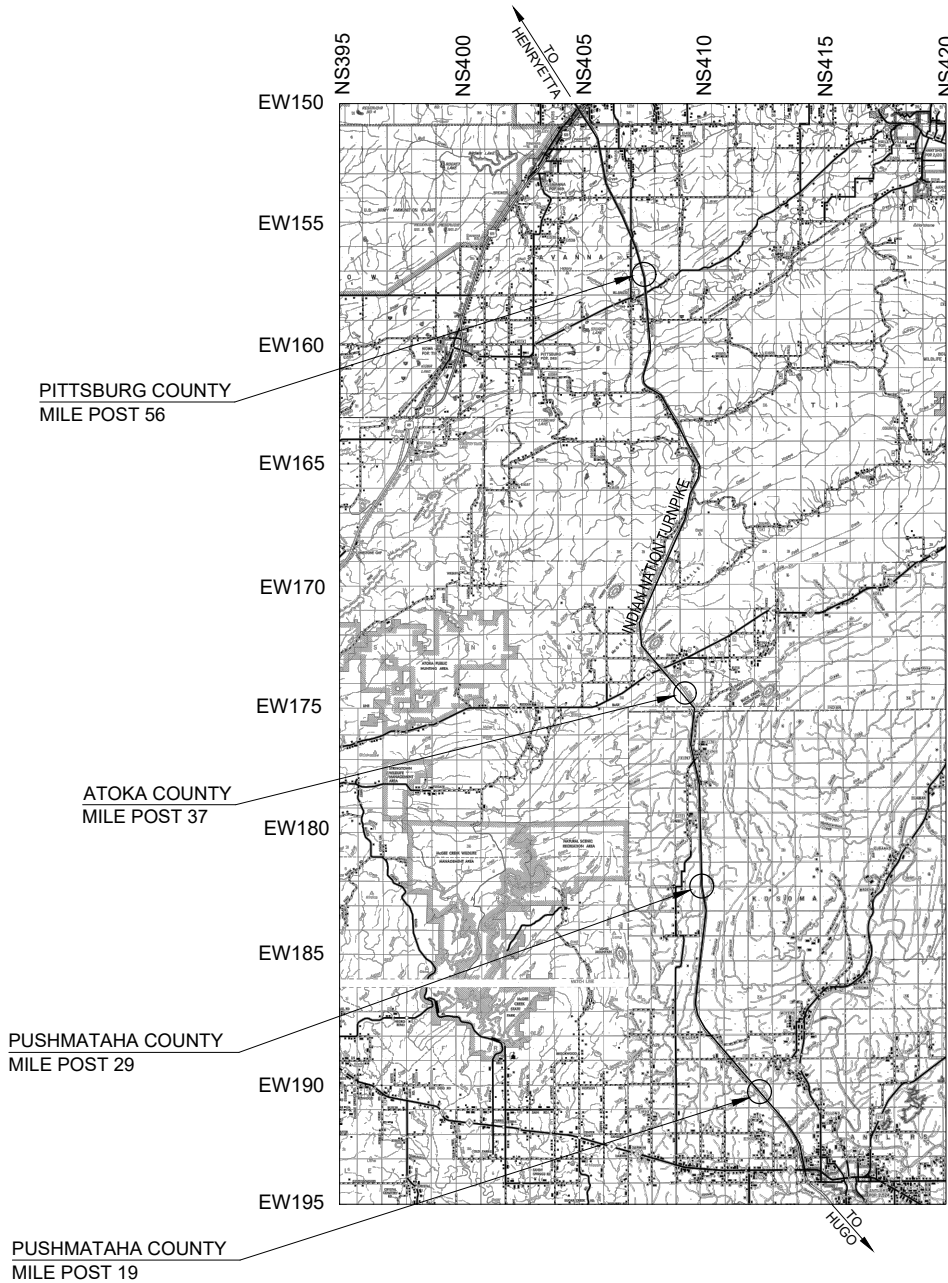


# OKLAHOMA TURNPIKE AUTHORITY INDIAN NATION TURNPIKE

CONTRACT NO. MU-MC-51

DBR/DIAMOND GRIND MP 19-29/37-56  
PUSHMATAHA, ATOKA & PITTSBURG COUNTIES



## INDEX OF SHEETS

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## REQUIRED ODOT 2009 STANDARD DRAWINGS

