

BID # 14-47

REPAIR AREA OF PARKING LOT DAMAGED BY WATER LINE LEAK

SECTION "C" TECHNICAL SPECIFICATIONS

OWNER

**Board of Trustees
Middlesex County College
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PREPARED BY

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SECTION C – TECHNICAL SPECIFICATIONS

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1. SCOPE OF WORK

- 1-1 The purpose of these specifications is the completion of an asphalt parking lot repair contract. This work will be performed on the main Middlesex County College (MCC) campus in Edison, New Jersey.
- 1-2 The contractor shall provide all of the necessary labor, materials, tools and equipment required to complete the work described on the drawings and in these specifications.
- 1-3 Work required under this contract shall be performed at an area of what is known as Parking Lot #2 on Campus. This area is identified on the Campus site plan and on sketch # SK-1.
- 1-4 The dimensions shown on the drawings are approximate and not all dimensions are shown
- 1-5 An area of Parking Lot #2 suffered damage due to the rupture of an underground water line. The water line is approximately eight (8) feet below the surface and washed out the sub-base causing the four (4) inch asphalt base and two (2) inch top course to collapse. The water line has been repaired. The **Base Bid** work to be performed is described as follows:
- a. Saw-cut perimeter of damaged asphalt area (4" base with 2" top) ninety-four (94) feet by twenty-four (24) feet. (Approx. 236 linear feet.)
 - b. Remove and recycle of the damaged asphalt, approximately 1,650 square feet, at an off site facility. For safety reasons, a portion of the area, approximately 600 square feet, has been excavated and temporarily filled with sand and topped with approximately twelve (12) inches of DGA. Remove and stockpile this approximate 600 cubic feet of temporarily installed dense graded aggregate. This DGA is to be reused during restoration.
 - c. Remove and dispose of any unsuitable stone base material.
 - d. Grade and compact subgrade.
 - e. Install geotextile soil support fabric. (Tencate Mirafi 500X or equal.) Approximately 2,256 square feet.
 - f. Furnish, install and compact [compacted in maximum six (6) inch lifts] a minimum of six (6) inches of DGA backfill material to a minimum of 95% compaction. Utilize existing onsite suitable DGA (see "b" above) and

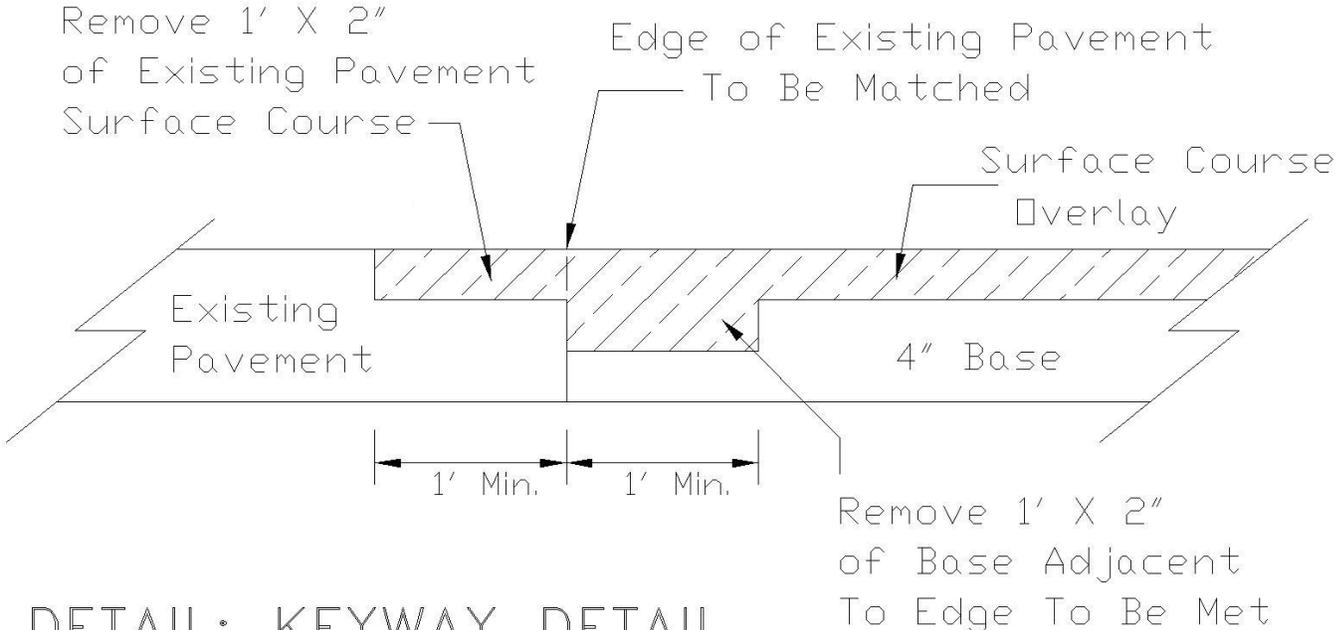
supplement as needed. (Approximately 2,256 square feet.)

