESSAGE SIGN (DMS), FULL-SIZE WALK-IN (ALTERNATE 1)	
							4	X	809	65990	4	EACH	ITS DEVICE, MISC.: DYNAMIC MESSAGE SIGN - FULL COLOR WALK-IN (ALTERNATE 2)	4

GENERAL SUMMARY

LEGEND:

-  PROPOSED DMS SIGN
-  PULL BOX, 725.08, 18" (ELECTRIC)
-  PULL BOX, 725.08, 32" (TRAFFIC)
-  PROPOSED ITS CABINET - GROUND MOUNTED
-  PROPOSED ELECTRICAL CONDUIT AND CABLE
-  EXISTING DMS SIGN
-  EXISTING ELECTRICAL PULL BOX
-  EXISTING DMS CONTROLLER CABINET
-  EXISTING ELECTRICAL CONDUIT AND CABLE
-  PROJECT CONTROL

NOTES:

1. EXISTING ITS EQUIPMENT LOCATIONS ARE APPROXIMATE.
2. THE EXISTING ITS SYSTEM SHALL BE KEPT FULLY FUNCTIONAL THROUGHOUT CONSTRUCTION.
3. INSTALL NEW DMS POWER AND CABINET BEFORE REMOVING EXISTING.

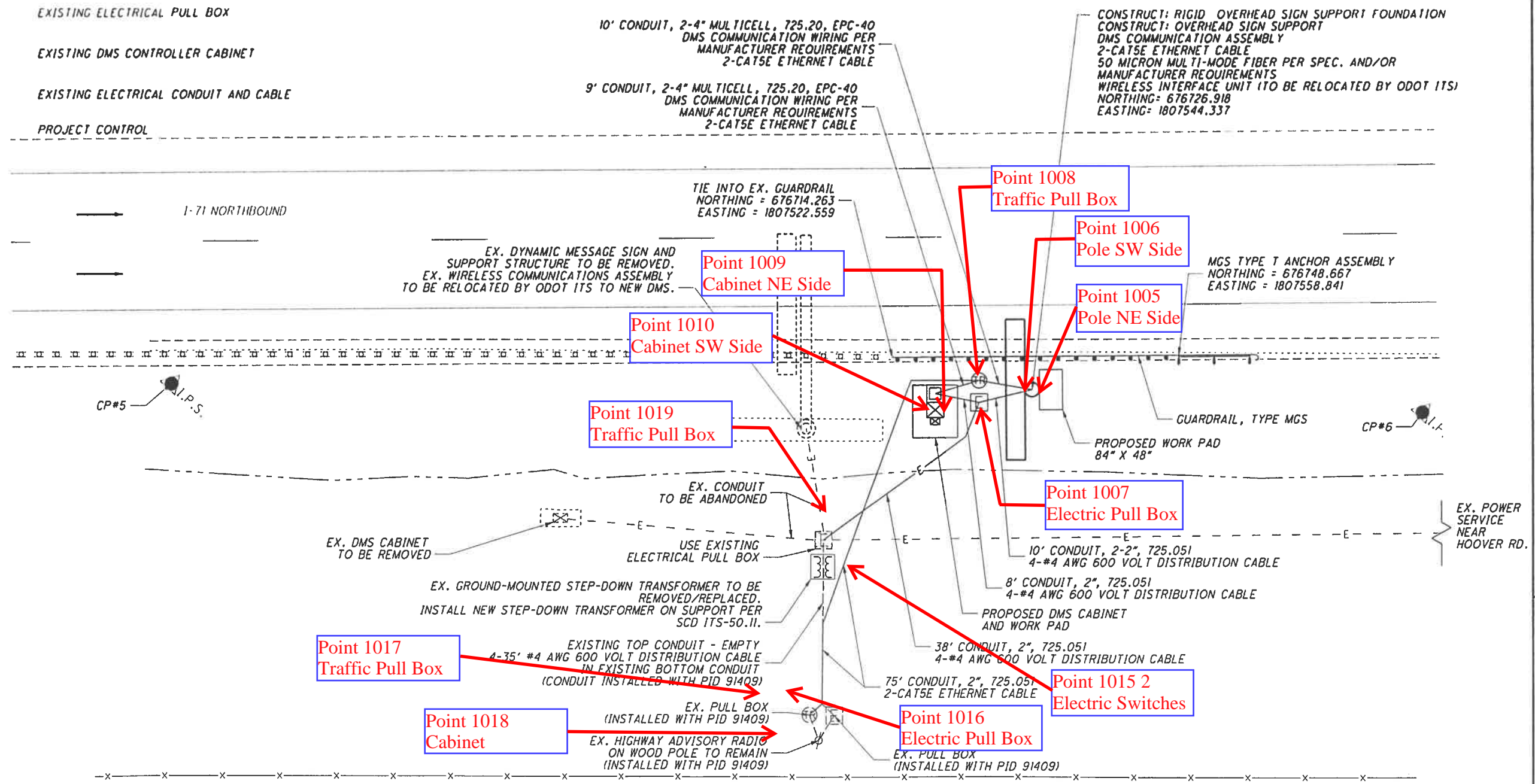
HORIZONTAL
SCALE IN FEET

1" = 10'