ROADWAY	TRAFFIC	
CSCD-5-4	TCS1-1-01	PM 4-1-02
LECS-4-2	TCS2-1-00	DU1-1-00
LTU-4-0	TCS3-1-01	DU2-1-00
PR-3-0	TCS4-1-01	
PCPR-3-2	TCS5-1-00	
	TCS6-1-02	
	TCS7-1-02	
	TCS8-1-00	
	TCS9-1-01	
	TCS10-1-00	
	TCS11-1-01	
	TCS13-1-00	
	TCS14-1-00	
	TCS18-1-01	
	TCS19-1-01	
	TCS20-1-00	
	TCS21-1-02	
	TCS23-1-00	
	TCS24-1-02	

PAY QUANTITY NOTES

- (1) PRICE BID SHALL INCLUDE THE COST OF SAWING, SEALING, REMOVAL OF EXISTING PAVEMENT, TIE BARS, DOWEL BARS, AGGREGATE BASE, PRIME COAT, SUBGRADE METHOD B AND ANY/ALL INCIDENTALS REQUIRED FOR FULL DEPTH PATCHING. MINIMUM PATCH SIZE IS HALF OF A 12' X 15' PANEL.

PATCHING:

1. SAW CUT FULL DEPTH AROUND THE PERIMETER OF THE AREAS TO BE REPLACED.
2. REMOVE PAVEMENT WITHOUT DAMAGING ADJACENT PAVING.
3. UNDERCUT AND PLACE 4 INCHES OF AGGREGATE BASE MATERIAL IF UNSUITABLE MATERIAL IS ENCOUNTERED, AND AS DIRECTED BY THE ENGINEER.
4. DRILL HOLES FOR DOWEL OR TIE BARS AND EPOXY GROUT AT BEGINNING, ENDING, AND LONGITUDINAL JOINTS.
5. PLACE DOWEL BAR ASSEMBLIES AT 15' INTERVALS WHEN ONE OR MORE PANELS ARE BEING REPLACED.
6. PLACE CONCRETE AND FINISH TO MATCH SURROUNDING PAVEMENT ELEVATIONS.

- (2) ACTUAL OVERALL THICKNESS MAY VARY. CONCRETE PLACED FOR PATCHING SHALL BE THICKER TO ALLOW FOR DIAMOND GRINDING OF ALL LANES AND CONFORM TO 1/8" WITH A 10' STRAIGHT EDGE AS OUTLINED IN SECTION 401.04 (A) IN THE 2010 OTA STANDARD SPECIFICATIONS. FOR ALL PATCHING, REGARDLESS OF THICKNESS, PAYMENT WILL BE MADE AT AN ASSUMED PANEL THICKNESS OF 9 1/2" (BUT NOT EXCEED THE QUANTITY SUPPORTED BY CONCRETE TICKETS).

FOR PATCHES INVOLVING MULTIPLE ADJACENT PANELS, DOWEL BASKETS AND LONGITUDINAL JOINT ASSEMBLIES SHALL BE USED WITHIN THE PATCH CONFINES. FOR FULL PANEL REPLACEMENT, DOWEL BARS AND TIE BARS SHALL BE DRILLED AND EPOXIED INTO EXISTING CONCRETE IN ADJACENT PANELS, SEE PATCHING DETAIL SHEET 8.

- (3) THE PRICE BID FOR THIS ITEM SHALL INCLUDE LONGITUDINAL JOINTS BETWEEN CONCRETE AND ALL TRANSVERSE JOINTS AND SHALL BE FULL COMPENSATION FOR CLEANING AND RESEALING ANY JOINT. JOINT SEALING SHALL BE PERFORMED ONLY AFTER COMPLETION OF PATCHING, DOWEL BAR RETROFIT AND DIAMOND GRINDING.

