

SECTION 00754 - PLAIN CONCRETE PAVEMENT REPAIR

(Follow all instructions and make all edits with "Track Changes" turned on. This Section is not published in the Oregon Standard. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the Project, unless the item(s) that are included in the subsection, paragraph, sentence, or bullet are not required on the Project and then they should be deleted. In general do not re-number or re-letter subsections when item(s) are deleted. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Section 00754 is not a Standard Specification and is included in this Project by Special Provision.

Description

00754.00 Scope - This Work consists of sawcutting and removing existing concrete Pavement and constructing new plain portland concrete Pavement repairs as shown and specified.

00754.01 Abbreviations:

SSD - Saturated Surface-Dry
SSFC - Stationary Side Form Construction

00754.02 Areas of Work - Locations of the areas for repair are as shown. Additional areas of repair may be required as determined by the Engineer.

00754.04 Prepaving Conference - Meet with the Engineer, at a time mutually agreed upon, to discuss methods of accomplishing all phases of the concrete paving Work. Provide all supervisory personnel of the Contractor and any Subcontractor who are to be involved in the concrete paving Work at the meeting.

Materials

00754.10 Materials - Furnish Materials meeting the following requirements:

Resin Bonded Anchors.....	00535
Bar Reinforcement	02510
Concrete Materials	02001
Curing Materials	02050
Epoxy and Nonepoxy Bonding Agents.....	02070
Epoxy and Nonepoxy Grouts	02080
Galvanizing.....	02530.70

Portland Cement Concrete Repair Materials.....	02015
Poured Joint Fillers.....	02440.30
Preformed Expansion Joint Filler	02440.10

00754.11 Classes of Concrete - If the time frame designated for opening traffic is less than 72 hours after concrete placement, furnish Class HES4000 - 1 1/2 concrete designed to attain a minimum average compressive strength of 3,000 psi prior to allowing traffic on the concrete. Otherwise furnish Class 4000 - 1 1/2 paving concrete.

00754.13 Concrete Mix Designs - Prepare and submit either new mix designs or current mix designs for each class of concrete required according to Section 02001.

00754.15 Quality Control - Provide quality control according to Section 00165, Section 02001, and the following:

(a) Concrete Mixture - If the results of any test are outside of the specification limits, stop the placement of the load. Correct the load or reject it and do not incorporate it into the Work. Test subsequent loads before any further concrete placement. Correct the subsequent loads if any of the tests are still outside the specification limits. If the load cannot be corrected, reject it and do not incorporate it into the Work. Testing of subsequent loads may return to the specified frequency when the test results from two consecutive loads are shown to meet the specification limits.

(b) Records - Deliver all batch tickets, water-cement ration calculations, and all other records required to the Engineer upon availability but no later than the morning of the next Day.

00754.16 Acceptance of Concrete:

(a) General - Acceptance of concrete is based on the results of the Contractor's quality control testing according to Section 00165 and the MFTP.

(b) Aggregate - Acceptance is based on the Contractor's quality control testing, if verified by the Agency according to Section 00165 and the MFTP.

(1) Aggregate Gradation - A stockpile contains specification aggregate gradation when the quality level for each sieve size calculated according to 00165.40 is equal to or greater than the quality level in Table 00165-2 for a PF of 1.00. Each required sample represents a subplot. When the quality level in Table 00165 2 yields a PF of less than 1.00 for any constituent, the material is non specification.

(2) Non-specification Aggregate Gradation - Stockpiled aggregates that contain non-specification aggregate gradation is rejected by the Engineer unless non-specification material is removed from the stockpile. Do not add additional material to the stockpile until enough non-specification material is removed so that the quality level for each constituent is equal to or greater than the quality level in Table 00165 2 for a 1.00 PF.

(c) Plastic Concrete - Acceptance of the plastic concrete is based on the tests performed by the Contractor's QCT, according to the tolerances and limits of Section 02001.

