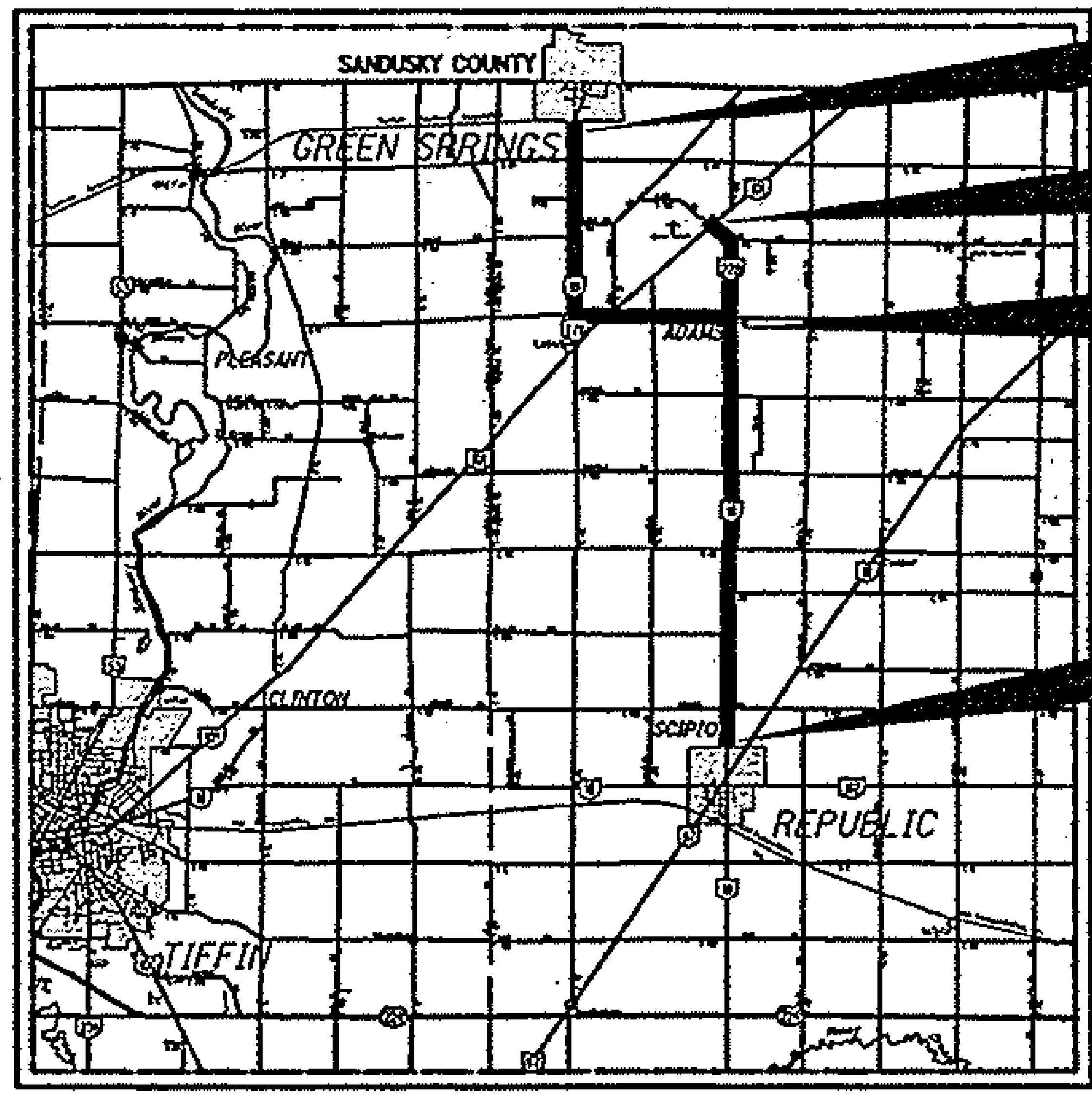


LOCATION MAP

LATITUDE: N41°10'24" LONGITUDE: W83°00'43"

SCALE IN MILES 0 1 2 3 4

N

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

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

SEN-19/228-9.58/0.00

DISTRICT TWO
PREVENTIVE MAINTENANCE
CHIP AND SEAL

PROJECT DESCRIPTION

CHIP AND SEAL WITH WARRANTY MAINTENANCE CONTRACT WILL INLCUDE THE FOLLOWING LOCATIONS IN SENECA COUNTY:
SEN-19-(9.58-19.71)
SEN-228-(0.00-1.30)

PROJECT EARTH DISTURBED AREA: 0 ACRES
ESTIMATED CONTRACTOR EARTH DISTRUBED AREA: N/A (MAINTENANCE PROJECT)
NOTICE OF INTENT EARTH DISTURBED AREA: N/A (MAINTENANCE PROJECT)

2008 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN 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 PLANS AND ESTIMATES.

INDEX OF SHEETS:

DESIGN DESIGNATION

	SEN-19	SEN-228
CURRENT ADT (2009)	1080	520
DESIGN YEAR ADT (2014)	1140	550
DESIGN HOURLY VOLUME (2014)	130	70
DIRECTIONAL DISTRIBUTION	55%	55%
TRUCKS (24 HOUR B&C)	15%	16%
DESIGN SPEED	60MPH	60MPH
LEGAL SPEED	55MPH	55MPH
DESIGN FUNCTIONAL CLASSIFICATION:	RURAL MAJOR COLLECTOR	RURAL MAJOR COLLECTOR

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:
ODOT - DISTRICT 2 - PRODUCTION
TAMARA MAAS

ENGINEERS SEAL:
STATE OF OHIO ★ JULIE M. FAHY E-63302 REGISTERED ★ PROFESSIONAL ENGINEER
SIGNED: Julie M Fahy
DATE: 10-28-2008

STANDARD CONSTRUCTION DRAWINGS					SUPPLEMENTAL SPECIFICATIONS
DM-4.3 7/19/02					800-2008 10/17/08
DM-4.4 7/19/02					832 04/25/06
MT-97.10 9/05/06					
MT-97.12 9/05/06					
MT-99.20M 1/30/95					
TC-65.10 1/21/05					
TC-65.11 1/21/05					SPECIAL PROVISIONS
TC-71.10 1/19/07					
TC-73.10 1/19/01					

APPROVED David M Dysard
DATE 10/30/08 DISTRICT DEPUTY DIRECTOR

APPROVED James G Beasley Jr
DATE 11-14-08 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E 080 (083)
PID NO. 83603
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
SEN-19-9.58
SEN-228-0.00

I:\projects\preventive maintenance\2009\83603\roadway\sheets\83603GT001.dgn 27-OCT-2008 7:55AM tmaas

SEN - SR-19/228-9.58/0.00
090089 PID - 83603
Dist 2 2/4/2009

FOR QUANTITIES, SEE SHEET NO. 15

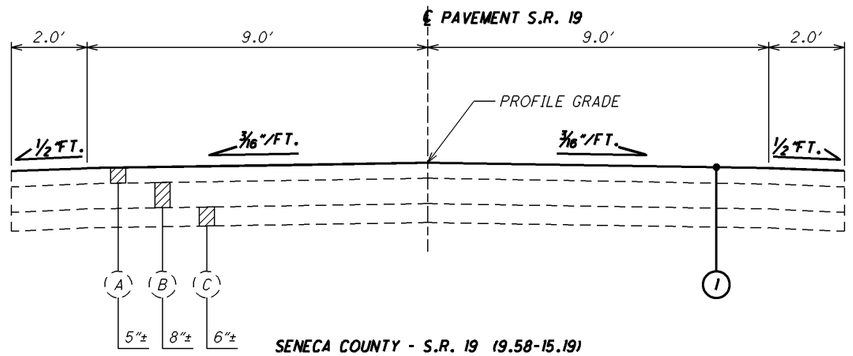
SEAL LOCATION MAP

CHIP AND SEAL

SEN-19-9.58
SEN-228-0.00

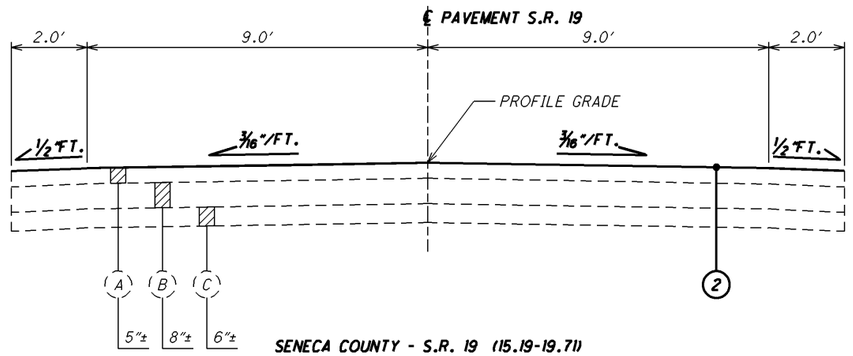
2
16

TYPICAL "A"



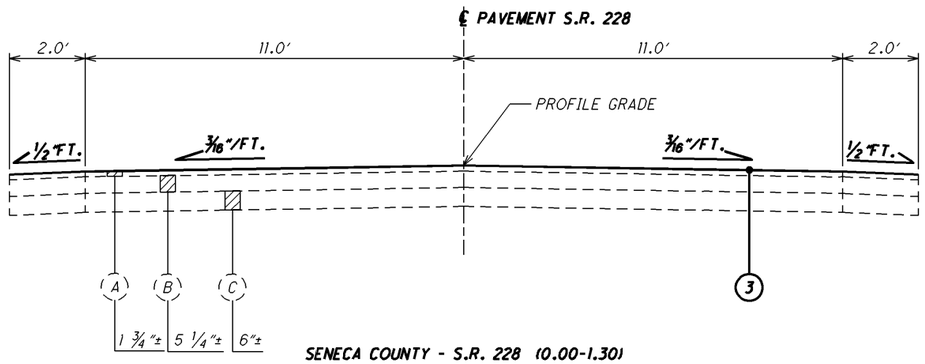
SENECA COUNTY - S.R. 19 (9.58-15.19)

TYPICAL "B"



SENECA COUNTY - S.R. 19 (15.19-19.71)

TYPICAL "A"



SENECA COUNTY - S.R. 228 (0.00-1.30)

PROPOSED LEGEND

(1) ITEM 882, SINGLE CHIP SEAL, WITH TWO YEAR WARRANTY, AS PER PLAN A
(2) ITEM 882, SINGLE CHIP SEAL, WITH TWO YEAR WARRANTY, AS PER PLAN B
(3) ITEM 882, SINGLE CHIP SEAL, WITH TWO YEAR WARRANTY, AS PER PLAN C

EXISTING LEGEND

(A) ASPHALT CONCRETE (AVG. THICKNESS AS SHOWN)
(B) BASE MIX (AVG. THICKNESS AS SHOWN)
(C) AGGREGATE (AVG. THICKNESS AS SHOWN)

TYPICAL SECTIONS

SEN-19-9.58
SEN-228-0.00

3
16

CALCULATED TLM CHECKED JMF

GENERAL NOTES

UTILITIES

THERE ARE NO UNDERGROUND UTILITIES SHOWN ON THIS PLAN. THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY KNOWN UNDERGROUND UTILITIES THAT EXIST UNDER OR ADJACENT TO THE WORK AREA.

CONVERSION OF STANDARD CONSTRUCTION DRAWINGS

CONVERT THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.02 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

CONVERSIONS WILL BE APPROPRIATELY PRECISE AND REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

PROFILE AND ALIGNMENT

THE PROPOSED PAVEMENT RESURFACING SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE WORK PROPOSED BY THIS PROJECT IS FOR THE RESURFACING OF THE EXISTING PAVEMENT. THE ALIGNMENT OF THE EXISTING PAVEMENT WILL NOT BE CHANGED AND THE PROFILE OF THE PROPOSED SURFACE WILL BE SIMILAR TO THAT OF THE EXISTING PAVEMENT.

PERMIT NOTIFICATION

THE CONTRACTOR SHALL GIVE A 10 DAY NOTICE PRIOR TO ANY LANE RESTRICTION TO AVOID ANY CONFLICT OF PERMITTED LOADS DURING THE CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING:

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 2
ATTENTION: PERMIT OFFICE
317 EAST POE ROAD
BOWLING GREEN, OHIO 43402

PAVEMENT DEFOLIATION NOTIFICATION

THE CONTRACTOR SHALL NOTIFY THE DISTRICT AT LEAST 14 DAYS PRIOR TO THE START DATE SO THAT THE ROADWAY CAN BE DEFOLIATED BEFORE WORK BEGINS. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING:

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 2
OFFICE OF SPECIAL PROJECTS
ATTENTION: LES CALCAMUGGIO
317 EAST POE ROAD
BOWLING GREEN, OHIO 43402

PAVEMENT MARKINGS

THE CONTRACTOR SHALL MAKE NOTE OF ALL EXISTING PAVEMENT BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT AND THE COMPLETED PAVEMENT.

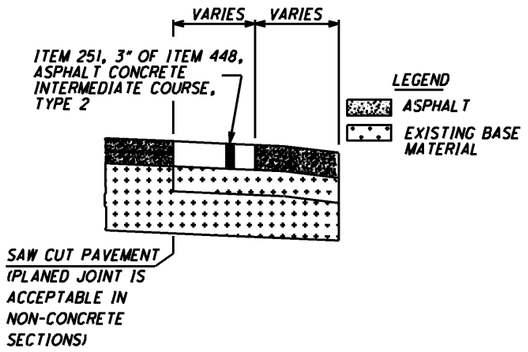
ITEM 251, PARTIAL DEPTH PAVEMENT REPAIR:

ALL EXISTING PAVEMENT AREAS WHICH WILL BE IN CONTACT WITH THE PAVEMENT REPAIR SHALL BE COATED WITH PG GRADE LIQUID ASPHALT (SIDES AND BOTTOM) AT AN APPLICATION RATE OF 0.25 GAL. PER SQ YD.). DO NOT SEAL THE PERIMETER SURFACE OF THE REPAIRED AREA.

THE FOLLOWING ESTIMATED QUANTITY BASED ON THE PERCENTAGE SHOWN BELOW, IS TO BE USED FOR 3" PARTIAL DEPTH PAVEMENT REPAIR FOR SR 19 & SR 228 AS DIRECTED BY THE ENGINEER OR AS SHOWN ON PLANS.

S.R. 19 - 1%	1308 SQ YD
S.R. 228 - 1%	198 SQ YD
	1506 SQ YD

QUANTITY CARRIED TO THE SUBSUMMARY SHEET.



NOTE: THE ENGINEER SHALL FIELD VERIFY ALL LOCATIONS PRIOR TO THE BEGINNING OF WORK. ANY NECESSARY SHALL BE AS DIRECTED BY THE ENGINEER.

THE PAVEMENT REPAIRS SHALL BE DONE 28 CONSECUTIVE DAYS BEFORE CHIP SEALING THE ROADWAY.

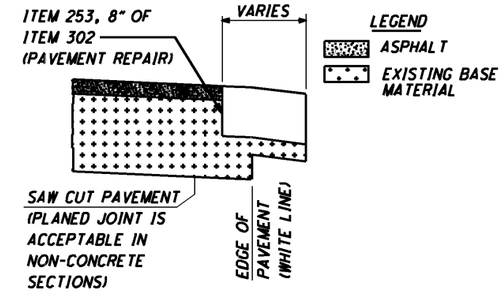
ITEM 253, PAVEMENT REPAIR:

ALL EXISTING PAVEMENT AREAS WHICH WILL BE IN CONTACT WITH THE PAVEMENT REPAIR SHALL BE COATED WITH PG GRADE LIQUID ASPHALT (SIDES AND BOTTOM) AT AN APPLICATION RATE OF 0.25 GAL. PER SQ YD.). DO NOT SEAL THE PERIMETER SURFACE OF THE REPAIRED AREA.

THE FOLLOWING ESTIMATED QUANTITY ARE TO BE USED FOR 8" PAVEMENT REPAIR FOR SR 199 AS DIRECTED BY THE ENGINEER AND BASED ON THE PERCENTAGE SHOWN BELOW.

S.R. 19 - 2%	2615 SQ YD
S.R. 228 - 2%	397 SQ YD
	3012 SQ YD

QUANTITY CARRIED TO THE SUBSUMMARY SHEET.



NOTE: THE ENGINEER SHALL FIELD VERIFY ALL LOCATIONS PRIOR TO THE BEGINNING OF WORK. ANY NECESSARY SHALL BE AS DIRECTED BY THE ENGINEER.

THE PAVEMENT REPAIRS SHALL BE DONE 28 CONSECUTIVE DAYS BEFORE CHIP SEALING THE ROADWAY.

SEN-19-9.58
SEN-228-0.00

ITEM 882 CHIP SEAL WITH WARRANTY AS PER PLAN A

882.01 GENERAL
882.02 MAINTENANCE BOND
882.03 WARRANTY ITEM COVERAGE
882.04 MIX DESIGN AND MATERIALS
882.05 ANNUAL REVIEW PROCESS
882.06 REMEDIAL ACTIONS
882.07 APPEAL PROCESS
882.08 METHOD OF MEASUREMENT
882.09 BASIS OF PAYMENT

882.01 GENERAL. THIS WORK CONSISTS OF PREPARING AND APPLYING A SINGLE OR DOUBLE CHIP SEAL. WARRANT THE CHIP SEAL FOR TWO YEARS.

882.02 MAINTENANCE BOND. FURNISH A MAINTENANCE BOND FOR A TWO YEAR PERIOD IN AN AMOUNT EQUAL TO 75 PERCENT OF THE TOTAL AMOUNT BID FOR ITEM 882 WITH THE PERFORMANCE AND PAYMENT BONDS SPECIFIED IN 103.05.

ENSURE THE SURETY THAT UNDERWRITES THE MAINTENANCE BOND HAS AN A.M. BEST RATING OF "A-" OR BETTER. INCLUDE THE COST OF THE MAINTENANCE BOND IN THE PAY ITEM FOR THE PREMIUM FOR THE CONTRACT PERFORMANCE BOND AND THE PAYMENT BOND.