JOINT SEALING:

1. REMOVE OLD SEALANT FROM JOINTS WITH A DIAMOND SAW.
2. SHAPE THE JOINT RESERVOIR TO PROPER DIMENSIONS.
3. CLEAN JOINT FACES BY SANDBLASTING.
4. SEAL JOINT WITH HOT POUR SEALANT (NO BACKER ROD).

- (4) THE PRICE BID OF THIS ITEM SHALL INCLUDE THE SEALING OF ALL CRACKS GREATER THAN 0.50 INCHES WIDE AND 0.75 INCHES DEEP WHICH SHALL BE DETERMINED BY THE ENGINEER.

CRACK SEALING:

1. REMOVE OLD SEALANT OR CLEAN JOINTS BY SANDBLASTING.
2. SEAL JOINTS WITH HOT POUR SEALANT (NO BACKER ROD).

- (5) ALL TRANSVERSE JOINTS IN THE INNER AND OUTER TRAVEL LANES ARE TO RECEIVE DOWEL BAR RETROFIT.

RETROFIT DOWEL BARS WILL BE MEASURED BY EACH DOWEL INSTALLED AND ACCEPTED. SUCH PAYMENT SHALL BE FULL COMPENSATION FOR MATERIALS, EQUIPMENT, LABOR AND INCIDENTALS TO COMPLETE THE WORK AS SPECIFIED IN SECTION 416 IN THE 2010 OTA STANDARD SPECIFICATIONS.


DOWEL BAR RETROFITTING:

1. CUT 2 1/2" WIDE X 5 5/8" DEEP X 2'-6" LONG SLOTS FOR 1 1/4"Ø DOWEL BARS AT 12" C/C, 3 PER WHEEL PATH.
2. SANDBLAST FACES OF SLOTS.
3. PLACE 1 1/4"Ø X 18" EPOXY-COATED DOWEL BARS ON 1/2" CHAIRS, WITH END CAPS AND FILLER BOARD, AT MID-DEPTH OF THE PANEL.
4. BACKFILL SLOTS WITH H.E.S. CONCRETE WITH 3/8" TOP SIZE AGGREGATE.

THE NUMBER OF DOWEL BARS IS ESTIMATED. THE ACTUAL NUMBER OF DOWEL BARS AND THE AMOUNT OF GROUT UTILIZED FOR THE PROJECT ARE TO BE DETERMINED BY THE CONTRACTOR TO COMPLETE THE PROJECT. THE OTA WILL NOT CONSIDER PAYMENT FOR OVERSTOCKED MATERIALS FOR THESE ITEMS.


- (6) DEPTH OF DIAMOND GRINDING SHALL BE DETERMINED BY THE ENGINEER BASED ON EXISTING FAULTING CONDITIONS THROUGHOUT PROJECT EXTENTS AND SHALL NOT EXCEED A MAXIMUM DEPTH OF 3/4" FROM THE EXISTING PAVEMENT SURFACE. FOR ASPHALT SHOULDERS, TAPER GRINDING (FEATHER) TO REDUCE BUMP, WATER RETENTION, AND CREATE A SMOOTH TRANSITION. NO DIAMOND GRINDING SHALL BE PERFORMED UNTIL ALL CONCRETE REPLACEMENT IS COMPLETE. PAYMENT SHALL BE MADE ONLY ONCE FOR ANY SEGMENT OF ROADWAY, REGARDLESS OF HOW MANY PASSES ARE REQUIRED TO ACHIEVE THIS PAVEMENT SMOOTHNESS AS DEFINED IN SECTION 401.04 (A) (1) IN THE 2010 OTA STANDARD SPECIFICATIONS. DIAMOND GRINDING SLURRY SHALL BE CONTAINED (BY VACUUM OR OTHER MEANS), REMOVED FROM PROJECT, AND DISPOSED IN A MANNER APPROVED BY THE ENGINEER. BRIDGE DECKS SHALL NOT BE GROUND. BRIDGE APPROACH SLABS MAY NEED TO BE GROUND TO ACHIEVE A SMOOTH TRANSITION FROM ROADWAY TO BRIDGES.