J.D. K.M.

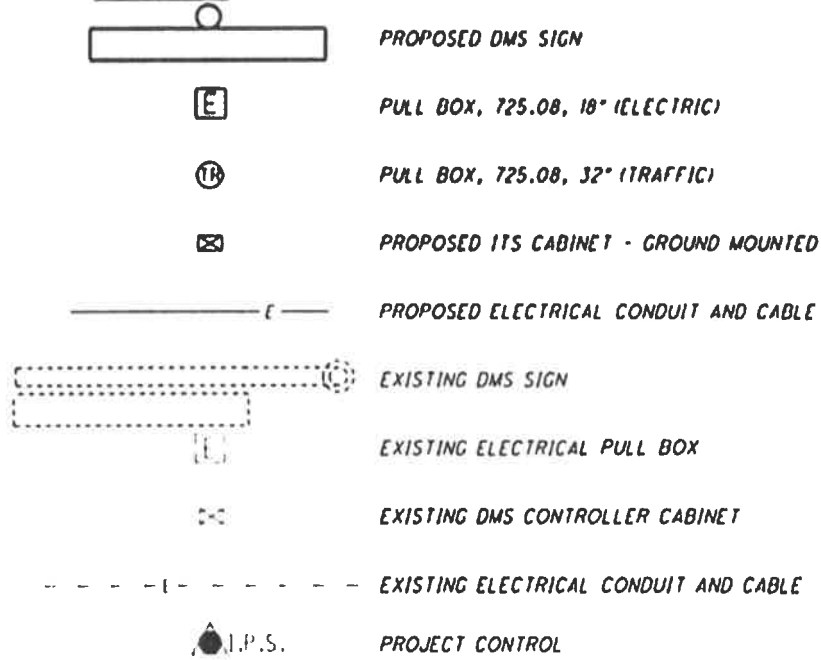
PLAN - I-71 AND HOOVER RD. DMS - SITE 1

FRA - DMS - REPLACEMENT - FY19



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LEGEND:



NOTES:

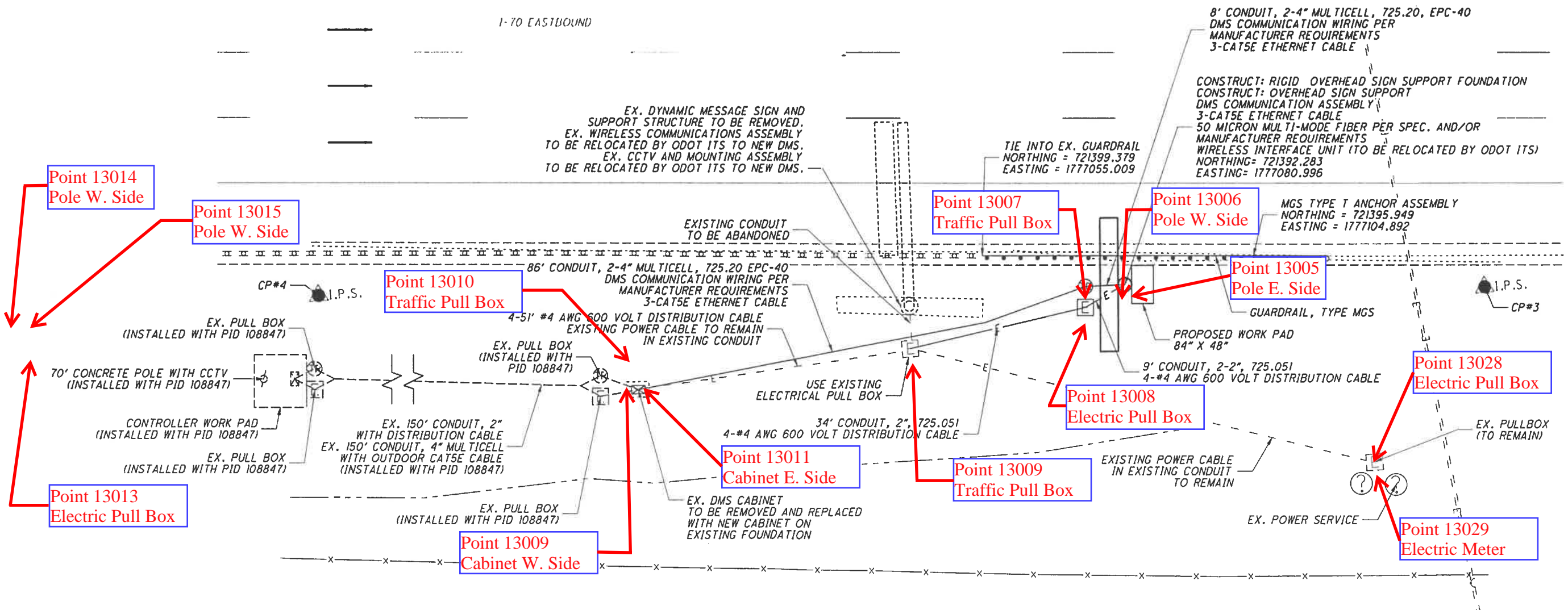
- EXISTING ITS EQUIPMENT LOCATIONS ARE APPROXIMATE.
- THE EXISTING ITS SYSTEM SHALL BE KEPT FULLY FUNCTIONAL THROUGHOUT CONSTRUCTION.



