

**ITEM 630 EMERGENCY VEHICLE SIGN ASSEMBLY WITH WARNING BEACON, SOLAR POWERED**

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING AN EMERGENCY VEHICLE SIGN ASSEMBLY, WITH SUPPLEMENTAL WARNING BEACON, POWERED BY BATTERIES AND RECHARGED BY SOLAR PANELS.

THE SIGN ASSEMBLY AND FLASHER SHALL MEET THE REQUIREMENTS SET FORTH IN THE ODOTCD. THE SIGN SIZE SHALL BE 36" X 36" AND SIGN CODE W11-8, AND 24" X 24" AND SIGN CODE W16-13P. W11-8 SIGN SHALL BE PLACED AT A 7'-0" MIN. MOUNTING HEIGHT.

THE FLASHER CONTROL AND BATTERY SHALL BE HOUSED IN ONE OR MORE STAINLESS STEEL OR ALUMINUM ENCLOSURES WITH A NEMA RATING OF AT LEAST 3R. ENCLOSURE EXTERIOR SURFACES SHALL BE BARE OR

POWDER COAT ALUMINUM OR STAINLESS STEEL. THE ENCLOSURE INTERIOR SURFACES SHALL BE THE SAME AS THE EXTERIOR.

IF CONTAINED IN A SINGLE ENCLOSURE, THE CONTROL ELECTRONICS AND BATTERY SHALL BE SEPARATED IN A MANNER TO PREVENT DAMAGE TO THE CONTROL ELECTRONICS IF THE BATTERY SHALL BE SEPARATED IN A MANNER TO PREVENT DAMAGE TO THE CONTROL ELECTRONICS IF THE BATTERY ENVELOPE IS COMPROMISED.

LED SIGNAL BEACONS MEETING THE CURRENT ITE VEHICLE TRAFFIC CONTROL SIGNAL HEADS (VTCSH) STANDARD SHALL BE USED UNLESS OTHERWISE SPECIFIED. THE MANUFACTURER OF THE SIGNAL BEACON SHALL BE LISTED ON THE DEPARTMENT'S QUALIFIED PRODUCTS LIST FOR LED SIGNAL LAMPS. A MINIMUM 12-INCH BEACON SHALL BE USED.

THE SOLAR PANEL OR SOLAR PANEL CONTROLLER MANUFACTURER SHALL PROVIDE SIGNED COPIES OF CALCULATIONS USED TO SIZE THE SOLAR PANEL AND BATTERIES. INCLUDED IN THESE CALCULATIONS SHALL BE THE INSULATION VALUE USED AND ITS SOURCE, THE SOLAR PANEL EFFICIENCY, CHARGER/CONTROLLER EFFICIENCY, INVERTER EFFICIENCY, PROPOSED LED LAMP LOAD, AND A FIGURE REPRESENTING ANTICIPATED MISCELLANEOUS LOSSES.

THE SOLAR PANEL MANUFACTURER SHALL TEST THE PANELS ACCORDING TO IEC61215 OR EQUIVALENT APPROVED STANDARD. SOLAR PANEL MOUNTING MUST BE RATED FOR 90 MPH DESIGN WIND.

RUN REQUIREMENTS FOR ASSEMBLIES ARE 24 HOURS PER DAY FOR TWO WEEKS UNDER CONTINUOUS WORST-CASE (MINIMUM) INSULATION FIGURES (USUALLY DECEMBER) FOR THE PROPOSED GEOGRAPHIC LOCATION, USING A PANEL ELEVATION ANGLE APPROPRIATE TO THE SITE LATITUDE, AT A SUSTAINED TEMPERATURE OF 25 DEGREES FAHRENHEIT (-4 DEGREES CELSIUS).

IF VOLTAGES OVER 50V AC OR DC ARE PRESENT, GROUNDING AND BONDING REQUIREMENTS SPECIFIED IN THE ODOT TEM SHALL BE FOLLOWED.

THE SOLAR PANELS SHALL BE PLACED SUCH THAT EACH RECEIVES FULL AVAILABLE SUNLIGHT AT ALL TIMES, AND SHALL NOT BE OBSTRUCTED BY TREES, SIGNS OR OTHER OBJECTS.