- (7) THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY PAVEMENT MARKINGS. THE TEMPORARY PAVEMENT MARKINGS SHALL CONSIST OF CONSTRUCTION ZONE PAVEMENT MARKERS (FLEX TAB) TYPE I (DAVIDSON PLASTICS MODEL T.O.M. OR STIMSONITE MODEL 300 OR APPROVED EQUAL) SPACED 50' C/C ON CENTERLINE AND 100' C/C ON EDGE LINES. THE COST FOR TEMPORARY PAVEMENT MARKINGS AND THE REMOVAL OF TEMPORARY PAVEMENT MARKING WILL BE INCLUDED IN OTHER PAY ITEMS.

OKLAHOMA TURNPIKE AUTHORITY INDIAN NATION		
<b>PAY QUANTITY NOTES (1 OF 2)</b>		
 OKLAHOMA TURNPIKE AUTHORITY	<b>MBROH</b> ENGINEERING <small>TRUST FIRM NO. 1437</small>	CONTRACT NO. MU-MC-51
	SHEET NO.	3 OF 8

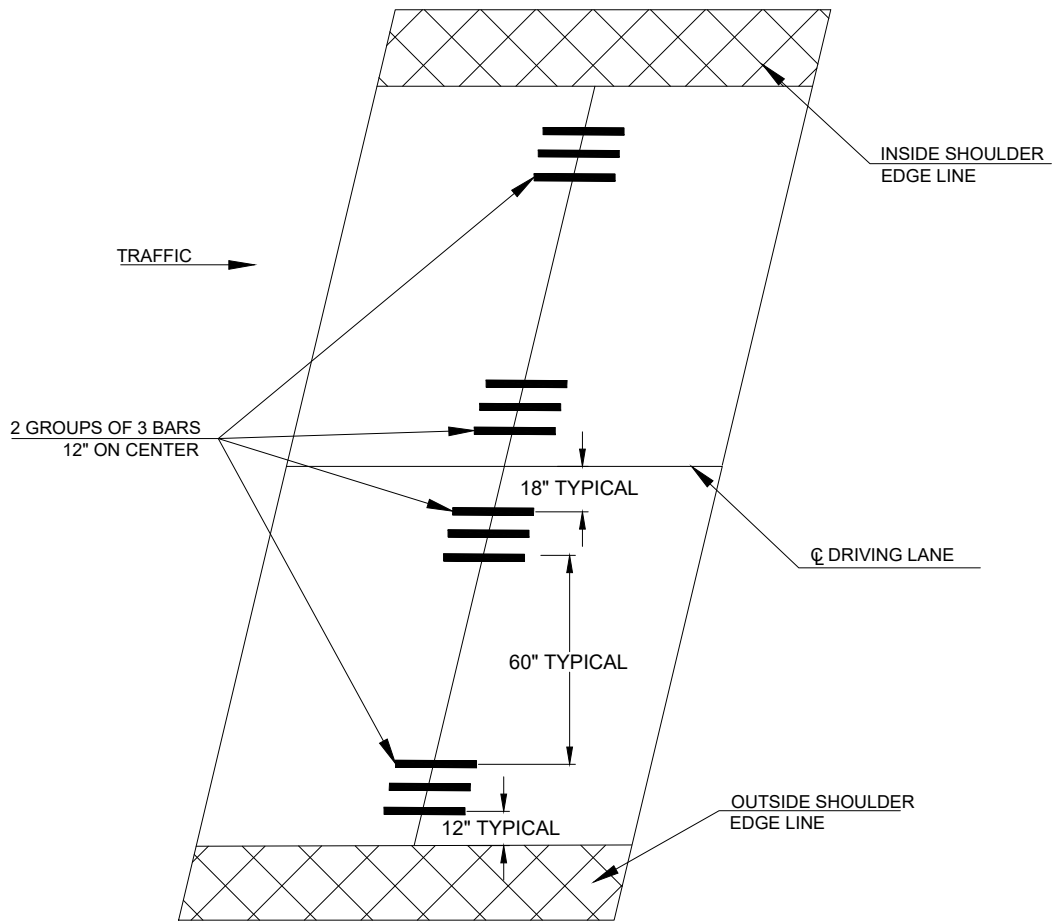
PAY QUANTITY NOTES (CONTINUED)