(d) Hardened Concrete - Cast and cure the test cylinders according to AASHTO R 100 in single use plastic molds and test at 28 Days according to AASHTO T 22.

(1) General - For all classes of concrete, acceptance of hardened concrete is based on an analysis of compressive strength tests of cylinders cast by the QCT. Test cylinders at an ODOT certified laboratory.

(2) Actual Strength Test Value - The ASTV at 28 Days is the average compressive strength of the three cylinders tested.

(3) Sampling and Testing - Sample and test according to Section 00165 and the MFTP.

(4) Acceptance - Furnish Material with an ASTV that exceed the f'_c (specified strength) for the mix design. If a set of cylinders has an ASTV less than f'_c , the Engineer will review the results to determine if the concrete represented by the cylinders requires removal. In any case, concrete that has an ASTV of less than 85 percent of the specified strength requires removal unless otherwise authorized, in writing, by the Engineer. The cost of removal, replacement, and all related work is the Contractor's responsibility, subject, if the concrete is allowed to remain in place, to a price adjustment according to 00150.25.

If an ASTV falls below the f'_c , the Contractor may submit a written plan within 3 Days of the test for review by the Engineer. Provide a plan that outlines a proposed alternate method of evaluating compressive strength. Provide evidence that a reasonable f'_{cr} (over design) was maintained and that there is credible evidence (besides low strength) that warrants consideration of this option. If the Engineer determines that the compressive strength test results are suspect from definable external factors, the Engineer may allow an alternate method of acceptance.

00754.17 Spall Repair Material - For spall repair, furnish a PCC repair material meeting the requirements of Section 02015 except do not use products that contain magnesium phosphate. Use either "Rapid Setting" or "Very Rapid Setting" material.

00754.18 Bond Breaker - Furnish one of the following bond breakers:

- Non-woven geotextile meeting the property requirements listed in Table 02320-4.
- Liquid curing compound evenly applied as a bond breaker in two applications, at a rate of 1 gallon per 130 to 165 square feet for each application, over the entire surface area.

Equipment

00754.20 Batch Plant - Provide batch plants according to 02001.40.

00754.21 Mixers - Provide mixers according to 02001.40.

For Projects requiring Class HES concrete, mobile mixers may be used if the mixers conform to the following:

- The mixer is self-propelled and carries sufficient unmixed dry bulk cement, Sand, Coarse Aggregate, admixtures, and water to produce a minimum of 6 cubic yards of concrete on site.
- The mixer provides positive measurement of cement being introduced into the mix by meter or counter.
- The mixer provides positive control of the flow of water into the mixing chamber. Water flow is readily adjustable to provide for minor variations in Aggregate moisture.
- Each mixer is calibrated to automatically proportion and blend all components according to the mix design on a continuous or intermittent basis as required by the placing operation.

Perform a calibration and yield test on each mixer prior to the first placement to accurately proportion the specified mix. Use a written calibration procedure from the mixer manufacturer, a procedure provided by the Engineer or other written procedure acceptable to the Engineer. The calibration process may be witnessed by the Engineer. Provide the Engineer with information about the scheduled date, time and place for the calibration. Perform a new calibration when the source of materials changes, when the mixer undergoes a major repair, or when requested by the Engineer.

00754.22 Hauling Equipment - Use truck mixers to transport concrete. Provide hauling Equipment according to AASHTO M 157.12 or AASHTO M 157.11.6.

00754.23 Paving Equipment - Provide paving Equipment according to the following:

- Able to vibrate, consolidate, and finish the slab to proper grade and Cross Section for the full width and depth of the concrete being placed.
- Capable of meeting the smoothness requirements.
- Approved by the Engineer.

00754.24 Concrete Saws - Provide power driven concrete saws for sawing joints, adequate in number of units and power to complete the sawing at the required rate. Also provide a standby saw on the Project Site.