THE EFFECTIVE DATE OF THE MAINTENANCE BOND IS THE DATE THE DEPARTMENT'S FORM C-85 IS ISSUED FOR THE PAVEMENT. THE DEPARTMENT WILL ISSUE A FINAL C-85 WITHIN 30 DAYS AFTER ALL OF THE PAVEMENT ITEMS, INCLUDING ALL SAFETY ITEMS, ARE COMPLETED AND ACCEPTED AND THE PAVEMENT IS OPEN TO TRAFFIC. THE DEPARTMENT WILL ISSUE A PARTIAL C-85 WITHIN 30 DAYS AFTER THE PAVEMENT IS COMPLETED AND ACCEPTED, AND ALL SAFETY ITEMS ARE IN PLACE TO ALLOW THE PAVEMENT TO BE SAFELY OPEN TO TRAFFIC DURING THE MONTHS FROM SEPTEMBER TO APRIL. THE DEPARTMENT WILL ISSUE NO MORE THAN ONE C-85 EACH CALENDAR YEAR EXCEPT WITH APPROVAL OF THE DIRECTOR.

AFTER THE FINAL OR PARTIAL FORM C-85 IS ISSUED, THE DEPARTMENT WILL NOTIFY THE SURETY. AFTER THE FINAL FORM C-85 IS ISSUED THE DEPARTMENT WILL ALSO ESTABLISH ALL FINAL QUANTITIES FOR THE PROJECT AND THE PROJECT WILL BE FINALIZED USING STANDARD PROCEDURES. THE MAINTENANCE BOND EXPIRES TWO YEARS AFTER THE ISSUANCE OF FORM C-85.

MAINTAIN THE LIABILITY INSURANCE SPECIFIED IN 107.12, INSURING AGAINST CONTRACTOR OR CONTRACTOR AUTHORIZED OPERATIONS NEGLIGENTLY PERFORMED DURING THE WARRANTY PERIOD. ENSURE THE INSURANCE IS IN EFFECT THROUGHOUT THE WARRANTY PERIOD. SEND A COPY OF THE CERTIFICATE OF INSURANCE TO THE DISTRICT EACH YEAR.

882.03 WARRANTY ITEMS COVERAGE. WARRANTY ITEMS AND REMEDIAL ACTIONS ARE SPECIFIED IN 882.06. THE WARRANTY APPLIES TO ALL ITEM 882. THE WARRANTY DOES NOT APPLY TO STRUCTURAL PROBLEMS BELOW THE CHIP SEAL, PROVIDED THE STRUCTURAL PROBLEM IS NOT THE FAULT OF THE CONTRACTOR.

DO NOT CONSTRUE MEETING THE MINIMUM REQUIREMENTS AND GUIDELINES OF THIS SPECIFICATION AS A WARRANTY, EXPRESSED OR IMPLIED, AS TO THE MATERIAL PROPERTIES AND WORKMANSHIP EFFORTS REQUIRED TO MEET THE PERFORMANCE CRITERIA SET FORTH IN TABLE A

882.04 MATERIALS. FOR PROJECTS WITH AN ADT OF LESS THAN 500 USE RS-2 EMULSIFIED BINDER CONFORMING TO 702.04. FOR PROJECTS WITH AN ADT OF 500 OR GREATER USE POLYMER EMULSIFIED BINDER CONFORMING TO 702.16 TYPE A. FOR PROJECTS WITH MULTIPLE PAVEMENTS WITH ADTS ABOVE AND BELOW 500 USE POLYMER EMULSIFIED BINDER CONFORMING TO 702.16 TYPE A.

FOR COVER AGGREGATE MATERIAL, USE WASHED LIMESTONE OR DOLOMITE MEETING 703.05 AND THE FOLLOWING REQUIREMENTS. SUBMIT A LETTER TO THE ENGINEER AND DET CONTAINING THE JMF GRADATION OF THE COVER AGGREGATE MEETING ALL SIEVE SIZES IN THE TABLE BELOW AS WELL AS THE FIVE SAMPLE RESULTS USED IN DETERMINING THE JMF GRADATION. DETERMINE THE JMF ON A STOCKPILE THAT WILL ONLY BE MOVED TO THE AGGREGATE SPREADER ON THE PROJECT. DETERMINE THE JMF GRADATION BY TAKING FIVE SAMPLES FROM DIFFERENT LOCATIONS OF THE STOCKPILED AGGREGATE. IF THE TOTAL RANGE OF ALL FIVE SAMPLES IS MORE THAN 6.0 PERCENT PASSING ON THE NO. 8 (2.36 MM) SIEVE, REWORK THE STOCKPILE AND TAKE FIVE NEW SAMPLES TO VERIFY THE RANGE IS MET. WHEN THE RANGE IS MET DETERMINE THE JMF GRADATION BY CALCULATING THE AVERAGE OF THE VALUES FOR EACH SIEVE SHOWING THE GRADATION CRITERIA IN THE BELOW TABLE IS MET. IF ANY OF THE FIVE SAMPLES ARE MORE THAN 2.0 PERCENT FOR THE WASHED VALUE OF THE NO. 200 (75 M) SIEVE RE-WASH THE PILE. INCLUDE IN THE JMF BOTH A DRY GRADATION VALUE AND A WASHED GRADATION VALUE FOR PASSING THE NO. 200 (75 ²M) SIEVE. ONCE TESTED DO NOT MOVE STOCKPILED AGGREGATE EXCEPT DIRECTLY TO THE AGGREGATE SPREADER ON THE JOB.

THE DISTRICT CAN SAMPLE AND TEST TO VALIDATE THE JMF AT ANY TIME. IF A PROBLEM IS NOTED IN ONE SAMPLE FIVE SAMPLES WILL BE TAKEN BY THE DISTRICT. IF THE AVERAGE OF THE FIVE SAMPLES DO NOT MEET THE RANGES NOTED ABOVE AND IS MORE THAN 0.1% GREATER THAN THE NO. 200 (75 µM) SIEVE LIMITS IN THE TABLE BELOW THE STOCKPILE IS NOT ACCEPTABLE.

SIEVE SIZE	JMF LIMITS % PASSING
½ IN (12.5MM)	100
⅜ IN (9.5MM)	85 TO 100
NO. 4 (4.75 MM)	5 TO 25
NO. 8 (2.36 MM)	0 TO 10
NO. 16 (1.18MM)	0 TO 5
NO. 200 (75 µM)	1.5 MAX OR 1.7 MAX, [1]

[1] WASHED GRADATION VALUE, 1.5 IF THE PILE IS AT THE AGGREGATE SOURCE, 1.7 IF THE SOURCE PILE HAS BEEN MOVED TO A STAGING LOCATION.

DO NOT USE 703.01.F SR RESTRICTED AGGREGATE FOR THE TOP CHIP SEAL LAYER WHEN CHIP SEAL IS THE FINAL SURFACE. SRH RESTRICTED AGGREGATE MAY BE USED FOR ANY CHIP SEAL.

A. EQUIPMENT. PROVIDE EQUIPMENT CONFORMING TO THIS SECTION.

USE EQUIPMENT FOR BINDER DISTRIBUTION CONFORMING TO 407.03. IN ADDITION ENSURE THAT IT HAS A COMPUTERIZED RATE CONTROL THAT AUTOMATICALLY ADJUSTS THE BINDER PUMP TO THE UNIT GROUND SPEED AND HAS A GAUGE OR METER IN PLAIN VIEW FOR READING GALLONS (LITERS). USE APPROPRIATE SPRAY NOZZLES FOR THE MATERIAL AND RATE SPECIFIED.

USE TYPE II PNEUMATIC TIRE ROLLERS CONFORMING TO 401.13, EXCEPT THE MAXIMUM CAPACITY SHALL NOT APPLY.

USE SELF-PROPELLED AGGREGATE SPREADERS WITH A VARIABLE WIDTH AGGREGATE HOPPER CAPABLE OF PLACING FROM 8 TO 16 FEET (2.4 TO 4.8 M) IN ANY INCREMENT AND A COMPUTERIZED RATE CONTROL THAT AUTOMATICALLY ADJUSTS THE AGGREGATE OUTPUT TO THE UNIT GROUND SPEED. EQUIP SPREADERS WITH PNEUMATIC TIRES, A SCREEN TO REMOVE OVERSIZED MATERIAL, REVOLVING CYLINDERS, AND ADJUSTMENTS NECESSARY TO PRODUCE A UNIFORM DISTRIBUTION OF PARTICLES AT THE SPECIFIED RATE.

USE POWER SWEEPERS OR ROTARY BROOMS IN INITIAL SURFACE PREPARATION AND FOR REMOVING LOOSE PARTICLES. USE PICKUP TYPE SWEEPERS IN AREAS WHERE THE AGGREGATE SHOULDER DOES NOT EXIST. DO NOT SWEEP LOOSE AGGREGATE ONTO LAWNS, CURBED AREAS, AND INTERSECTIONS.

FURNISH ACCURATE THERMOMETERS FOR DETERMINING ANY OF THE APPLICABLE TEMPERATURE REQUIREMENTS OF THIS SPECIFICATION.

B. CONSTRUCTION.

1. SURFACE PREPARATION. CLEAN THE PAVEMENT ACCORDING TO 407.05. IF NECESSARY, CLEAN AREAS OF THE PAVEMENT WITH A HAND BROOM.

2. WEATHER LIMITATIONS. PLACE THE CHIP SEAL WHEN THE PAVEMENT AND ATMOSPHERIC TEMPERATURE IS 60 °F (16 °C) OR ABOVE. DO NOT PLACE CHIP SEAL IF ANY OF THE FOLLOWING CONDITIONS EXIST:

A. IMPENDING WEATHER CONDITIONS DO NOT ALLOW FOR PROPER CURING OR IF TEMPERATURES ARE FORECASTED BELOW 50° F (10° C) WITHIN 24 HOURS FROM THE TIME OF WORK.

B. THE EXISTING PAVEMENT TEMPERATURE IS 140° F (60° C) OR ABOVE.

C. BETWEEN SEPTEMBER 1 AND MAY 1.

3. BINDER APPLICATION. BEFORE APPLYING BINDER, ENSURE THAT SUFFICIENT COVER AGGREGATE IS AVAILABLE FOR IMMEDIATE APPLICATION. ADJUST THE BINDER APPLICATION RATE TO MEET THE PERFORMANCE REQUIREMENTS OF THIS SPECIFICATION. PROPER STONE EMBEDMENT IS TYPICALLY 1/2 TO 2/3 OF THE STONE CHIP HEIGHT AND CAN BE CHECKED BY PULLING OUT SEVERAL CHIPS BY HAND. ADJUST AND DOCUMENT APPLICATION RATES BY STATIONING. MAINTAIN THE BINDER TEMPERATURE FROM 150 TO 185° F (65° TO 85° C) DURING CONSTRUCTION, INCLUDING THE START OF EACH DAY. REHEAT THE BINDER AT A RATE OF NO MORE THAN 25° F (14° C) PER HOUR, WHEN THE BINDER IS ALLOWED TO COOL BELOW 150° F (65° C).

AT THE BEGINNING AND AT THE END OF A CONTRACT SECTION, START AND STOP THE APPLICATION ON A REMOVABLE PROTECTIVE COVER (PAPER, METAL SHEETS, OR OTHER SUITABLE MATERIAL) SUFFICIENTLY WIDE ENOUGH TO ALLOW FULL APPLICATION ON THE SURFACE BEING TREATED. MAKE TRANSVERSE AND LONGITUDINAL LAPS IN SUCH MANNER TO ENSURE THAT THE TEXTURE OF THE FINISHED SURFACE IS UNIFORM AND CONTINUOUS. TO PREVENT LAPPING AT TRANSVERSE JUNCTIONS, PROMPTLY SHUT OFF THE BINDER SPRAY AT THE END OF THE APPLICATION. BEFORE CONTINUING THE APPLICATION, PLACE A REMOVABLE PROTECTIVE COVER A SUFFICIENT DISTANCE BACK FROM THE JOINT ON THE COVER AGGREGATE SO THE SPRAYERS ARE OPERATING AT FULL FORCE WHEN THE DISTRIBUTOR HAS ATTAINED THE PREDETERMINED SPEED UPON REACHING THE UNCOVERED SURFACE. UPON COMPLETION, REMOVE ALL REMOVABLE PROTECTIVE COVERS.

4. COVER AGGREGATE APPLICATION. IMMEDIATELY AFTER APPLYING THE BINDER, APPLY COVER AGGREGATE UNIFORMLY WITHOUT RIDGES OR LAPS AT THE SPECIFIED RATE ADJUSTED AS DIRECTED BY THE ENGINEER TO PRODUCE A MINIMUM OF EXCESS LOOSE PARTICLES. SPREAD THE MATERIAL IN SUCH MANNER THAT THE TIRES OF THE TRUCK OR AGGREGATE SPREADER AT NO TIME CONTACT THE UNCOVERED AND NEWLY APPLIED BINDER. BEFORE ROLLING, CORRECT DEFICIENCIES IN THE APPLICATION OF COVER AGGREGATE IN A MANNER SATISFACTORY TO THE ENGINEER. DO NOT OVER APPLY COVER AGGREGATE WITH THE INTENT ON RELYING ON VACUUM AND BROOM SWEEPING TO PICK UP ALL EXCESS. STOP WORK IF NUISANCE TO THE PUBLIC AMOUNTS OF AGGREGATE OCCUR. IF WORK IS STOPPED RE-CALIBRATE THE AGGREGATE SPREADER AND RE-VERIFY THE AGGREGATE SPREAD RATE DETERMINING A NEW APPLICATION RATE AND APPLY COVER AGGREGATE AT THE NEW RATE.

AFTER ROLLING, PROTECT THE SURFACE FROM TRAFFIC DAMAGE DURING THE PERIOD REQUIRED FOR THE BINDER TO CURE SUFFICIENTLY AND PREVENT DISLODGING OF THE AGGREGATE PARTICLES BY NORMAL TRAFFIC. DURING THIS PERIOD, CORRECT DEFICIENCIES IN COVER AGGREGATE BY SPREADING ADDITIONAL AGGREGATE OR BY LIGHT BROOMING.

APPLY COVER AGGREGATE AT A RATE NECESSARY TO PROVIDE FULL COVERAGE OF THE BINDER AND TO AVOID TRACKING. IF THE TARGET RATE IS NOT THE OPTIMUM APPLICATION RATE DUE TO THE GRADATION OF THE AGGREGATE OR DUE TO EXISTING SURFACE CONDITIONS OF THE PAVEMENT, IMMEDIATELY ESTABLISH A NEW RATE AND DOCUMENT THE NEW RATE BY STATIONING.

TEST STRIP. CONSTRUCT A CONTINUOUS 1000-FOOT (300 M) LONG BY LANE WIDTH TEST STRIP. DO NOT WAIVE TEST STRIPS REGARDLESS IF THE SAME MATERIALS HAVE BEEN USED ON ANOTHER PROJECT. DETERMINE AND TELL THE ENGINEER THE BINDER APPLICATION RATE AND AGGREGATE APPLICATION RATE. CALIBRATE THE AGGREGATE SPREADER AND VERIFY THE APPLICATION RATE WITH A ONE SQUARE YARD (ONE SQUARE METER) PIECE OF CARDBOARD OR OTHER MATERIAL TO COLLECT AND WEIGH THE AGGREGATE. DO NOT OVER APPLY COVER AGGREGATE WITH THE INTENT ON RELYING ON VACUUM AND BROOM SWEEPING TO PICK UP ALL EXCESS. STOP WORK IF NUISANCE TO THE PUBLIC AMOUNTS OF AGGREGATE OCCUR. IF WORK IS STOPPED RE-CALIBRATE THE AGGREGATE SPREADER AND RE-VERIFY THE AGGREGATE SPREAD RATE DETERMINING A NEW APPLICATION RATE AND APPLY COVER AGGREGATE AT THE NEW RATE. VERIFY THE AGGREGATE GRADATION DURING THE TEST STRIP AND GIVE RESULTS TO THE ENGINEER.

THE ENGINEER AND CONTRACTOR WILL REVIEW THE TEST STRIP THE NEXT WORKDAY FOR STREAKING, RIDGING, BLEEDING, AGGREGATE LOSS OR OTHER PROBLEMS. IF THE REVIEW SHOWS THE TEST STRIP MEETS THE REQUIREMENTS OF 882.04 AND THE APPLICATION RATE AND QUALITY CONTROL TESTS SHOW ALL IS IN CONTROL COMPARED TO THE JMF, THEN PROGRESS WITH THE WORK. SHOULD PROBLEMS BE NOTED, THE ENGINEER MAY REQUIRE ANOTHER TEST STRIP.

5. CONSTRUCTION OPERATION.
ESTABLISH STATIONS AT 1000-FOOT (300 M) INTERVALS ON THE ENTIRE PROJECT BEFORE PLACING MATERIALS. CLEARLY IDENTIFY AND MAINTAIN THE STATIONS UNTIL PROJECT COMPLETION.

KEEP THE BINDER DISTRIBUTOR, AGGREGATE SPREADER, AND ROLLERS AS CLOSE TO EACH OTHER AS POSSIBLE. DO NOT ALLOW THE BINDER DISTRIBUTOR TO BE MORE THAN 150 FEET (45 M) AHEAD OF THE AGGREGATE SPREADER.

PERFORM ROLLING IMMEDIATELY AFTER PLACING THE AGGREGATE, BUT BEFORE THE BINDER SETS UP. DO NOT LEAVE AGGREGATE UNROLLED FOR MORE THAN 5 MINUTES. PERFORM A MINIMUM OF TWO COMPLETE ROLLER PASSES OVER THE AGGREGATE. A SINGLE COMPLETE PASS IS FORWARD AND BACKWARD OVER THE SAME PATH. FOR EACH NEW PASS, OVERLAP THE PREVIOUS PASS BY ABOUT ONE-HALF THE WIDTH OF THE ROLLER. USE A MINIMUM OF THREE ROLLERS, AND ROLL IN A LONGITUDINAL DIRECTION AT A SPEED NOT GREATER THAN 5 MILES PER HOUR (8 KM/H). DO NOT OPERATE ROLLERS AT SPEEDS THAT CAUSE PICK-UP OR DISLODGING OF AGGREGATE PARTICLES.

