GENERAL AVIATION APRON PAVEMENT REHABILITATION

AT THE

TUSCALOOSA REGIONAL AIRPORT
TUSCALOOSA, ALABAMA

AIP No. 3-01-0072-32-2018 (Anticipated)
ATKINS PROJECT No. 100060110

ADDENDUM No. 2

August 10, 2018

The original plans and specifications issued for bids on July 24, 2018 for the above project are hereby amended by the City of Tuscaloosa and the project consultants, as noted in this Addendum Number 2. Receipt of this Addendum shall be acknowledged by inserting the Addendum number and date on Page 14, in the project manual (first page of the proposal section).

SPECIFICATIONS

MAKE THE FOLLOWING CHANGES TO THE SPECIFICATIONS AND CONTRACT DOCUMENTS BOOK:

1. In Appendix C – Technical Specifications, Item P-603, Bituminous Tack Coat, under the “MATERIALS” portion of the specification, in section 603-2.1 Bintuminous Materials, on page P-603-1, REPLACE the final sentence in this paragraph that begins “For this project . . .” with the following:

“For this project, use anionic emulsion NTSS-1HM or MS-1 or HFMS-1 per ASTM D977 or cationic emulsion, CSS-1 or CSS-1h per ASTM D2397.”

PLANS

MAKE THE FOLLOWING CHANGES TO THE PLAN SET:

1. Sheet G1.07, Construction Sequence and Schedule, REPLACE this sheet with the like numbered sheet included with this transmittal. The purpose of this change is to add a series of “Seal Coat and Paint Marking Notes” to clarify a requirement regarding the scheduling of seal coat application and installation of new pavement markings. The requirement adds a waiting period in order to allow for newly installed asphalt pavement surfaces to sufficiently weather away the fresh asphaltic oils on the pavement surface prior to seal coat application.

2. Sheet C4.05, Grading and Drainage Plan – Sheet 5, ADD a dimension in the lower left corner of the sheet to indicate that of the approximately 120 linear feet of fence removal and replacement in the bid schedule for Pavement Area 11, approximately 90 linear feet of that length occurs in the area depicted on this sheet. This plan sheet is not re-issued for bids, but this approximate location of fence removal and replacement will be depicted when the construction drawings are issued.

3. Sheet C4.07, Grading and Drainage Plan – Sheet 7, ADD a dimension in the lower right corner of the sheet to indicate that of the approximately 120 linear feet of fence removal and replacement in the bid
schedule for Pavement Area 11, approximately 30 linear feet of that length occurs in the area depicted on this sheet. This plan sheet is not re-issued for bids, but this approximate location of fence removal and replacement will be depicted when the construction drawings are issued.

4. Sheet C4.09, Grading and Drainage Plan – Sheet 9, **ADD** a dimension in the lower left corner of the purple cross hatched area on this sheet to indicate the location of the approximately 60 linear feet of fence removal and replacement in the bid schedule for Pavement Area 10. This plan sheet is not re-issued for bids, but this approximate location of fence removal and replacement will be depicted when the construction drawings are issued.

5. Sheet C5.01, Pavement Details – Sheet 1, **REPLACE** this sheet with the like-numbered sheet included with this transmittal. The purpose of this change is to make a series of corrections to Details 1, 2, and 4 on this sheet concerning the indication of where Tack Coat is to be installed per specification P-603 versus an indication of where curing material is to be installed per specification P-301 for soil-cement base.

   a. In Detail 1 on this sheet, a callout has been added to describe the bituminous curing material to be applied atop the soil-cement layer, and a note is added to clarify that this application of curing material is paid for under the square yard unit price for forming the soil-cement base layer.

   b. In Detail 2 on this sheet, a callout has been added to describe the bituminous curing material to be applied atop the soil-cement layer, and a note is added to clarify that this application of curing material is paid for under the square yard unit price for forming the soil-cement base layer.

   c. Detail 4 on this sheet had previously indicated two applications of tack in the build-up of the pavement section. Instead, only one installation of tack coat at the rate specified in specification P-603 is to be installed between the asphalt lifts. Where another application of tack had previously been indicated, this is now corrected to show a bituminous curing material that is to be installed at a different rate, as indicated in specification P-301 atop the soil-cement layer, and a note is added to clarify that this application of curing material is paid for under the square yard unit price for forming the soil-cement base layer.

