

LOCATION MAP

LATITUDE: 39°15'49.6" N LONGITUDE: 84°24'18.7" W

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

**DESIGN DESIGNATION**

	CORNELL ROAD	MAPLE STREET	BEEKLEY WOODS DRIVE	CREEK ROAD	THORNVIEW DRIVE	ROBINDALE DRIVE
CURRENT ADT (2022)	5,164	N/A	N/A	N/A	N/A	N/A
DESIGN YEAR ADT (2044)	N/A	N/A	N/A	N/A	N/A	N/A
DESIGN HOURLY VOLUME (20 )	N/A	N/A	N/A	N/A	N/A	N/A
DIRECTIONAL DISTRIBUTION	N/A	N/A	N/A	N/A	N/A	N/A
TRUCKS (24 HOUR B&C)	96	N/A	N/A	N/A	N/A	N/A
DESIGN SPEED	25 MPH	25 MPH	25 MPH	25 MPH	25 MPH	25 MPH
LEGAL SPEED	25 MPH	25 MPH	25 MPH	25 MPH	25 MPH	25 MPH

DESIGN FUNCTIONAL CLASSIFICATION:

- CORNELL ROAD - MAJOR COLLECTOR (URBAN)
- MAPLE STREET - LOCAL (URBAN)
- BEEKLEY WOODS DRIVE - LOCAL (URBAN)
- CREEK ROAD - LOCAL (URBAN)
- THORNVIEW DRIVE - LOCAL (URBAN)
- ROBINDALE DRIVE - LOCAL (URBAN)

NHS PROJECT ----- NO

**DESIGN EXCEPTIONS**

NONE

**ADA DESIGN WAIVERS**

REQUIRED

**UNDERGROUND UTILITIES**  
 Contact Two Working Days Before You Dig

**OHIO811.org**  
 Before You Dig

OHIO 811, 8-1-1, or 1-800-362-2764  
 (Non members must be called directly)

PLAN PREPARED BY:  
**Michael Baker**  
 INTERNATIONAL  
 1111 SUPERIOR AVE E, SUITE 2300  
 CLEVELAND, OH 44114

# STATE OF OHIO DEPARTMENT OF TRANSPORTATION

## HAM - SHARONVILLE SRTS 2021

### CITY OF SHARONVILLE HAMILTON COUNTY

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**FEDERAL PROJECT NUMBER**

E210 (417)

**RAILROAD INVOLVEMENT**

NONE

**PROJECT DESCRIPTION**

AT THE INTERSECTION OF CREEK RD AT BEEKLEY WOODS, INSTALL ADA COMPLIANT CURB RAMPS; RELOCATE THE CROSSWALK TO THE EAST SIDE OF BEEKLEY WOODS DRIVE; INSTALL HIGH VISIBILITY CROSSWALKS, SIGNAGE, PEDESTRIAN ACTIVATED FLASHING BEACONS, AND DIGITAL SPEED FEEDBACK SIGNS.

AT CORNELL RD AT MAPLE STREET, INSTALL ADA COMPLIANT CURB RAMPS, INSTALL HIGH VISIBILITY CROSS WALKS, FLASHING STOP SIGNS, AND SCHOOL ZONE PAVEMENT MARKINGS AND SIGNAGE.

AT THE INTERSECTION OF THORNVIEW AND ROBINDALE/EVENDALE, INSTALL HIGH VISIBILITY CROSSWALKS, ADA COMPLIANT RAMPS, AND CROSSWALK SIGNAGE/PAVEMENT MARKING

**EARTH DISTURBED AREAS**

PROJECT EARTH DISTURBED AREA:	0.2 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A (NOI not required)

**2023 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON 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 PLAN AND ESTIMATES.