00754.25 Smoothness Testing Equipment - Provide one 12-foot straightedge.

00754.26 Concrete Drills - Provide a drilling system consisting of drilling Equipment and drilling supports that:

- Is capable of drilling holes of the required diameter and depth.
- Can produce holes parallel to the Pavement surface and parallel to each other within a tolerance of $\pm 1/8$ inch.
- Can provide hole alignments at mid-depth of PCC Pavement.

Labor

00754.30 Quality Control Personnel - In addition to the certified technicians required in 02001.50 provide and designate an individual to be present at the placement site at all times during concrete placements and who is authorized and responsible for acceptance and rejection of materials.

Construction

00754.40 Weather Limitations - Coordinate all operations involved in repairing the Pavement so the Work will result in a finished Pavement according to the Specifications regardless of the daily or seasonal variations in weather, temperature and humidity under when the Work is permitted to proceed.

Do not place PCC during periods of rain. Do not place PCC on frozen bases. Stop placement when descending air temperature falls below 35 °F. Do not begin placement until the air temperature is 35 °F in the shade and rising and is forecast to remain above 35 °F.

Protect the Pavement from weather damage. Protect unhardened PCC from precipitation with protective material. When PCC is placed during cold weather and the air temperature is forecast to drop below 33 °F, prevent the concrete from freezing for a minimum of 7 Days after placement.

Remove and replace weather-damaged Pavement at no additional cost to the Agency.

00754.41 Preparation:

(a) Removal of Existing Pavement - Remove full panels of existing concrete Pavement full depth as shown or directed. A vertical full depth sawcut is required along all longitudinal joints and at transverse locations. Cut concrete through tie bars and dowels. Remove concrete Pavement with Equipment approved by the Engineer in a manner that does not damage remaining Pavement or connections and allows for specified connections. Repair damage to the existing Pavement due to the Contractor's operations, at no additional cost to the Agency, by extending the full depth repair to the satisfaction of the Engineer.

(b) Concrete Pavement Base Repair - Use material similar to existing base material or use commercial concrete. If concrete is used, place a bond breaker between the new concrete Base and the new concrete Pavement. If the repair is a nominal 2 inches deep or less, the repair may be accomplished by pouring the patch monolithically with the new concrete Pavement, without a bond breaker. PCC repair material may be substituted for Commercial Grade Concrete.

Compact unbound Granular Materials used in the Base repair as directed. Allow concrete or substitutes to cure sufficiently to support necessary construction activities without yielding prior to continuing those activities. No further testing of Pavement Base material is required.

(c) Spall Repair Area - Sawcut the existing concrete Pavement to a nominal depth of 2 inches. Remove existing concrete within the perimeter of the sawcut to a depth of 2.0 inches, or to sound concrete as determined by the Engineer. If jack hammers are used for removing Pavement, provide jack hammers that do not weigh more than 30 pounds, and chipping hammers that do not weigh more than 15 pounds. Do not operate hammers at an angle greater than 45 degrees measured from the surface of the Pavement. Repair any existing Pavement that is to remain that has been damaged at no additional cost to the Agency.

(d) Preparation of Existing Concrete - Before placement of concrete, blow clean the existing concrete surfaces within the pour area with compressed air and dampen the area to be paved with a light application of water. If the area becomes dry before new concrete is placed, blow clean and dampen the area again.

00754.43 Placing Dowel Bars and Tie Bars:

(a) Dowel Bars - Furnish smooth, round, epoxy coated dowel bars. Coat with plastic, heavy oil, or other approved material that will neither bond with nor be harmful to the PCC. Use a framework to place dowels that is continuous across the entire lane width, holds the dowels parallel with each other, holds the dowels parallel with the surface of the Pavement, and holds the dowels parallel to the Roadway centerline. For dowels placed across an expansion joint, use a dowel bar basket or other system of support that leaves no permanent incompressible members in place within the joint. Provide a maximum alignment tolerance of 5 degrees or 3/16 inch in the length of the dowel. Place dowels within 3/8 inch of the center of the slab vertically.

