GENERAL NOTES

LAK-2-14.38

FHWA REGION STATE PROJECT 114
5 OHIO 138

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

THIS ITEM SHALL CONSIST OF PATCHING EXISTING STRUCTURAL CONCRETE AT THE LOCATIONS AS SHOWN IN THE PLANS AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH ITEM 519 AND THE FOLLOWING ADDITIONAL REQUIREMENTS:

- 1) SURFACE PREPARATION SHALL INCLUDE THE THOROUGH SANDBLASTING AND AIR CLEANING OF ALL SURFACES WHICH ARE TO BE IN CONTACT WITH THE PATCHING MATERIAL.
- 2) IN AREAS TO BE PATCHED WITH CLASS "S" CONCRETE ALL OF THE ACCESSIBLE PREPARED CONCRETE SURFACES SHALL BE COATED WITH TWO-COMPONENT EPOXY BONDING AGENT CONFORMING TO AASHTO M-235-73I, CLASS III. THE BONDING MATERIAL SHALL BE MIXED AND PLACED AS PER THE MANUFACTURE'S RECOMMENDATIONS. A MANUFACTURES STATEMENT THAT THE PRODUCTS MEETS THE ABOVE SPECIFICATION SHALL BE ACCEPTABLE IN PLACE OF ODOT MATERIAL TESTING.
- 3) REMOVAL DEPTH SHALL BE 2 INCHES MINIMUM OR TO SOUND CONCRETE.
- 4) NO STEEL WIRE FABRIC SHALL BE REQUIRED.
- 5) THE CONCRETE MAY BE TROWELLED IN PLACE PROVIDING AN ACCEPTABLE SMOOTH APPEARANCE CAN BE ACHIEVED AS DETERMINED BY THE ENGINEER.

PAYMENT SHALL BE MADE UNDER THE SQUARE FOOT UNIT PRICE FOR ITEM 519-PATCHING CONCRETE STRUCTURES, AS PER PLAN.

ITEM 845- PATCHING CONCRETE BRIDGE DECKS USING LATEX MODIFIED CONCRETE, AS PER PLAN

WHEN LONG TERM LANE CLOSURES ARE SCHEDULED FOR AN EXISTING OVERLAYED STRUCTURE THE REPAIR OF UNSOUND AREAS SHALL BE WITH LATEX MODIFIED CONC.

ALL WORK SHALL MEET THE REQUIREMENTS OF ITEM 845 WITH THE FOLLOWING EXCEPTIONS:

- 845.01 THE PATCHES SHALL BE FINISHED FLUSH WITH THE SURROUNDING AREA.
- 845.03 MATERIALS MAY BE MIXED IN A PORTABLE MORTAR MIXER.
 A FINISHING MACHINE WILL NOT BE REQUIRED. VIBRATORS WILL
 BE REQUIRED.
- 845.05 REMOVAL SHALL BE BY CHIPPING HAMMERS ONLY.
- 845.11 PAYMENT FOR ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO REPAIR THE BRIDGE DECK SHALL BE MADE UNDER THE SQUARE YARD UNIT PRICE FOR ITEM 845- PATCHING CONCRETE BRIDGE DECKS USING LATEX MODIFIED CONCRETE, AS PER PLAN.

REMOVAL OPERATIONS SHALL BE AS PER ITEM SPECIAL- PATCHING CONCRETE BRIDGE DECKS EXCEPT THAT SOUNDING SHALL BE PAID FOR UNDER ITEM SPECIAL- SOUNDING CONCRETE BRIDGE COMPONENTS.

ITEM SPECIAL- PATCHING CONCRETE BRIDGE DECKS, TYPE III (SEE PROPOSAL)

THIS ITEM OF WORK SHALL BE USED ON EXISTING OVERLAYED OVERHEAD STRUCTURES WHERE TRAFFIC SHALL BE RETURNED TO NORMAL AT THE END OF EACH WORK DAY.

TYING REBARS

THE PURPOSE OF THIS ITEM IS TO TIE EXPOSED STEEL REINFORCING BARS WHICH ARE IN CROSS CONTACT OR LAPPED. TACK WELDING SHALL NOT BE PERMITTED. THIS WORK SHALL BE PERFORMED WHERE AND AS DETERMINED BY THE ENGINEER TO RESTRICT THE RELATIVE MOVEMENT OF THE REINFORCING BARS.

PAYMENT FOR THIS WORK INCLUDING EXTRA REMOVAL OF CONCRETE TO PERMIT TYING SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 845- LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS) AND FOR ITEM SPECIAL-MICROSILICA CONCRETE OVERLAY (VARIABLE THICKNESS).

REINFORCING STEEL SAMPLES

REFER TO CMS SECTIONS 106.03, 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.