Tammy K. Campbell, P.E.  
 District 08 Deputy Director

Jack Marchbanks, PhD  
 Director, Department of Transportation

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-2.5	1/21/22	TC-41.20	10/18/13	800-2023 SEE PROPOSAL	
BP-3.1	1/21/22	TC-41.30	4/26/23	832 7/21/23	
BP-4.1	7/19/13	TC-41.40	10/18/13		
BP-5.1	7/15/22	TC-42.20	10/18/13		
BP-7.1	7/21/23	TC-52.10	10/18/13		
		TC-52.20	1/15/21		
DM-1.2	7/16/21	TC-71.10	4/26/23		
DM-4.3	1/15/16	TC-74.10	7/21/23		
DM-4.4	1/15/16	TC-83.20	7/15/22		
		TC-87.10	7/21/23		
MT-97.10	4/19/19				
MT-97.12	1/20/17	HL-10.13	1/20/23		
MT-101.90	7/17/20	HL-20.11	7/21/23		
MT-105.10	1/17/20				
	7/19/13				

ENGINEER'S SEAL

TITLE SHEET

DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
REVIEWER	SMP
PROJECT ID	MKD 08/22/23
SHEET	115447
TOTAL	P.1   P.26

**ITEM 630 - SIGNING, MISC.: SOLAR-POWERED DIGITAL FEEDBACK SPEED SIGN ASSEMBLY**

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A RADAR SOLAR-POWERED DIGITAL FEEDBACK SPEED SIGN. ALL MATERIAL AND LABOR REQUIRED TO PROVIDE A COMPLETE FUNCTIONING SYSTEM ARE TO BE INCLUDED. THE SIGN SHALL BE SELF-POWERED BY SOLAR PANELS AND BATTERIES WITH NO EXTERNAL ELECTRICAL POWER INSTALLATION. ALL PROVISIONS OF SECTIONS 630, 631 AND 632 OF THE OHIO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SHALL APPLY EXCEPT AS MODIFIED BELOW:

THE SCOPE OF THIS ITEM INCLUDES, BUT IS NOT LIMITED TO, SOLAR PANELS, BATTERIES, CONTROLLER ENCLOSURE, CONTROL SYSTEMS, CONDUIT, AN ALL LED TWO DIGIT RADAR DIGITAL SPEED FEEDBACK DISPLAY SIGN, MOUNTING BRACKETS, AND ANY INCIDENTAL COMPONENTS TO COMPLETE THE SYSTEM, AND SITE RESTORATION.

PRIOR TO ORDERING SOLAR POWERED SIGNS AT STA 6+78 (CREEK RD.), CONFIRM SIGN CAN BE LOCATED SO IT IS NOT SHADED IN DAYLIGHT HOURS. IF THIS IS NOT FEASIBLE, DIGITAL FEEDBACK SIGN AT THIS LOCATION SHALL CONNECT TO POWER DROP FOR EXISTING SIGN, AND NO SOLAR PANEL SHALL BE USED, ALL PAID INCIDENTAL TO THIS ITEM.

**MATERIALS**

ALL PROVISIONS OF SECTIONS 725, 730, 731, AND 733 SHALL APPLY TO THIS SPECIFICATION EXCEPT AS MODIFIED BELOW:

**RADAR EQUIPMENT AND HOST CABINET:**

THE LOCAL EQUIPMENT CONTROLLING THE COMPONENTS OF THE RADAR SPEED DISPLAY SHALL BE CONTAINED IN A CONTROLLER ENCLOSURE CONSTRUCTED OUT OF ALUMINUM AND BE AS LIGHTWEIGHT AS POSSIBLE (THE ENCLOSURE SHALL BE LOCKABLE, WATERTIGHT, VANDAL AND TAMPER RESISTANT). THE DIMENSIONS SHALL BE SUFFICIENT TO HOUSE THE CONTROLLER, COMMUNICATION COMPONENTS, TOGGLE SWITCH, RADAR GUN, AND BATTERIES FOR BACK-UP POWER SUPPLY. ALL COMPONENTS SHALL BE DESIGNED TO OPERATE UNDER AMBIENT TEMPERATURE CONDITIONS FROM -40 DEGREES FAHRENHEIT TO +130 DEGREES FAHRENHEIT FOR UP TO 24 HOURS PER DAY.