AFTER THE BINDER SETS, AND BEFORE PLACING A SECOND COURSE FOR DOUBLE CHIP SEALS, AND WITHIN 4 HOURS, SWEEP THE PAVEMENT USING A POWER BROOM OR PICKUP SWEEPER AS NEEDED TO REMOVE ALL LOOSE AGGREGATE. EXTEND SWEEPING 1 FOOT (0.3 M) BEYOND THE EDGE OF THE PAVEMENT TO HELP PREVENT MIGRATION OF LOOSE AGGREGATE BACK ONTO THE PAVEMENT. DO NOT RE-USE AGGREGATE FROM A CHIP SEAL THAT IS SWEPT FROM THE PAVEMENT OR THAT IS ALREADY LOOSE OFF THE PAVEMENT EDGE.

IF THE PAVEMENT CANNOT BE SWEPT WITHIN THE 4-HOUR PERIOD

CALCULATED TLM CHECKED JMF

GENERAL NOTES

SEN-19-9.58
SEN-228-0.00

DUE TO PROBLEMS ASSOCIATED WITH THE STONE MOISTURE, BINDER, BREAKING, HUMIDITY, OR OTHER UNKNOWN, THE ENGINEER MAY SUSPEND THE OPERATION UNTIL THE PROBLEM IS RESOLVED OR MORE SUITABLE CONDITIONS ARE OBTAINED TO MAINTAIN THE 4-HOUR TIME FRAME FOR SWEEPING. THE CONTRACTOR IS RESPONSIBLE FOR CLAIMS OF DAMAGE TO VEHICLES UNTIL THE PAVEMENT AND SHOULDERS RECEIVE A FINAL SWEEPING IMMEDIATELY BEFORE APPLICATION OF PERMANENT PAVEMENT MARKINGS OR A FOG SEAL.

WAIT AT LEAST 24 HOURS BEFORE PLACING THE SECOND COURSE OF A DOUBLE CHIP SEAL. ENSURE THAT THE FIRST COURSE MEETS REQUIREMENTS AND IS CURED, SWEPT, AND CAPABLE OF WITHSTANDING CONSTRUCTION TRAFFIC WITHOUT DAMAGE. CORRECT DAMAGE TO THE UNDERLYING CHIP SEAL BEFORE PLACING THE FINAL CHIP SEAL.

PLACE THE LONGITUDINAL CONSTRUCTION JOINT ON A LANE LINE OR AS DIRECTED BY THE ENGINEER. FOR DOUBLE CHIP SEAL, PLACE THE LONGITUDINAL CONSTRUCTION JOINT FOR THE FIRST COURSE 6 INCHES (150 MM) OFF THE CENTERLINE AND PLACE THE SECOND COURSE SO THE LONGITUDINAL JOINT IS AT THE CENTERLINE.

BEFORE OPENING TO TRAFFIC, POST THE ROADWAY WITH "LOOSE STONE" SIGNS AND A "35 MPH" SPEED PLAQUE MOUNTED BELOW THE SIGN. ENSURE THAT SIGNS CONFORM TO ITEM 614. PLACE THESE SIGNS AT A MAXIMUM OF 0.5 MILE (0.8 KM) INTERVALS. REMOVE THE SIGNS AS DIRECTED BY THE ENGINEER.

ON TWO-LANE ROADS OR PAVEMENTS WHERE TRAFFIC IS MAINTAINED ON A CHIP SEAL CONSTRUCTED THAT WORKDAY, A TRAFFIC CONTROL PILOT VEHICLE OPERATED AT NO MORE THAN 25 MILES PER HOUR (40 KM/H) IS REQUIRED IN THE IMMEDIATE WORK AREA.

PROTECT ALL UTILITY CASTINGS, MONUMENT BOXES AND OTHER SIMILAR ITEMS USING TARPAPER OR OTHER APPROVED MATERIAL. REMOVE PROTECTION BEFORE SWEEPING AND OPENING TO TRAFFIC.

C. QUALITY CONTROL.

1. GENERAL. USE THE METHODS DESCRIBED IN THIS SECTION FOR CONTROL PURPOSES. IDENTIFY THE CAUSE OF EXCEEDING ANY OF THE IDENTIFIED QUALITY CONTROL TOLERANCES AND DOCUMENT IN DETAIL THE CORRECTIVE ACTION NECESSARY TO BRING THE DEFICIENCY INTO COMPLIANCE. UPON RESUMING WORK, TAKE ANOTHER SAMPLE AND IMMEDIATELY TEST IT. IF THE TOLERANCES ARE EXCEEDED, STOP THE WORK UNTIL CORRECTED. THE DEPARTMENT CAN OBTAIN SAMPLES OF MATERIALS AT ANY TIME. AGGREGATE SAMPLES CAN BE TAKEN FROM SOURCES, ON-HAND STOCKPILES OR THE AGGREGATE SPREADER BOX. WORK CAN BE STOPPED AND MATERIALS CAN BE REJECTED ON THE BASIS OF POOR DEPARTMENT TEST RESULTS.

2. BINDER. LABEL AND RETAIN ONE SAMPLE PER DAY FOR THE DEPARTMENT. FOR THE BINDER APPLICATION RATE, AS DETERMINED BY A YIELD CHECK, DO NOT EXCEED A TOLERANCE OF 0.02 GALLONS PER

3. COARSE AGGREGATE. AT A MINIMUM TEST ONE SAMPLE TAKEN FROM THE AGGREGATE SPREADER BOX AT PRODUCTION START AND SAMPLE AND TEST ONE SAMPLE FROM THE AGGREGATE SPREADER BOX RANDOMLY DURING THE DAY. AN AGGREGATE SPREADER BOX SAMPLE MAY BE TAKEN BY LAYING A PIECE OF SUITABLE MATERIAL UNDER THE SPREADER AS IT MOVES FORWARD. INCLUDE ADDITIONAL TESTING WHEN DIRECTED TO SAMPLE AND TEST BY THE ENGINEER. SAMPLE AND TEST AGGREGATE ACCORDING TO AASHTO T 2, AASHTO T 248, AND SUPPLEMENT 1004 (AASHTO T 11 WHERE REQUIRED). USE WASHED GRADATIONS FOR DETERMINING THE NO. 200 (75M) SIEVE. THE CONTRACTOR MAY USE ADDITIONAL TESTS. THESE MAY INCLUDE DRY GRADATIONS FOR CONTROL PURPOSES BUT ACCEPTANCE OF ON HAND AGGREGATE WILL BE BASED ON WASHED GRADATIONS ONLY. REJECT AND DO NOT USE AGGREGATE CREATING NUISANCE TO THE PUBLIC DUSTING ON THE PROJECT.

REJECT TRUCKLOADS OF AGGREGATE IF WATER IS SEEN COMING FROM THE TRUCK BED. REJECT AGGREGATE THAT DOES NOT MEET THE FOLLOWING REQUIREMENTS:

NO. 4 (4.75 MM) SIEVE FROM JMF	±5.0%
NO. 8 (2.36 MM) SIEVE FROM JMF	±3.0%
NO. 200 (75 µM) SIEVE FROM JMF	±1.0%, 2.0% UPPER LIMIT
AGGREGATE MOISTURE CONTENT (BY DRY WEIGHT)	4.0% MAX. FORR AGGREGATE ABSORPTION >2.0%
	3.0% MAX. FOR AGGREGATE ABSORPTION 2.0%

4. DOCUMENTATION. PROVIDE THE ENGINEER A DAILY REPORT WITH THE FOLLOWING:

A. CONTROL SECTION, PROJECT NUMBER, COUNTY, ROUTE, AND ENGINEER.

B. DATE, AIR TEMPERATURE, PAVEMENT TEMPERATURE, AND HUMIDITY.

C. BINDER TEMPERATURE.

D. BEGINNING AND ENDING STATIONS.

E. YIELD CHECKS ON BINDER (THREE PER DAY, MINIMUM).

F. YIELD CHECKS ON AGGREGATE (THREE PER DAY, MINIMUM).

G. GRADATION, MOISTURE CONTENT, AND STATION (ONE SAMPLE FROM SPREADER BOX AT PRODUCTION START, ONE RANDOM SAMPLE DURING THE DAY AND ANY OTHER SAMPLES WHEN DIRECTED BY THE ENGINEER).

H. LENGTH, WIDTH, AND TOTAL AREA.

I. CONDITION OF "LOOSE STONE" SIGNS WITH "35 MPH" SPEED PLAQUES.

J. CONTRACTOR REPRESENTATIVE'S SIGNATURE.

PROVIDE A BILL OF LADING FOR BINDER AND AGGREGATE AS REQUESTED OR AT PROJECT COMPLETION.

D. APPEARANCE. DURING THE APPLICATION OF THE CHIP SEAL, INSPECT THE CHIP SEAL FOR DEFICIENCIES RESULTING FROM POOR WORKMANSHIP, FLUSHING, TRACKING FROM EQUIPMENT, SURFACE PATTERNS, LOSS OF STONE, AND SWEEPING. INSPECT WORKMANSHIP FOR UNTREATED AREAS, MINIMUM OVERLAP ON LONGITUDINAL JOINTS, AND MINIMUM OVERLAP ON CONSTRUCTION JOINTS.

VERIFY THE FOLLOWING FOR APPEARANCE:

1. FINISHED SURFACE HAS MINIMAL TEARS AND BINDER STREAKING.

2. JOINTS APPEAR NEAT AND UNIFORM WITHOUT BUILDUP, UNCOVERED AREAS, OR UNSIGHTLY APPEARANCE.

3. LONGITUDINAL JOINTS HAVE LESS THAN A 2 INCH (50 MM) OVERLAP ON THE ADJACENT PASSES.

4. TRANSVERSE JOINTS HAVE NO MORE THAN 0.25 INCH (6.5 MM) DIFFERENCE IN ELEVATION ACROSS THE JOINT AS MEASURED WITH A 6 FOOT (2 M) STRAIGHTEDGE.

5. CHIP SEAL EDGE IS NEAT AND UNIFORM ALONG THE ROADWAY LANE, SHOULDER, AND CURB LINES.

6. CHIP SEAL EDGE HAS NO MORE THAN 2 INCHES (50 MM) VARIANCE IN ANY 100 FEET (30 M), ALONG THE ROADWAY EDGE OR SHOULDER.

BEFORE THE DEPARTMENT ISSUES FORM C-85, THE CONTRACTOR AND ENGINEER WILL REVIEW THE COMPLETED WORK 15 TO 25 DAYS AFTER PLACEMENT. THE EXTENT OF THE FOLLOWING SHOULD BE MINIMAL TO NON-EXISTENT:

DEFECT	SEVERITY
SURFACE PATTERNS	ALTERNATE LEAN AND HEAVY LINES (RIDGES OR STREAKING OVER THE SURFACE)
BLEEDING / FLUSHING	EXCESS BINDER ON SURFACE, NOT SUBJECT TO WEARING OFF QUICKLY
LOSS OF COVER AGGREGATE	PATCHES OR LINES OF AGGREGATE LOST FROM SURFACE

PERFORM ALL CORRECTIVE WORK TO THE SATISFACTION OF THE ENGINEER.

882.05 ANNUAL REVIEW PROCESS. THE DISTRICT WILL REVIEW THE PROJECT INFORMALLY, IN LATE WINTER OR EARLY SPRING. IF A PROBLEM IS NOTED, A FORMAL REVIEW BY A DISTRICT REVIEW TEAM (DRT) WILL BE CONDUCTED. THE DRT WILL NOTIFY THE CONTRACTOR OF THE SCHEDULED REVIEW. THE CONTRACTOR OR ANY OTHER INTERESTED PARTY MAY ATTEND THE REVIEW, FOR OBSERVATION ONLY. ANY COMMENTS BY THE CONTRACTOR OR OTHER INTERESTED PARTY WILL BE RECORDED BY THE DRT. THE DRT WILL SELECT AREAS TO REVIEW BUT MAY REVIEW THE ENTIRE PROJECT. THE DEPARTMENT WILL ISSUE THE RESULTS IN WRITING TO THE CONTRACTOR WITHIN 15 DAYS AFTER COMPLETION OF THE REVIEW.

882.06 REMEDIAL ACTIONS. PERFORM REMEDIAL ACTIONS BETWEEN MAY 1 AND SEPTEMBER 1. IF AN APPEAL PROCESS GOES TO STEP 3, THE DISTRICT MAY REVISE THE DATE FOR COMPLETION OF THE REMEDIAL ACTION FOR THE APPEALED ITEM. IF THE DEPARTMENT DETERMINES THAT IMMEDIATE REPAIRS ARE NECESSARY, DUE TO A POTENTIAL HAZARD TO THE TRAVELING PUBLIC, THE DEPARTMENT WILL NOTIFY THE CONTRACTOR AND ESTABLISH A DATE THAT ALL REPAIRS ARE TO BE FINISHED. BEFORE PERFORMING A REMEDIAL ACTION, SUBMIT A REMEDIAL ACTION PLAN TO THE ENGINEER FOR APPROVAL. STATE IN THE PLAN WHEN AND HOW THE REMEDIAL ACTION WILL BE PERFORMED; WHAT MATERIAL WILL BE USED; AND HOW TRAFFIC WILL BE CONTROLLED. WARRANT REMEDIAL ACTION WORK FOR THE REMAINDER OF THE WARRANTY PERIOD.

PROVIDE CONSTRUCTION TRAFFIC CONTROL WHEN PERFORMING ANY WORK REQUIRED OR ALLOWED BY THIS SPECIFICATION DURING THE WARRANTY PERIOD IN ACCORDANCE WITH CURRENT DEPARTMENT POLICY AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. THE DEPARTMENT WILL APPROVE WHEN THE WORK IS PERFORMED. ANY MAJOR CHANGE IN DEPARTMENT CONSTRUCTION TRAFFIC CONTROL POLICY AT THE TIME OF BID WILL BE CONSIDERED A CHANGED CONDITION.

REPLACE PAVEMENT MARKINGS OR RAISED PAVEMENT MARKERS (RPM) REMOVED OR DAMAGED WHILE PERFORMING A REMEDIAL ACTION WITH PAVEMENT MARKINGS OR RPMS EQUAL TO OR BETTER THAN THE ORIGINAL PRODUCTS AT NO COST TO THE DEPARTMENT.

SUPPLY ALL MATERIALS, EQUIPMENT, AND LABOR TO PERFORM THE REMEDIAL ACTIONS AT NO ADDITIONAL COST TO THE DEPARTMENT.

PERFORM REMEDIAL ACTIONS WITH MATERIAL MEETING THE REQUIREMENTS OF 882.04. CERTIFY THE COMPONENT MATERIALS AND DESIGNED MIX MEET THE REQUIREMENTS OF 882.04.

THE DEPARTMENT WILL PERFORM EMERGENCY WORK, REPAIRING PAVEMENT DISTRESSES WHICH ARE HAZARDOUS TO THE TRAVELING PUBLIC. IF THE EMERGENCY WORK IS EXTENSIVE, THE DEPARTMENT MAY AUTHORIZE THE CONTRACTOR TO PERFORM THE REPAIRS. THE DISTRICT CONSTRUCTION ENGINEER (DCE) WILL DETERMINE IF THE DISTRESS IS OR IS NOT THE RESPONSIBILITY OF THE CONTRACTOR. IF THE DCE DETERMINES THE DISTRESS IS THE RESPONSIBILITY OF THE CONTRACTOR, THE COST, INCLUDING CONSTRUCTION TRAFFIC CONTROL, OF EMERGENCY WORK PERFORMED BY THE DEPARTMENT WILL BE CHARGED TO THE CONTRACTOR. IF THE DCE DETERMINES THE DISTRESS IS NOT THE RESPONSIBILITY OF THE CONTRACTOR, THE DEPARTMENT WILL PAY FOR CONTRACTOR PERFORMED REPAIRS ACCORDING TO 109.05. THE CONTRACTOR IS NOT RESPONSIBLE FOR PAVEMENT DAMAGE BEYOND THE CONTRACTOR'S CONTROL (I.E., CAR FIRE, OIL SPILL, ETC.). THE DCE'S DETERMINATION MAY BE APPEALED IN ACCORDANCE WITH 882.07.

TABLE A

THE BEGINNING POINT OF A 100 YD (100M) SEGMENT STARTS AT THE BEGINNING OF ANY INDIVIDUAL DISTRESS TYPE. FOR LOSS OF AGGREGATE, THE BEGINNING POINT OF A 100 YD (100M) SEGMENT WILL EXCLUDE LOCATIONS WHERE VEHICLES TURN FROM OR ONTO OTHER STATE HIGHWAYS,

DEFECT	SEVERITY	ALLOWABLE EXTENT
SURFACE PATTERNS	**SEVERE** - LIGHT & HEAVY LINES OVER THE PAVEMENT SURFACE	40% OF SEGMENT LENGTH AFFECTED, CONTINUOUS OR LOCALIZED
BLEEDING/ FLUSHING	**MODERATE** - EXCESS BINDER ON SURFACE (LOSS OF STONE/TIRE CONTACT) NOT SUBJECT TO WEARING OFF QUICKLY	5% OF SEGMENT LENGTH AFFECTED CONTINUOUSLY OR TOTAL OF 20% LOCALIZED PROBLEMS
LOSS OF AGGREGATE	**MODERATE** - PATCHES OF AGGREGATE LOSS	10% OF SEGMENT LENGTH AFFECTED CONTINUOUSLY OR TOTAL OF 20% LOCALIZED PROBLEMS

882.07 APPEAL PROCESS. FINDINGS OF THE DRT MAY BE APPEALED. SUBMIT ANY APPEAL TO THE DCE, IN WRITING, WITHIN 15 DAYS AFTER RECEIPT OF THE WRITTEN RESULTS OF THE DRT.

THE DCE WILL EVALUATE APPEALS. THE EVALUATION WILL INCLUDE REVIEWING THE DISPUTED AREA IN THE FIELD AND CONSULTING WITH THE OFFICE OF CONSTRUCTION ADMINISTRATION. THE EVALUATION MAY ALSO INCLUDE REVIEWING TEST DATA, OBTAINING SAMPLES, OR INTERVIEWING DEPARTMENT (DISTRICT OR CENTRAL OFFICE) OR CONTRACTOR EMPLOYEES. THE DCE'S DETERMINATION WILL BE ISSUED IN WRITING TO THE CONTRACTOR WITHIN 45 DAYS AFTER THE DCE RECEIVES THE APPEAL.