Place dowel bars for joint contact at existing concrete Pavement surfaces by drilling the existing concrete section and then inserting the dowel bars and grouting them in place. Drill the holes large and deep enough to insert the dowel bars with adequate epoxy or nonepoxy grout. Adjust hole locations to avoid damaging any existing reinforcement when drilling the holes. Blow the dowel bar holes clean with compressed air before grouting. Center the bar in the hole for the full length of embedment before grouting. Pump the grout into the hole around the bar so the back of the hole is filled first. Do not allow blocking or shimming to impede the flow of the grout into the hole. If dams are needed, place them at the front of the holes to confine the grout. Place the dams to permit the escape of air without leaking grout. Do not remove dams until grout has cured in the hole.

(b) Tie Bars - Furnish epoxy coated tie bars and place them for contact-type longitudinal joints by one of the following methods:

- By drilling the hardened concrete section and then inserting the tie bars as resin-bonded anchors in accordance with construction and testing procedures in Section 00535.
- By inserting the tie bars into the plastic slipformed concrete before vibrating and finishing the concrete. The tie bars may be bent before insertion. Replace any loose tie bars by drilling and grouting, as described above, at no additional cost to the Agency.
- By using threaded mechanical splice couplers from the QPL. Submit splices for approval before using. Furnish rebar splices that are:
 - Accompanied by manufacturer's quality compliance certificate according to 00165.35.
 - Installed according to manufacturer's recommendations.

00754.44 Handling, Measuring, and Batching Materials - Provide the plant site, layout, Equipment and provisions for transporting material adequate to assure a continuous supply of Material to the Project Site.

(a) Aggregates - Stockpile and remove the Aggregate from stockpiles in a manner that holds segregation to a minimum.

Do not use Aggregates that become segregated, mixed with earth or foreign material, or contain lumps of hardened material. Thaw frozen Aggregates or Aggregates containing frozen lumps before use.

(b) Batching - Separately weigh into the hoppers the Fine Aggregate, each separated size of Coarse Aggregate, cement and fly ash in the respective proportions set by the mix design. Provide a device to indicate positively that the full amount of cement and fly ash was discharged into the batch box or container. Measure water and admixtures either by volume or by weight.

Conduct batching so that the individual weights of each Material required are within the following tolerances:

Aggregates	± 2%
Cement	- 1% to + 4%
Fly Ash	- 1% to + 4%

00754.45 Mixing Concrete:

(a) General - Mix the concrete in a batch plant mixer, truck mixer, or mobile mixer and the following:

- Charge the batch into the receiving drum so some water enters before the solids and continues to flow uniformly for a portion of the mixing time.
- Keep the skip and the throats of drums free of accumulations.
- Mix the concrete only in the quantity required for immediate use.
- Do not intermix batches.
- Do not retemper concrete by adding water or by other means.

(b) Batch Plant Mixers - The mixing time for batch plant mixers is at least 60 seconds unless the Contractor's CCT documents meeting "Concrete Uniformity", according to AASHTO M 157, Annex A1 for concrete produced at the batch plant mixer set up for this Project, to the satisfaction of the Engineer. The mixing time may then be reduced to the extent the test permits but not less than 45 seconds.

(c) Truck Mixers - The mixing time for truck mixers is 70 to 100 revolutions at a mixing speed recommended by the manufacturer of the truck mixer.

00754.46 Placing Concrete:

(a) General - Perform the strike-off, consolidation, final floating and surface finishing according to the following:

- Vibrate throughout the concrete until it is uniformly consolidated. Do not segregate.

- Strike off the concrete with templates or screeds designed and manipulated to shape the concrete to the specified Cross Section between the forms, carrying a slight excess of concrete in front of the leading edge of templates or screeds at all times.
- Following the vibrating and strike-off operations, float the concrete. Include transverse floating or other smoothing and finishing actions as necessary. Check and correct the surface according to 00754.49. Keep the surface free from laitance, soupy mortar, marks or irregularities.
- Finish the surface according to 00754.49.