- g. Install approximately 2,256 square feet of four (4) inch bituminous base course, Mix I-2.

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- h. Key both the surrounding top course and the newly installed base course one (1) foot wide by two (2) inches deep. (See keyway detail page C-4.) Apply tack coat to all vertical and horizontal edges of existing pavement contacting newly installed surface course.
 - i. Install approximately 2,256 square feet of two (2) inch thick hot mix asphalt surface course, Mix I-5.
 - j. Stripe affected parking spaces as per existing layout with four (4) inch wide white thermoplastic material to match existing. (Approximately 350 linear feet.)
- 1-6 At each intersection of new and existing asphalt, saw-cut pavement and construct a keyway and provide a smooth and gradual transition between the two surfaces.

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DETAIL: KEYWAY DETAIL
 NOT TO SCALE

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- 1-7 Final payment will not be made until all work is completed and all close-out documents are received.
- 1-8 The contractor shall be required to attend a pre-construction meeting on Campus at a time to be scheduled after the contract is awarded and other job progress meetings as required by the College.
- 1-9 Contract drawings

The following is a list of drawings that are attached and are a part of these specifications and contract:

CAMPUS SITE PLAN

SKETCH SK-1

2. MATERIALS & INSTALLATION

- 2-1 Materials used under this contract shall be as specified on the drawings and in the specifications, be of a quality acceptable to the Engineer and meet applicable codes.
- 2-2 The following standard specifications, as outlines, shall be considered as being part of these specifications and shall govern the construction of this project except where otherwise modified:

Standard Specifications for Road and Bridge Construction of the State of New Jersey, Sections 200 to 900, 1989 edition.

- a. Wherever the terms "Department" or "Commissioner" are used in the Standard Specification, the Contractor shall construe such term to mean the Owner.
- b. Wherever Section numbers are listed, they refer to the Standard Specifications unless otherwise specified.

2-3 **MILLING, REPAIRING & RESURFACING**

The locations to be milled and paved over are to have the surface coat milled to the

base course, have base course repairs made as required, and have a new 2” minimum (or as otherwise specified) bituminous surface coat installed in accordance with these specifications:

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MILLING

The milling of bituminous concrete shall consist of the removal of approximately 2" of bituminous concrete surface course or as otherwise specified. Milling shall be done in accordance with Section 202 of the "Standard Specifications."

The milling operation, including removal of the milled material, shall be carried out in a manner that will prevent dust and other particulate matter from escaping into the air.

Provisions shall be made for removal of any water that may be trapped due to the milling operation, such as by lateral saw cuts into the shoulder area. In the event that all milled areas which are opened to traffic have not been milled to a flush surface by the end of the day, the longitudinal edges of the milled area, exceeding 1-1/2" high shall be sloped and a smooth transition shall be provided at the transverse edges.

The surface of the milled area shall be swept clean prior to being opened to traffic and prior to the following construction or resurfacing stage. Sweepings shall be disposed of in accordance with Subsection 202.11.

The milled area that will be opened to traffic before resurfacing shall be free from gouges, continuous grooves, ridges and delaminated areas. They shall have a uniform textured appearance consisting of discontinuous longitudinal striations which shall not deviate more than 1" in 200' from a line parallel to the center of the traveled way and shall not exceed 3/8" depth. They shall provide a skid resistance not less than that of the original surface prior to milling and permit passage of traffic at the posted speed limit without vehicle operators experiencing impaired directional control.

REPAIRS

Any concrete or bituminous concrete below the specified milling depth that is broken, dislodged, delaminated or otherwise unstable, shall be repaired with bituminous stabilized base course in accordance with Section 304. The repair areas are to be compacted properly, have aggregate installed as required, and the base course is to be a minimum of 4". The actual thickness will be determined by the requirement to match the existing adjacent elevations.

BITUMINOUS CONCRETE SURFACE COURSE, TACK COAT AND PRIME COAT

This work shall consist of the construction of a surface course of bituminous concrete. The bituminous concrete surface course shall be I-5 mix in accordance with Section 404.02.