IF IN DISAGREEMENT WITH THE DCE'S DETERMINATION, APPEAL THE DETERMINATION USING STEP 3 OF THE DISPUTE RESOLUTION AND ADMINISTRATIVE CLAIM PROCESS.

IF THE APPEAL IS DENIED AND THE SEPTEMBER 1 WORK RESTRICTION HAS PASSED, PERFORM THE REMEDIAL ACTIONS THE FOLLOWING SEASON. IF THIS EXTENDS BEYOND THE WARRANTY PERIOD, PROVIDE AN ADDITIONAL MAINTENANCE BOND ACCORDING TO 882.02 OF SUFFICIENT DURATION TO ENCOMPASS THE TIME NECESSARY TO COMPLETE ALL REMEDIAL ACTIONS. IF THE DISTRICT DETERMINES REPAIRS ARE NECESSARY BEFORE THE NEXT SEASON, MAKE REPAIRS ACCEPTABLE TO THE DISTRICT AND PERFORM FINAL REPAIRS THE FOLLOWING SEASON.

CALCULATED TLM CHECKED JMF

GENERAL NOTES

SEN-19-9.58
SEN-228-0.00

FOG SEAL
ON THIS PROJECT FOG SEAL THE TOP COURSE OF ITEM 882 AS DESCRIBED BELOW AND AT THE LIMITS OF SEN-19-(9.58-15.19).

WAIT ONE WEEK AFTER PLACEMENT OF THE FINAL ACCEPTED LIFT OF CHIP SEAL BEFORE PLACING A FOG SEAL. DO NOT FOG SEAL A CHIP SEAL THAT IS BLEEDING. SWEEP IMMEDIATELY BEFORE FOG SEALING FOG SEAL BEFORE PLACEMENT OF PERMANENT PAVEMENT MARKINGS. CONSTRUCT A 300 FT TEST STRIP. USE 702.04 SS-1H BINDER. DILUTE ONE PART EMULSION AND ONE PART WATER ONLY AT THE EMULSION MANUFACTURE SOURCE. DO NOT DILUTE AT THE PROJECT IN THE DISTRIBUTOR. APPLY 0.07 TO 0.15 GAL PER SY FOR A NO. 8 STONE AND 0.04 TO 0.10 GAL PER SY FOR ANY FINER GRADED STONE. REVIEW THE APPLICATION OF BINDER AND ADJUST THE APPLICATION RATE TO AVOID EXCESS EMULSION BEING APPLIED. APPLY FOG SEAL TO MINIMIZE THE AMOUNT OF OVERSPRAY. OVERLAP THE FOG SEAL AT THE PAVEMENT CROWN/ CENTERLINE 6 INCHES INTO BOTH LANES. DO NOT ALLOW TRAFFIC ON THE FOG SEAL UNTIL IT HAS CURED. APPLY LATEX MARKINGS AFTER CURE. APPLY PERMANENT PAVEMENT MARKINGS AFTER TWO WEEKS.

882.08 METHOD OF MEASUREMENT. THE DEPARTMENT WILL MEASURE CHIP SEAL WITH WARRANTY BY THE NUMBER OF SQUARE YARDS (SQUARE METERS), COMPLETED AND ACCEPTED IN PLACE. THE DEPARTMENT WILL DETERMINE THE WIDTH BY MEASURING THE ACTUAL WIDTH OF THE CHIP SEAL. THE DEPARTMENT WILL DETERMINE THE LENGTH ALONG THE CENTERLINE OF EACH ROADWAY OR RAMP.

882.09 BASIS OF PAYMENT. THE DEPARTMENT WILL NOT PAY FOR MATERIALS, EQUIPMENT OR LABOR REQUIRED TO PERFORM REMEDIAL ACTIONS. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICES AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
882	SQUARE YARD	SINGLE CHIP SEAL WITH TWO YEAR WARRANTY, AS PER PLAN A

CALCULATED TLM
CHECKED JMF

GENERAL NOTES

SEN-19-9.58
SEN-228-0.00

7
16

ITEM 882 CHIP SEAL WITH WARRANTY AS PER PLAN B

882.01 GENERAL
882.02 MAINTENANCE BOND
882.03 WARRANTY ITEM COVERAGE
882.04 MIX DESIGN AND MATERIALS
882.05 ANNUAL REVIEW PROCESS
882.06 REMEDIAL ACTIONS
882.07 APPEAL PROCESS
882.08 METHOD OF MEASUREMENT
882.09 BASIS OF PAYMENT

882.01 GENERAL. THIS WORK CONSISTS OF PREPARING AND APPLYING A SINGLE OR DOUBLE CHIP SEAL. WARRANT THE CHIP SEAL FOR TWO YEARS.

882.02 MAINTENANCE BOND. FURNISH A MAINTENANCE BOND FOR A TWO YEAR PERIOD IN AN AMOUNT EQUAL TO 75 PERCENT OF THE TOTAL AMOUNT BID FOR ITEM 882 WITH THE PERFORMANCE AND PAYMENT BONDS SPECIFIED IN 103.05.

ENSURE THE SURETY THAT UNDERWRITES THE MAINTENANCE BOND HAS AN A.M. BEST RATING OF "A-" OR BETTER. INCLUDE THE COST OF THE MAINTENANCE BOND IN THE PAY ITEM FOR THE PREMIUM FOR THE CONTRACT PERFORMANCE BOND AND THE PAYMENT BOND.

THE EFFECTIVE DATE OF THE MAINTENANCE BOND IS THE DATE THE DEPARTMENT'S FORM C-85 IS ISSUED FOR THE PAVEMENT. THE DEPARTMENT WILL ISSUE A FINAL C-85 WITHIN 30 DAYS AFTER ALL OF THE PAVEMENT ITEMS, INCLUDING ALL SAFETY ITEMS, ARE COMPLETED AND ACCEPTED AND THE PAVEMENT IS OPEN TO TRAFFIC. THE DEPARTMENT WILL ISSUE A PARTIAL C-85 WITHIN 30 DAYS AFTER THE PAVEMENT IS COMPLETED AND ACCEPTED, AND ALL SAFETY ITEMS ARE IN PLACE TO ALLOW THE PAVEMENT TO BE SAFELY OPEN TO TRAFFIC DURING THE MONTHS FROM SEPTEMBER TO APRIL. THE DEPARTMENT WILL ISSUE NO MORE THAN ONE C-85 EACH CALENDAR YEAR EXCEPT WITH APPROVAL OF THE DIRECTOR.

AFTER THE FINAL OR PARTIAL FORM C-85 IS ISSUED, THE DEPARTMENT WILL NOTIFY THE SURETY. AFTER THE FINAL FORM C-85 IS ISSUED THE DEPARTMENT WILL ALSO ESTABLISH ALL FINAL QUANTITIES FOR THE PROJECT AND THE PROJECT WILL BE FINALIZED USING STANDARD PROCEDURES. THE MAINTENANCE BOND EXPIRES TWO YEARS AFTER THE ISSUANCE OF FORM C-85.

MAINTAIN THE LIABILITY INSURANCE SPECIFIED IN 107.12, INSURING AGAINST CONTRACTOR OR CONTRACTOR AUTHORIZED OPERATIONS NEGLIGENTLY PERFORMED DURING THE WARRANTY PERIOD. ENSURE THE INSURANCE IS IN EFFECT THROUGHOUT THE WARRANTY PERIOD. SEND A COPY OF THE CERTIFICATE OF INSURANCE TO THE DISTRICT EACH YEAR.

882.03 WARRANTY ITEMS COVERAGE. WARRANTY ITEMS AND REMEDIAL ACTIONS ARE SPECIFIED IN 882.06. THE WARRANTY APPLIES TO ALL ITEM 882. THE WARRANTY DOES NOT APPLY TO STRUCTURAL PROBLEMS BELOW THE CHIP SEAL, PROVIDED THE STRUCTURAL PROBLEM IS NOT THE FAULT OF THE CONTRACTOR.

DO NOT CONSTRUE MEETING THE MINIMUM REQUIREMENTS AND GUIDELINES OF THIS SPECIFICATION AS A WARRANTY, EXPRESSED OR IMPLIED, AS TO THE MATERIAL PROPERTIES AND WORKMANSHIP EFFORTS REQUIRED TO MEET THE PERFORMANCE CRITERIA SET FORTH IN TABLE A

882.04 MATERIALS. FOR PROJECTS WITH AN ADT OF LESS THAN 500 USE RS-2 EMULSIFIED BINDER CONFORMING TO 702.04. FOR PROJECTS WITH AN ADT OF 500 OR GREATER USE POLYMER EMULSIFIED BINDER CONFORMING TO 702.16 TYPE A. FOR PROJECTS WITH MULTIPLE PAVEMENTS WITH ADTS ABOVE AND BELOW 500 USE POLYMER EMULSIFIED BINDER CONFORMING TO 702.16 TYPE A.

USE WASHED LIMESTONE OR DOLOMITE MEETING THE FOLLOWING GRADATION REQUIREMENT FOR THE SECOND COURSE (TOP COURSE) OF A DOUBLE CHIP SEAL OR FIRST COURSE OF A SINGLE CHIP SEAL AND MEET 703.05.

SIEVE SIZE	JMF LIMITS % PASSING
⅜ IN (9.5MM)	100
NO. 4 (4.75 MM)	85 TO 100
NO. 8 (2.36 MM)	0 TO 20
NO. 16 (1.18MM)	0 TO 5
NO. 200 (75 µM)	1.5 MAX OR 1.7 MAX, [1]
[1] WASHED GRADATION VALUE, 1.5 IF THE PILE IS AT THE AGGREGATE SOURCE, 1.7 IF THE SOURCE PILE HAS BEEN MOVED TO A STAGING LOCATION.	

SUBMIT A LETTER TO THE ENGINEER AND DET CONTAINING THE JMF GRADATION OF THE COVER AGGREGATE MEETING ALL SIEVE SIZES IN THE TABLE BELOW AS WELL AS THE FIVE SAMPLE RESULTS USED IN DETERMINING THE JMF GRADATION. DETERMINE THE JMF ON A STOCKPILE THAT WILL ONLY BE MOVED TO THE AGGREGATE SPREADER ON THE PROJECT. DETERMINE THE JMF GRADATION BY TAKING FIVE SAMPLES FROM DIFFERENT LOCATIONS OF THE STOCKPILED AGGREGATE. IF THE TOTAL RANGE OF ALL FIVE SAMPLES IS MORE THAN 6.0 PERCENT PASSING ON THE NO. 8 (2.36 MM) SIEVE, REWORK THE STOCKPILE AND TAKE FIVE NEW SAMPLES TO VERIFY THE RANGE IS MET. WHEN THE RANGE IS MET DETERMINE THE JMF GRADATION BY CALCULATING THE AVERAGE OF THE VALUES FOR EACH SIEVE SHOWING THE GRADATION CRITERIA IN THE BELOW TABLE IS MET. IF ANY OF THE FIVE SAMPLES ARE MORE THAN 2.0 PERCENT FOR THE WASHED VALUE OF THE NO. 200 (75 µM) SIEVE RE-WASH THE PILE. INCLUDE IN THE JMF BOTH A DRY GRADATION VALUE AND A WASHED GRADATION VALUE FOR PASSING THE NO. 200 (75 µM) SIEVE. ONCE TESTED DO NOT MOVE STOCKPILED AGGREGATE EXCEPT DIRECTLY TO THE AGGREGATE SPREADER ON THE JOB.

THE DISTRICT CAN SAMPLE AND TEST TO VALIDATE THE JMF AT ANY TIME. IF A PROBLEM IS NOTED IN ONE SAMPLE FIVE SAMPLES WILL BE TAKEN BY THE DISTRICT. IF THE AVERAGE OF THE FIVE SAMPLES DO NOT MEET THE RANGES NOTED ABOVE AND IS MORE THAN 0.1% GREATER THAN THE NO. 200 (75 µM) SIEVE LIMITS IN THE TABLE BELOW THE STOCKPILE IS NOT ACCEPTABLE.

DO NOT USE 703.01.F SR RESTRICTED AGGREGATE FOR THE TOP CHIP SEAL LAYER WHEN CHIP SEAL IS THE FINAL SURFACE. SRH RESTRICTED AGGREGATE MAY BE USED FOR ANY CHIP SEAL.

A. EQUIPMENT. PROVIDE EQUIPMENT CONFORMING TO THIS SECTION.

USE EQUIPMENT FOR BINDER DISTRIBUTION CONFORMING TO 407.03. IN ADDITION ENSURE THAT IT HAS A COMPUTERIZED RATE CONTROL THAT AUTOMATICALLY ADJUSTS THE BINDER PUMP TO THE UNIT GROUND SPEED AND HAS A GAUGE OR METER IN PLAIN VIEW FOR READING GALLONS (LITERS). USE APPROPRIATE SPRAY NOZZLES FOR THE MATERIAL AND RATE SPECIFIED.

USE TYPE II PNEUMATIC TIRE ROLLERS CONFORMING TO 401.13, EXCEPT THE MAXIMUM CAPACITY SHALL NOT APPLY.

USE SELF-PROPELLED AGGREGATE SPREADERS WITH A VARIABLE WIDTH AGGREGATE HOPPER CAPABLE OF PLACING FROM 8 TO 16 FEET (2.4 TO 4.8 M) IN ANY INCREMENT AND A COMPUTERIZED RATE CONTROL THAT AUTOMATICALLY ADJUSTS THE AGGREGATE OUTPUT TO THE UNIT GROUND SPEED. EQUIP SPREADERS WITH PNEUMATIC TIRES, A SCREEN TO REMOVE OVERSIZED MATERIAL, REVOLVING CYLINDERS, AND ADJUSTMENTS NECESSARY TO PRODUCE A UNIFORM DISTRIBUTION OF PARTICLES AT THE SPECIFIED RATE.

USE POWER SWEEPERS OR ROTARY BROOMS IN INITIAL SURFACE PREPARATION AND FOR REMOVING LOOSE PARTICLES. USE PICKUP TYPE SWEEPERS IN AREAS WHERE THE AGGREGATE SHOULDER DOES NOT EXIST. DO NOT SWEEP LOOSE AGGREGATE ONTO LAWNS, CURBED AREAS, AND INTERSECTIONS.

FURNISH ACCURATE THERMOMETERS FOR DETERMINING ANY OF THE APPLICABLE TEMPERATURE REQUIREMENTS OF THIS SPECIFICATION.

B. CONSTRUCTION.

1. SURFACE PREPARATION. CLEAN THE PAVEMENT ACCORDING TO 407.05. IF NECESSARY, CLEAN AREAS OF THE PAVEMENT WITH A HAND BROOM.

2. WEATHER LIMITATIONS. PLACE THE CHIP SEAL WHEN THE PAVEMENT AND ATMOSPHERIC TEMPERATURE IS 60 °F (16 °C) OR ABOVE. DO NOT PLACE CHIP SEAL IF ANY OF THE FOLLOWING CONDITIONS EXIST:

A. IMPENDING WEATHER CONDITIONS DO NOT ALLOW FOR PROPER CURING OR IF TEMPERATURES ARE FORECASTED BELOW 50° F (10° C) WITHIN 24 HOURS FROM THE TIME OF WORK.

B. THE EXISTING PAVEMENT TEMPERATURE IS 140° F (60° C) OR ABOVE.

C. BETWEEN SEPTEMBER 1 AND MAY 1.

3. BINDER APPLICATION. BEFORE APPLYING BINDER, ENSURE THAT SUFFICIENT COVER AGGREGATE IS AVAILABLE FOR IMMEDIATE APPLICATION. ADJUST THE BINDER APPLICATION RATE TO MEET THE PERFORMANCE REQUIREMENTS OF THIS SPECIFICATION. PROPER STONE EMBEDMENT IS TYPICALLY 1/2 TO 2/3 OF THE STONE CHIP HEIGHT AND CAN BE CHECKED BY PULLING OUT SEVERAL CHIPS BY HAND. ADJUST AND DOCUMENT APPLICATION RATES BY STATIONING. MAINTAIN THE BINDER TEMPERATURE FROM 150 TO 185° F (65° TO 85° C) DURING ONSTRUCTION, INCLUDING THE START OF EACH DAY. REHEAT THE BINDER AT A RATE OF NO MORE THAN 25° F (14° C) PER HOUR, WHEN THE BINDER IS ALLOWED TO COOL BELOW 150° F (65° C).

FOR SINGLE CHIP SEAL, APPLY THE BINDER AT A RATE OF 0.32 +/- 0.04 GALLON PER SOUARE YARD (1.54 L/M). FOR DOUBLE CHIP SEAL, APPLY THE BINDER AT A RATE OF 0.36 +/- 0.03 GALLON PER SOUARE YARD (1.54 L/M) FOR THE FIRST COURSE (BASE COURSE) AND 0.31 +/- 0.03 GALLON PER SOUARE YARD (1.54 L/M') FOR THE SECOND COURSE (TOP COURSE).

AT THE BEGINNING AND AT THE END OF A CONTRACT SECTION, START AND STOP THE APPLICATION ON A REMOVABLE PROTECTIVE COVER (PAPER, METAL SHEETS, OR OTHER SUITABLE MATERIAL) SUFFICIENTLY WIDE ENOUGH TO ALLOW FULL APPLICATION ON THE SURFACE BEING TREATED. MAKE TRANSVERSE AND LONGITUDINAL LAPS IN SUCH MANNER TO ENSURE THAT THE TEXTURE OF THE FINISHED SURFACE IS UNIFORM AND CONTINUOUS. TO PREVENT LAPPING AT TRANSVERSE JUNCTIONS, PROMPTLY SHUT OFF THE BINDER SPRAY AT THE END OF THE APPLICATION. BEFORE CONTINUING THE APPLICATION, PLACE A REMOVABLE PROTECTIVE COVER A SUFFICIENT DISTANCE BACK FROM THE JOINT ON THE COVER AGGREGATE SO THE SPRAYERS ARE OPERATING AT FULL FORCE WHEN THE DISTRIBUTOR HAS ATTAINED THE PREDETERMINED SPEED UPON REACHING THE UNCOVERED SURFACE. UPON COMPLETION, REMOVE ALL REMOVABLE PROTECTIVE COVERS.