6. Sheet C5.02, Pavement Details – Sheet 2, **REPLACE** this sheet with the like-numbered sheet included with this transmittal. The purpose of this change is to make corrections to Detail 1 on the sheet concerning the indication of where Tack Coat is to be installed per specification P-603 versus an indication of where curing material is to be installed per specification P-301 for soil-cement base.

   Detail 1 on this sheet had previously indicated two applications of tack in the build-up of the pavement section. Instead, only one installation of tack coat at the rate specified in specification P-603 is to be installed between the asphalt lifts. Where another application of tack had previously been indicated, this is now corrected to show a bituminous curing material that is to be installed at a different rate, as indicated in specification P-301 atop the soil-cement layer, and a note is added to clarify that this application of curing material is paid for under the square yard unit price for forming the soil-cement base layer.

7. Sheet C5.03, Aircraft Parking Pad Details, **REPLACE** this sheet with the like-numbered sheet included with this transmittal. The purpose of this change is to make corrections to Detail 1 on the sheet concerning the indication of where liquid membrane-forming curing material is to be installed per specification P-301 for soil-cement base. A callout is added to show a liquid membrane-forming curing compound to be applied atop the soil-cement base layer, and a note is added to clarify that this application of curing material is paid for under the square yard unit price for forming the soil-cement base layer.
8. Sheet C5.05, Drainage Details – Sheet 1, REPLACE this sheet with the like numbered sheet included with this transmittal. The purpose of this change is to correct the dimensions on the width and depth required for the pipe bedding.

**QUESTIONS**

A deadline has been imposed for questions in order to ensure ample time for questions to be received by the consultants; answered; and for answers to be distributed via this addendum in time for bidders to incorporate those answers into their bid documents. The end of the period for questions to be submitted in writing to darren.duckworth@atkinsglobal.com was 5:00 p.m. CDT on Thursday, August 9, 2018.

1. In the pre-bid conference a cap on the maximum amount of the bid bond was indicated to be $50,000.00, but the instructions to bidders on Page 6 in the bid documents says this maximum amount is $10,000.00. Which is correct?

   **Answer:** $10,000.00 is the correct maximum amount.

2. Can a blank copy of the bid form be distributed as a Microsoft Excel file be made available to facilitate the bidding process?

   **Answer:** Yes. A blank copy of the bid form is transmitted as part of this addendum, and will be made available to download on the City’s www.tuscaloosa.com/bids webpage.

3. Can the seal coat be applied directly after the installation of pavements, or will a waiting period be required?

   **Answer:** In the pre-bid conference, we indicated that no waiting period will be required for application of the P-631 slurry seal on the newly constructed asphalt surfaces. A qualification to this answer needs to be added: it should be noted that no waiting period is needed, only if the pavement preparation requirements indicated in paragraph 631-4.3 are strictly followed, including the potential need to scrub the pavement surface with detergent to remove oils. It is a common practice for a curing period of 30 days to avoid the need for such intensive surface preparation efforts.

   The changes effected by this addendum to Sheet G1.07 of the plans, noted in the PLANS section, above, indicate an allowable separate phasing method for the by which the slurry seal can be applied after a 30-day curing period for the new pavements in order to reduce the potential need for some of the more intensive pavement preparation methods.

   A second potential benefit of the allowable separate phasing method is that it provides for mobilizations of the sealing crews and equipment which are fewer and more continuous than the separate individual short mobilizations for each bar on the bar chart schedule originally provided on sheet G1.07.
4. Do you know if any of the concrete to be removed has any rebar in it?

**Answer:** Except for the pavement in Pavement Area 2, which is pavement that was designed for aircraft to park on and taxi across, these other concrete pavement areas are either light-duty driveway-type pavements or floor slabs from old hangar buildings or shade hangars like the existing shade hangar buildings. In each case, the pavement cores taken in these areas have indicated that they are 4 to 5 inches thick. These concrete pavement areas were not sampled thoroughly enough to know for certain if no rebar is present. At the thicknesses encountered in the pavement cores that were performed, we suspect that continuous reinforcement with rebar is unlikely, but we cannot say that definitively.

