



ORDINANCE 2026-16

AN ORDINANCE AUTHORIZING THE CITY MANAGER TO AWARD A CONTRACT TO JESS HOWARD ELECTRIC COMPANY, IN THE AMOUNT OF \$81,674 FOR THE HOME AND STEITZ INTERSECTION IMPROVEMENTS EXPANSION PROJECT AND DECLARING AN EMERGENCY.

WHEREAS, the City has received bids from contractors to complete the Home and Steitz Intersection Improvement Project; and

WHEREAS, the Shared Use Path Masterplan, adopted by City Council by Resolution 2025-17, identified this as a high priority intersection improvement; and

WHEREAS, Council and Staff recommend Jess Howard Electric as the lowest and best bidder for the above-mentioned Project; and

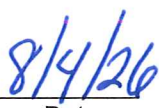
NOW THEREFORE BE IT ORDAINED BY THE CITY OF POWELL, COUNTY OF DELAWARE, STATE OF OHIO AS FOLLOWS:

Section 1: That Council hereby awards the bid for the Home and Steitz Intersection Improvement Project, in the total amount of \$81,674, to Jess Howard Electric and authorizes the City Manager to enter into a contract on behalf of the City for the purpose of completing the above-mentioned project pursuant to the contract documents.

Section 2: It is hereby found and determined that all formal actions of this Council concerning and relating to the passage of this Ordinance were adopted in an open meeting of Council and that all deliberations of Council and any of the decision-making bodies of the City of Powell which resulted in such formal actions were in meetings open to the public in compliance with all legal requirements of the City of Powell, Delaware County, Ohio.

Section 3: That this Ordinance is hereby declared to be an emergency measure necessary for the preservation of the public peace, health and safety of the City and its inhabitants for the reason that there exists an imperative necessity to begin this project as early as possible to facilitate completion before the pool being open for Memorial Day Weekend; wherefore, this Ordinance shall take effect and be in force from and after its passage.

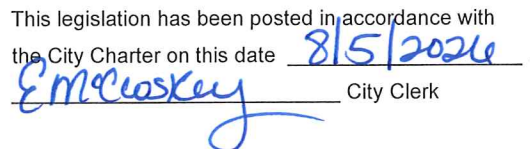

Heather Karr
Mayor


Date


Elaine McCloskey
City Clerk


Date

ADOPTED DATE: August 4, 2026
EFFECTIVE DATE: August 4, 2026

This legislation has been posted in accordance with
the City Charter on this date 
City Clerk



City Council
Heather Karr, Mayor
Kurt Ramsey Leif Carlson David Lester Tom Counts Tyler Herrmann Carlos Crawford

From: Andrew D. White, City Manager

To: Members of the City Council

Initiated By: C. Aaron Stanford, P.E., City Engineer

Re: ORDINANCE 2026-16: AN ORDINANCE AUTHORIZING THE CITY MANAGER TO AWARD A CONTRACT TO JESS HOWARD ELECTRIC COMPANY, IN THE AMOUNT OF \$81,674 FOR THE HOME AND STEITZ INTERSECTION IMPROVEMENTS EXPANSION PROJECT AND DECLARING AN EMERGENCY. (*Suspension of the Rules Requested*)

Date: August 4, 2026

Summary

The City of Powell has designed an upgrade to the intersection of Home and Steitz Road that will install a new pedestrian/bicycle crossing at the existing traffic signal. This improvement will install a new curb ramp and shared-use path that will connect to the existing shared-use path located on the south side of Home Road. With this project, there will also be new storm sewers, grading, pedestrian signal heads, and pavement marking installed. The City is also working to make a ramp connection to Steitz Road that will also allow bicycles to access Steitz Road until such time that a pathway is constructed along Steitz Road.

This project will provide a much-needed safe crossing of Home Road at an existing signal. This project will provide connectivity between the existing shared-use path network on either side of Steitz Road along Home Road. This intersection improvement is identified in the **Shared-Use Master Plan** adopted by Resolution 2025-17 as one of the eleven (11) intersection improvements and is identified as a high priority improvement.