4. COVER AGGREGATE APPLICATION. IMMEDIATELY AFTER APPLYING THE BINDER, APPLY COVER AGGREGATE UNIFORMLY WITHOUT RIDGES OR LAPS AT THE SPECIFIED RATE ADJUSTED AS DIRECTED BY THE ENGINEER TO PRODUCE A MINIMUM OF EXCESS LOOSE PARTICLES. SPREAD THE MATERIAL IN SUCH MANNER THAT THE TIRES OF THE TRUCK OR AGGREGATE SPREADER AT NO TIME CONTACT THE UNCOVERED AND NEWLY APPLIED BINDER. BEFORE ROLLING, CORRECT DEFICIENCIES IN THE APPLICATION OF COVER AGGREGATE IN A MANNER SATISFACTORY TO THE ENGINEER. DO NOT OVER APPLY COVER AGGREGATE WITH THE INTENT ON RELYING ON VACUUM AND BROOM SWEEPING TO PICK UP ALL EXCESS. STOP WORK IF NUISANCE TO THE PUBLIC AMOUNTS OF AGGREGATE OCCUR. IF WORK IS STOPPED RE-CALIBRATE THE AGGREGATE SPREADER AND RE-VERIFY THE AGGREGATE SPREAD RATE DETERMINING A NEW APPLICATION RATE AND APPLY COVER AGGREGATE AT THE NEW RATE.

AFTER ROLLING, PROTECT THE SURFACE FROM TRAFFIC DAMAGE DURING THE PERIOD REQUIRED FOR THE BINDER TO CURE SUFFICIENTLY AND PREVENT DISLODGING OF THE AGGREGATE PARTICLES BY NORMAL TRAFFIC. DURING THIS PERIOD, CORRECT DEFICIENCIES IN COVER AGGREGATE BY SPREADING ADDITIONAL AGGREGATE OR BY LIGHT BROOMING.

APPLY COVER AGGREGATE AT A RATE NECESSARY TO PROVIDE FULL COVERAGE OF THE BINDER AND TO AVOID TRACKING. IF THE TARGET RATE IS NOT THE OPTIMUM APPLICATION RATE DUE TO THE GRADATION OF THE AGGREGATE OR DUE TO EXISTING SURFACE CONDITIONS OF THE PAVEMENT, IMMEDIATELY ESTABLISH A NEW RATE AND DOCUMENT THE NEW RATE BY STATIONING.

TEST STRIP. CONSTRUCT A CONTINUOUS 1000-FOOT (300 M) LONG BY LANE WIDTH TEST STRIP. DO NOT WAIVE TEST STRIPS REGARDLESS IF THE SAME MATERIALS HAVE BEEN USED ON ANOTHER PROJECT. DETERMINE AND TELL THE ENGINEER THE BINDER APPLICATION RATE AND AGGREGATE APPLICATION RATE. CALIBRATE THE AGGREGATE SPREADER AND VERIFY THE APPLICATION RATE WITH A ONE SQUARE YARD (ONE SQUARE METER) PIECE OF CARDBOARD OR OTHER MATERIAL TO COLLECT AND WEIGH THE AGGREGATE. DO NOT OVER APPLY COVER AGGREGATE WITH THE INTENT ON RELYING ON VACUUM AND BROOM SWEEPING TO PICK UP ALL EXCESS. STOP WORK IF NUISANCE TO THE PUBLIC AMOUNTS OF AGGREGATE OCCUR. IF WORK IS STOPPED RE-CALIBRATE THE AGGREGATE SPREADER AND RE-VERIFY THE AGGREGATE SPREAD RATE DETERMINING A NEW APPLICATION RATE AND APPLY COVER AGGREGATE AT THE NEW RATE. VERIFY THE AGGREGATE GRADATION DURING THE TEST STRIP AND GIVE RESULTS TO THE ENGINEER.

THE ENGINEER AND CONTRACTOR WILL REVIEW THE TEST STRIP THE NEXT WORKDAY FOR STREAKING, RIDGING, BLEEDING, AGGREGATE LOSS OR OTHER PROBLEMS. IF THE REVIEW SHOWS THE TEST STRIP MEETS THE REQUIREMENTS OF 882.04 AND THE APPLICATION RATE AND QUALITY CONTROL TESTS SHOW ALL IS IN CONTROL COMPARED TO THE JMF, THEN PROGRESS WITH THE WORK. SHOULD PROBLEMS BE NOTED, THE ENGINEER MAY REQUIRE ANOTHER TEST STRIP.

5. CONSTRUCTION OPERATION.

ESTABLISH STATIONS AT 1000-FOOT (300 M) INTERVALS ON THE ENTIRE PROJECT BEFORE PLACING MATERIALS. CLEARLY IDENTIFY AND MAINTAIN THE STATIONS UNTIL PROJECT COMPLETION.

KEEP THE BINDER DISTRIBUTOR, AGGREGATE SPREADER, AND ROLLERS AS CLOSE TO EACH OTHER AS POSSIBLE. DO NOT ALLOW THE BINDER DISTRIBUTOR TO BE MORE THAN 150 FEET (45 M) AHEAD OF THE AGGREGATE SPREADER.

PERFORM ROLLING IMMEDIATELY AFTER PLACING THE AGGREGATE, BUT BEFORE THE BINDER SETS UP. DO NOT LEAVE AGGREGATE UNROLLED FOR MORE THAN 5 MINUTES. PERFORM A MINIMUM OF TWO COMPLETE ROLLER PASSES OVER THE AGGREGATE. A SINGLE COMPLETE PASS IS FORWARD AND BACKWARD OVER THE SAME PATH. FOR EACH NEW PASS, OVERLAP THE PREVIOUS PASS BY ABOUT ONE-HALF THE WIDTH OF THE ROLLER. USE A MINIMUM OF THREE ROLLERS, AND ROLL IN A LONGITUDINAL DIRECTION AT A SPEED NOT GREATER THAN 5 MILES PER HOUR (8 KM/H). DO NOT OPERATE ROLLERS AT SPEEDS THAT CAUSE PICK-UP

OR DISLODGING OF AGGREGATE PARTICLES.

AFTER THE BINDER SETS, AND BEFORE PLACING A SECOND COURSE FOR DOUBLE CHIP SEALS, AND WITHIN 4 HOURS, SWEEP THE PAVEMENT USING A POWER BROOM OR PICKUP SWEEPER AS NEEDED TO REMOVE ALL LOOSE AGGREGATE. EXTEND SWEEPING 1 FOOT (0.3 M) BEYOND THE EDGE OF THE PAVEMENT TO HELP PREVENT MIGRATION OF LOOSE AGGREGATE BACK ONTO THE PAVEMENT. DO NOT RE-USE AGGREGATE FROM A CHIP SEAL THAT IS SWEPT FROM THE PAVEMENT OR THAT IS ALREADY LOOSE OFF THE PAVEMENT EDGE.

IF THE PAVEMENT CANNOT BE SWEPT WITHIN THE 4-HOUR PERIOD DUE TO PROBLEMS ASSOCIATED WITH THE STONE MOISTURE, BINDER, BREAKING, HUMIDITY, OR OTHER UNKNOWN, THE ENGINEER MAY SUSPEND THE OPERATION UNTIL THE PROBLEM IS RESOLVED OR MORE SUITABLE CONDITIONS ARE OBTAINED TO MAINTAIN THE 4-HOUR TIME FRAME FOR SWEEPING. THE CONTRACTOR IS RESPONSIBLE FOR CLAIMS OF DAMAGE TO VEHICLES UNTIL THE PAVEMENT AND SHOULDERS RECEIVE A FINAL SWEEPING IMMEDIATELY BEFORE APPLICATION OF PERMANENT PAVEMENT MARKINGS OR A FOG SEAL.

WAIT AT LEAST 24 HOURS BEFORE PLACING THE SECOND COURSE OF A DOUBLE CHIP SEAL. ENSURE THAT THE FIRST COURSE MEETS REQUIREMENTS AND IS CURED, SWEPT, AND CAPABLE OF WITHSTANDING CONSTRUCTION TRAFFIC WITHOUT DAMAGE. CORRECT DAMAGE TO THE UNDERLYING CHIP SEAL BEFORE PLACING THE FINAL CHIP SEAL.

PLACE THE LONGITUDINAL CONSTRUCTION JOINT ON A LANE LINE OR AS DIRECTED BY THE ENGINEER. FOR DOUBLE CHIP SEAL, PLACE THE LONGITUDINAL CONSTRUCTION JOINT FOR THE FIRST COURSE 6 INCHES (150 MM) OFF THE CENTERLINE AND PLACE THE SECOND COURSE SO THE LONGITUDINAL JOINT IS AT THE CENTERLINE.

BEFORE OPENING TO TRAFFIC, POST THE ROADWAY WITH "LOOSE STONE" SIGNS AND A "35 MPH" SPEED PLAQUE MOUNTED BELOW THE SIGN. ENSURE THAT SIGNS CONFORM TO ITEM 614. PLACE THESE SIGNS AT A MAXIMUM OF 0.5 MILE (0.8 KM) INTERVALS. REMOVE THE SIGNS AS DIRECTED BY THE ENGINEER.

ON TWO-LANE ROADS OR PAVEMENTS WHERE TRAFFIC IS MAINTAINED ON A CHIP SEAL CONSTRUCTED THAT WORKDAY, A TRAFFIC CONTROL PILOT VEHICLE OPERATED AT NO MORE THAN 25 MILES PER HOUR (40 KM/H) IS REQUIRED IN THE IMMEDIATE WORK AREA.

PROTECT ALL UTILITY CASTINGS, MONUMENT BOXES AND OTHER SIMILAR ITEMS USING TARPAPER OR OTHER APPROVED MATERIAL. REMOVE PROTECTION BEFORE SWEEPING AND OPENING TO TRAFFIC.

C. QUALITY CONTROL.

1. GENERAL. USE THE METHODS DESCRIBED IN THIS SECTION FOR CONTROL PURPOSES. IDENTIFY THE CAUSE OF EXCEEDING ANY OF THE IDENTIFIED QUALITY CONTROL TOLERANCES AND DOCUMENT IN DETAIL THE CORRECTIVE ACTION NECESSARY TO BRING THE DEFICIENCY INTO COMPLIANCE. UPON RESUMING WORK, TAKE ANOTHER SAMPLE AND IMMEDIATELY TEST IT. IF THE TOLERANCES ARE EXCEEDED, STOP THE WORK UNTIL CORRECTED. THE DEPARTMENT CAN OBTAIN SAMPLES OF MATERIALS AT ANY TIME. AGGREGATE SAMPLES CAN BE TAKEN FROM SOURCES, ON-HAND STOCKPILES OR THE AGGREGATE SPREADER BOX. WORK CAN BE STOPPED AND MATERIALS CAN BE REJECTED ON THE BASIS OF POOR DEPARTMENT TEST RESULTS.

2. BINDER. LABEL AND RETAIN ONE SAMPLE PER DAY FOR THE DEPARTMENT. FOR THE BINDER APPLICATION RATE, AS DETERMINED BY A YIELD CHECK, DO NOT EXCEED A TOLERANCE OF 0.02 GALLONS PER

3. COARSE AGGREGATE. AT A MINIMUM TEST ONE SAMPLE TAKEN FROM THE AGGREGATE SPREADER BOX AT PRODUCTION START AND SAMPLE AND TEST ONE SAMPLE FROM THE AGGREGATE SPREADER BOX RANDOMLY DURING THE DAY. AN AGGREGATE SPREADER BOX SAMPLE MAY BE TAKEN BY LAYING A PIECE OF SUITABLE MATERIAL UNDER THE SPREADER AS IT MOVES FORWARD. INCLUDE ADDITIONAL TESTING WHEN DIRECTED TO SAMPLE AND TEST BY THE ENGINEER. SAMPLE AND TEST AGGREGATE ACCORDING TO AASHTO T 2, AASHTO T 248, AND SUPPLEMENT 1004 (AASHTO T 11 WHERE REQUIRED). USE WASHED GRADATIONS FOR DETERMINING THE NO. 200 (75M) SIEVE. THE CONTRACTOR MAY USE ADDITIONAL TESTS. THESE MAY INCLUDE DRY GRADATIONS FOR CONTROL PURPOSES BUT ACCEPTANCE OF ON HAND AGGREGATE WILL BE BASED ON WASHED GRADATIONS ONLY. REJECT AND DO NOT USE AGGREGATE CREATING NUISANCE TO THE PUBLIC DUSTING ON THE PROJECT.

REJECT TRUCKLOADS OF AGGREGATE IF WATER IS SEEN COMING FROM THE TRUCK BED. REJECT AGGREGATE THAT DOES NOT MEET THE FOLLOWING REQUIREMENTS:

NO. 4 (4.75 MM) SIEVE FROM JMF	±5.0%
NO. 8 (2.36 MM) SIEVE FROM JMF	±3.0%
NO. 200 (75 µM) SIEVE FROM JMF	±1.0%, 2.0% UPPER LIMIT
AGGREGATE MOISTURE CONTENT (BY DRY WEIGHT)	4.0% MAX. FORR AGGREGATE ABSORPTION >2.0%
	3.0% MAX. FOR AGGREGATE ABSORPTION 2.0%

4. DOCUMENTATION. PROVIDE THE ENGINEER A DAILY REPORT WITH THE FOLLOWING:

A. CONTROL SECTION, PROJECT NUMBER, COUNTY, ROUTE, AND ENGINEER.

B. DATE, AIR TEMPERATURE, PAVEMENT TEMPERATURE, AND HUMIDITY.

C. BINDER TEMPERATURE.

D. BEGINNING AND ENDING STATIONS.

E. YIELD CHECKS ON BINDER (THREE PER DAY, MINIMUM).

F. YIELD CHECKS ON AGGREGATE (THREE PER DAY, MINIMUM).

G. GRADATION, MOISTURE CONTENT, AND STATION (ONE SAMPLE FROM SPREADER BOX AT PRODUCTION START, ONE RANDOM SAMPLE DURING THE DAY AND ANY OTHER SAMPLES WHEN DIRECTED BY THE ENGINEER).

H. LENGTH, WIDTH, AND TOTAL AREA.

I. CONDITION OF "LOOSE STONE" SIGNS WITH "35 MPH" SPEED PLAQUES.

J. CONTRACTOR REPRESENTATIVE'S SIGNATURE.

PROVIDE A BILL OF LADING FOR BINDER AND AGGREGATE AS REQUESTED OR AT PROJECT COMPLETION.

D. APPEARANCE. DURING THE APPLICATION OF THE CHIP SEAL, INSPECT THE CHIP SEAL FOR DEFICIENCIES RESULTING FROM POOR WORKMANSHIP, FLUSHING, TRACKING FROM EQUIPMENT, SURFACE PATTERNS, LOSS OF STONE, AND SWEEPING. INSPECT WORKMANSHIP FOR UNTREATED AREAS, MINIMUM OVERLAP ON LONGITUDINAL JOINTS, AND MINIMUM OVERLAP ON CONSTRUCTION JOINTS.

VERIFY THE FOLLOWING FOR APPEARANCE:

1. FINISHED SURFACE HAS MINIMAL TEARS AND BINDER STREAKING.

2. JOINTS APPEAR NEAT AND UNIFORM WITHOUT BUILDUP, UNCOVERED AREAS, OR UNSIGHTLY APPEARANCE.

3. LONGITUDINAL JOINTS HAVE LESS THAN A 2 INCH (50 MM) OVERLAP ON THE ADJACENT PASSES.

4. TRANSVERSE JOINTS HAVE NO MORE THAN 0.25 INCH (6.5 MM) DIFFERENCE IN ELEVATION ACROSS THE JOINT AS MEASURED WITH A 6 FOOT (2 M) STRAIGHTEDGE.

5. CHIP SEAL EDGE IS NEAT AND UNIFORM ALONG THE ROADWAY LANE, SHOULDER, AND CURB LINES.

6. CHIP SEAL EDGE HAS NO MORE THAN 2 INCHES (50 MM) VARIANCE IN ANY 100 FEET (30 M), ALONG THE ROADWAY EDGE OR SHOULDER.

BEFORE THE DEPARTMENT ISSUES FORM C-85, THE CONTRACTOR AND ENGINEER WILL REVIEW THE COMPLETED WORK 15 TO 25 DAYS AFTER PLACEMENT. THE EXTENT OF THE FOLLOWING SHOULD BE MINIMAL TO NON-EXISTENT:

DEFECT	SEVERITY
SURFACE PATTERNS	ALTERNATE LEAN AND HEAVY LINES (RIDGES OR STREAKING OVER THE SURFACE)
BLEEDING / FLUSHING	EXCESS BINDER ON SURFACE, NOT SUBJECT TO WEARING OFF QUICKLY
LOSS OF COVER AGGREGATE	PATCHES OR LINES OF AGGREGATE LOST FROM SURFACE

PERFORM ALL CORRECTIVE WORK TO THE SATISFACTION OF THE ENGINEER.

882.05 ANNUAL REVIEW PROCESS. THE DISTRICT WILL REVIEW THE PROJECT INFORMALLY, IN LATE WINTER OR EARLY SPRING. IF A PROBLEM IS NOTED, A FORMAL REVIEW BY A DISTRICT REVIEW TEAM (DRT) WILL BE CONDUCTED. THE DRT WILL NOTIFY THE CONTRACTOR OF THE SCHEDULED REVIEW. THE CONTRACTOR OR ANY OTHER INTERESTED PARTY MAY ATTEND THE REVIEW, FOR OBSERVATION ONLY. ANY COMMENTS BY THE CONTRACTOR OR OTHER INTERESTED PARTY WILL BE RECORDED BY THE DRT. THE DRT WILL SELECT AREAS TO REVIEW BUT MAY REVIEW THE ENTIRE PROJECT. THE DEPARTMENT WILL ISSUE THE RESULTS IN WRITING TO THE CONTRACTOR WITHIN 15 DAYS AFTER COMPLETION OF THE REVIEW.