**PLAN - I-70 WEST FREEWAY
DMS - SITE 13**

**FRA-DMS -
REPLACEMENT - FY19**

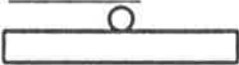









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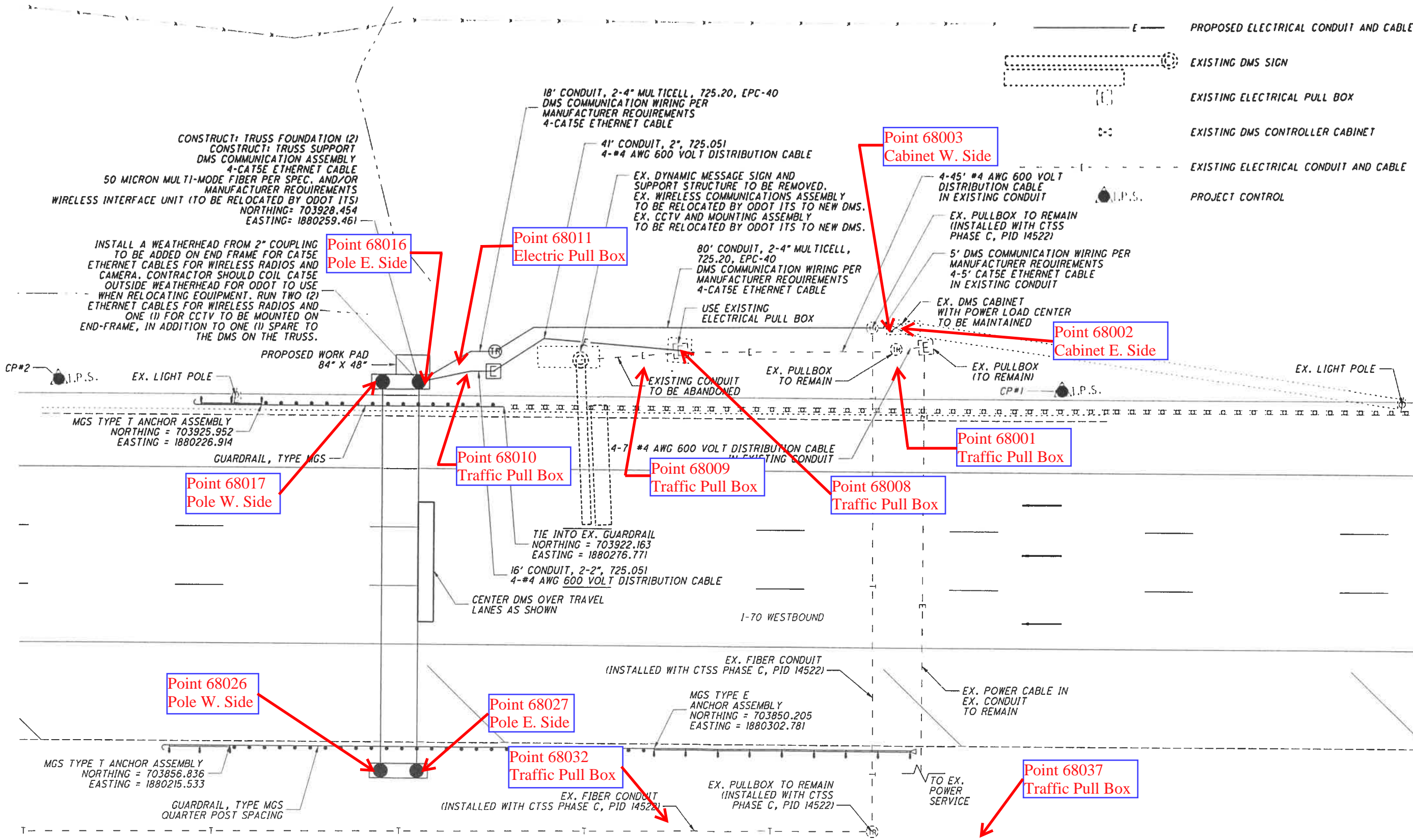