Table 4. Northern Projects Requiring Collaboration

ID	Street Name	Type	Funding	Estimated Cost	Priority Rank	Need Description
131	Steitz Rd	New SUP		\$1,934,000	High	Current gap in the SUP network connecting to library, high school and elementary school and larger SUP network.
120	Rutherford Rd	New SUP		\$1,551,000	Low	Current gap in SUP network along Rutherford Rd.
E	Steitz Rd, Home Road	Pedestrian signal upgrades	 	\$154,000	High	Currently no safe crossing, connects to existing SUP network, serious injury pedestrian crash occurred at this intersection. Add pedestrian accommodations to signal and crossing.
G	Rutherford Rd, railroad	Improve railroad crossing	 	\$75,000	Medium	Short term, install advanced warning signs that the path ends, add pavement marking indicating bikes merge, and signage about pedestrians using roadway. Long term, work with railroad to improve crossing.
I	Rutherford Rd, Rutherford Estates Dr	RRFB, other crossing improvement	 	\$103,000	Medium	Currently no crosswalk across Rutherford from neighborhood to SUP network going west. Potentially add curb bump outs, advanced pedestrian crossing warning signs, high visibility striping, or RRFB.

Funding Key



General Roadway



Parks/Trails



Safe Routes to School



Safety

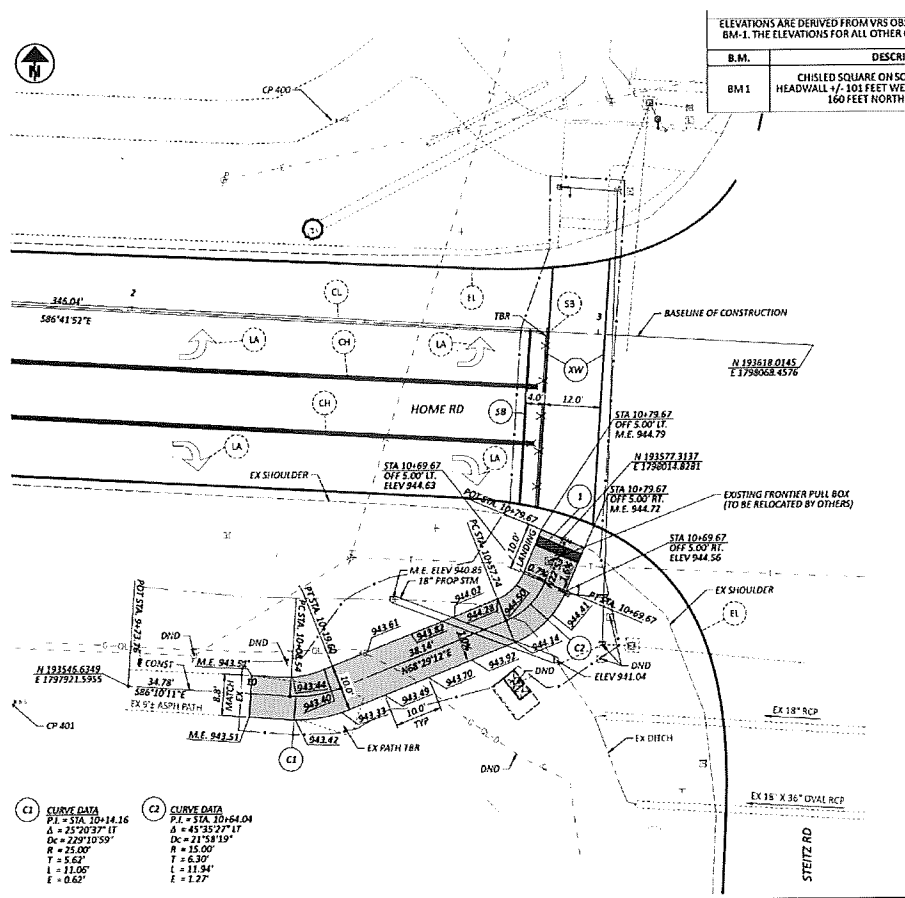


Railroad

Bid/Quote Details

The City requested quotes from 3 separate construction companies, Danbert Construction, Jess Howard Electric, and Complete General Construction. The lowest quote for this work was **Jess Howard Electric at \$81,674**. Budget for this project is available through the Shared-Use Path Additions project that has programmed funding in 2026.

Project Layout



City Council Goals

The Powell City Council sets goals to prioritize community needs for both the short and long term. This project will help to accomplish the following goals:

- **Maintaining City Infrastructure, Reducing Traffic Congestion, and Increasing Downtown Parking Options.**
- **Enhancing Parks and Recreational Space and Making More Bike and Walking Path Connections.**

Staff recommends the award of the construction contract to Jess Hoard Electric as they had the lowest bid/quote and have significant experience in constructing projects of similar scope and of varying size.