882.06 REMEDIAL ACTIONS. PERFORM REMEDIAL ACTIONS BETWEEN MAY 1 AND SEPTEMBER 1. IF AN APPEAL PROCESS GOES TO STEP 3, THE DISTRICT MAY REVISE THE DATE FOR COMPLETION OF THE REMEDIAL ACTION FOR THE APPEALED ITEM. IF THE DEPARTMENT DETERMINES THAT IMMEDIATE REPAIRS ARE NECESSARY, DUE TO A POTENTIAL HAZARD TO THE TRAVELING PUBLIC, THE DEPARTMENT WILL NOTIFY THE CONTRACTOR AND ESTABLISH A DATE THAT ALL REPAIRS ARE TO BE FINISHED. BEFORE PERFORMING A REMEDIAL ACTION, SUBMIT A REMEDIAL ACTION PLAN TO THE ENGINEER FOR APPROVAL. STATE IN THE PLAN WHEN AND HOW THE REMEDIAL ACTION WILL BE PERFORMED; WHAT MATERIAL WILL BE USED; AND HOW TRAFFIC WILL BE CONTROLLED. WARRANT REMEDIAL ACTION WORK FOR THE REMAINDER OF THE WARRANTY PERIOD.

PROVIDE CONSTRUCTION TRAFFIC CONTROL WHEN PERFORMING ANY WORK REQUIRED OR ALLOWED BY THIS SPECIFICATION DURING THE WARRANTY PERIOD IN ACCORDANCE WITH CURRENT DEPARTMENT POLICY AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. THE DEPARTMENT WILL APPROVE WHEN THE WORK IS PERFORMED. ANY MAJOR CHANGE IN DEPARTMENT CONSTRUCTION TRAFFIC CONTROL POLICY AT THE TIME OF BID WILL BE CONSIDERED A CHANGED CONDITION.

REPLACE PAVEMENT MARKINGS OR RAISED PAVEMENT MARKERS (RPM) REMOVED OR DAMAGED WHILE PERFORMING A REMEDIAL ACTION WITH PAVEMENT MARKINGS OR RPMS EQUAL TO OR BETTER THAN THE ORIGINAL PRODUCTS AT NO COST TO THE DEPARTMENT.

SUPPLY ALL MATERIALS, EQUIPMENT, AND LABOR TO PERFORM THE REMEDIAL ACTIONS AT NO ADDITIONAL COST TO THE DEPARTMENT.

PERFORM REMEDIAL ACTIONS WITH MATERIAL MEETING THE REQUIREMENTS OF 882.04. CERTIFY THE COMPONENT MATERIALS AND DESIGNED MIX MEET THE REQUIREMENTS OF 882.04.

THE DEPARTMENT WILL PERFORM EMERGENCY WORK, REPAIRING PAVEMENT DISTRESSES WHICH ARE HAZARDOUS TO THE TRAVELING PUBLIC. IF THE EMERGENCY WORK IS EXTENSIVE, THE DEPARTMENT MAY AUTHORIZE THE CONTRACTOR TO PERFORM THE REPAIRS. THE DISTRICT CONSTRUCTION ENGINEER (DCE) WILL DETERMINE IF THE DISTRESS IS OR IS NOT THE RESPONSIBILITY OF THE CONTRACTOR. IF THE DCE DETERMINES THE DISTRESS IS THE RESPONSIBILITY OF THE CONTRACTOR, THE COST, INCLUDING CONSTRUCTION TRAFFIC CONTROL, OF EMERGENCY WORK PERFORMED BY THE DEPARTMENT WILL BE CHARGED TO THE CONTRACTOR. IF THE DCE DETERMINES THE DISTRESS IS NOT THE RESPONSIBILITY OF THE CONTRACTOR, THE DEPARTMENT WILL PAY FOR CONTRACTOR PERFORMED REPAIRS ACCORDING TO 109.05. THE CONTRACTOR IS NOT RESPONSIBLE FOR PAVEMENT DAMAGE BEYOND THE CONTRACTOR'S CONTROL (I.E., CAR FIRE, OIL SPILL, ETC.). THE DCE'S DETERMINATION MAY BE APPEALED IN ACCORDANCE WITH 882.07.

TABLE A

THE BEGINNING POINT OF A 100 YD (100M) SEGMENT STARTS AT THE BEGINNING OF ANY INDIVIDUAL DISTRESS TYPE. FOR LOSS OF AGGREGATE, THE BEGINNING POINT OF A 100 YD (100M) SEGMENT WILL EXCLUDE LOCATIONS WHERE VEHICLES TURN FROM OR ONTO OTHER STATE HIGHWAYS,

DEFECT	SEVERITY	ALLOWABLE EXTENT
SURFACE PATTERNS	**SEVERE** - LIGHT & HEAVY LINES OVER THE PAVEMENT SURFACE	40% OF SEGMENT LENGTH AFFECTED, CONTINUOUS OR LOCALIZED
BLEEDING/ FLUSHING	**MODERATE** - EXCESS BINDER ON SURFACE (LOSS OF STONE/TIRE CONTACT) NOT SUBJECT TO WEARING OFF QUICKLY	5% OF SEGMENT LENGTH AFFECTED CONTINUOUSLY OR TOTAL OF 20% LOCALIZED PROBLEMS
LOSS OF AGGREGATE	**MODERATE** - PATCHES OF AGGREGATE LOSS	10% OF SEGMENT LENGTH AFFECTED CONTINUOUSLY OR TOTAL OF 20% LOCALIZED PROBLEMS

882.07 APPEAL PROCESS. FINDINGS OF THE DRT MAY BE APPEALED. SUBMIT ANY APPEAL TO THE DCE, IN WRITING, WITHIN 15 DAYS AFTER RECEIPT OF THE WRITTEN RESULTS OF THE DRT.

THE DCE WILL EVALUATE APPEALS. THE EVALUATION WILL INCLUDE REVIEWING THE DISPUTED AREA IN THE FIELD AND CONSULTING WITH THE OFFICE OF CONSTRUCTION ADMINISTRATION. THE EVALUATION MAY ALSO INCLUDE REVIEWING TEST DATA, OBTAINING SAMPLES, OR INTERVIEWING DEPARTMENT (DISTRICT OR CENTRAL OFFICE) OR CONTRACTOR EMPLOYEES. THE DCE'S DETERMINATION WILL BE ISSUED IN WRITING TO THE CONTRACTOR WITHIN 45 DAYS AFTER THE DCE RECEIVES THE APPEAL.

CALCULATED TLM CHECKED JMF

GENERAL NOTES

SEN-19-9.58
SEN-228-0.00

IF IN DISAGREEMENT WITH THE DCE'S DETERMINATION, APPEAL THE DETERMINATION USING STEP 3 OF THE DISPUTE RESOLUTION AND ADMINISTRATIVE CLAIM PROCESS.

IF THE APPEAL IS DENIED AND THE SEPTEMBER 1 WORK RESTRICTION HAS PASSED, PERFORM THE REMEDIAL ACTIONS THE FOLLOWING SEASON. IF THIS EXTENDS BEYOND THE WARRANTY PERIOD, PROVIDE AN ADDITIONAL MAINTENANCE BOND ACCORDING TO 882.02 OF SUFFICIENT DURATION TO ENCOMPASS THE TIME NECESSARY TO COMPLETE ALL REMEDIAL ACTIONS. IF THE DISTRICT DETERMINES REPAIRS ARE NECESSARY BEFORE THE NEXT SEASON, MAKE REPAIRS ACCEPTABLE TO THE DISTRICT AND PERFORM FINAL REPAIRS THE FOLLOWING SEASON.

882.08 METHOD OF MEASUREMENT. THE DEPARTMENT WILL MEASURE CHIP SEAL WITH WARRANTY BY THE NUMBER OF SQUARE YARDS (SQUARE METERS), COMPLETED AND ACCEPTED IN PLACE. THE DEPARTMENT WILL DETERMINE THE WIDTH BY MEASURING THE ACTUAL WIDTH OF THE CHIP SEAL. THE DEPARTMENT WILL DETERMINE THE LENGTH ALONG THE CENTERLINE OF EACH ROADWAY OR RAMP.

882.09 BASIS OF PAYMENT. THE DEPARTMENT WILL NOT PAY FOR MATERIALS, EQUIPMENT OR LABOR REQUIRED TO PERFORM REMEDIAL ACTIONS. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICES AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
882	SQUARE YARD	SINGLE CHIP SEAL WITH TWO YEAR WARRANTY, AS PER PLAN B

CALCULATED TLM
CHECKED JMF

GENERAL NOTES

SEN-19-9.58
SEN-228-0.00

10
16

ITEM 882 CHIP SEAL WITH WARRANTY AS PER PLAN C

882.01 GENERAL
882.02 MAINTENANCE BOND
882.03 WARRANTY ITEM COVERAGE
882.04 MIX DESIGN AND MATERIALS
882.05 ANNUAL REVIEW PROCESS
882.06 REMEDIAL ACTIONS
882.07 APPEAL PROCESS
882.08 METHOD OF MEASUREMENT
882.09 BASIS OF PAYMENT

882.01 GENERAL. THIS WORK CONSISTS OF PREPARING AND APPLYING A SINGLE OR DOUBLE CHIP SEAL. WARRANT THE CHIP SEAL FOR TWO YEARS.

882.02 MAINTENANCE BOND. FURNISH A MAINTENANCE BOND FOR A TWO YEAR PERIOD IN AN AMOUNT EQUAL TO 75 PERCENT OF THE TOTAL AMOUNT BID FOR ITEM 882 WITH THE PERFORMANCE AND PAYMENT BONDS SPECIFIED IN 103.05.

ENSURE THE SURETY THAT UNDERWRITES THE MAINTENANCE BOND HAS AN A.M. BEST RATING OF "A-" OR BETTER. INCLUDE THE COST OF THE MAINTENANCE BOND IN THE PAY ITEM FOR THE PREMIUM FOR THE CONTRACT PERFORMANCE BOND AND THE PAYMENT BOND.

THE EFFECTIVE DATE OF THE MAINTENANCE BOND IS THE DATE THE DEPARTMENT'S FORM C-85 IS ISSUED FOR THE PAVEMENT. THE DEPARTMENT WILL ISSUE A FINAL C-85 WITHIN 30 DAYS AFTER ALL OF THE PAVEMENT ITEMS, INCLUDING ALL SAFETY ITEMS, ARE COMPLETED AND ACCEPTED AND THE PAVEMENT IS OPEN TO TRAFFIC. THE DEPARTMENT WILL ISSUE A PARTIAL C-85 WITHIN 30 DAYS AFTER THE PAVEMENT IS COMPLETED AND ACCEPTED, AND ALL SAFETY ITEMS ARE IN PLACE TO ALLOW THE PAVEMENT TO BE SAFELY OPEN TO TRAFFIC DURING THE MONTHS FROM SEPTEMBER TO APRIL. THE DEPARTMENT WILL ISSUE NO MORE THAN ONE C-85 EACH CALENDAR YEAR EXCEPT WITH APPROVAL OF THE DIRECTOR.

AFTER THE FINAL OR PARTIAL FORM C-85 IS ISSUED, THE DEPARTMENT WILL NOTIFY THE SURETY. AFTER THE FINAL FORM C-85 IS ISSUED THE DEPARTMENT WILL ALSO ESTABLISH ALL FINAL QUANTITIES FOR THE PROJECT AND THE PROJECT WILL BE FINALIZED USING STANDARD PROCEDURES. THE MAINTENANCE BOND EXPIRES TWO YEARS AFTER THE ISSUANCE OF FORM C-85.

MAINTAIN THE LIABILITY INSURANCE SPECIFIED IN 107.12, INSURING AGAINST CONTRACTOR OR CONTRACTOR AUTHORIZED OPERATIONS NEGLIGENTLY PERFORMED DURING THE WARRANTY PERIOD. ENSURE THE INSURANCE IS IN EFFECT THROUGHOUT THE WARRANTY PERIOD. SEND A COPY OF THE CERTIFICATE OF INSURANCE TO THE DISTRICT EACH YEAR.

882.03 WARRANTY ITEMS COVERAGE. WARRANTY ITEMS AND REMEDIAL ACTIONS ARE SPECIFIED IN 882.06. THE WARRANTY APPLIES TO ALL ITEM 882. THE WARRANTY DOES NOT APPLY TO STRUCTURAL PROBLEMS BELOW THE CHIP SEAL, PROVIDED THE STRUCTURAL PROBLEM IS NOT THE FAULT OF THE CONTRACTOR.

DO NOT CONSTRUE MEETING THE MINIMUM REQUIREMENTS AND GUIDELINES OF THIS SPECIFICATION AS A WARRANTY, EXPRESSED OR IMPLIED, AS TO THE MATERIAL PROPERTIES AND WORKMANSHIP EFFORTS REQUIRED TO MEET THE PERFORMANCE CRITERIA SET FORTH IN TABLE A

882.04 MATERIALS. FOR PROJECTS WITH AN ADT OF LESS THAN 500 USE RS-2 EMULSIFIED BINDER CONFORMING TO 702.04. FOR PROJECTS WITH AN ADT OF 500 OR GREATER USE POLYMER EMULSIFIED BINDER CONFORMING TO 702.16 TYPE A. FOR PROJECTS WITH MULTIPLE PAVEMENTS WITH ADTS ABOVE AND BELOW 500 USE POLYMER EMULSIFIED BINDER CONFORMING TO 702.16 TYPE A.

FOR COVER AGGREGATE MATERIAL, USE WASHED LIMESTONE OR DOLOMITE MEETING 703.05 AND THE FOLLOWING REQUIREMENTS. SUBMIT A LETTER TO THE ENGINEER AND DET CONTAINING THE JMF GRADATION OF THE COVER AGGREGATE MEETING ALL SIEVE SIZES IN THE TABLE BELOW AS WELL AS THE FIVE SAMPLE RESULTS USED IN DETERMINING THE JMF GRADATION. DETERMINE THE JMF ON A STOCKPILE THAT WILL ONLY BE MOVED TO THE AGGREGATE SPREADER ON THE PROJECT. DETERMINE THE JMF GRADATION BY TAKING FIVE SAMPLES FROM DIFFERENT LOCATIONS OF THE STOCKPILED AGGREGATE. IF THE TOTAL RANGE OF ALL FIVE SAMPLES IS MORE THAN 6.0 PERCENT PASSING ON THE NO. 8 (2.36 MM) SIEVE, REWORK THE STOCKPILE AND TAKE FIVE NEW SAMPLES TO VERIFY THE RANGE IS MET. WHEN THE RANGE IS MET DETERMINE THE JMF GRADATION BY CALCULATING THE AVERAGE OF THE VALUES FOR EACH SIEVE SHOWING THE GRADATION CRITERIA IN THE BELOW TABLE IS MET. IF ANY OF THE FIVE SAMPLES ARE MORE THAN 2.0 PERCENT FOR THE WASHED VALUE OF THE NO. 200 (75 M) SIEVE RE-WASH THE PILE. INCLUDE IN THE JMF BOTH A DRY GRADATION VALUE AND A WASHED GRADATION VALUE FOR PASSING THE NO. 200 (75 ²M) SIEVE. ONCE TESTED DO NOT MOVE STOCKPILED AGGREGATE EXCEPT DIRECTLY TO THE AGGREGATE SPREADER ON THE JOB.

THE DISTRICT CAN SAMPLE AND TEST TO VALIDATE THE JMF AT ANY TIME. IF A PROBLEM IS NOTED IN ONE SAMPLE FIVE SAMPLES WILL BE TAKEN BY THE DISTRICT. IF THE AVERAGE OF THE FIVE SAMPLES DO NOT MEET THE RANGES NOTED ABOVE AND IS MORE THAN 0.1% GREATER THAN THE NO. 200 (75 µM) SIEVE LIMITS IN THE TABLE BELOW THE STOCKPILE IS NOT ACCEPTABLE.

SIEVE SIZE	JMF LIMITS % PASSING
½ IN (12.5MM)	100
⅜ IN (9.5MM)	85 TO 100
NO. 4 (4.75 MM)	5 TO 25
NO. 8 (2.36 MM)	0 TO 10
NO. 16 (1.18MM)	0 TO 5
NO. 200 (75 µM)	1.5 MAX OR 1.7 MAX, [1]

[1] WASHED GRADATION VALUE, 1.5 IF THE PILE IS AT THE AGGREGATE SOURCE, 1.7 IF THE SOURCE PILE HAS BEEN MOVED TO A STAGING LOCATION.

DO NOT USE 703.01.F SR RESTRICTED AGGREGATE FOR THE TOP CHIP SEAL LAYER WHEN CHIP SEAL IS THE FINAL SURFACE. SRH RESTRICTED AGGREGATE MAY BE USED FOR ANY CHIP SEAL.

A. EQUIPMENT. PROVIDE EQUIPMENT CONFORMING TO THIS SECTION.

USE EQUIPMENT FOR BINDER DISTRIBUTION CONFORMING TO 407.03. IN ADDITION ENSURE THAT IT HAS A COMPUTERIZED RATE CONTROL THAT AUTOMATICALLY ADJUSTS THE BINDER PUMP TO THE UNIT GROUND SPEED AND HAS A GAUGE OR METER IN PLAIN VIEW FOR READING GALLONS (LITERS). USE APPROPRIATE SPRAY NOZZLES FOR THE MATERIAL AND RATE SPECIFIED.

USE TYPE II PNEUMATIC TIRE ROLLERS CONFORMING TO 401.13, EXCEPT THE MAXIMUM CAPACITY SHALL NOT APPLY.

USE SELF-PROPELLED AGGREGATE SPREADERS WITH A VARIABLE WIDTH AGGREGATE HOPPER CAPABLE OF PLACING FROM 8 TO 16 FEET (2.4 TO 4.8 M) IN ANY INCREMENT AND A COMPUTERIZED RATE CONTROL THAT AUTOMATICALLY ADJUSTS THE AGGREGATE OUTPUT TO THE UNIT GROUND SPEED. EQUIP SPREADERS WITH PNEUMATIC TIRES, A SCREEN TO REMOVE OVERSIZED MATERIAL, REVOLVING CYLINDERS, AND ADJUSTMENTS NECESSARY TO PRODUCE A UNIFORM DISTRIBUTION OF PARTICLES AT THE SPECIFIED RATE.