**SPEED DISPLAY:**

THE DRIVER FEEDBACK SPEED DISPLAY SHALL HAVE THE CAPABILITY TO DISPLAY THE APPROACHING VEHICLE SPEED IN INCREMENTS OF 1 MPH. THE DRIVER FEEDBACK DISPLAY SHALL UTILIZE NUMERIC CHARACTERS, 12 INCHES (MINIMUM) IN HEIGHT. THE LEDS LUMINOUS INTENSITY SHALL BE CONTROLLED AUTOMATICALLY TO OPTIMIZE LIGHTING INTENSITY FOR DAYTIME, NIGHTTIME, AND ADVERSE WEATHER CONDITIONS. THE SPEED LIMIT DISPLAY SHALL BE READABLE FROM AT LEAST 400 FEET AWAY IN ALL LIGHTING CONDITIONS. THE DRIVER FEEDBACK SPEED DISPLAY AND SIGN SHALL CONFORM TO THE REQUIREMENTS OF THE MUTCD AND PROVIDE FOR THE FEEDBACK DISPLAY ON THE LOWER PORTION AND SHALL HAVE "YOUR SPEED" PRINTED IN 4 INCH HIGH BLACK LETTERS ON A YELLOW BACKGROUND ABOVE THE DISPLAY ON THE SIGN FACE.

**CONTROLS:**

THE MINIMUM PC SYSTEM REQUIREMENTS SHALL BE WINDOWS 10 UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS. THE SYSTEM SHALL HAVE THE CAPABILITY TO REMOTELY TURN THE DISPLAY ON AND OFF DURING THE PROGRAMMED TIMES THROUGH THE USE OF A WIRELESS MODEM. A DIRECT LAND-LINE MODEM SHALL ALSO BE PROVIDED WHEN SPECIFIED IN THE CONTRACT DOCUMENTS. THE COMMUNICATION OPTION(S) SHALL BE CAPABLE OF DATA TRANSFER TO INCLUDE UPDATES.

**EMERGENCY SHUTOFF:**

ONE TOGGLE-TYPE POWER SWITCH, FOR THE SOLAR POWER SOURCE, SHALL BE PROVIDED FOR EMERGENCY SHUTOFF AT THE LOCAL ENCLOSURE ON THE POLE.

**ITEM 630 - SIGNING, MISC.: SOLAR-POWERED DIGITAL FEEDBACK SPEED SIGN ASSEMBLY (CONTINUED)**

**SOFTWARE:**

THE CONTROLLER SOFTWARE SHALL BE PROGRAMMABLE AND CAPABLE OF CREATING AND PRELOADING A SINGLE COMPUTER-CONTROLLED SCHEDULE OF OPERATION FOR THE DISPLAY FOR A MINIMUM OF ONE YEAR. THE OPERATOR MUST BE PROVIDED THE ABILITY TO REMOTELY AND INDEPENDENTLY ACTIVATE AND DEACTIVATE THE SYSTEM DURING THE PROGRAMMED TIMES. THE SOFTWARE SHALL PROVIDE A METHOD TO REMOTELY UPLOAD SCHEDULES TO THE DISPLAY. IN ADDITION, THE SOFTWARE SHALL ALLOW FOR REMOTELY RETRIEVING INFORMATION, SUCH AS THE STATUS OF THE DISPLAY AND DIRECT CONTROL OF DISPLAY FUNCTIONS SUCH AS TEST PATTERNS AND LIGHTING CONTROLS.

THE CONTRACTOR SHALL SET THE INITIAL PROGRAMMING SUCH THAT THE DIGITAL FEEDBACK SPEED SIGN IS OPERATIONAL ONLY DURING THE HOURS IN WHICH THE REDUCED SCHOOL SPEED LIMIT IS IN EFFECT UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

**POWER SUPPLY:**

THE POWER SUPPLY SHALL BE SOLAR, MEETING ALL APPLICABLE CODES AND "GENERAL ELECTRICAL REQUIREMENTS FOR SOLAR POWERED DEVICES" ON SHEET P.5.

**SOLAR POWER SHALL INCLUDE THE FOLLOWING:**

1. ONE SOLAR PANEL ARRAY WITH A BRACKET FOR MOUNTING TO THE TOP OF THE POLE.
2. ALL CABLE(S) BETWEEN THE SOLAR PANEL AND THE CONTROLLER/BATTERY ENCLOSURE SHALL BE ROUTED INTERNAL TO THE PEDESTAL POLE.