Staff request a suspension of the rules by declaring an emergency to allow the contractor to move to the construction phase as soon as possible, as the construction of this improvement is a critical safety improvement for the community.

Finally, please note for this authorization I have utilized authority under Section V(G) of the City's Purchasing Policy to waive formal bidding procedures. A copy of the emergency procurement authorization to the Finance Director is included with this agenda item. Per the Ohio Revised Code this type of project requires a formal bid process above \$79,568.00. Staff received several competitive proposals with the lowest and best bid from Jess Howard Electric of \$81,674.00 which exceeds the threshold by 2.5% or \$2,016.00. This bid threshold is increased 3% annually.

The project intersection is partially outside of the City, the two northern corners of it are within the jurisdiction of the Delaware County Engineer's Office. This has caused a significant amount of coordination which has delayed its start. A formal bid process is expected to move the project's completion into 2027. By foregoing the formal process the project can begin and improved pedestrian safety for the fall.

Legal Review:

The Law Director's office has reviewed the ordinance as to form.

Financial Review:

The Finance Director has reviewed and supports the legislation. Funding is appropriated within the Shared-Use Path project of the 2026 Capital Improvement Program.

Recommendation:

Staff recommend the approval of Ordinance 2026-16 as an emergency and with a suspension of the rules.



OFFICE OF THE CITY MANAGER

47 Hall Street | Powell, OH 43065 | 614.885.5380 | cityofpowell.us

MEMO

From: Andrew D. White, City Manager *[Signature] 07/26*
To: Samantha Borchers, Finance Director
Re: Emergency Procurement Authorization for Home and Steitz Intersection Improvements
Date: July 31, 2026

Background

The City of Powell has designed an upgrade to the intersection of Home and Steitz Road that will install a new pedestrian/bicycle crossing at the existing traffic signal. This improvement will install a new curb ramp and shared-use path that will connect to the existing shared-use path located on the south side of Home Road. With this project, there will also be new storm sewers, grading, pedestrian signal heads, and pavement marking installed. The City is also working to make a ramp connection to Steitz Road that will also allow bicycles to access Steitz Road until such time that a pathway is constructed along Steitz Road. The project has been identified as a legislative priority of Council for completion in FY 2026.

Per the Ohio Revised Code, this type of project requires a formal bid process above \$79,568.00 in FY 2026. Staff received several competitive proposals with the lowest and best bid from Jess Howard Electric of \$81,674.00 which exceeds the ORC threshold by 2.5% or \$2,016.00. This bid threshold is increased by 3% annually.

The project intersection is partially outside of the City, as the two northern corners of it are within the jurisdiction of the Delaware County Engineer's Office. This has caused a significant amount of agency coordination which has delayed its start. A formal bid process would be expected to move the project's completion into 2027. By foregoing the formal process, the project can begin and improve pedestrian safety for the fall.

Authorization

To expedite the procurement process and ensure the timely installation of safety improvements of this dangerous intersection during the 2026-2027 school year, I am invoking my authority under Section V(G) of the City's Purchasing Policy to waive formal bidding procedures.

Objectives

The emergency procurement authorization will prioritize public safety and accelerate the project's completion during the coming school year.

UTILITIES

LISTED BELOW ARE ALL UTILITIES KNOWN TO BE WITHIN THE CITY LIMITS OF POWELL TOGETHER WITH THEIR RESPECTIVE OWNERS:

WATER
DEL-CON WATER COMPANY, INC
4555 MORRISON ROAD
DELAWARE, OHIO 43015
740-548-7746
DWOLF@DELCOWATER.COM

SEWER
DELAWARE COUNTY SANITARY SEWER
225 CHERRY STREET
740-208-1900
PUBLICUTILITIES@DELAWARECOHIO.NET

GAS
COLUMBIA GAS OF OHIO
ATTN: KAITLIN DYVERT
3550 JOHNNY APPELSEED COURT
COLUMBUS, OH 43231
KDYVERT@NISOURCE.COM
COLUMBIAGAS_COLUMBUS@NISOURCE.COM

ELECTRIC
AEP OHIO DISTRIBUTION
ATTN: KATHLEEN THREWS
700 MORRISON ROAD
GAHANNA, OH 43230
740-647-2080
800-747-2177
RENATHREWS@AEP.COM