USE POWER SWEEPERS OR ROTARY BROOMS IN INITIAL SURFACE PREPARATION AND FOR REMOVING LOOSE PARTICLES. USE PICKUP TYPE SWEEPERS IN AREAS WHERE THE AGGREGATE SHOULDER DOES NOT EXIST. DO NOT SWEEP LOOSE AGGREGATE ONTO LAWNS, CURBED AREAS, AND INTERSECTIONS.

FURNISH ACCURATE THERMOMETERS FOR DETERMINING ANY OF THE APPLICABLE TEMPERATURE REQUIREMENTS OF THIS SPECIFICATION.

B. CONSTRUCTION.

1. SURFACE PREPARATION. CLEAN THE PAVEMENT ACCORDING TO 407.05. IF NECESSARY, CLEAN AREAS OF THE PAVEMENT WITH A HAND BROOM.

2. WEATHER LIMITATIONS. PLACE THE CHIP SEAL WHEN THE PAVEMENT AND ATMOSPHERIC TEMPERATURE IS 60 °F (16 °C) OR ABOVE. DO NOT PLACE CHIP SEAL IF ANY OF THE FOLLOWING CONDITIONS EXIST:

A. IMPENDING WEATHER CONDITIONS DO NOT ALLOW FOR PROPER CURING OR IF TEMPERATURES ARE FORECASTED BELOW 50° F (10° C) WITHIN 24 HOURS FROM THE TIME OF WORK.

B. THE EXISTING PAVEMENT TEMPERATURE IS 140° F (60° C) OR ABOVE.

C. BETWEEN SEPTEMBER 1 AND MAY 1.

3. BINDER APPLICATION. BEFORE APPLYING BINDER, ENSURE THAT SUFFICIENT COVER AGGREGATE IS AVAILABLE FOR IMMEDIATE APPLICATION. ADJUST THE BINDER APPLICATION RATE TO MEET THE PERFORMANCE REQUIREMENTS OF THIS SPECIFICATION. PROPER STONE EMBEDMENT IS TYPICALLY 1/2 TO 2/3 OF THE STONE CHIP HEIGHT AND CAN BE CHECKED BY PULLING OUT SEVERAL CHIPS BY HAND. ADJUST AND DOCUMENT APPLICATION RATES BY STATIONING. MAINTAIN THE BINDER TEMPERATURE FROM 150 TO 185° F (65° TO 85° C) DURING CONSTRUCTION, INCLUDING THE START OF EACH DAY. REHEAT THE BINDER AT A RATE OF NO MORE THAN 25° F (14° C) PER HOUR, WHEN THE BINDER IS ALLOWED TO COOL BELOW 150° F (65° C).

AT THE BEGINNING AND AT THE END OF A CONTRACT SECTION, START AND STOP THE APPLICATION ON A REMOVABLE PROTECTIVE COVER (PAPER, METAL SHEETS, OR OTHER SUITABLE MATERIAL) SUFFICIENTLY WIDE ENOUGH TO ALLOW FULL APPLICATION ON THE SURFACE BEING TREATED. MAKE TRANSVERSE AND LONGITUDINAL LAPS IN SUCH MANNER TO ENSURE THAT THE TEXTURE OF THE FINISHED SURFACE IS UNIFORM AND CONTINUOUS. TO PREVENT LAPPING AT TRANSVERSE JUNCTIONS, PROMPTLY SHUT OFF THE BINDER SPRAY AT THE END OF THE APPLICATION. BEFORE CONTINUING THE APPLICATION, PLACE A REMOVABLE PROTECTIVE COVER A SUFFICIENT DISTANCE BACK FROM THE JOINT ON THE COVER AGGREGATE SO THE SPRAYERS ARE OPERATING AT FULL FORCE WHEN THE DISTRIBUTOR HAS ATTAINED THE PREDETERMINED SPEED UPON REACHING THE UNCOVERED SURFACE. UPON COMPLETION, REMOVE ALL REMOVABLE PROTECTIVE COVERS.

4. COVER AGGREGATE APPLICATION. IMMEDIATELY AFTER APPLYING THE BINDER, APPLY COVER AGGREGATE UNIFORMLY WITHOUT RIDGES OR LAPS AT THE SPECIFIED RATE ADJUSTED AS DIRECTED BY THE ENGINEER TO PRODUCE A MINIMUM OF EXCESS LOOSE PARTICLES. SPREAD THE MATERIAL IN SUCH MANNER THAT THE TIRES OF THE TRUCK OR AGGREGATE SPREADER AT NO TIME CONTACT THE UNCOVERED AND NEWLY APPLIED BINDER. BEFORE ROLLING, CORRECT DEFICIENCIES IN THE APPLICATION OF COVER AGGREGATE IN A MANNER SATISFACTORY TO THE ENGINEER. DO NOT OVER APPLY COVER AGGREGATE WITH THE INTENT ON RELYING ON VACUUM AND BROOM SWEEPING TO PICK UP ALL EXCESS. STOP WORK IF NUISANCE TO THE PUBLIC AMOUNTS OF AGGREGATE OCCUR. IF WORK IS STOPPED RE-CALIBRATE THE AGGREGATE SPREADER AND RE-VERIFY THE AGGREGATE SPREAD RATE DETERMINING A NEW APPLICATION RATE AND APPLY COVER AGGREGATE AT THE NEW RATE.

AFTER ROLLING, PROTECT THE SURFACE FROM TRAFFIC DAMAGE DURING THE PERIOD REQUIRED FOR THE BINDER TO CURE SUFFICIENTLY AND PREVENT DISLODGING OF THE AGGREGATE PARTICLES BY NORMAL TRAFFIC. DURING THIS PERIOD, CORRECT DEFICIENCIES IN COVER AGGREGATE BY SPREADING ADDITIONAL AGGREGATE OR BY LIGHT BROOMING.

APPLY COVER AGGREGATE AT A RATE NECESSARY TO PROVIDE FULL COVERAGE OF THE BINDER AND TO AVOID TRACKING. IF THE TARGET RATE IS NOT THE OPTIMUM APPLICATION RATE DUE TO THE GRADATION OF THE AGGREGATE OR DUE TO EXISTING SURFACE CONDITIONS OF THE PAVEMENT, IMMEDIATELY ESTABLISH A NEW RATE AND DOCUMENT THE NEW RATE BY STATIONING.

TEST STRIP. CONSTRUCT A CONTINUOUS 1000-FOOT (300 M) LONG BY LANE WIDTH TEST STRIP. DO NOT WAIVE TEST STRIPS REGARDLESS IF THE SAME MATERIALS HAVE BEEN USED ON ANOTHER PROJECT. DETERMINE AND TELL THE ENGINEER THE BINDER APPLICATION RATE AND AGGREGATE APPLICATION RATE. CALIBRATE THE AGGREGATE SPREADER AND VERIFY THE APPLICATION RATE WITH A ONE SQUARE YARD (ONE SQUARE METER) PIECE OF CARDBOARD OR OTHER MATERIAL TO COLLECT AND WEIGH THE AGGREGATE. DO NOT OVER APPLY COVER AGGREGATE WITH THE INTENT ON RELYING ON VACUUM AND BROOM SWEEPING TO PICK UP ALL EXCESS. STOP WORK IF NUISANCE TO THE PUBLIC AMOUNTS OF AGGREGATE OCCUR. IF WORK IS STOPPED RE-CALIBRATE THE AGGREGATE SPREADER AND RE-VERIFY THE AGGREGATE SPREAD RATE DETERMINING A NEW APPLICATION RATE AND APPLY COVER AGGREGATE AT THE NEW RATE. VERIFY THE AGGREGATE GRADATION DURING THE TEST STRIP AND GIVE RESULTS TO THE ENGINEER.

THE ENGINEER AND CONTRACTOR WILL REVIEW THE TEST STRIP THE NEXT WORKDAY FOR STREAKING, RIDGING, BLEEDING, AGGREGATE LOSS OR OTHER PROBLEMS. IF THE REVIEW SHOWS THE TEST STRIP MEETS THE REQUIREMENTS OF 882.04 AND THE APPLICATION RATE AND QUALITY CONTROL TESTS SHOW ALL IS IN CONTROL COMPARED TO THE JMF, THEN PROGRESS WITH THE WORK. SHOULD PROBLEMS BE NOTED, THE ENGINEER MAY REQUIRE ANOTHER TEST STRIP.

5. CONSTRUCTION OPERATION.
ESTABLISH STATIONS AT 1000-FOOT (300 M) INTERVALS ON THE ENTIRE PROJECT BEFORE PLACING MATERIALS. CLEARLY IDENTIFY AND MAINTAIN THE STATIONS UNTIL PROJECT COMPLETION.

KEEP THE BINDER DISTRIBUTOR, AGGREGATE SPREADER, AND ROLLERS AS CLOSE TO EACH OTHER AS POSSIBLE. DO NOT ALLOW THE BINDER DISTRIBUTOR TO BE MORE THAN 150 FEET (45 M) AHEAD OF THE AGGREGATE SPREADER.

PERFORM ROLLING IMMEDIATELY AFTER PLACING THE AGGREGATE, BUT BEFORE THE BINDER SETS UP. DO NOT LEAVE AGGREGATE UNROLLED FOR MORE THAN 5 MINUTES. PERFORM A MINIMUM OF TWO COMPLETE ROLLER PASSES OVER THE AGGREGATE. A SINGLE COMPLETE PASS IS FORWARD AND BACKWARD OVER THE SAME PATH. FOR EACH NEW PASS, OVERLAP THE PREVIOUS PASS BY ABOUT ONE-HALF THE WIDTH OF THE ROLLER. USE A MINIMUM OF THREE ROLLERS, AND ROLL IN A LONGITUDINAL DIRECTION AT A SPEED NOT GREATER THAN 5 MILES PER HOUR (8 KM/H). DO NOT OPERATE ROLLERS AT SPEEDS THAT CAUSE PICK-UP OR DISLODGING OF AGGREGATE PARTICLES.

AFTER THE BINDER SETS, AND BEFORE PLACING A SECOND COURSE FOR DOUBLE CHIP SEALS, AND WITHIN 4 HOURS, SWEEP THE PAVEMENT USING A POWER BROOM OR PICKUP SWEEPER AS NEEDED TO REMOVE ALL LOOSE AGGREGATE. EXTEND SWEEPING 1 FOOT (0.3 M) BEYOND THE EDGE OF THE PAVEMENT TO HELP PREVENT MIGRATION OF LOOSE AGGREGATE BACK ONTO THE PAVEMENT DO NOT RE-USE AGGREGATE FROM A CHIP SEAL THAT IS SWEPT FROM THE PAVEMENT OR THAT IS ALREADY LOOSE OFF THE PAVEMENT EDGE.

IF THE PAVEMENT CANNOT BE SWEPT WITHIN THE 4-HOUR PERIOD

CALCULATED TLM CHECKED JMF

GENERAL NOTES

SEN-19-9.58
SEN-228-0.00

DUE TO PROBLEMS ASSOCIATED WITH THE STONE MOISTURE, BINDER, BREAKING, HUMIDITY, OR OTHER UNKNOWN, THE ENGINEER MAY SUSPEND THE OPERATION UNTIL THE PROBLEM IS RESOLVED OR MORE SUITABLE CONDITIONS ARE OBTAINED TO MAINTAIN THE 4-HOUR TIME FRAME FOR SWEEPING. THE CONTRACTOR IS RESPONSIBLE FOR CLAIMS OF DAMAGE TO VEHICLES UNTIL THE PAVEMENT AND SHOULDERS RECEIVE A FINAL SWEEPING IMMEDIATELY BEFORE APPLICATION OF PERMANENT PAVEMENT MARKINGS OR A FOG SEAL.

WAIT AT LEAST 24 HOURS BEFORE PLACING THE SECOND COURSE OF A DOUBLE CHIP SEAL. ENSURE THAT THE FIRST COURSE MEETS REQUIREMENTS AND IS CURED, SWEPT, AND CAPABLE OF WITHSTANDING CONSTRUCTION TRAFFIC WITHOUT DAMAGE. CORRECT DAMAGE TO THE UNDERLYING CHIP SEAL BEFORE PLACING THE FINAL CHIP SEAL.

PLACE THE LONGITUDINAL CONSTRUCTION JOINT ON A LANE LINE OR AS DIRECTED BY THE ENGINEER. FOR DOUBLE CHIP SEAL, PLACE THE LONGITUDINAL CONSTRUCTION JOINT FOR THE FIRST COURSE 6 INCHES (150 MM) OFF THE CENTERLINE AND PLACE THE SECOND COURSE SO THE LONGITUDINAL JOINT IS AT THE CENTERLINE.

BEFORE OPENING TO TRAFFIC, POST THE ROADWAY WITH "LOOSE STONE" SIGNS AND A "35 MPH" SPEED PLAQUE MOUNTED BELOW THE SIGN. ENSURE THAT SIGNS CONFORM TO ITEM 614. PLACE THESE SIGNS AT A MAXIMUM OF 0.5 MILE (0.8 KM) INTERVALS. REMOVE THE SIGNS AS DIRECTED BY THE ENGINEER.

ON TWO-LANE ROADS OR PAVEMENTS WHERE TRAFFIC IS MAINTAINED ON A CHIP SEAL CONSTRUCTED THAT WORKDAY, A TRAFFIC CONTROL PILOT VEHICLE OPERATED AT NO MORE THAN 25 MILES PER HOUR (40 KM/H) IS REQUIRED IN THE IMMEDIATE WORK AREA.

PROTECT ALL UTILITY CASTINGS, MONUMENT BOXES AND OTHER SIMILAR ITEMS USING TARPAPER OR OTHER APPROVED MATERIAL. REMOVE PROTECTION BEFORE SWEEPING AND OPENING TO TRAFFIC.

C. QUALITY CONTROL.

1. GENERAL. USE THE METHODS DESCRIBED IN THIS SECTION FOR CONTROL PURPOSES. IDENTIFY THE CAUSE OF EXCEEDING ANY OF THE IDENTIFIED QUALITY CONTROL TOLERANCES AND DOCUMENT IN DETAIL THE CORRECTIVE ACTION NECESSARY TO BRING THE DEFICIENCY INTO COMPLIANCE. UPON RESUMING WORK, TAKE ANOTHER SAMPLE AND IMMEDIATELY TEST IT. IF THE TOLERANCES ARE EXCEEDED, STOP THE WORK UNTIL CORRECTED. THE DEPARTMENT CAN OBTAIN SAMPLES OF MATERIALS AT ANY TIME. AGGREGATE SAMPLES CAN BE TAKEN FROM SOURCES, ON-HAND STOCKPILES OR THE AGGREGATE SPREADER BOX. WORK CAN BE STOPPED AND MATERIALS CAN BE REJECTED ON THE BASIS OF POOR DEPARTMENT TEST RESULTS.

2. BINDER. LABEL AND RETAIN ONE SAMPLE PER DAY FOR THE DEPARTMENT. FOR THE BINDER APPLICATION RATE, AS DETERMINED BY A YIELD CHECK, DO NOT EXCEED A TOLERANCE OF 0.02 GALLONS PER

3. COARSE AGGREGATE. AT A MINIMUM TEST ONE SAMPLE TAKEN FROM THE AGGREGATE SPREADER BOX AT PRODUCTION START AND SAMPLE AND TEST ONE SAMPLE FROM THE AGGREGATE SPREADER BOX RANDOMLY DURING THE DAY. AN AGGREGATE SPREADER BOX SAMPLE MAY BE TAKEN BY LAYING A PIECE OF SUITABLE MATERIAL UNDER THE SPREADER AS IT MOVES FORWARD. INCLUDE ADDITIONAL TESTING WHEN DIRECTED TO SAMPLE AND TEST BY THE ENGINEER. SAMPLE AND TEST AGGREGATE ACCORDING TO AASHTO T 2, AASHTO T 248, AND SUPPLEMENT 1004 (AASHTO T 11 WHERE REQUIRED). USE WASHED GRADATIONS FOR DETERMINING THE NO. 200 (75M) SIEVE. THE CONTRACTOR MAY USE ADDITIONAL TESTS. THESE MAY INCLUDE DRY GRADATIONS FOR CONTROL PURPOSES BUT ACCEPTANCE OF ON HAND AGGREGATE WILL BE BASED ON WASHED GRADATIONS ONLY. REJECT AND DO NOT USE AGGREGATE CREATING NUISANCE TO THE PUBLIC DUSTING ON THE PROJECT.

REJECT TRUCKLOADS OF AGGREGATE IF WATER IS SEEN COMING FROM THE TRUCK BED. REJECT AGGREGATE THAT DOES NOT MEET THE FOLLOWING REQUIREMENTS:

NO. 4 (4.75 MM) SIEVE FROM JMF	±5.0%
NO. 8 (2.36 MM) SIEVE FROM JMF	±3.0%
NO. 200 (75 µM) SIEVE FROM JMF	±1.0%, 2.0% UPPER LIMIT
AGGREGATE MOISTURE CONTENT (BY DRY WEIGHT)	4.0% MAX. FORR AGGREGATE ABSORPTION >2.0%
	3.0% MAX. FOR AGGREGATE ABSORPTION 2.0%

4. DOCUMENTATION. PROVIDE THE ENGINEER A DAILY REPORT WITH THE FOLLOWING:

A. CONTROL SECTION, PROJECT NUMBER, COUNTY, ROUTE, AND ENGINEER.

B. DATE, AIR TEMPERATURE, PAVEMENT TEMPERATURE, AND HUMIDITY.

C. BINDER TEMPERATURE.

D. BEGINNING AND ENDING STATIONS.

E. YIELD CHECKS ON BINDER (THREE PER DAY, MINIMUM).

F. YIELD CHECKS ON AGGREGATE (THREE PER DAY, MINIMUM).

G. GRADATION, MOISTURE CONTENT, AND STATION (ONE SAMPLE FROM SPREADER BOX AT PRODUCTION START, ONE RANDOM SAMPLE DURING THE DAY AND ANY OTHER SAMPLES WHEN DIRECTED BY THE ENGINEER).