The airfield pavements in Area 2 may have some rebar in them, but it is entirely possible, considering their age, that they pre-date a time when dowelled panels became prevalent, relying more on formed keyed joints for load transfer. Still, we do not know for sure whether or not this is the case.

Where the concrete pavement areas are floor slabs from buildings that have been removed, in Pavement Areas 4, 5, and 11, there are likely to be concrete footings at the locations along the perimeter of the floor slab areas where the former building's support columns will have been, and these may consist of spread footings below the floor slabs. Such footings would be more likely to include rebar than the surface floor slabs, and if encountered, these footings would need to be removed as a subsidiary requirement for the pay item for the square yards of concrete pavement removal. This would only happen if the footings were to exist at a shallow enough depth to interfere with the proposed pavement section. Alternatively, if footings are present, but happen to be below the depth of the proposed asphalt plus soil cement thicknesses, plus an additional depth allowance for any minor cut depth that's proposed relative to the existing grades through these pavement limits, then the reclaimer equipment would not encounter such footings when forming the P-301 soil-cement base, and the footings would therefore be allowed to remain in place.

**END - ADDENDUM No. 2**
1. Application of P-621 Slurry Seal may occur during the paving area closures for each phase following placement of the asphalt surface materials. However, an alternative separate phasing sequence in the application of the Slurry Seal may reduce the need for extensive sealing of the new pavement. Where necessary, the application of slurry seal may be split into separate mobiliizations to reduce delays in construction.

2. This sequence described below includes an allowance for P-621 paint markings to be installed immediately after the Slurry Seal application. This may be done in lieu of the curing period called for in P-621, Paragraph 621-4.2 at the contractor's option. Provided that any portions of the markings which may exhibit discoloration from the fresh seal coat shall be re-applied at no additional cost. If the contractor elects not to use the 30-day separation between seal coat and paint markings, then no liquidated damages will be enforced for any overrun of the 110-190 calendar days contract time limit due solely to the installation of markings.

3. The alternate separate sequence phasing of the paving closure areas for the application of Slurry Seal and markings shall follow the same layout order as outlined in the overall phasing of construction. At the contractor's option, the mobilization of Slurry Seal crews and equipment may be done in a series of separate mobilizations, each following the completion of a paving area's final paving installation by 36 days, or in as few as two consecutive mobilizations as outlined below:

   A. An initial mobilization of the Slurry Seal crew and equipment and pavement marking crew and equipment could occur towards the end of the surface paving efforts for the last area to be constructed among either Paving Area 8 or Paving Area 10. This initial mobilization would include sealing and marking previously completed pavement surfaces from Phase 6 or Phase 7.

   B. A second mobilization of the Slurry Seal crew and equipment and the pavement marking crew and equipment would be needed after the completion of suitable weathering for the completion of paving in Paving Area 8 and the Subsequent sealing and marking mobilization for these areas. No time would be charged against the project contract limit while the duration of the second mobilizations would be included in the 110 to 190 calendar days contract limit for the overall project. It would be separately timed with a 10 calendar day limit and subject to the same liquidated damages and weather considerations as the overall project contract time limit. The 10-day allotment for the second mobilization is approximated among the various phased contiguous closure areas as follows:

      - 10 days to install an initial Slurry Seal coat on Paving Areas 7 and 10,
      - 10 days to install a second Slurry Seal coat on Paving Areas 7 and 10,
      - 2 days to install the second Slurry Seal coat on Paving Areas 8 and 10,

   C. The contractor shall submit a detailed schedule of work, subject to the approval of the owner and engineer.

NOTE: This project schedule is a schematic representation of the phasing and times allotted to complete the project. The contractor shall submit a detailed schedule of work, subject to the approval of the owner and engineer.