**CONSTRUCTION DETAILS**

ALL PROVISIONS OF SECTIONS 630, 631, AND 632 SHALL APPLY TO THIS SPECIFICATION EXCEPT AS MODIFIED BELOW:

ELECTRICAL AND COMMUNICATION SHALL BE RUN IN SEPARATE CONDUITS.

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, AT LEAST TWO WEEKS BEFORE INSTALLATION, DETAILED SPECIFICATIONS, PARTS LISTS, MANUFACTURER'S CUT SHEETS, INSTRUCTION SHEETS, AND WIRING DIAGRAMS FOR THE EQUIPMENT TO BE INSTALLED. THE ENGINEER WILL SUBMIT THE DOCUMENTS TO THE DISTRICT TRAFFIC ENGINEER FOR REVIEW. THE CONTRACTOR MUST RECEIVE APPROVAL FROM THE ENGINEER, PRIOR TO ANY INSTALLATION OF ANY OF THE COMPONENTS OF THE DIGITAL FEEDBACK SPEED SIGN ASSEMBLY.

THE CONTRACTOR SHALL PLACE AND ORIENT THE DIGITAL FEEDBACK SPEED SIGN ASSEMBLY IN SUCH A MANNER AS TO OPTIMIZE VIEWING AND DETECTION ANGLES USING THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS FOR INSTALLATION AND AS APPROVED BY THE ENGINEER.

IF THE ENGINEER DETERMINES THAT THE UNIT IS NOT FUNCTIONING PROPERLY, THE CONTRACTOR SHALL SECURE THE SERVICES OF THE MANUFACTURER'S REPRESENTATIVE FOR THE INSTALLATION AND TESTING AND IF NECESSARY, FOR THE ORIENTATION OF THE DIGITAL FEEDBACK SPEED SIGN ASSEMBLY COMPONENTS, INCLUDING ORIENTING THE SOLAR PANEL ARRAY FOR OPTIMUM PERFORMANCE.

WHERE NEW WORK IS TO MEET EXISTING MATERIALS, THE CONTRACTOR'S METHODS SHALL PROVIDE FOR NEAT LINES, BEING CAREFUL NOT TO DAMAGE THE MATERIAL TO REMAIN. THE RESTORATION OF DISTURBED AREAS SHALL UTILIZE MATERIAL AND WORKMANSHIP OF LIKE-KIND-QUALITY COMMENSURATE WITH PREEXISTING CONDITIONS.