TELECOMMUNICATIONS
FRONTIER
ATTN: AMY L. ROTH
MANAGER, ENGINEER
419-631-2823
AMY.L.ROTH@FTR.COM

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

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 7PM AND 7AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

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.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 5 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: RTN SURVEY
MONUMENT TYPE: TYPE B
VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: GEOID 18

HORIZONTAL POSITIONING
REFERENCE FRAME: NAD 83 (2011)
ELLIPSOID: GRS 80
COORDINATE SYSTEM: OHIO STATE PLANE (NORTH ZONE)
MAP PROJECTION: LAMBERT CONFORMAL CONIC
PROJECT ADJUSTMENT FACTOR: 1.00000000
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.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

ITEM 653 - TOPSOIL 9 CY
ITEM 659 - SEEDING AND MULCHING, CITY OF POWELL STANDARD 79 SY
ITEM 659 - COMMERCIAL FERTILIZER 0.01 TON
ITEM 659 - LIME 0.02 ACRE
ITEM 659 - WATER 0.43 MGAL

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

CITY OF POWELL STANDARD SEED:
50% KENTUCKY BLUE GRASS
50% FESCUE

GENERAL SUMMARY

DESCRIPTION	ITEM	QUANTITY	UNIT
ROADWAY			
Clearing and Grubbing	201	1	Lump
Pavement Removed	202	22	Sq. Yd.
Excavation	203	10	Cu. Yd.
Embankment	203	46	Cu. Yd.
Subgrade Compaction	204	94	Sq. Yd.
Curb Ramp	608	100	Sq. Ft.
Detectable Warning	608	20	Sq. Ft.
EROSION CONTROL			
Topsoil	653	9	Cu. Yd.
Seeding and Mulching, City of Powell Standard	659	79	Sq. Yd.
Commercial Fertilizer	659	0.01	Ton
Lime	659	0.02	Acre
Water	659	0.43	M. Gal.
DRAINAGE			
18" Pipe Class IV, with Type 1 Bedding, with Item 912 Compacted Backfill	611	38	Lin. Ft.
PAVEMENT			
Aggregate Base	304	13	Cu. Yd.
Non-Tracking Tack Coat	407	4	Gal
Asphalt Concrete Intermediate Course, Type 2	1530	4	Cu. Yd.
Asphalt Concrete Surface Course	1530	3	Cu. Yd.
TRAFFIC CONTROL			
Stop Line	644	38	Lin. Ft.
Crosswalk Line	644	108	Lin. Ft.
Removal of Pavement Marking	644	38	Lin. Ft.
TRAFFIC SIGNAL			
Conduit, 2", 725.04	625	31	Lin. Ft.
Conduit, Jacked or Drilled, 725.05, 3"	625	86	Lin. Ft.
Trench	625	31	Lin. Ft.
Pull Box, Misc.: Modify Existing Pull Box to Install Proposed Conduit	625	3	Each
Ground Rod	625	2	Each
Pedestrian Signal Head (LED), Type D2, Countdown, Audible	632	2	Each
Accessible Pedestrian Pushbutton	632	2	Each
Signal Cable, 5 Conductor, No. 14	632	338	Lin. Ft.
Signal Cable, 5 Conductor, No. 14 AWG, As Per Plan	632	120	Lin. Ft.
Pedestal Foundation	632	2	Each
Pedestal, 10.7" Tall, Transformer Base, As Per Plan	632	2	Each
Reuse of Controller, As Per Plan	632	1	Each
INCIDENTALS			
Maintaining Traffic	614	1	Lump
Construction Layout Stakes	623	1	Lump

DESIGN AGENCY	STRUCTUREPOINT
DESIGNER	AMD
IN REVIEW	MTL 04/24/26
PROJECT NO.	233689
SHEET TOTAL	P.2 8

GENERAL NOTES AND GENERAL SUMMARY

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 AND DISTRICT TRAFFIC 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 DISTRICT TRAFFIC ENGINEER SHALL ADVISE THE PROJECT ENGINEER AND 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. WHEN NON-INTRUSIVE DETECTION (I.E. VIDEO, RADAR) ALREADY EXISTS, THE CONTRACTOR SHALL INSURE THAT DETECTION IS OPERATING AND MAINTAINED BY RECONFIGURING THE DETECTION UNITS ACCORDINGLY DURING ALL CONSTRUCTION PHASES. THIS IS TO AVOID THE SIGNAL FROM MAXING OUT THE EFFECTED SIGNAL PHASE AND CREATING UNNECESSARY DELAYS.