H. LENGTH, WIDTH, AND TOTAL AREA.

I. CONDITION OF "LOOSE STONE" SIGNS WITH "35 MPH" SPEED PLAQUES.

J. CONTRACTOR REPRESENTATIVE'S SIGNATURE.

PROVIDE A BILL OF LADING FOR BINDER AND AGGREGATE AS REQUESTED OR AT PROJECT COMPLETION.

D. APPEARANCE. DURING THE APPLICATION OF THE CHIP SEAL, INSPECT THE CHIP SEAL FOR DEFICIENCIES RESULTING FROM POOR WORKMANSHIP, FLUSHING, TRACKING FROM EQUIPMENT, SURFACE PATTERNS, LOSS OF STONE, AND SWEEPING. INSPECT WORKMANSHIP FOR UNTREATED AREAS, MINIMUM OVERLAP ON LONGITUDINAL JOINTS, AND MINIMUM OVERLAP ON CONSTRUCTION JOINTS.

VERIFY THE FOLLOWING FOR APPEARANCE:

1. FINISHED SURFACE HAS MINIMAL TEARS AND BINDER STREAKING.

2. JOINTS APPEAR NEAT AND UNIFORM WITHOUT BUILDUP, UNCOVERED AREAS, OR UNSIGHTLY APPEARANCE.

3. LONGITUDINAL JOINTS HAVE LESS THAN A 2 INCH (50 MM) OVERLAP ON THE ADJACENT PASSES.

4. TRANSVERSE JOINTS HAVE NO MORE THAN 0.25 INCH (6.5 MM) DIFFERENCE IN ELEVATION ACROSS THE JOINT AS MEASURED WITH A 6 FOOT (2 M) STRAIGHTEDGE.

5. CHIP SEAL EDGE IS NEAT AND UNIFORM ALONG THE ROADWAY LANE, SHOULDER, AND CURB LINES.

6. CHIP SEAL EDGE HAS NO MORE THAN 2 INCHES (50 MM) VARIANCE IN ANY 100 FEET (30 M), ALONG THE ROADWAY EDGE OR SHOULDER.

BEFORE THE DEPARTMENT ISSUES FORM C-85, THE CONTRACTOR AND ENGINEER WILL REVIEW THE COMPLETED WORK 15 TO 25 DAYS AFTER PLACEMENT. THE EXTENT OF THE FOLLOWING SHOULD BE MINIMAL TO NON-EXISTENT:

DEFECT	SEVERITY
SURFACE PATTERNS	ALTERNATE LEAN AND HEAVY LINES (RIDGES OR STREAKING OVER THE SURFACE)
BLEEDING / FLUSHING	EXCESS BINDER ON SURFACE, NOT SUBJECT TO WEARING OFF QUICKLY
LOSS OF COVER AGGREGATE	PATCHES OR LINES OF AGGREGATE LOST FROM SURFACE

PERFORM ALL CORRECTIVE WORK TO THE SATISFACTION OF THE ENGINEER.

882.05 ANNUAL REVIEW PROCESS. THE DISTRICT WILL REVIEW THE PROJECT INFORMALLY, IN LATE WINTER OR EARLY SPRING. IF A PROBLEM IS NOTED, A FORMAL REVIEW BY A DISTRICT REVIEW TEAM (DRT) WILL BE CONDUCTED. THE DRT WILL NOTIFY THE CONTRACTOR OF THE SCHEDULED REVIEW. THE CONTRACTOR OR ANY OTHER INTERESTED PARTY MAY ATTEND THE REVIEW, FOR OBSERVATION ONLY. ANY COMMENTS BY THE CONTRACTOR OR OTHER INTERESTED PARTY WILL BE RECORDED BY THE DRT. THE DRT WILL SELECT AREAS TO REVIEW BUT MAY REVIEW THE ENTIRE PROJECT. THE DEPARTMENT WILL ISSUE THE RESULTS IN WRITING TO THE CONTRACTOR WITHIN 15 DAYS AFTER COMPLETION OF THE REVIEW.

882.06 REMEDIAL ACTIONS. PERFORM REMEDIAL ACTIONS BETWEEN MAY 1 AND SEPTEMBER 1. IF AN APPEAL PROCESS GOES TO STEP 3, THE DISTRICT MAY REVISE THE DATE FOR COMPLETION OF THE REMEDIAL ACTION FOR THE APPEALED ITEM. IF THE DEPARTMENT DETERMINES THAT IMMEDIATE REPAIRS ARE NECESSARY, DUE TO A POTENTIAL HAZARD TO THE TRAVELING PUBLIC, THE DEPARTMENT WILL NOTIFY THE CONTRACTOR AND ESTABLISH A DATE THAT ALL REPAIRS ARE TO BE FINISHED. BEFORE PERFORMING A REMEDIAL ACTION, SUBMIT A REMEDIAL ACTION PLAN TO THE ENGINEER FOR APPROVAL. STATE IN THE PLAN WHEN AND HOW THE REMEDIAL ACTION WILL BE PERFORMED; WHAT MATERIAL WILL BE USED; AND HOW TRAFFIC WILL BE CONTROLLED. WARRANT REMEDIAL ACTION WORK FOR THE REMAINDER OF THE WARRANTY PERIOD.

PROVIDE CONSTRUCTION TRAFFIC CONTROL WHEN PERFORMING ANY WORK REQUIRED OR ALLOWED BY THIS SPECIFICATION DURING THE WARRANTY PERIOD IN ACCORDANCE WITH CURRENT DEPARTMENT POLICY AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. THE DEPARTMENT WILL APPROVE WHEN THE WORK IS PERFORMED. ANY MAJOR CHANGE IN DEPARTMENT CONSTRUCTION TRAFFIC CONTROL POLICY AT THE TIME OF BID WILL BE CONSIDERED A CHANGED CONDITION.

REPLACE PAVEMENT MARKINGS OR RAISED PAVEMENT MARKERS (RPM) REMOVED OR DAMAGED WHILE PERFORMING A REMEDIAL ACTION WITH PAVEMENT MARKINGS OR RPMS EQUAL TO OR BETTER THAN THE ORIGINAL PRODUCTS AT NO COST TO THE DEPARTMENT.

SUPPLY ALL MATERIALS, EQUIPMENT, AND LABOR TO PERFORM THE REMEDIAL ACTIONS AT NO ADDITIONAL COST TO THE DEPARTMENT.

PERFORM REMEDIAL ACTIONS WITH MATERIAL MEETING THE REQUIREMENTS OF 882.04. CERTIFY THE COMPONENT MATERIALS AND DESIGNED MIX MEET THE REQUIREMENTS OF 882.04.

THE DEPARTMENT WILL PERFORM EMERGENCY WORK, REPAIRING PAVEMENT DISTRESSES WHICH ARE HAZARDOUS TO THE TRAVELING PUBLIC. IF THE EMERGENCY WORK IS EXTENSIVE, THE DEPARTMENT MAY AUTHORIZE THE CONTRACTOR TO PERFORM THE REPAIRS. THE DISTRICT CONSTRUCTION ENGINEER (DCE) WILL DETERMINE IF THE DISTRESS IS OR IS NOT THE RESPONSIBILITY OF THE CONTRACTOR. IF THE DCE DETERMINES THE DISTRESS IS THE RESPONSIBILITY OF THE CONTRACTOR, THE COST, INCLUDING CONSTRUCTION TRAFFIC CONTROL, OF EMERGENCY WORK PERFORMED BY THE DEPARTMENT WILL BE CHARGED TO THE CONTRACTOR. IF THE DCE DETERMINES THE DISTRESS IS NOT THE RESPONSIBILITY OF THE CONTRACTOR, THE DEPARTMENT WILL PAY FOR CONTRACTOR PERFORMED REPAIRS ACCORDING TO 109.05. THE CONTRACTOR IS NOT RESPONSIBLE FOR PAVEMENT DAMAGE BEYOND THE CONTRACTOR'S CONTROL (I.E., CAR FIRE, OIL SPILL, ETC.). THE DCE'S DETERMINATION MAY BE APPEALED IN ACCORDANCE WITH 882.07.

TABLE A

THE BEGINNING POINT OF A 100 YD (100M) SEGMENT STARTS AT THE BEGINNING OF ANY INDIVIDUAL DISTRESS TYPE. FOR LOSS OF AGGREGATE, THE BEGINNING POINT OF A 100 YD (100M) SEGMENT WILL EXCLUDE LOCATIONS WHERE VEHICLES TURN FROM OR ONTO OTHER STATE HIGHWAYS,

DEFECT	SEVERITY	ALLOWABLE EXTENT
SURFACE PATTERNS	**SEVERE** - LIGHT & HEAVY LINES OVER THE PAVEMENT SURFACE	40% OF SEGMENT LENGTH AFFECTED, CONTINUOUS OR LOCALIZED
BLEEDING/ FLUSHING	**MODERATE** - EXCESS BINDER ON SURFACE (LOSS OF STONE/TIRE CONTACT) NOT SUBJECT TO WEARING OFF QUICKLY	5% OF SEGMENT LENGTH AFFECTED CONTINUOUSLY OR TOTAL OF 20% LOCALIZED PROBLEMS
LOSS OF AGGREGATE	**MODERATE**- PATCHES OF AGGREGATE LOSS	10% OF SEGMENT LENGTH AFFECTED CONTINUOUSLY OR TOTAL OF 20% LOCALIZED PROBLEMS

882.07 APPEAL PROCESS. FINDINGS OF THE DRT MAY BE APPEALED. SUBMIT ANY APPEAL TO THE DCE, IN WRITING, WITHIN 15 DAYS AFTER RECEIPT OF THE WRITTEN RESULTS OF THE DRT.

THE DCE WILL EVALUATE APPEALS. THE EVALUATION WILL INCLUDE REVIEWING THE DISPUTED AREA IN THE FIELD AND CONSULTING WITH THE OFFICE OF CONSTRUCTION ADMINISTRATION. THE EVALUATION MAY ALSO INCLUDE REVIEWING TEST DATA, OBTAINING SAMPLES, OR INTERVIEWING DEPARTMENT (DISTRICT OR CENTRAL OFFICE) OR CONTRACTOR EMPLOYEES. THE DCE'S DETERMINATION WILL BE ISSUED IN WRITING TO THE CONTRACTOR WITHIN 45 DAYS AFTER THE DCE RECEIVES THE APPEAL.

IF IN DISAGREEMENT WITH THE DCE'S DETERMINATION, APPEAL THE DETERMINATION USING STEP 3 OF THE DISPUTE RESOLUTION AND ADMINISTRATIVE CLAIM PROCESS.

IF THE APPEAL IS DENIED AND THE SEPTEMBER 1 WORK RESTRICTION HAS PASSED, PERFORM THE REMEDIAL ACTIONS THE FOLLOWING SEASON. IF THIS EXTENDS BEYOND THE WARRANTY PERIOD, PROVIDE AN ADDITIONAL MAINTENANCE BOND ACCORDING TO 882.02 OF SUFFICIENT DURATION TO ENCOMPASS THE TIME NECESSARY TO COMPLETE ALL REMEDIAL ACTIONS. IF THE DISTRICT DETERMINES REPAIRS ARE NECESSARY BEFORE THE NEXT SEASON, MAKE REPAIRS ACCEPTABLE TO THE DISTRICT AND PERFORM FINAL REPAIRS THE FOLLOWING SEASON.

CALCULATED TLM CHECKED JMF

GENERAL NOTES

SEN-19-9.58
SEN-228-0.00

882.08 METHOD OF MEASUREMENT. THE DEPARTMENT WILL MEASURE CHIP SEAL WITH WARRANTY BY THE NUMBER OF SQUARE YARDS (SQUARE METERS), COMPLETED AND ACCEPTED IN PLACE. THE DEPARTMENT WILL DETERMINE THE WIDTH BY MEASURING THE ACTUAL WIDTH OF THE CHIP SEAL. THE DEPARTMENT WILL DETERMINE THE LENGTH ALONG THE CENTERLINE OF EACH ROADWAY OR RAMP.

882.09 BASIS OF PAYMENT. THE DEPARTMENT WILL NOT PAY FOR MATERIALS, EQUIPMENT OR LABOR REQUIRED TO PERFORM REMEDIAL ACTIONS. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICES AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
882	SQUARE YARD	SINGLE CHIP SEAL WITH TWO YEAR WARRANTY, AS PER PLAN C

CALCULATED TLM
CHECKED JMF

GENERAL NOTES

SEN-19-9.58
SEN-228-0.00

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT AND THE COMPLETED PAVEMENT.

ITEM 614, MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING
EASTER	

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH (12:00N OR 6:00 AM) MONDAY
MONDAY	12:00N FRIDAY THROUGH (12:00N OR 6:00 AM) TUESDAY
TUESDAY	12:00N MONDAY THROUGH (12:00N OR 6:00 AM) WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH (12:00N OR 6:00 AM) THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH (12:00N OR 6:00 AM) MONDAY
FRIDAY	12:00N THURSDAY THROUGH (12:00N OR 6:00 AM) MONDAY
SATURDAY	12:00N FRIDAY THROUGH (12:00N OR 6:00 AM) MONDAY

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

WORK ZONE MARKINGS AND SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF CMS 614.04 AND 614.11.

LOCATION 1	
WORK ZONE MARKING SIGN	44 EACH
WORK ZONE CENTERLINE, CLASS II	10.12 MILE
LOCATION 2	
WORK ZONE MARKING SIGN	8 EACH
WORK ZONE CENTERLINE, CLASS II	1.30 MILE
TOTALS CARRIED TO THE GENERAL SUMMARY:	
WORK ZONE MARKING SIGN	52 EACH
WORK ZONE CENTERLINE, CLASS II	11.42 MILE

CALCULATED TLM
CHECKED JMF

MAINTENANCE OF TRAFFIC GENERAL NOTES

SEN-19-9.58
SEN-228-0.00

CALCULATED TLM | CHECKED JMF

PAVEMENT CALCULATIONS

REFERENCE NO.	ROUTE	SLM FROM	SLM TO	LENGTH	AVERAGE WIDTH	TOTAL AVG. AREA	251 PARTIAL DEPTH PAVEMENT REPAIR (*)	253 PAVEMENT REPAIR (*)	· 882 · SINGLE CHIP SEAL WITH WARRANTY, AS PER PLAN A	SINGLE CHIP SEAL WITH WARRANTY, AS PER PLAN B	SINGLE CHIP SEAL WITH WARRANTY, AS PER PLAN C
		FROM	TO	MILE	FEET	SQ·FT	SQ·YD	SQ·YD	SQ·YD	SQ·YD	SQ·YD
L-1	SR 19	9.58	15.19	5.61	22	651657.6	724.1	1448.1	72406.4		
L-2	SR 19	15.19	19.71	4.52	22	525043.2	583.4	1166.8		58338.1	
L-3	SR 228	0.00	1.30	1.30	26	178464.0	198.3	396.6			19829.3
TOTALS CARRIED TO GENERAL SUMMARY							1506	3012	72406	58338	19829

* QUANTITIES CARRIED FROM GENERAL NOTES

TRAFFIC CONTROL SUBSUMMARY

REFERENCE NO.	ROUTE	SLM FROM	SLM TO	LENGTH	· 621 · RPM WHITE	· 621 · RPM YELLOW/YELLOW	· 621 · RAISED PAVEMENT MARKER REMOVED	· 642 · EDGE LINE	· 642 · CENTER LINE DASHED	· 642 · CENTER LINE DOUBLE SOLID	· 642 · CENTER LINE DASHED SOLID	· 642 · STOP LINE	· 642 · RAILROAD SYMBOL MARKING
		FROM	TO	MILE	EACH	EACH	EACH	MILE	MILE	MILE	MILE	FEET	EACH
L-1	SR 19	9.58	15.19	5.61		382	382	11.22	3.43	0.58	1.60		
L-2	SR 19	15.19	19.71	4.52		297	297	9.04	2.13	0.69	1.70		
L-2	SR 19	15.21										11	
L-2	SR 19	16.82										20	
L-2	SR 19	16.84										30	
L-2	SR 19	18.93											
L-2	SR 19	19.40											
L-2	SR 19	19.67											1
L-3	SR 228	0.00	1.30	1.30	39	99	138	2.60	0.14	0.23	0.93		
L-3	SR 228	1.30										30	
TOTALS CARRIED TO GENERAL SUMMARY					817		817	22.86	11.43			91	1

SUBSUMMARIES

SEN-19-9.58
SEN-228-0.00

15
16

SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
.	.	.	.	.	.	.	.	.	.	14	15	.	.						
																		PAVEMENT	
											1506			251	01000	1506	SO YD	PARTIAL DEPTH PAVEMENT REPAIR	
											3012			253	01000	3012	SO YD	PAVEMENT REPAIR	
											72406			882	10001	72406	SO YD	SINGLE CHIP SEAL WITH TWO YEAR WARRANTY, AS PER PLAN A	5-7
											58338			882	10001	58338	SO YD	SINGLE CHIP SEAL WITH TWO YEAR WARRANTY, AS PER PLAN B	8-10
											19829			882	10001	19829	SO YD	SINGLE CHIP SEAL WITH TWO YEAR WARRANTY, AS PER PLAN C	11-13
																		TRAFFIC CONTROL	
											817			621	00100	817	EACH	RPM	
											817			621	54000	817	EACH	RAISED PAVEMENT MARKER REMOVED	
											22.86			642	00090	22.86	MILE	EDGE LINE	
											11.43			642	00290	11.43	MILE	CENTER LINE	
											91			642	00490	91	FT	STOP LINE	
											1			642	00990	1	EACH	RAILROAD SYMBOL MARKING	
																		MAINTENANCE OF TRAFFIC	
										52				614	12460	52	EACH	WORK ZONE MARKING SIGN	
										11.43				614	21400	11.43	MILE	WORK ZONE CENTER LINE, CLASS II	
														103	06000	LUMP		PREMIUM FOR CONTRACT PERFORMANCE BOND, PAYMENT BOND AND MAINTENANCE BOND	
														614	11000	LUMP		MAINTAINING TRAFFIC	
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	

CALCULATED TLM
CHECKED JMF

GENERAL SUMMARY

SEN-19-9.58
SEN-228-0.00

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16