Correct all damage to the Subgrade or Base due to the Contractor's operations, at no additional cost to the Agency, to the satisfaction of the Engineer.

(b) One Lift - Place the concrete in final position in one Lift so a minimum of finishing is necessary to provide a dense, homogenous Pavement conforming to true grades and Cross Sections.

(c) Provision for Joints and Other Devices - While placing concrete, make provision for constructing joints, placing dowels, tie bars, and other devices, as shown and directed, and according to 00754.43 and 00754.48.

(d) Reject Concrete Material - Reject concrete if it:

- Is not in place within 90 minutes after being mixed.
- Has begun to take an initial set before placement.

(e) Hand Operated Equipment - Use shovels to hand spread and distribute the concrete. Do not use rakes. Do not foul the concrete with foreign matter, or disturb joint devices during such operations. Provide hand operated mechanical vibrators satisfactory to the Engineer. Use the vibrators to consolidate the concrete Pavement at least 6 feet each side of construction and expansion joints and all other areas as directed.

(f) Illumination - During hours of darkness, adequately illuminate Work areas at no additional cost to the Agency.

00754.48 Joints:

(a) General - Construct joints of the kinds shown and where shown or directed. Furnish joint types in the concrete Pavement that are contraction, construction or expansion and that are transverse or longitudinal, as shown or directed. Extend all joints and joint filler to Pavement edges or to each other.

Provide joints that do not vary from specified or indicated line by more than 1/4 inch. Provide tops of joint filler, when required, slightly, but not more than 1/8 inch, below and paralleling finished Pavement grade and Cross Section. Protect top edges of filler from damage by paving operations.

Construct all joints that contain preformed filler before the final floating and surface finishing of the concrete, unless otherwise directed.

(b) Longitudinal Joints - If the Contractor elects to pour the entire width of Pavement at one time, construct the longitudinal joint as shown. Furnish longitudinal joints of the contact type or weakened plane type as shown:

(1) Longitudinal Contact Joints - Construct longitudinal contact joints when concrete is placed against hardened concrete regardless of age, between strips of Pavement or between a strip of Pavement and a concrete gutter.

(2) Longitudinal Weakened Plane Joints - Construct weakened plane joints by sawing to the depths and maximum width shown. Saw longitudinal weakened plane joints at the earliest possible time following placement of the concrete to prevent uncontrolled cracking without damaging the Pavement or joint. Saws may be single or tandem, as the Contractor elects, and be controlled by guides to true line. Restore curing agents broken or damaged by the sawing operations.

(c) Construction Joints - Construct construction joints when there is an interruption of 30 minutes in the concrete placing operations.

Furnish new concrete placed against the joint that conforms closely to the proportions and consistency of the previously placed concrete except vibrate and consolidate it to a greater degree and with more care than normal. Unless otherwise shown, do not construct construction joints within 10 feet of a transverse expansion or contraction joint. If sufficient concrete has not been mixed at the time of interruption to form a slab at least 10 feet long, remove the concrete back to the last joint and dispose of as directed.

(d) Transverse Contraction Joints - Form transverse contraction joints by sawing to the required dimensions shown on the Plans. Saw transverse contraction joints at the earliest possible time following placement of the concrete to prevent uncontrolled cracking without damaging the Pavement or joint. Repair any damage to the curing material during the sawing operations immediately after the sawing is completed.

(e) Sealing Sawed Joints - Fill sawed longitudinal weakened plane joints and transverse contraction joints with poured joint filler. Thoroughly clean joints at the time of sealing. Ensure the curing period for joints is complete before allowing construction Equipment and vehicles on the Pavement.

00754.49 Surface Finishing - After the concrete has been given a preliminary finish, check the surface of the fresh concrete in the longitudinal and transverse direction with a 12-foot straightedge. Correct surface deviations more than allowed by 00754.56(a). Lap each successive check with the previous check path by at least half the length of the straightedge.