ITEM SPECIAL- SOUNDING CONCRETE BRIDGE COMPONENTS

THIS WORK SHALL CONSIST OF SUPPLYING THE MATERIALS, LABOR, AND EQUIPMENT NECESSARY FOR SOUNDING AND MARKING CONCRETE BRIDGE COMPONENTS IN ORDER THAT THE ENGINEER MAY OUTLINE THE SPALLED AND DELAMINATED AREAS TO BE REMOVED. THE CONTRACTOR SHALL SOUND THE CONCRETE COMPONENTS LISTED BELOW WITH HAMMERS, AND THE ENGINEER SHALL OUTLINE ALL UNSOUND AREAS FOR CONCRETE RESTORATION. THE FOOTAGE UNDER THIS ITEM SHALL BE THE NUMBER OF SQUARE FEET OF CONCRETE SURFACE THAT ARE SATISFACTORILY SOUNDED AND ACCEPTED. THE ACCEPTED QUANTITIES OF SOUNDING WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY FOR SOUNDING CONCRETE BRIDGE COMPONENTS. PAYMENT WILL BE MADE FOR SOUNDING THE FOLLOWING CONCRETE COMPONENTS ON THE FOLLOWING BRIDGES: LAK-2-1428 ABUTMENTS, PIERS, WINGWALLS, DECK, SIDEWALK,

CURB AND PARAPET

LAK-2-1476 L&R

LAK-2-1517 L&R

ABUTMENTS, PIERS, PARAPETS(*), WINGWALLS AND DECK

ABUTMENTS, PIERS, WINGWALLS, DECK, SIDEWALK,

CURB AND PARAPET

LAK-2-1656 L&R ABUTMENTS, PIERS, PARAPETS (*), AND DECK LAK-2-1677 ABUTMENTS, PIERS, WINGWALLS, DECK, SIDEWALK, CURB AND PARAPET

LAK-2-1724 ABUTMENTS, PIERS
LAK-2-1735 L&R ABUTMENTS, PARAPETS(*) AND DECK

LAK-2-1752 ABUTMENTS, PIERS, WINGWALLS, DECK, SIDEWALK, CURB AND PARAPET

LAK-2-1805 L&R ABUTMENTS, PIERS, PARAPETS(*), WINGWALLS AND DECK

(m) DODITON OF DADABET WHICH WILL NOT BE COVEDED BY

(*) - PORTION OF PARAPET WHICH WILL NOT BE COVERED BY PROPOSED RAILING FACING

ITEM SPECIAL - SOUNDING OF CONCRETE DECK BOTTOMS

THIS WORK SHALL CONSIST OF SUPPLYING THE MATERIALS, LABOR AND EQUIPMENT NECESSARY FOR SOUNDING DECK BOTTOMS IN ORDER THAT THE ENGINEER MAY OUTLINE THE DELAMINATED AREAS. AFTER ALL CONCRETE OVERLAY REMOVAL OPERATIONS ON A GIVEN BRIDGE ARE COMPLETED THE CONTRACTOR SHALL SOUND THE ENTIRE DECK BOTTOM WITH HAMMERS AND THE ENGINEER SHALL OUTLINE ALL UNSOUND AREAS FOR EPOXY INJECTION. THE FOOTAGE FOR THIS ITEM SHALL BE THE NUMBER OF SQUARE FEET OF DECK BOTTOM THAT ARE SATISFACTORILY SOUNDED AND ACCEPTED. THE ACCEPTED QUANTITIES OF DECK BOTTOM SOUNDING WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY FOR SOUNDING CONCRETE DECK BOTTOMS. PAYMENT WILL BE MADE UNDER ITEM SPECIAL-SOUNDING CONCRETE DECK BOTTOMS.

ITEM SPECIAL - ROCKER RESETTING

THIS ITEM OF WORK SHALL CONSIST OF VERTICALLY RESETTING TILTED ROCKERS AS FOLLOWS:

- 1) LIFT THE INDIVIDUAL BEAM OR GIRDER UNTIL THERE IS NO CONTACT BETWEEN THE SOLE PLATE AND ROCKER (1/4 INCH MAXIMUM).
- 2) RESET THE ROCKER AND BASE PLATE INTO THEIR FINAL POSITION BY CENTERING THE BASE PLATE UNDER THE SOLE PLATE BOTH LONGITUDINALLY AND TRANSVERSELY AT 60 DEGREES F.
- 3) LOWER BEAM OR GIRDER.
- 4) PLACE TROWELLABLE EPOXY MORTAR AROUND THE PERIMETER OF THE BASE PLATE TO PREVENT FUTURE MOVEMENT.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE STRUCTURE SUMMARY TO BE USED WHERE AND AS DIRECTED BY THE ENGINEER.

ITEM SPECIAL - ROCKER RESETTING

5 25 EACH

ITEM SPECIAL- LOW-PRESSURE EPOXY INJECTING DELAMINATED CONCRETE

THIS WORK SHALL CONSIST OF LOW-PRESSURE EPOXY INJECTION OF DELAMINATED BOTTOM COVER CONCRETE OF BRIDGE DECKS IN ACCORDANCE WITH THESE SPECIFICATIONS, IN REASONABLY CLOSE CONFORMITY WITH THE PLANS AND MANUFACTURERS RECOMMENDATIONS AS DIRECTED BY THE ENGINEER.