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The construction shall be in accordance with Sections 404.12 through 404.19. Traffic will not be allowed on newly finished surfaces prior to their completion.

The thickness of the surface course shall be a minimum of 2". The actual thickness will be determined by the requirement to match the existing adjacent elevations.

A Prime Coat and a Tack Coat shall be applied in accordance with Section 404.13. Materials to be asphaltic oil grade MC-30.

2-4 COMPLETE PAVEMENT REPLACEMENT (Excavation, compaction, aggregate base, stabilized base course, surface course)

The locations, to be completely removed and replaced with asphalt paving are to have the surface course and the bituminous base course removed to the soil, have the soil compacted, and have dense graded aggregate, stabilized base course, and bituminous surface course installed in accordance with these specifications.

Pavement replacement shall include the cutting, excavation, removal and replacement of pavement in accordance with the type and thickness specified and shall be constructed to match the existing grades.

All replacement or repair of roadways and paving shall conform to Township, County or State ordinances and applicable requirements of the Standard Specifications.

ROADWAY EXCAVATION, UNCLASSIFIED

This work shall consist of complete excavation of the roadway or parking lot materials to the soil surface.

When excavations are to be made in paved surfaces, the pavement shall be cut by means of "Wheel Line Cut" or other suitable tools to provide a clean, uniform edge with minimum disturbances of remaining pavement. All excavated material shall be disposed of as specified in these specifications.

Pavement excavation shall be in accordance with Section 202 – Roadway Excavation except as modified herein. It shall be considered unclassified roadway excavation as defined in the Standard Specification.

The Engineer will determine the exact limits of pavement excavation required to remove unsuitable material and/or lower the road sub-grade. The contractor shall saw cut the limits and shall remove all materials of whatever

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character encountered to the sub-grade depth. If excavation to the sub-grade depth results in unsuitable sub-grade material, the unsuitable material shall be excavated and back-filled with dense graded aggregate.

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DENSE GRADED AGGREGATE BASE COURSE

This work shall consist of the construction of base courses or backfill of ¾" Sieve Size Dense Graded Aggregate. Milling materials may be used. Material shall conform to Section 301.02. Construction shall conform to Section 301.04 through 301.08.

BITUMINOUS STABILIZED BASE

This work shall consist of the construction of a base course of bituminous concrete.

Bituminous stabilized base course shall be Mix I-2 in accordance with Section 304.

A prime coat in accordance with Section 404.13 shall be applied at the rate of 0.25 gallon per square yard on all areas where bituminous stabilized base shall be applied and shall include all small areas which may be designated for surfacing that are not large enough for machine application. Materials to be asphaltic oil grade MC-30.

The construction shall conform to Sections 304.05 through 304.12. The thickness of the stabilized base shall be a minimum of 4". The actual thickness will be determined by the requirement to match the existing adjacent elevations.

BITUMINOUS CONCRETE SURFACE COURSE, TACK COAT AND PRIME COAT

This work shall consist of the construction of a surface course of bituminous concrete. The bituminous concrete surface course shall be Mix I-5 in accordance with Section 404.02.

The construction shall be in accordance with Sections 404.12 through 404.19. Traffic will not be allowed on newly finished surfaces prior to their completion.

The thickness of the surface course shall be a minimum of 2". The actual thickness will be determined by the requirement to match the existing adjacent elevations.

A Prime Coat and a Tack Coat shall be applied in accordance with Section 404.13 and shall include all small areas, which may be designated for

surfacing and not large enough for machine application. Materials to be asphaltic oil grade MC-30. A Tack Coat shall be applied to all vertical surfaces where new surface course will meet old existing surface course.

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Weather limitations and the transportation and delivery of the mixture shall be as specified in Section 404.

The spreading and finishing of the mixture shall be in accordance with Section 404 and the following:

The base course shall be constructed in layers not more than 2-1/2" compacted thickness except that 4" layers may be constructed in those areas where the total combined thickness of surface course and bituminous stabilized base course is 7" or greater.

The compaction and air voids requirements of the base course and surface course shall be in accordance with Section 404.

The surface will be tested using a 10 foot straightedge at selected locations. The variation of the surface from the testing edge of the straightedge between any two contacts with any surface shall at no point exceed 3/8". All humps or depressions exceeding 3/8" shall be corrected by removing the defective work and replacing it with new material.