- (8) THE PRICE BID FOR THIS ITEM SHALL INCLUDE ALL EQUIPMENT, LABOR, AND MATERIAL COST FOR SLAB JACKING. IT WAS ESTIMATED THAT 100 POUNDS OF POLYURETHANE MATERIAL WILL BE NEEDED TO LIFT EACH PANEL. IT IS THE INTENT TO LIFT ONLY THE MOST SEVERELY SETTLED PANELS. QUANTITY SHALL NOT EXCEED PLAN QUANTITY.
- THE CONTRACTOR IS REQUIRED TO CONTACT AND HIRE A SUBCONTRACTOR, SUCH AS NORTEX OR APPROVED EQUAL, WHO CAN HELP DETERMINE THE NATURE AND EXTENT OF THE STABILIZATION NEEDED TO DO THE FOLLOWING:
1. STABILIZE THE MATERIAL DEEPER IN THE SUBGRADE.
  2. REESTABLISH THE ORIGINAL GRADE OF THE PANEL.
  3. BOTH DEEP STABILIZATION (IF NEEDED) AND SLAB JACKING WILL BE ACCOMPLISHED IN THE SAME OPERATION.
- STABILIZATION SHALL BE PAID FOR UNDER SLAB JACKING.
- SLAB JACKING SHALL BE COMPLETED IN ACCORDANCE WITH OTA SPECIAL PROVISION 434.
- ADDITIONAL DIAMOND GRINDING OF PAVEMENT DUE TO LIFTING THE PANEL ABOVE THE DRIVING SURFACE ELEVATION OF THE ADJACENT PANELS WILL BE DONE AT NO ADDITIONAL COST TO THE AUTHORITY.
- (9) THIS QUANTITY INCLUDES AN ESTIMATED 60 DAYS FOR CHANGEABLE MESSAGE SIGNS FOR THE ENTRANCE RAMP FROM
- (10) QUANTITY SHALL NOT EXCEED PLAN QUANTITY. IT IS THE INTENT FOR THIS ITEM TO USED FOR MOST SEVERELY DISTRESSED PANELS.
- (11) PRIOR TO SAWING SLOTS FOR DOWEL BAR RETROFIT, CONTRACTOR SHALL FIELD VERIFY JOINTS WITH A METAL DETECTOR TO ENSURE DOWEL BARS ARE NOT CURRENTLY PRESENT IN SECTIONS DESIGNATED FOR DOWEL BAR RETROFIT TO ENSURE THE SAFETY OF WORKERS AND THE TRAVELING PUBLIC AND TO AVOID DAMAGE TO EQUIPMENT.
- (12) ANY ASPHALT THAT IS GROUND SHALL BE FOG SEALED USING EITHER CMS-IPF (ETAC) FROM ERGON, HPE-C FROM CALUMET OR EQUIVALENT MATERIAL APPROVED BY THE ENGINEER. APPLICATION RATE SHALL BE IN ACCORDANCE TO SECTION 407 "FOG SEAL AND TACK COAT" IN THE OTA 2010 STANDARD SPECIFICATIONS. THE AUTHORITY SHALL CONSIDER THE COST OF THE FOG SEAL ON SURFACE CORRECTIONS TO BE INCLUDED IN THE COST OF OTHER ITEMS OF WORK. NO ADDITIONAL COMPENSATION FOR FOG SEALING THE SURFACE CORRECTIONS WILL BE ALLOWED.
- (TC-14) SEE STANDARD DRAWING PM1-1, PM2-1, PM3-1, PM4-1, PM7-1, PM8-1 (LATEST REVISION) A PART, OR ALL OF THE QUANTITY SHOWN IS TO BE USED AS FINAL PAVEMENT MARKING.
- (TC-25) ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE ODOT STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS REQUIRED FOR COMPLETION OF THE PROJECT.
- (TC-33) ALL CONSTRUCTION WORK ZONE SIGNS SHALL HAVE FLUORESCENT SHEETING. THE FLUORESCENT SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956 (LATEST REVISION). THE MANUFACTURER SHALL FURNISH A TYPE 'D' CERTIFICATION IN ACCORDANCE WITH OTA STANDARD SPECIFICATIONS (CURRENT EDITION) SUBSECTION 106.04. THE CERTIFICATION SHALL INCLUDE TEST RESULTS ON MATERIAL SUBMITTED FOR APPROVAL.