CONTRACT TIME LIMITS:

- The Base Bid contract time is 110 calendar days.
- A. With add alternate B: 30 calendar days are added.
- B. With add alternate C: 20 calendar days are added.
- C. With add alternate D: 0 calendar days are added.
- D. With add alternate E: 15 calendar days are added.
- E. With add alternate E: 15 calendar days are added.
1. Remove 6" depth from existing pavement per specification P-101.
2. Reclaim to 12" depth existing material for soil cement base.
3. Apply bituminous curing material per P-301. Cost for curing material shall be included in the unit price per square yard for reclamation to form the soil cement base.
4. Sample blended base material for geotechnical properties to determine required Portland cement content per specification P-301.
5. Apply Portland cement and blend to create soil cement.

NOTES:
1. Apply M-361 hot pour crack sealant for work under step 4 shall be made under EFM P-101-42.
2. Where applicable, payment for work under step 4 shall be made under EFM P-120-51.

2. CRACK SHALL BE ROUTED PER SEALANT MANUFACTURER'S RECOMMENDATION AND ALL DEBRIS AND/OR SOIL AND VEGETATION SHALL BE REMOVED WITH COMPRESSED AIR. CRACK WILL THEN BE SPRAYED WITH HERBICIDE.
3. APPLY M-361 HOT POUR CRACK SEALANT FOR MANUFACTURER'S RECOMMENDATION TO COMPLETELY FILL THE CLEANED, ROUTED CRACK.
4. AFTER APPLICATION OF CRACK SEALANT THE CONTRACTOR SHALL WAIT A PERIOD OF 24 HOURS BEFORE BEGINNING APPLICATION OF SEALCOAT.

NOTES:
1. ALL WORK THROUGH STEP 3 OF CRACK SEALANT SHALL BE MADE UNDER EFM P-120-51.
TUSCALOOSA REGIONAL AIRPORT
GENERAL AVIATION APRON
PAVEMENT REHABILITATION
SHEET 2

PAVEMENT AREAS 5, 7, 8, & 10

NOTES:
1. REMOVE 6" DEPTH FROM EXISTING PAVEMENT PER SPECIFICATION P-101.
2. RECLAIM TO 12" DEPTH EXISTING MATERIAL FOR SOIL CEMENT BASE.
3. APPLY BITUMINOUS CURING MATERIAL PER P-301.
4. APPLY PORTLAND CEMENT AND BLEND TO CREATE SOIL CEMENT.
5. SAMPLE BLENDED BASE MATERIAL FOR GEOTECHNICAL PROPERTIES TO DETERMINE REQUIRED PORTLAND CEMENT CONTENT PER SPECIFICATION P-301.

C5.02
PAVEMENT AREAS 8, 10, & 11

NOTES:
1. REMOVE 4" TO 5.5" OF EXISTING PAVEMENT PER SPECIFICATION P-101.
2. GRADE SUBGRADE AREA AS SHOWN IN GRADING PLANS TO ALLOW FOR PLACEMENT OF 4" W/ TOPSOIL.
3. IMPORT, CONDITION, AND SPREAD TOPSOIL PER SPECIFICATION T-905.
4. APPLY SEED AND MULCH PER SPECIFICATIONS T-901 AND T-908 TO CREATE STABLE TURF SURFACE.
SANDY CLAY SUB-BASE
EXISTING

NOTES:
1. REMOVE 6" DEPTHS FROM EXISTING PAVEMENT
2. RECLAIM TO 12" DEPTH EXISTING MATERIAL FOR SOIL CEMENT BASE.
3. APPLY LIQUID MEMBRANE FORMING CURING COMPOUNDS PER P-301 COST FOR CURING SOIL CEMENT BASE.
4. SAMPLE BLENDED BASE MATERIAL FOR GEOTECHNICAL PROPERTIES TO DETERMINE REQUIRED PORTLAND CEMENT CONTENT PER SPECIFICATION P-301.
5. APPLY PORTLAND CEMENT AND BLEND TO CREATE SOIL CEMENT.