NOTES:

- EXISTING ITS EQUIPMENT LOCATIONS ARE APPROXIMATE.
- THE EXISTING ITS SYSTEM SHALL BE KEPT FULLY FUNCTIONAL THROUGHOUT CONSTRUCTION.
- INSTALL NEW DMS POWER AND CABINET BEFORE REMOVING EXISTING.

LEGEND:

-  PROPOSED DMS SIGN
-  PULL BOX, 725.08, 18" (ELECTRIC)
-  PULL BOX, 725.08, 32" (TRAFFIC)
-  PROPOSED ITS CABINET - GROUND MOUNTED
-  PROPOSED ELECTRICAL CONDUIT AND CABLE
-  EXISTING DMS SIGN
-  EXISTING ELECTRICAL PULL BOX
-  EXISTING DMS CONTROLLER CABINET
-  EXISTING ELECTRICAL CONDUIT AND CABLE
-  PROJECT CONTROL

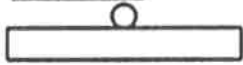











PLAN - I-70 EAST FREEWAY
DMS - SITE 68

FRA-DMS-
REPLACEMENT-FY19

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LEGEND:

-  PROPOSED DMS SIGN
-  PULL BOX, 725.08, 18" (ELECTRIC)
-  PULL BOX, 725.08, 32" (TRAFFIC)
-  PROPOSED ITS CABINET - GROUND MOUNTED
-  PROPOSED ELECTRICAL CONDUIT AND CABLE
-  EXISTING DMS SIGN
-  EXISTING ELECTRICAL PULL BOX
-  EXISTING DMS CONTROLLER CABINET
-  EXISTING ELECTRICAL CONDUIT AND CABLE
-  PROJECT CONTROL

NOTES:

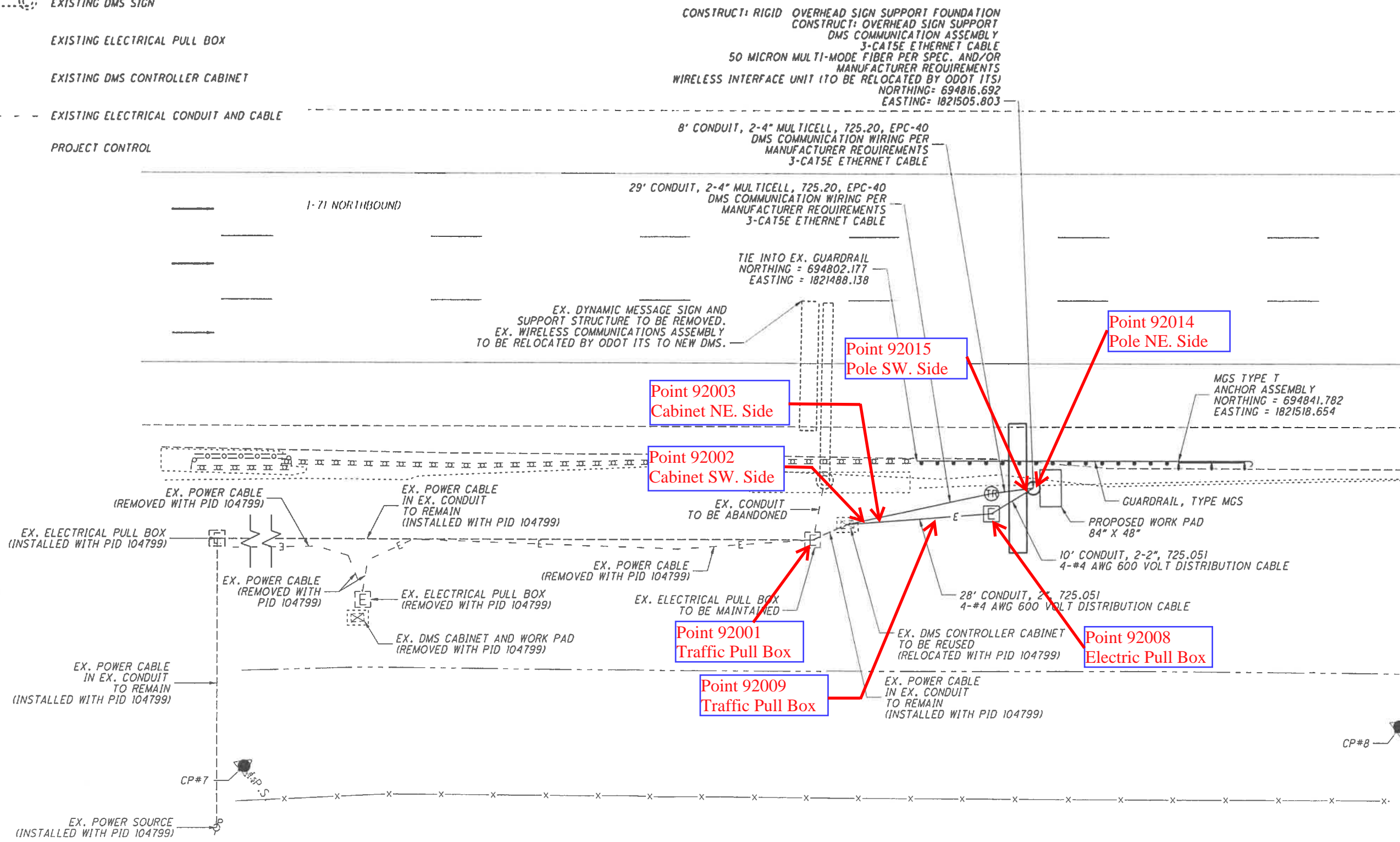
1. EXISTING ITS EQUIPMENT LOCATIONS ARE APPROXIMATE.
2. THE EXISTING ITS SYSTEM SHALL BE KEPT FULLY FUNCTIONAL THROUGHOUT CONSTRUCTION.