LOCATIONS WHERE NON-INTRUSIVE DETECTION IS PROPOSED AND THE EXISTING VEHICLE DETECTION IS TO BE ABANDONED, THE NON-INTRUSIVE VEHICLE DETECTION SHALL BE INSTALLED, 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. THIS IS TO ENSURE VEHICLE DETECTION REMAINS FULLY FUNCTIONAL THROUGHOUT CONSTRUCTION.

WORK INSPECTION

THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER WITH 72-HOUR NOTICE OF ANY SIGNAL WORK TO BE PERFORMED AT THE INTERSECTION SITE(S) SO THAT INSPECTION SERVICES CAN BE SUPPLIED.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 120 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 FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: PEDESTRIAN SIGNAL HEADS, PEDESTRIAN PUSHBUTTONS, AND THE WIRING FOR THOSE ITEMS.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE STATE OR THE MAINTAINING AGENCY 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.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS) AND THE TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

- ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDING CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
 - PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
 - WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
 - METALLIC CONDUIT CARRYING THE LOOP WIRES FROM THE INVENT TO THE PULL BOX SPICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.
 - IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
 - IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.
 - THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.
- CONDUITS.
 - THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
 - THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
 - BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
 - METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
- WIRE FOR GROUNDING AND BONDING.
 - USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:

I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.

II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.

III. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.

IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPES), FOR 4 AWG OR LARGER, INSULATION INSTALLED AT ALL ACCESS POINTS.

B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPS WILL BE MINIMUM SIZE 4 AWG.

A. A 3/4-INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.

B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.

5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDING IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

COND. NO.	COLOR	VEHICLE SIGNAL	PEDESTRIAN SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DM/POW
4	GREEN	EQUIPMENT GROUND	EQUIPMENT GROUND
5	ORANGE	YELLOW BALL	#2 DM/POW
6	BLUE	GREEN ARROW	#2 WALK
7	WHITE/BLACK STRIPE	YELLOW ARROW	NOT USED

6. POWER SERVICE AND DISCONNECT SWITCH.

A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPICE.

B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.

I. NEVA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEVA TS-2, FIGURE 5-4.

II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC) SHALL ONLY BE GROUNDING AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDING AT BOTH SECONDARY AND PRIMARY SWITCHES.

7. PAYMENT - ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

ITEM 625 - PULL BOX, MISC.: MODIFY EXISTING PULL BOX TO INSTALL PROPOSED CONDUIT

EXISTING PULL BOX TO BE MODIFIED BY THE CONTRACTOR IN ORDER TO INSTALL PROPOSED CONDUIT RUNS AS INDICATED. CARE MUST BE TAKEN TO MAINTAIN ALL EXISTING WIRING LOCATED IN THE EXISTING PULL BOX.

ITEM 632 - SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG, AS PER PLAN

WIRING SHALL BE INSTALLED IN EXISTING CONDUIT WITH CAPACITY WHERE INDICATED.

ITEM 632 - PEDESTAL, 10.7 TALL, TRANSFORMER BASE, AS PER PLAN

PEDESTALS AND BASES SHALL HAVE A BLACK POWDER COAT FINISH IN CONFORMANCE WITH SUPPLEMENTAL SPECIFICATION 9.1.6. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR EACH PEDESTAL SUPPORT COMPLETE.

ITEM 632 - REUSE OF CONTROLLER, AS PER PLAN

EXISTING CONTROLLER SHALL BE REPROGRAMMED AS PER THE SIGNAL TIMINGS PROVIDED IN THE CONTRACT PLANS. ANY INFORMATION NOT INCLUDED IN THE PLAN IS TO REMAIN AS CURRENTLY PROGRAMMED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNALS AND INTERSECTION CONTROL BEACON INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

1. EXISTING SIGNAL/INTERSECTION CONTROL BEACON INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.

- THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAULTS, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CONNECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN TWO HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

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 THE CONTRACTOR WAS FAILED TO, OR CANNOT RESPOND TO, LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE CITY OF POWELL FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM. WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 6 HOURS AND SHALL NOT INCLUDE THE HOURS OF 7:00 AM OR 4:30-6:30PM. 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, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY OFF-DUTY CITY OF POWELL POLICE, HIRED BY THE CONTRACTOR:

- ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

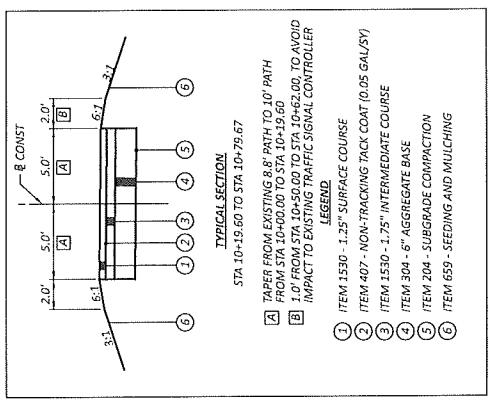
1. TIME OF NOTIFICATION OF MALFUNCTION;
 2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;
 3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
 4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;
 5. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.
- A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC

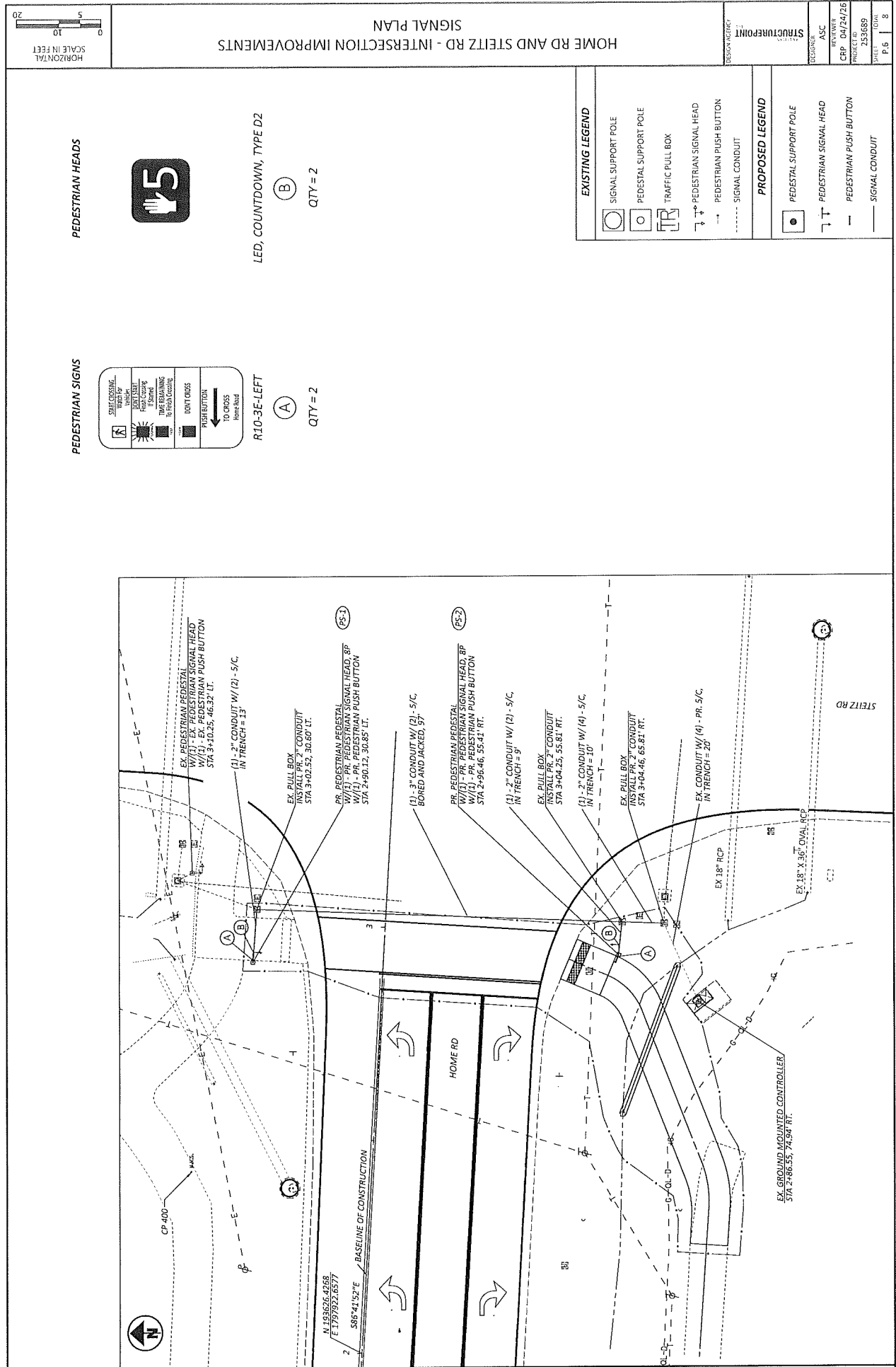
BEARINGS SHOWN HEREON ARE MEASURED FROM GRID NORTH, REFERENCED TO THE OHIO STATE PLANE COORDINATE SYSTEM (NORTH ZONE) AND THE NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT), AS ESTABLISHED UTILIZING A GPS SURVEY AND VRS OBSERVATION.