2-5 MISCELLANEOUS

- a. Please note that the College will be in full operational status during construction. Extra caution must be taken regarding safety. All work shall be done so as to allow for vehicular and pedestrian traffic to pass safely or to detour reasonably and safely without adversely affecting the College's ongoing operations.
- b. The contractor shall provide all necessary traffic cones, barricades, signage, etc. to identify work areas and hazards. The contractor shall also provide appropriate manpower to direct traffic both vehicular and pedestrian.

3. COMPLIANCE

- 3-1 The Contractor shall comply with all of the College's safety and work rules when performing work at the College. All contractor employees, subcontractors, etc., shall sign-in daily at the Facilities Management Building upon arrival on Campus to be issued a contractors identification badge. It is expected that all contractor employees will conduct themselves in a professional manner.

- 3-2 Prior to performing any excavation work, the contractor shall call for a utility markout AND notify the College. Public utilities will be marked out by the appropriate utility and MCC personnel will mark out the College utilities.

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The College Campus in Edison, New Jersey is located on a section of the Former Raritan Arsenal (FRA) which operated from 1918 through 1963. The Army Corps of Engineers (ACE) has completed investigations and remediation activities related to unexploded ordnance (UXO) materials on the Campus. While there are no known UXO's at this time, there remains a possibility that they can be discovered when excavating on campus. The ACE has provided an information safety sheet which advises anyone excavating on the FRA to practice the "3R's". They are **Recognize, Retreat and Report**. If any material is discovered that appears to be ordnance, the contractor shall immediately stop work, leave the area, call 911, and notify the College. A procedure has been established for emergency responders and military personnel to safely address such a situation.

- 3-3 Middlesex County College is a smoke-free campus. Smoking is only permitted inside a person's personal vehicle. Smoking is not permitted anywhere else on Campus or in any construction equipment. The College Police will issue summonses with fines to anyone found in violation of this policy.
- 3-4 Unless otherwise specified, all work is to be done in accordance with the NJDOT Standard Specifications for Road and Bridge Construction, 1989.
- 3-5 **A two (2) year Maintenance Bond is required for this project.**

4. **SITE CLEANUP**

- 4-1 The work area shall be cleaned on a daily basis. Any items remaining shall be secured and surrounded with safety tape and/or barriers. Any damage caused by the contractor shall be repaired at no cost to the College.
- 4-2 The contractor is to remove all trash, excavated materials, and other waste off site and disposed of it in accordance with current regulations. Provide the College with weight tickets for any materials that can be recycled. The cost for the testing of any materials prior to the removal from the Campus as required by regulatory agencies is the responsibility of the contractor.

5. **TIME CONSTRAINTS**

- 5-1 If the Board of Trustees of Middlesex County College has approved an award at least 10 days prior to June 9, 2014, the contractor shall begin work June 16, 2014.

All work must be completed by July 18, 2014. If the Board has not approved the award by at least 10 days prior to June 9, 2014, then the College will advise the contractor of an alternate start date.

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6. WORK HOURS

- 6-1 All work is to be performed during normal work hours 8:00 am to 4:30 pm, Monday through Friday. If additional work hours are required to complete all work in the work period specified, they shall be included in the contractor's bid price. Approval of the College shall be requested by the contractor in writing 48 hours prior to the desired work date.
- 6-2 The work hours in this Section take precedent over, and will supercede any conflicting references to hours of work elsewhere in these plans and specifications.

7. WARRANTY

- 7-1 All materials and workmanship shall be replaced at no cost for a period of two years from the date of final payment unless noted otherwise.

8. SCHEDULE OF ALLOWANCES

- 8-1 The purpose of the Allowance is to establish unit costs for Additions and Deletions of specific items that may be required during the course of construction from the Base Bid amount. The Total Allowance amount shall be added to the Base Bid amount on Page D-1.2 to establish the basis of award. **Bids will be awarded based on the total of the Base Bid and Allowance amount.** Items encompass the following work:

Mill 2" surface course.
Excavate damaged surface course and stabilized base.
Grade and compact subgrade.
Install geotextile soil support fabric.
Install 6" DGA.
Install 4" stabilized base.
Install 2" asphalt surface course.
Provide 4" wide white thermoplastic parking line striping.

These amounts are to include **all** costs including Overhead and Profit. The Contractor's amount shall be arrived at using quantities indicated on the **CONTRACTOR'S PROPOSAL** form.

9. **ADDITIONAL INFORMATION**

9-1 Additional information may be obtained from the following individuals:

Facility/Specifications:

Randolph R. Larate
Director, Facilities Engineering
732-906-7780
732-906-4199 Fax

Proposal:

David Fricke
Director of Purchasing
732-906-2519
732-906-4236 Fax

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