THE INJECTION RESIN SHALL BE THERMAL-CHEM INJECTION RESIN PRODUCT NO. 2, POLY-CARB MARK-10 INJECTION RESIN, DURAL CRETE LV OR SIKADUR 52 INJECTION RESIN. BONDER SHALL BE THERMAL-CHEM BONDER PRODUCT NO.4, POLY-CARB MARK 8 NON SAG EPOXY BONDER, DURAL CRETE GEL OR SIKADUR HI-MOD GEL (SIKASTIX 31). ALL MATERIALS SHALL BE STORED AND INCORPORATED IN THE WORK AS RECOMMENDED BY THE MANUFACTURER. A MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT AT AT JOB SITE UNTIL SUCH TIME AS HE AND THE ENGINEER ARE SURE THAT THE CONTRACTOR IS QUALIFIED IN ALL ASPECTS OF EPOXY PRESSURE GROUTING.

PORTS SHALL BE INSTALLED IN CLEAN HOLES VACUUM-DRILLED (TO PREVENT FINES FROM BEING IMPACTED INTO THE CRACK), 3 INCHES DEEP IN THE DECK BOTTOM SO THAT THE EPOXY WILL PENETRATE THE HOLLOW PLANE. THE FIRST PORT SHALL BE LOCATED NEAR THE EDGE OF THE OUTLINED UNSOUND AREA. ADDITIONAL PORTS SHALL BE PLACED AT DISTANCES SLIGHTLY GREATER THAN THE DISTANCE FROM THE FIRST PORT TO THE VOID EDGE. PORT PLACEMENT MUST ENSURE THAT THE GROUT FACE REACHES THE EDGE OF THE VOID BEFORE REACHING THE NEXT PORT. PORTS AND VISIBLE CRACKS SHALL BE SEALED WITH BONDER TO PREVENT EMISSION OF INJECTION RESIN. THE BONDER SHALL CURE 24 HOURS PRIOR TO INJECTION OF EPOXY RESIN.

THE RESIN SHALL BE INJECTED ONLY WHEN THE DECK IS DRY AND ITS TEMPERATURE IS ABOVE 50 DEGREES F.

THE EPOXY INJECTION EQUIPMENT SHALL BE CAPABLE OF INJECTING THE MATERIAL INTO THE PORTS AT LOW PRESSURES OF 14 TO 20 PSI. THE INJECTION EQUIPMENT SHALL BE CAPABLE OF METERING, MIXING AND INJECTING THE EPOXY RESIN ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

THE INJECTION SHALL COMMENCE AT THE EDGE OF THE DELAMINATION AND CONTINUE UNTIL THE EPOXY RESIN APPEARS AT THE NEXT PORT. MOST INCOMPLETELY FILLED VOIDS ARE CAUSED BY THE OPERATOR STOPPING THE INJECTION PROCESS PREMATURELY: THEREFORE, A STEADY, LOW PRESSURE SHALL BE MAINTAINED ON THE EPOXY UNTIL A STEADY CLEAR FLOW APPEARS AT THE NEXT PORT. THEN THE INJECTION NOZZLE IS REMOVED, THE PORT CLOSED AND THE INJECTION CONTINUED FROM PORT TO PORT UNTIL THE VOID IS COMPLETELY FILLED. SINCE THE GROUT FACE IS MOVING UNDER VISCOUS FLOW CONDITIONS WHICH ARE GOVERNED BY FLUID SURFACE FRICTION, THE INJECTION PROCESS IS SLOW. REGARDLESS, INJECTION PRESSURE SHALL BE 20 PSI MAXIMUM SO THAT BOTTOM COVER CONCRETE IS NOT BLOWN OFF. PROGRESS OF THE EPOXY SHALL BE CHECKED WITH A TAPPING HAMMER.

THE OUTLINED INJECTED VOIDS SHALL BE SOUNDED WITH A HAMMER BY THE ENGINEER. ANY REMAINING UNSOUND AREAS SHALL BE PORTED AND RE-INJECTED AT NO ADDITIONAL COST TO THE STATE. ALL EQUIPMENT, LABOR AND MATERIALS REQUIRED BY THE ENGINEER TO ACCOMPLISH THIS WORK SHALL BE SUPPLIED BY THE CONTRACTOR.

THE FOOTAGE UNDER THIS ITEM SHALL BE THE NUMBER OF SQUARE FEET OF DE-LAMINATED DECK BOTTOM CONCRETE THAT ARE SATISFACTORILY LOW-PRESSURE EPOXY INJECTED AND ACCEPTED.

THE ACCEPTED QUANTITIES OF LOW-PRESSURE EPOXY INJECTED CONCRETE WILL BE PAID FOR AT THE CONTRACT UNIT BID PRICE PER SQUARE FOOT, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING AND PLACING ALL MATERIALS, SOUNDING THE INJECTED AREAS, SUPPLYING THE MANUFACTUREER'S REPRESENTATIVE AND ALL OTHER MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THIS WORK ACCORDING TO SPECIFICATIONS.