- (TC-52) ANY TRUCK MOUNTED ATTENUATORS AND CHANGEABLE MESSAGE SIGNS TO BE PLACED ON THIS PROJECT SHALL BE SUBJECT TO INSPECTION AND APPROVAL, BY THE OKLAHOMA TURNPIKE AUTHORITY, TO ASSURE THAT THEY ARE IN GOOD WORKING CONDITION, PRIOR TO PLACEMENT ON THE PROJECT.
- (TC-61) ANY DAMAGE TO A FINISHED OR EXISTING SURFACE RESULTING FROM THE CONTRACTORS NEGLIGENCE IN THE REMOVAL OF CONSTRUCTION ZONE PAVEMENT MARKERS OR CHANNELIZING DEVICES AND THE BITUMINOUS ADHESIVE USED IN THEIR INSTALLATION, SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE ENGINEER.
- (TC-70) THIS ITEM IS AN ESTIMATED QUANTITY TO BE USED AS DEEMED NECESSARY BY THE ENGINEER.
- (TC-75) TEMPORARY PAVEMENT MARKINGS SHALL BE IN PLACE THE SAME DAY THAT EXISTING PAVEMENT MARKINGS ARE REMOVED FROM ANY ROADWAY OPEN TO TRAFFIC. ALSO, ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO THE INSTALLATION OF FINAL STRIPING.
- (TC-84) 220 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS. THE AMOUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS IS AN ESTIMATED QUANTITY ONLY, BASED ON THE CURRENT O.D.O.T. STANDARDS AND SUGGESTED CONSTRUCTION SEQUENCE FOR THIS PROJECT. THESE ESTIMATED SIGN DAY QUANTITIES MAY CHANGE AS THE PROJECT'S CONSTRUCTION TRAFFIC CONTROL IS MODIFIED DURING CONSTRUCTION.
- (TC-85) THESE SIGNS MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION LIST OF APPROVED CHANGEABLE MESSAGE SIGNS. FOR A LIST OF THE APPROVED SIGNS GO TO THE OKLAHOMA DEPARTMENT OF TRANSPORTATION WEBSITE AT: <http://www.okladot.state.ok.us/traffic/qpl/index.php>
- (TS-25) QUANTITY SHOWN INCLUDES XXXXXX L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE DASH), XXXXXX L.F. TRAFFIC STRIPE (MULTI-POLYMER)(BLACK DASH), XXXXXX L.F. TRAFFIC STRIPE (MULTI-POLYMER)(YELLOW) AND XXXXXX L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND WILL BE MEASURED BY THE LINEAR FOOT OF SIX INCH (6") WIDE TRAFFIC STRIPE.
- (TS-26) QUANTITY SHOWN INCLUDES XXXX L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 0 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF EIGHT INCH (8") WIDE TRAFFIC STRIPE.
- (TS-27) QUANTITY SHOWN INCLUDES XXX L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND X L.F. TRAFFIC STRIPE (MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF TWELVE INCH (12") WIDE TRAFFIC STRIPE.
- (O-18) THE CONTRACTOR SHALL PROVIDE A CONTACT, AVAILABLE 24 HOURS A DAY, SEVEN DAYS A WEEK, THAT IS RESPONSIBLE FOR MAINTAINING AND KEEPING ALL TRAFFIC CONTROL DEVICES IN POSITION ANYTIME TRAFFIC IS DIRECTED AWAY FROM THE NORMAL TRAFFIC LANES OR ANYTIME THE ENGINEER DEEMS IT NECESSARY.

