

# GENERAL NOTES

## STRUCTURES

### ITEM SPECIAL - PATCHING CONCRETE STRUCTURES WITH MAGNESIUM PHOSPHATE CONCRETE

- A. **DESCRIPTION:** THIS ITEM CONSISTS OF THE REMOVAL OF ALL LOOSE AND DISINTEGRATED CONCRETE, PREPARATION OF THE SURFACE, AND FORMING, MIXING, PLACING, FINISHING AND CURING OF THE MAGNESIUM PHOSPHATE CONCRETE PATCHES, AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE PERFORMED ON EXPOSED COMPONENTS OF BRIDGE LAK-44-0784 AS LISTED BELOW.
1. CURBS, SIDEWALKS AND PARAPETS (ROADWAY AND TOP FACES ONLY).
- B. **MATERIALS**  
PATCHING MATERIAL SHALL BE TINTED TO CURE TO THE COLOR OF THE CONCRETE BEING REPAIRED. PATCHING MATERIAL SHALL BE MADE USING A BLEND OF MAGNESIA AND SELECTED AGGREGATE WITH AN ACTIVATOR. THESE MATERIALS SHALL BE MIXED AND PLACED PER MANUFACTURER'S RECOMMENDATIONS. THE PATCHING MATERIAL SHALL BE HORN 240 CONCRETE, FAST CRETE, BOSTIK 276, SET 45 OR AN APPROVED EQUAL.
- C. **REMOVAL OF CONCRETE:** THE ENGINEER SHALL SOUND THE STRUCTURE AND OUTLINE THE AREAS TO BE REMOVED. ALL LOOSE, SOFT, HONEY-COMBED, AND DISINTEGRATED CONCRETE PLUS ONE-FOURTH INCH DEPTH OF SOUND CONCRETE SHALL BE REMOVED. WHERE THE BOND BETWEEN THE CONCRETE AND A REINFORCING BAR HAS BEEN DESTROYED, OR WHERE MORE THAN ONE-HALF OF THE PERIPHERY OF SUCH A BAR HAS BEEN EXPOSED, THE ADJACENT CONCRETE SHALL BE REMOVED TO A DEPTH THAT WILL PROVIDE A MINIMUM THREE-FOURTH INCH CLEARANCE AROUND THE BAR EXCEPT WHERE OTHER REINFORCING BARS MAKE THIS IMPRACTICAL. AFTER COMPLETION OF THE SECONDARY REMOVAL OPERATION, THE ENGINEER WILL RESOUND THE AREAS TO INSURE THAT ONLY SOLID CONCRETE REMAINS. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT DAMAGE OR SHATTER THE CONCRETE THAT IS TO REMAIN AND WILL NOT CUT, ELONGATE OR DAMAGE THE REINFORCING STEEL IN ANY WAY. THE PATCHING DEPTH SHALL NOT BE LESS THAN ONE-HALF INCH. CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NORMAL 35 POUND CLASS. WHERE EXISTING REINFORCING BARS WOULD BE LESS THAN ONE INCH FROM THE PROPOSED FINISHED SURFACE OF CONCRETE, THEY SHALL, IF PRACTICAL, BE DRIVEN BACK INTO RECESSES CUT IN THE MASONRY TO OBTAIN THAT COVERAGE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- D. **SURFACE PREPARATION:** CLEANING SHALL PRECEDE APPLICATION OF THE PATCHING MATERIAL OR ERECTION OF THE FORMS BY NOT MORE THAN 24 HOURS. THE SURFACE TO BE PATCHED AND THE EXPOSED REINFORCING STEEL SHALL BE THOROUGHLY CLEANED BY SANDBLASTING FOLLOWED BY AN AIR BLAST. IT MAY BE NECESSARY TO USE HAND TOOLS TO REMOVE SCALE FROM THE REINFORCING STEEL. SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE AND ALL TRACES OF FOREIGN MATERIAL. IF NECESSARY, DETERGENT CLEANING SHALL PRECEDE BLAST CLEANING TO INSURE THE REMOVAL OF CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND. FOR PATCHES WHICH DO NOT USE WATER AS THE ACTIVATOR, THE PREPARED SURFACE SHALL BE DRY. FOR PATCHES WHICH REQUIRE WATER AS THE ACTIVATOR, THE PREPARED SURFACE SHALL BE LEFT IN THE CONDITION AS RECOMMENDED BY THE MANUFACTURER. ANY ADDITIONAL SURFACE PREPARATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR THE PATCHING MATERIAL WHICH IS USED. ALL UNCHIPPED SURFACES THAT WILL RECEIVE NEW CONCRETE SHALL BE MECHANICALLY ROUGHENED.
- E. **FORMS:** FORMS, WHEN REQUIRED TO RESTORE VERTICAL SURFACES IN AN ACCEPTABLE MANNER, SHALL BE ERECTED FLUSH WITH THE FACES OF REPAIR AREAS TO INSURE THAT THE CONCRETE DOES NOT ESCAPE FROM THE PATCH AREA.