(a) Textured Finish - Upon completion of the machine floating, straightedge testing, edge tooling and, if necessary, hand floating, and before initial set of the surface concrete, give the surface of the concrete a textured finish.

Accomplish the textured finish with a steel-tine tool with 1/8-inch tines that will mark the finished concrete to a depth of 1/8 inch to 3/16 inch. Randomly space the markings from 1/2 inch to 1 1/4 inches as approved. Avoid overlaps of the texturing. Construct markings either perpendicular or parallel to the Roadway centerline to match the adjacent concrete Pavement textured finish.

With approval of the Engineer, an astroturf or broom finish may be used in place of tining on roads to receive an overlay.

(b) Transverse Profile - Match the surface of the fresh concrete in the transverse direction to the surface of the existing concrete at the ends of the patch. Taper into existing Pavement ruts in the first and last 10 to 20 feet to provide a transverse surface finish for the remainder of the patch meeting the requirements of this section.

00754.52 Edge Tooling and Filling - Tool edges at longitudinal joints and construction joints of new Pavement and clean joints of previously placed concrete to remove laitance and mortar resulting from finishing operations, and to provide clean rounded edges without ridges on the surface. Perform tooling of edges at construction joints so that no more than a 1/8-inch radius is produced.

Fill all areas of minor honeycomb or other minor defect in composition of the concrete along the exposed sides of concrete with a stiff mortar of cement and Fine Aggregate, and apply to the moistened concrete to the satisfaction of the Engineer. Remove and replace areas showing serious defects in composition of the concrete with specified quality concrete for full panel width between longitudinal joints or edges, and for a length not less than a full panel length. Low spots exceeding 1/4 inch in depth, if in hardened concrete, may be filled with an epoxy grout, provided the filling is neat and blends inconspicuously with adjoining concrete. Prepare the area according to the grout manufacturer's recommendations.

00754.53 Curing Concrete - Immediately after the final floating, surface finishing and edging have been completed, and while the concrete surface is still moist, cover and cure the entire exposed surface of the newly placed concrete for at least 72 hours. If the Specifications require opening the lanes to traffic in less than 72 hours, remove curing covers just prior to opening to traffic. Use one of the following provisions:

(a) Liquid Membrane-Forming Compounds - Apply liquid membrane-forming compound uniformly to the concrete by pressure-spray methods at a rate of at least 1 gallon per 150 square feet. Mix the liquid membrane-forming compound thoroughly before and during use. Liquid membrane-forming compounds are not allowed when an asphalt concrete layer is placed on the new concrete.

(b) Other Coverings - Apply clear or white polyethylene film or insulated curing blankets as a waterproof and moisture-proof covering. Place the film or blankets beyond the edge of the repaired areas and weight to hold in position. Do not mar the concrete with the covering.

00754.54 Longitudinal Pavement Cracks - Remove and replace all patches that show longitudinal cracking or do not bond at no additional cost to the Agency.

00754.55 Spall Repair - In spalled areas, remove the existing Pavement according to 00754.41(c). The repair limits extend beyond the spalled area a minimum of 3.0 inches. Use only rectangular or square repair shapes. Prepare the repair area according to 00754.41(d) and the PCC repair material manufacturer's recommendations, then apply a coat of epoxy grout or bonding agent to all vertical surfaces and place PCC repair material before grout dries. When a spall repair is placed directly against an adjacent longitudinal joint, place a bond breaker between the existing concrete and the area to be patched. Mix and place PCC repair material according to the manufacturer's recommendation. Use shovels to

hand spread and distribute the concrete. Do not use rakes. Do not contaminate the concrete with foreign matter. Cure PCC repair material according to the manufacturer's recommendation.

00754.56 Surface Tolerance, Testing, and Correction - Provide the surface of finished Pavement that does not deviate from longitudinal and transverse smoothness more than the limits identified below. Perform straightedge testing under the supervision of the Engineer as soon as the hardness of the concrete permits.