OKLAHOMA TURNPIKE AUTHORITY INDIAN NATION		
<b>PAY QUANTITY NOTES (2 OF 2)</b>		
 OKLAHOMA TURNPIKE AUTHORITY	<b>MBROH</b> ENGINEERING <small>TRAFFIC SIGNING &amp; LIGHTING</small>	CONTRACT NO. MU-MC-51
	SHEET NO.	2 OF 8







SLOT ORIENTATION PER LANE

OKLAHOMA TURNPIKE AUTHORITY INDIAN NATION  
**DETAIL SHEET 1 OF 3**



OKLAHOMA  
 TURNPIKE  
 AUTHORITY

**MBROH**  
 ENGINEERING  
TRAFFIC FIRM NO. 1437

SHEET NO.

CONTRACT NO.  
 MU-MC-51

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A. SLAB REPLACEMENT:

1. SAWCUT FULL DEPTH AROUND THE PERIMETER OF THE AREAS TO BE REPLACED.
2. REMOVE PAVEMENT WITHOUT DAMAGING ADJACENT PAVING.
3. UNDERCUT AND PLACE AGGREGATE BASE MATERIAL ON SEPARATOR FABRIC, IF UNSUITABLE.
4. DRILL HOLES FOR DOWEL OR TIE BARS AND EPOXY GROUT AT BEGINNING, ENDING AND LONGITUDINAL JOINTS.
5. PLACE DOWEL BAR ASSEMBLIES AT 15' INTERVALS WHERE MORE THAN ONE PANEL IS BEING REPLACED.
6. PLACE CONCRETE AND FINISH TO MATCH SURROUNDING PAVEMENT ELEVATIONS.

B. DOWEL BAR RETROFITTING:

1. CUT 2-1/2" WIDE BY 5-3/4" DEEP SLOTS FOR 1-1/4" DOWEL BARS AT 12" c/c, 3 PER WHEEL PATH.
2. SANDBLAST FACES OF SLOTS.
3. PLACE 1-1/4" BY 18" EPOXY COATED DOWEL BARS ON 1/2" CHAIRS, WITH END CAPS AND FILLER BOARD, AT MID-DEPTH OF THE SLAB.
4. BACKFILL SLOTS WITH H.E.S. CONCRETE WITH 3/8" TOP SIZE AGGREGATE.

C. DIAMOND GRINDING:

1. DIAMOND GRIND PAVEMENT.
2. RUN PROFILOGRAPH TO DEMONSTRATE THAT INDICATED BUMPS AND FAULTS HAVE BEEN CORRECTED.

D. JOINT SEALING:

1. REMOVE OLD SEALANT FROM JOINTS WITH A DIAMOND SAW.
2. SHAPE THE JOINT RESERVOIR TO PROPER DIMENSIONS.
3. CLEAN JOINT FACES BY SANDBLASTING.
4. SEAL JOINT WITH HOT POUR SEALANT(NO BACKER ROD).

E. CRACK SEALING:

1. REMOVE OLD SEALANT AND/OR CLEAN CRACKS BY SANDBLASTING.
2. SEAL CRACK WITH HOT POUR SEALANT (NO BACKER ROD).

OKLAHOMA TURNPIKE AUTHORITY INDIAN NATION  
DETAIL NOTES SHEET (2 OF 3)