**ITEM 630 EMERGENCY VEHICLE SIGN ASSEMBLY WITH WARNING BEACON, SOLAR POWERED (CONT.)**

PEDESTAL SHAFT AND BASE - MOUNT ON A STANDARD 4.5-INCH OD ALUMINUM PEDESTAL POLE WITH BREAKAWAY BASE. 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.

FINAL SIGN LOCATION SHALL BE VERIFIED AND APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.

THE SIGN ASSEMBLY ITEM SHALL INCLUDE THREE (3) WIRELESS PUSH BUTTON ACTIVATION SYSTEMS. THE SIGN ASSEMBLIES SHALL HAVE A MIN. ACTIVATION RANGE OF 1200' FROM THE ACTIVATION SYSTEMS, AND BE MOUNTED IN THE FOLLOWING BUILDING LOCATIONS:

BEVERLY FIRE DEPARTMENT  
204 5TH ST, BEVERLY, OH 45715

BEVERLY VOLUNTEER FIRE DEPARTMENT  
400 7TH ST., BEVERLY, OH 45715

BEVERLY-WATERFORD RESCUE SQUAD  
207 4TH ST., BEVERLY OH 45715

PAYMENT FOR 631 EMERGENCY VEHICLE SIGN ASSEMBLY WITH WARNING BEACON, SOLAR POWERED SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TESTING, CERTIFICATIONS AND OTHER INCIDENTALS NECESSARY TO FURNISH THE SOLAR POWERED EMERGENCY VEHICLE FLASHER COMPLETE IN PLACE, INCLUDING ALL CONNECTIONS MADE, WIRING COMPLETE, TESTED AND ACCEPTED.

**ITEM 632 SIGNALIZATION MISC.: SIGNAL UNDER STUDY FOR REMOVAL**

PRIOR TO THE SIGNAL REMOVAL AT CENTER STREET AND US60, THE CONTRACTOR SHALL INSTALL A SIGNAL UNDER STUDY FOR REMOVAL (W24-H2B) SIGN ON THE SPAN WIRE NEXT TO THE SIGNAL HEADS ON EACH APPROACH (4 SIGNS TOTAL). THESE SIGNS SHALL BE IN PLACE FOR 14 DAYS PRIOR TO THE SIGNAL BEING PLACED IN FLASH MODE. THE PROPOSED STOP SIGNS SHALL BE INSTALLED PRIOR TO THE SIGNAL BEING PLACED IN FLASH MODE. THE SIGNAL SHALL BE IN FLASH MODE FOR 90 DAYS. WHILE THE SIGNAL IS IN FLASH MODE THE DISTRICT WILL MONITOR, INVESTIGATE AND RESPOND TO THE CONCERNS OF THE PUBLIC PER TEM 401-4. THE DISTRICT MAY ASK THE CONTRACTOR TO LEAVE THE SIGNAL IN FLASH MODE FOR AN ADDITIONAL 60 DAYS FOR FURTHER STUDY. IF THE DISTRICT DECIDES TO MOVE FORWARD WITH THE SIGNAL REMOVAL AT THE END OF THIS STUDY PHASE, THE CONTRACTOR SHALL REMOVE THE SIGNAL UNDER STUDY FOR REMOVAL SIGNS, BAG THE SIGNAL HEADS AND TURN THE SIGNAL OFF FOR 60 DAYS PRIOR TO REMOVAL OF THE SIGNAL EQUIPMENT.

SEE THE REMOVAL OF TRAFFIC SIGNAL INSTALLATION NOTE ON SHEET 16 FOR ITEMS TO BE REMOVED. ALL ITEMS SHALL BE DISPOSED OF.

PAYMENT FOR THE ABOVE DESCRIBED WORK SHALL BE PAID PER THE BID PRICE FOR ITEM 632 SIGNALIZATION MISC.: SIGNAL UNDER STUDY FOR REMOVAL. THE REMOVAL OF THE SIGNAL EQUIPMENT WILL BE PAID SEPARATELY UNDER ITEM 632 - REMOVAL OF TRAFFIC SIGNAL INSTALLATION.

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GENERAL NOTES

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