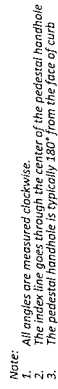
COORDINATES ARE BASED ON OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT), AS ESTABLISHED UTILIZING VRS OBSERVATIONS.

VERTICAL CONTROL				
ELEVATIONS ARE DERIVED FROM VRS OBSERVATIONS REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT) AND GEOID 18. FOR BM-1, THE ELEVATIONS FOR ALL OTHER CONTROL POINTS LISTED HEREON WERE ESTABLISHED UTILIZING A DIFFERENTIAL LEVEL CIRCUIT ORIGINATING FROM BM-1.				
B.M.	DESCRIPTION	NORTHING (GROUND)	EASTING (GROUND)	ELEVATION
BM 1	CHISED SQUARE ON SOUTHWEST CORNER OF HEADWALL +/- 101 FEET WEST OF STEITZ ROAD AND +/- 160 FEET NORTH OF HOME ROAD	N/A	N/A	939.47



EXISTING LEGEND	PROPOSED LEGEND
CH CHANNELIZING PAVEMENT MARKING	APSHALT SHARED USE PATH
CL CENTERLINE PAVEMENT MARKING	1 DETECTABLE WARNING (2'X10'), TYPE E
EL EDGE LINE PAVEMENT MARKING	
LA LANE ARROW	SW CROSSWALK LINE
	SB STOP BAR
SB STOP BAR	CONSTRUCTION LIMITS
✕ EXISTING PAVEMENT MARKING TO BE REMOVED	DN DO NOT DISTURB
	ME MATCH EXISTING
	TBR TO BE REMOVED





PEDESTAL TABLE

Main Details of Pedestrians								
PEDESTAL NO.	STATION	OFFSET	FOUNDATION ELEVATION	PEDESTAL HEIGHT (FT)	TRANSFORMER BASE?	ORIENTATION ANGLES (DEG.)		
						PEDESTAL INDEX LINE ANGLE (DEG.)	PEDESTRIAN SIGNAL	PEDESTRIAN PUSH BUTTON
PS-1	2+50.12	30.85' LT	936'	10.7'	YES	180	90	90
PS-2	3+04.46	65.81' RT	934'	10.7'	YES	196	250	90

Diagram illustrating the Pedestal Elevation. The structure consists of a vertical pole with a camera mounted at the top. The camera is labeled "All devices mounted to pedestal per TC-85.10". The pole has a "Shaft, base, and foundation per TC-83.30". A "push button" is located on the pole, with a callout stating "ODOT intersections require accessible pedestrian push buttons". The foundation is labeled "Foundation shall be installed at least 2' above grade per TC-83.20". The diagram is titled "PEDESTAL ELEVATION".