**PLAN - I-71 AT SOUTH OF FRANK RD
DMS - SITE 92**

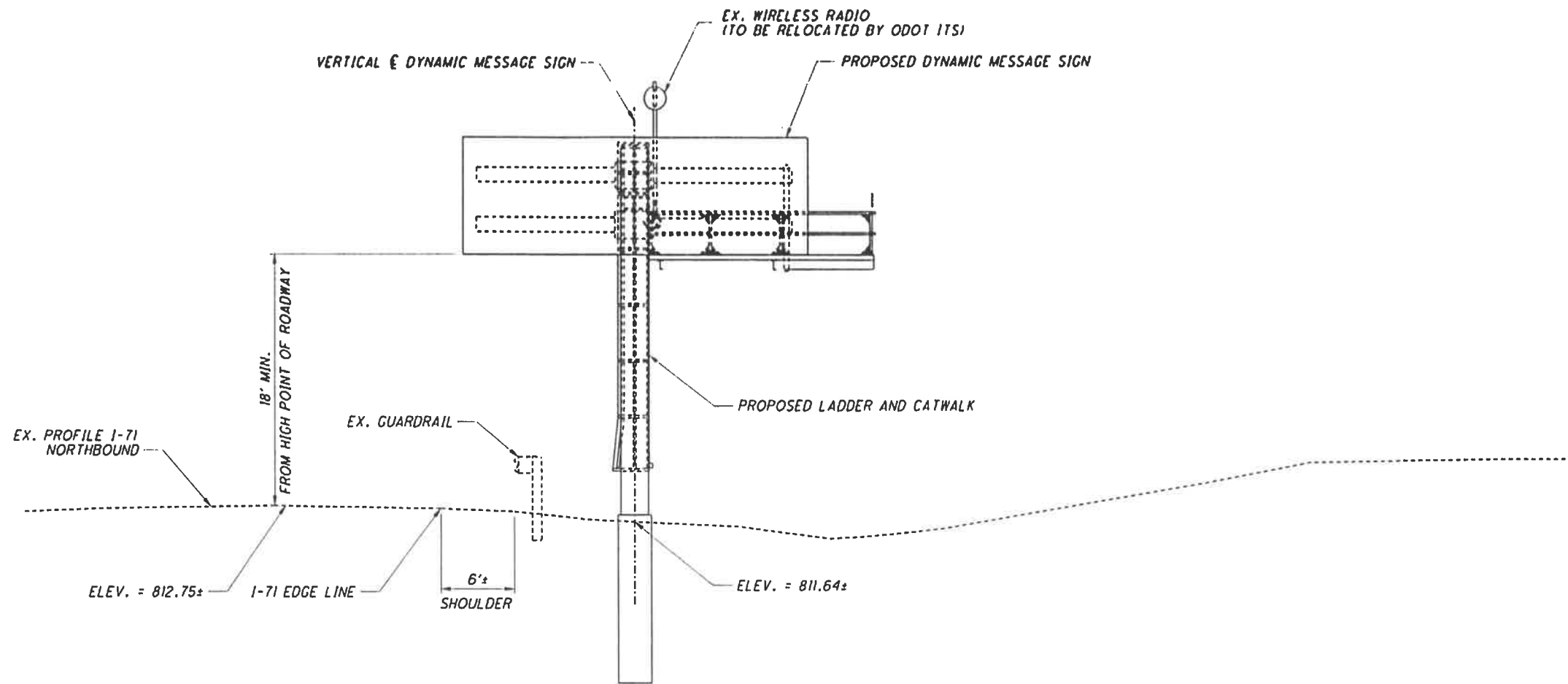
**FRA-DMS-
REPLACEMENT-FY19**

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- Point 92014 Pole NE. Side
- Point 92015 Pole SW. Side
- Point 92003 Cabinet NE. Side
- Point 92002 Cabinet SW. Side
- Point 92001 Traffic Pull Box
- Point 92009 Traffic Pull Box
- Point 92008 Electric Pull Box

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I-71 NORTHBOUND - LOOKING NORTH

NOTE:

SIGN STRUCTURE, SUPPORTS, CATWALK AND FOOTINGS ARE ALL SCHEMATIC AND FOR ILLUSTRATIVE PURPOSES ONLY. THE CONTRACTOR TO DESIGN ALL STRUCTURAL ELEMENTS.

ALL DIMENSIONS ARE APPROXIMATE FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY DISTANCES BEFORE DESIGNING STRUCTURES.

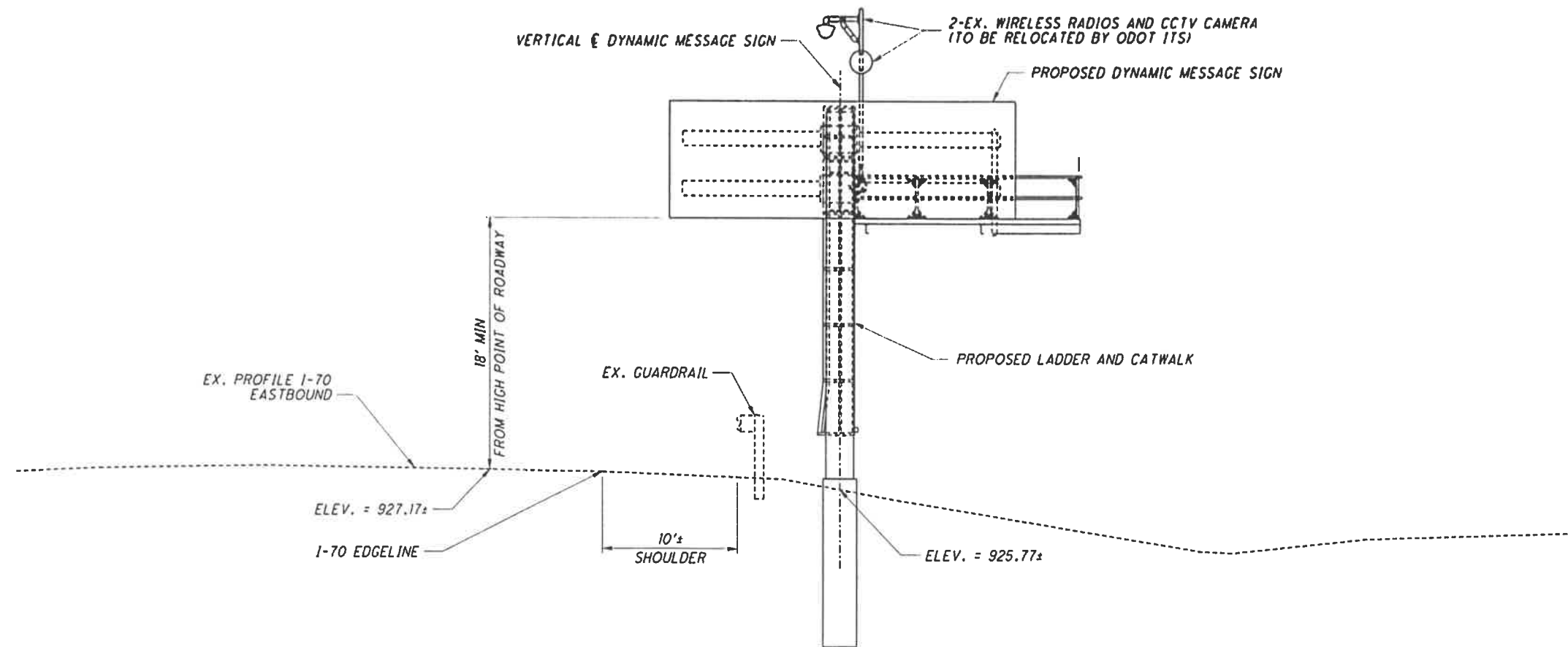
DATE: 2/20/2019
BY: [Signature]