- F. **PATCHING:** THE MIXING, PROPORTIONING, PLACING AND CURING PROCEDURES, TOOLS, EQUIPMENT, LABOR AND MATERIALS SHALL BE ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS EXCEPT THAT NO ADDITIONAL AGGREGATE SHALL BE USED. WHEN FORMS ARE USED CONCRETE SHALL BE PLACED THROUGH AT LEAST ONE HOLE AT THE HIGHEST POINT OF THE AREA TO BE PATCHED. THE FORMS SHALL BE TAPPED TO VIBRATE THE CONCRETE AND INSURE THAT IT REACHES THE LOWEST REGIONS OF THE PATCH AREA. THE SURFACE OF THE REPAIR AREA SHALL BE FLUSH WITH THE SURROUNDING AREA.
- G. **CURING:** PATCHES SHALL BE CURED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.
- H. **METHOD OF MEASUREMENT:** THE QUANTITY SHALL BE THE ACTUAL AREA IN SQUARE FEET OF THE EXPOSED SURFACE OF ALL COMPLETED PATCHES, IRRESPECTIVE OF DEPTH OR THICKNESS OF THE PATCH COMPLETE IN PLACE AND ACCEPTED. IF THE PATCH INCLUDES CORNERS OR EDGES OF MEMBERS ALL OF THE EXPOSED SURFACES SHALL BE INCLUDED, OR IF A PATCH EXTENDS COMPLETELY THROUGH A MEMBER BOTH EXPOSED SURFACES SHALL BE INCLUDED.
- I. **BASIS OF PAYMENT:** PAYMENT WILL BE MADE AT CONTRACT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	SQ. FT.	PATCHING CONCRETE STRUCTURES WITH MAGNESIUM PHOSPHATE CONCRETE

**EXISTING STRUCTURE VERIFICATION:** DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRELIM EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

### PLANS OF EXISTING BRIDGES

CONSTRUCTION PLANS FOR THE EXISTING BRIDGES ARE ON FILE AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 12 OFFICE, 10100 BROADWAY AVENUE, GARFIELD HEIGHTS, OHIO, AND ARE AVAILABLE FOR VIEWING.

### ITEM SPECIAL - SEALING OF CONCRETE SURFACES

SPECIFIED CONCRETE SURFACES SHALL BE SEALED USING EITHER SILANE OR EPOXY SEALER. SEE THE PROPOSAL FOR SEALER MATERIAL AND SURFACE PREPARATION REQUIREMENTS, AND APPLICATION RATES AND PROCEDURES.

- CURBS, SIDEWALKS, AND PARAPETS (ALL FACES).
- CONCRETE MEDIAN (ALL FACES).
- DECK EDGES AND THE UNDERSIDE IN ANY BAY LOCATED BENEATH AN OPEN OR SEALED JOINT OR AN UNDERSIDE EXTENDING BEYOND THE EXTERIOR BEAMS.
- PIERS INCLUDING CAPS AND COLUMNS.
- ABUTMENTS INCLUDING BACKWALLS AND WINGWALLS.