**ITEM 630 - SIGNING, MISC.: SOLAR-POWERED DIGITAL FEEDBACK SPEED SIGN ASSEMBLY (CONTINUED)**

**PEDESTAL SHAFT AND BASE**

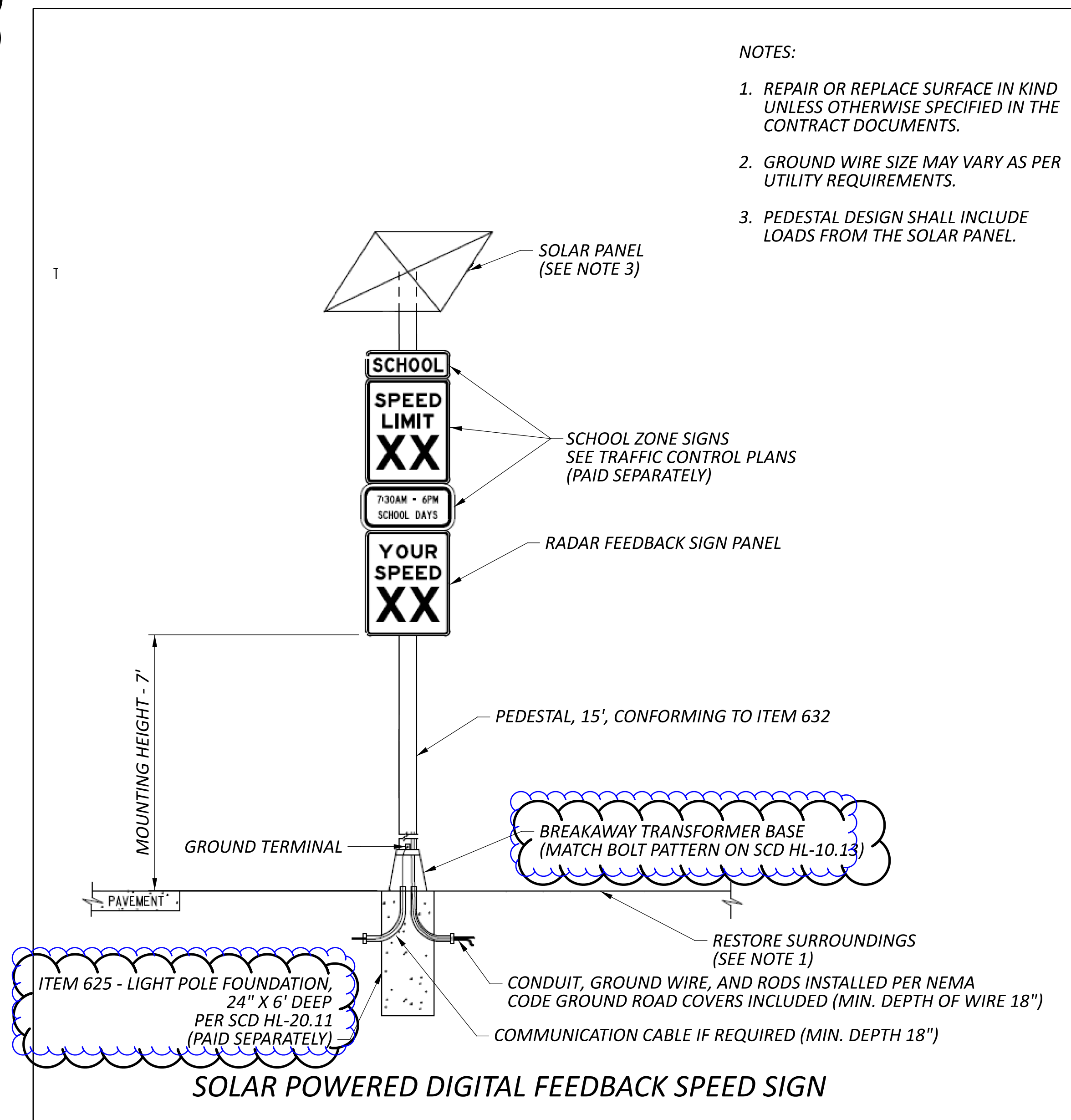
MOUNT ON A STANDARD 4.5-INCH OD ALUMINUM PEDESTAL POLE WITH BREAKAWAY BASE AS PER MANUFACTURER REQUIREMENTS. A 14 FOOT POLE SHALL BE PROVIDED AND FIELD ADJUSTED AND CAPPED TO MAINTAIN THE PROPER SIGN MOUNTING HEIGHTS, UNLESS SPECIFIED OTHERWISE IN THE PLANS. POLE AND BASE MANUFACTURER SHALL BE LISTED ON ODOT'S QUALIFIED PRODUCTS LIST.

**METHOD OF MEASUREMENT**

THIS WORK WILL BE MEASURED AS THE NUMBER OF COMPLETE FUNCTIONING RADAR SPEED DISPLAY ASSEMBLIES SATISFACTORILY FURNISHED AND INSTALLED.

**BASIS OF PAYMENT**

THE UNIT PRICE BID SHALL INCLUDE THE COST OF FURNISHING ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO SATISFACTORILY COMPLETE THE WORK. THE DIGITAL FEEDBACK SPEED SIGN WILL BE PAID UNDER THE UNIT BID PRICE FOR ITEM 630 - SIGNING, MISC.: SOLAR-POWERED DIGITAL FEEDBACK SPEED SIGN ASSEMBLY. THE FLAT SHEET STATIC SIGNS, AND FOUNDATION SHOWN IN THE ASSOCIATED DETAILS WILL BE PAID FOR SEPARATELY.



DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER

SMP

REVIEWER

MKD 08/22/23

PROJECT ID

115447

SHEET

P.8

TOTAL

P.26