PLAN - I-71 AND HOOVER RD.
DMS - SITE 1

FRA-DMS -
REPLACEMENT - FY19

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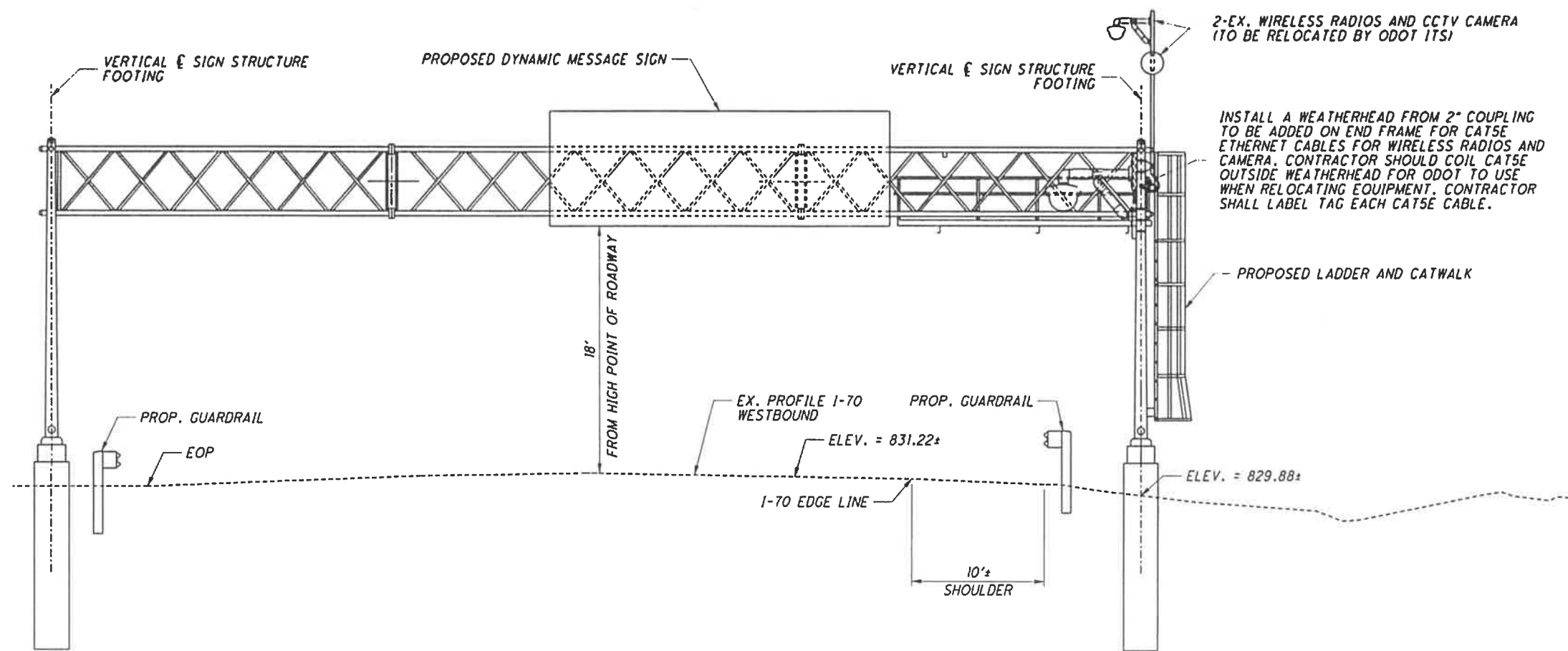
I-70 EASTBOUND - LOOKING EAST

NOTE:

SIGN STRUCTURE, SUPPORTS, CATWALK AND FOOTINGS ARE ALL SCHEMATIC AND FOR ILLUSTRATIVE PURPOSES ONLY. THE CONTRACTOR TO DESIGN ALL STRUCTURAL ELEMENTS.