(a) **Straightedge Testing and Tolerance** - Test Pavement surface longitudinal and transverse smoothness with a 12-foot straightedge. The extent of the testing is determined by the Engineer. Provide the Pavement surface that does not deviate from the straightedge at any point by more than 1/8 inch, except the transverse surface at the patch ends may vary as required in 00754.49(b).

(b) **Correcting Deficiencies** - Correct all segments that exceed the requirements of 00754.56(a) by one of the following methods:

(1) Remove the non-specification concrete Pavement as determined by the Engineer and replace with Specification concrete Pavement.

(2) Profile with an abrasive grinder equipped with a cutting head comprised of multiple diamond blades.

Retest according to 00754.56(a). Perform all corrective Work at no additional cost to the Agency, including traffic control.

Maintenance

00754.60 Protection of Concrete - Repair or replace any part of the Pavement damaged by traffic or damaged from any other causes before its official acceptance, according to 00170.80. Do not operate construction Equipment or allow Public Traffic on newly placed concrete until all of the following requirements are met:

(a) The Contractor complies with 00150.60.

(b) The concrete attains a compressive strength of at least 3,000 psi as determined by testing at least two cylinders cured according to AASHTO R 100 (field cure) and tested according to AASHTO T 22.

(c) Approval is given by the Engineer before opening to traffic.

(d) The surface of the concrete is protected from scarring or abrasion and kept free of stones, loose mortar and other matter apt to be deleterious to the concrete in the paths of Equipment.

00754.61 Protection of Shoulders - A portion of the shoulder adjacent to the proposed patch, may be removed as necessary to ensure proper forming at the edge or the patch. Prior to opening to traffic, replace the disturbed shoulder area with material types and thickness similar to the existing shoulder, compacted, and restored to the existing line and grade. Include all cost of the shoulder replacement in the price bid for Concrete Pavement Repair.

Measurement

00754.80 Measurement - The quantities of Work performed under this Section will be measured according to the following:

(a) Concrete Pavement Repair - Concrete Pavement repair will be measured on the area basis and is determined by measuring the width and length of each separately constructed Panel of Pavement. The width is the measured edge-to-edge width on the surface of the Pavement, perpendicular to centerline. The length is the measurement from end to end of Pavement along the center line of the Roadway, including the length of the bar lap splices.

The measurement of extra thickness of Pavement, as shown or as ordered, is determined by conversion on a proportionate volume basis to an equivalent number of square yards of specified thickness Pavement.

(b) Spall Repair - Spall repair will be measured on the area basis and is determined by measuring the width and length of each separate repair. The width is the measured edge-to-edge width on the surface of the Pavement. The length is the measurement from end-to-end of Pavement along the center line of the Roadway.

The measurement of extra thickness beyond the depth shown in the Plans or as ordered by the Engineer, is determined by conversion on a proportionate volume basis to an equivalent number of square yards of the specified thickness.

(c) Concrete Pavement Base Repair - Concrete Pavement base repair will be measured on the area basis and is determined by measuring the width and length of each separate repair. The width is the measured edge-to-edge width on the surface of the Pavement, perpendicular to centerline. The length is the measurement from end-to-end of the repair along the center line of the Roadway.

Payment

00754.90 Payment - The accepted quantities of Work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item	Unit of Measurement
(a) Plain Concrete Pavement Repair.....	Square Yard
(b) Concrete Pavement Spall Repair.....	Square Yard
(c) Concrete Pavement Base Repair.....	Square Yard

Item (a) includes removing concrete Pavement, preparing the Base, and preparing the cut edges. Item (a) also includes Base repair, Leveling, or backfilling, up to 2 inches deep.

Item (b) includes removing concrete.

Item (c) includes Base repair, Leveling, and related backfilling of Subbases or Subgrade greater than 2 inches.

Sawcutting will be paid for according to Section 00310.

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.