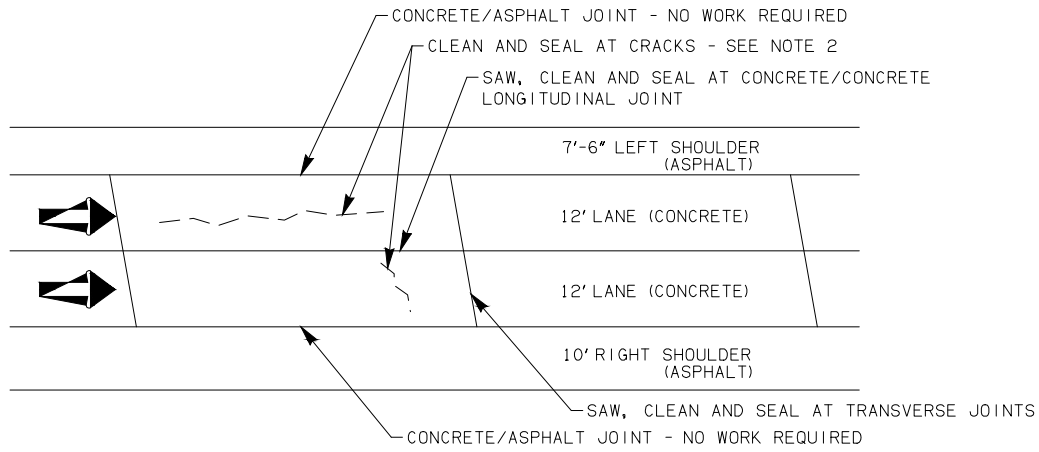
OKLAHOMA  
TURNPIKE  
AUTHORITY

**MBROH**  
ENGINEERING  
TRUSTED. PROVEN. FAST.

SHEET NO.

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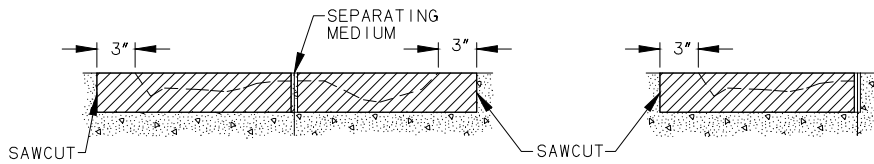
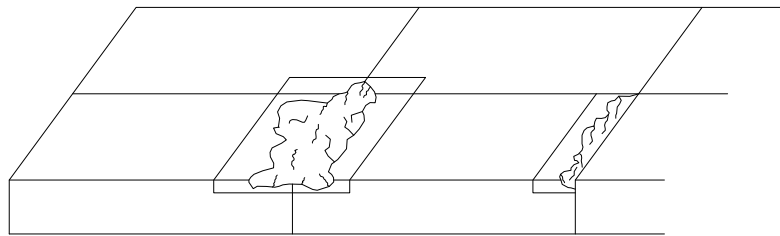
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**CONCRETE JOINT SEALING**

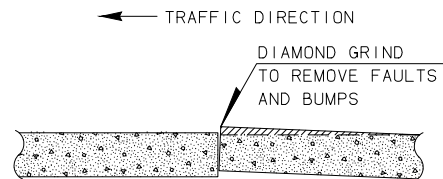
NOTE:

1. THE CONTRACTOR WILL BE RESPONSIBLE FOR ONLY ONE APPLICATION OF JOINT SEALING MATERIAL PROVIDED THE INSTALLATION MEETS OTA SPECIFICATIONS AND IS APPROVED BY THE ON-SITE REPRESENTATIVE (OSR).
2. CLEAN AND SEAL CRACKS AT DIRECTION OF THE ENGINEER. ASSUME PAVEMENT CRACKS (WORKING CRACKS) ARE APPROXIMATELY 1/2 INCH WIDE BY 3/4 INCH DEEP.




MAKE VERTICAL SAW CUT 2" DEEP APPROX. 3" FROM DISTRESSED AREA REMOVE ALL CONCRETE WITHIN SAWED AREA TO SOUND CONCRETE OR 3" MINIMUM DEPTH. TO MAINTAIN AND PROTECT JOINT USE A SEPARATING MEDIUM. PATCH WITH VES 1 EARLY STRENGTH CONCRETE. AFTER CURING RE-SAW & CLEAN JOINT AND APPLY JOINT SEALANT.

**PARTIAL DEPTH P.C.C. PATCH**



**DIAMOND GRINDING**

OKLAHOMA TURNPIKE AUTHORITY INDIAN NATION		
<b>DETAIL SHEET 3 OF 3</b>		
 OKLAHOMA TURNPIKE AUTHORITY	<b>MBROH</b> ENGINEERING <small>TRUST FIRM NO. 1437</small>	CONTRACT NO. MU-MC-51
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