ALL DIMENSIONS ARE APPROXIMATE FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY DISTANCES BEFORE DESIGNING STRUCTURES.

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I-70 WESTBOUND - LOOKING WEST

NOTE:

SIGN STRUCTURE, SUPPORTS, CATWALK AND FOOTINGS ARE ALL SCHEMATIC AND FOR ILLUSTRATIVE PURPOSES ONLY. THE CONTRACTOR TO DESIGN ALL STRUCTURAL ELEMENTS.

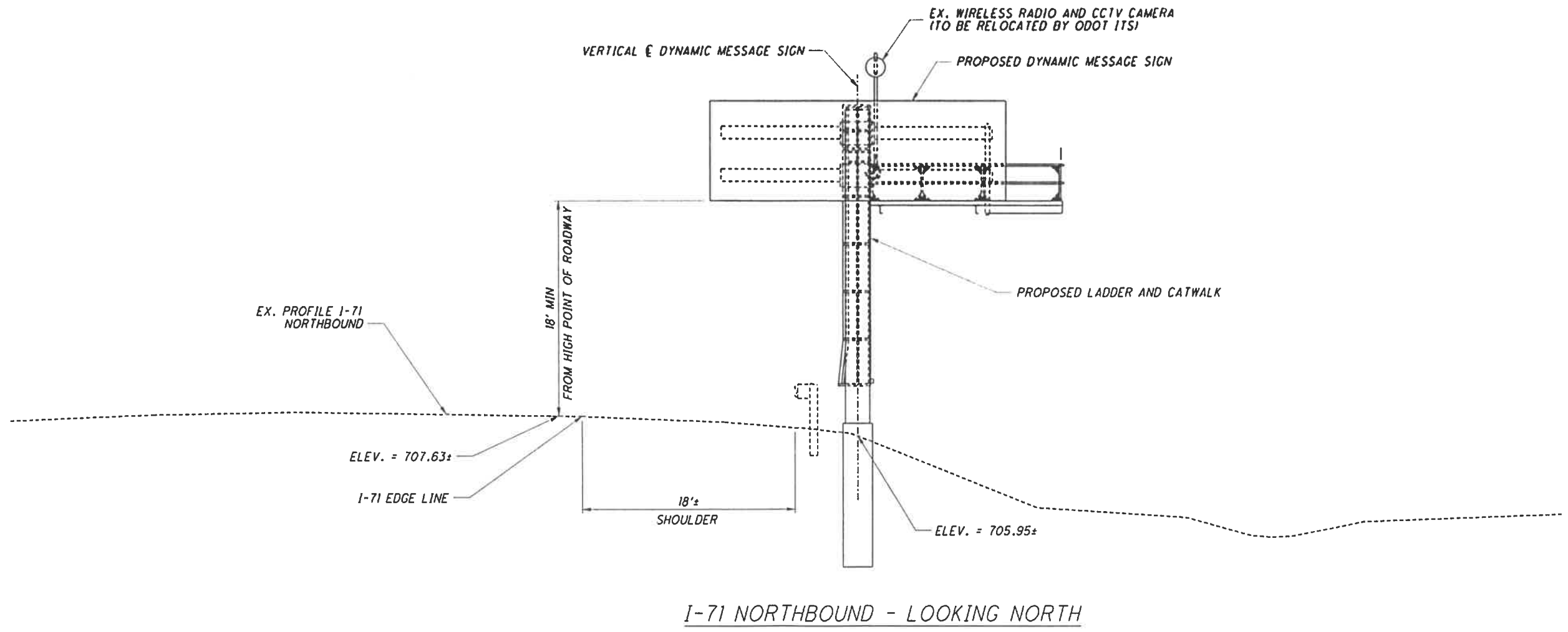
ALL DIMENSIONS ARE APPROXIMATE FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY DISTANCES BEFORE DESIGNING STRUCTURES.

ELEVATION - I-70 EAST FREEWAY
DMS - SITE 68

FRA - DMS -
REPLACEMENT - FY 19

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