C5.03
1/4" BEVEL (TYP.)
3/8" BELOW PAVEMENT SURFACE
SEALANT DEPTH AND SHAPE FACTOR PER MANUFACTURER'S RECOMMENDATION

CONTRACTION JOINT SEALANT
TOP OF SEALANT /3/8" BELOW PAVEMENT SURFACE
SEALANT DEPTH AND SHAPE FACTOR PER MANUFACTURER'S RECOMMENDATION OF 1/4" (1/4")

TOP OF SEALANT /3/8" BELOW PAVEMENT SURFACE OR BOTTOM OF GROOVE SAWSCUTS PER MANUFACTURER'S RECOMMENDATION

TYPE C DOWELED CONTRACTION JOINT

0.362" DIAM. BOTTOM SPACER BARS 2 PER ASSEMBLY, TO BE CLIPPED AFTER STAKING
0.362" DIAM. TOP SPACER BARS 2 PER ASSEMBLY
0.177" DIAM. SPREADER WIRES WELDED TO TOP SPACER BARS 3 PER ASSEMBLY, TO BE CLIPPED AFTER STAKING

GREASE ONE END OF EPOXY COATED DOWELS AS NOTED ABOVE

CONTRACTION JOINT SEALANT
SEALANT LENGTH, SHAPE FACTOR, AND COMPOUND PER MANUFACTURER'S RECOMMENDATION

CONTRACTION JOINT SEALANT
TOP OF SEALANT /3/8" BELOW PAVEMENT SURFACE OR BOTTOM OF GROOVE SAWSCUTS PER MANUFACTURER'S RECOMMENDATION

TOP OF SEALANT /3/8" BELOW PAVEMENT SURFACE OR BOTTOM OF GROOVE SAWSCUTS PER MANUFACTURER'S RECOMMENDATION

EPOXY COATED DOWELS AS NOTED ABOVE
1. SPALLING OR HEAVILY CONSTRUCTED PAVEMENT SHALL BE REPAIRED ACCORDING TO PAVEMENT SPECIFICATION. SPALL REPAIRS SHALL NOT BE MORE THAN 15% OF THE SLAB. SLABS WITH SMALL REPAIRS EXCEEDING SMALL REPAIR LIMITS SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE AIRPORT.

AS NOTE THE ENGINEER WITH HOOKS OR AS APPROVED FOR REBAR USE.
FINISHED GRADE

P-152 SELECTED EARTH BACKFILL IN COMPACTED LIFTS PLACED IN ACCORDANCE WITH P-152 REQUIREMENTS FOR FORMATION OF EMBANKMENTS.

6" TOPSOIL

3/4" MAXIMUM SIZE GRANULAR BEDDING (ASTM CLASS I MATERIAL, CLASS B BEDDING PER D-701)

8"

1/2 PIPE O.D. NOMINAL

30"

36"

42"

48"

TABLE OF DIMENSIONS BEYOND PIPE OUTSIDE WALL

DIM. W = TRENCH WIDTH

PIPE DIA.

NORMAL PIPE O.D.

12" & 18" 10"

24" 10"

36" 12"

48" 13"

54" 14"

SPIRING LINE

MIN. 24" OVERLAP OF GEOTEXTILE FABRIC

PIPE SHALL BE CLASS V RCP JOINTS SHALL BE FITTED WITH SEALS FOR WATER-TIGHTNESS TO SANITARY SEWER STANDARDS, 10.8 p.s.i. IN ACCORDANCE WITH ASTM 3212.

P-153 CONTROLLED LOW STRENGTH MATERIAL (FLOWABLE FILL)

4" ASPHALT PAVEMENT

3/4" MAXIMUM SIZE GRANULAR BEDDING (ASTM CLASS I MATERIAL, CLASS B BEDDING PER D-701)

8"

1/2 PIPE O.D. NOMINAL

30"

36"

42"

48"

TABLE OF DIMENSIONS BEYOND PIPE OUTSIDE WALL

DIM. W = TRENCH WIDTH

PIPE DIA.

NORMAL PIPE O.D.

12" & 18" 10"

24" 10"

36" 12"

48" 13"

54" 14"

SPIRING LINE

MIN. 24" OVERLAP OF GEOTEXTILE FABRIC

PIPE SHALL BE CLASS V RCP JOINTS SHALL BE FITTED WITH SEALS FOR WATER-TIGHTNESS TO SANITARY SEWER STANDARDS, 10.8 p.s.i. IN ACCORDANCE WITH ASTM 3212.