SIGNAL TIMING CHART

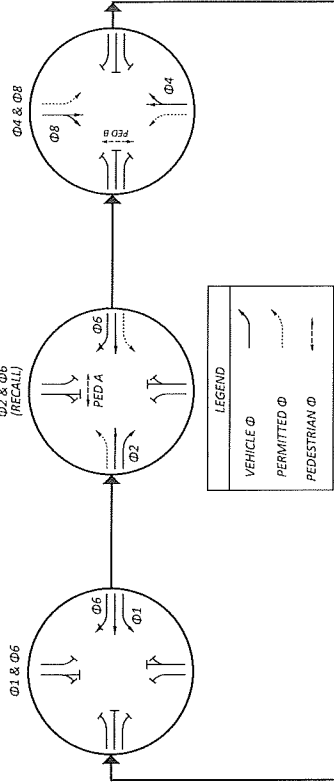
INTERSECTION: HOME ROAD AT STEITZ ROAD									
MAINTAINING AGENCY: DELAWARE COUNTY									
START/UP	DUAL ENTRY:	YES		RING 1		RING 2		PHASES:	
		OVERLAP		A		B		C	
START IN: YELLOW/RED FLASH									
TIME FOR FLASH, ALL RED (SEC): 10									
FIRST PHASE(S): 2, 6									
COLOR DISPLAYED: GREEN									
INTERVAL OR FEATURE									
INTERSECTION MOVEMENT (PHASE)									
DIRECTION	1	2	3	4	5	6	7	8	
MINIMUM GREEN (INITIAL)	EBT	EB	-	NB	-	WB	-	SB	
ADDED INITIAL	-	-	-	-	-	-	-	-	
*[SEC./ACTUATION]	-	-	-	-	-	-	-	-	
MAXIMUM INITIAL	-	-	-	-	-	-	-	-	
PASSAGE TIME (PRESET GAP)	3	1	-	3	-	1	-	3	
*[SEC.]	-	-	-	-	-	-	-	-	
TIME BEFORE REDUCTION	-	-	-	-	-	-	-	-	
MINIMUM GAP	-	-	-	-	-	-	-	-	
*[SEC.]	-	-	-	-	-	-	-	-	
TIME TO REDUCE	-	-	-	-	-	-	-	-	
*[SEC.]	-	-	-	-	-	-	-	-	
MAXIMUM GREEN I	15	50	-	25	-	60	-	25	
[SEC.]	-	-	-	-	-	-	-	-	
MAXIMUM GREEN II	-	-	-	-	-	-	-	-	
[SEC.]	-	-	-	-	-	-	-	-	
YELLOW CHANGE	4	4	-	3	-	4	-	3	
[SEC.]	-	-	-	-	-	-	-	-	
ALL RED CLEARANCE	2	2	-	2	-	2	-	2	
[SEC.]	-	-	-	-	-	-	-	-	
DELAYED GREEN (LPI)	-	-	-	-	-	-	-	-	
[SEC.]	-	-	-	-	-	-	-	-	
FLASHING YELLOW ARROW DELAY ^a	-	-	-	-	-	-	-	-	
[SEC.]	-	-	-	-	-	-	-	-	
PEDESTRIAN CLEARANCE	-	-	-	-	-	-	-	-	
[SEC.]	-	-	-	-	-	-	-	-	
RECALL	MAXIMUM (ON/OFF)	NO	-	-	-	13	-	13	
MINIMUM (ON/OFF)	NO	NO	-	NO	-	14	-	14	
PEDESTRIAN (ON/OFF)	NO	YES	-	NO	-	YES	-	NO	
MEMORY	NO	NO	-	NO	-	NO	-	NO	

FIELD WIRING HOOK-UP CHART

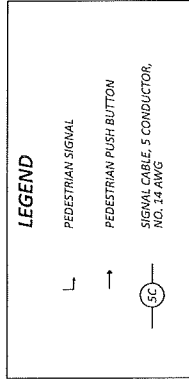
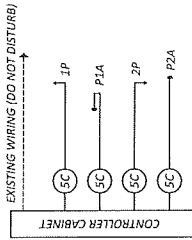
SIGNAL HEADS	INDICATION	FIELD TERMINAL	FLASH	PEDESTRIAN MOVEMENTS			
				Ped A	W	Q05 G	OUT
EB	R	Q02 R	Y	NORTH	DW	Q06 R	OUT
	G	Q02 G	Y	Ped B	W	Q08 G	OUT
SB	R	Q08 R	R	WEST	DW	Q08 R	OUT
	G	Q08 G	R				
WB LT	R	Q08 R	Y				
	G	Q08 G	Y				
WB	R	Q06 R	Y				
	G	Q06 G	Y				
NB	R	Q04 R	R				
	G	Q04 G	R				

NOTES:
- RADAR DETECTION TO REMAIN AS PREVIOUSLY PROGRAMMED IN CONTROLLER.

PHASING CHART



WIRING DIAGRAM



New crosswalk at
existing traffic signal

Liberty
Township

HOME RD

City of Powell

New shared use path
connection to existing path.

LIBERTY

