



Illinois Department of Transportation

Office of Intermodal Project Implementation / Division of Aeronautics
1 Langhorne Bond Drive / Springfield, Illinois 62707-8415

January 8, 2019

SUBJECT: University of Illinois – Willard Airport
Savoy, Illinois
Champaign County
Illinois Project Number: CMI-4632
Contract No. UN057
Item No. 03A, January 18, 2019 Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

Reasons for Addendum:

Adjust location of Contractor Staging and Storage Area.
Clarification on Calendar Days.
Clarification on RAP for Surface and Base course mixes.

To All Plan Holders:

Construction Plans:

Sheets 2 and 4:

1. RELOCATE Staging and Storage area to existing laydown area southeast of Engineer's Field Office location.

Also note, this location will terminate contractor access to the West of the Airport Entrance Road intersection, as noted on the plans.

Sheet 3:

1. Clarification under Section 2. PHASING; Total contract time shall be 60 calendar days.

Special Provisions:

1. Page #24 for ITEM 401.
2. Page #31 for ITEM 403.

Prime contractors must utilize the enclosed material when preparing their bid and must include any Schedule of Prices changes in their bid.

Questions on this addendum may be directed to Wes loerger, P.E. of Crawford, Murphy and Tilly, Inc. at 217-787-8050.

GENERAL

- 1. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL FOLLOW THE REQUIREMENTS OF THE AIRPORT'S APPROVED CONSTRUCTION SAFETY AND PHASING PLAN (CSPP), FAA AC 150/5370-2G, AND ALL AIRPORT SAFETY AND SECURITY REQUIREMENTS.
- 2. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL SUBMIT TO THE AIRPORT FOR APPROVAL A SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) IN ACCORDANCE WITH FAA AC 150/5370-2G. NO CONSTRUCTION ACTIVITY SHALL BEGIN UNTIL THE AIRPORT HAS APPROVED THE SPCD.
- 3. THE CSPP COVERS OPERATIONAL SAFETY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INDIVIDUAL SAFETY OF HIS/HER PERSONNEL AND MEETING OSHA REQUIREMENTS.
- 4. A MINIMUM OF 10 DAYS PRIOR TO THE NOTICE TO PROCEED THE CONTRACTOR SHALL PROVIDE A LIST OF SUBCONTRACTORS AND MATERIAL SUPPLIERS.
- 5. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL SIGN THE SWPPP CERTIFICATION STATEMENT IF SWPPP IS REQUIRED BY CONTRACT.
- 6. ALL CONTRACTOR COSTS ASSOCIATED WITH THE REQUIREMENTS LISTED ON THIS SHEET SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT UNLESS A SPECIFIC PAY ITEM IS PROVIDED.

1. COORDINATION

- 1. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL ATTEND A PRECONSTRUCTION CONFERENCE WITH THE AIRPORT, ENGINEER, AND ILLINOIS DIVISION OF AERONAUTICS (IDA). THE COST OF PREPARING FOR AND ATTENDING THE PRECONSTRUCTION CONFERENCE SHALL BE INCIDENTAL TO THE CONTRACT.
- 2. ON OR BEFORE THE PRECONSTRUCTION CONFERENCE, THE CONTRACTOR SHALL SUBMIT A PROPOSED SCHEDULE FOR THE PROJECT. THE SCHEDULE SHALL INCLUDE A START AND COMPLETION DATE FOR EACH ITEM OF WORK. THE SCHEDULE SHALL BE UPDATED ON A WEEKLY BASIS. ALL COSTS ASSOCIATED WITH THE SCHEDULE SHALL BE INCIDENTAL TO THE CONTRACT.
- 3. DURING CONSTRUCTION THE CONTRACTOR SHALL ATTEND A WEEKLY COORDINATION MEETING WITH THE AIRPORT STAFF, THE VILLAGE OF SAVOY, AND THE RESIDENT ENGINEER. ALL COSTS ASSOCIATED WITH ATTENDING THE WEEKLY MEETING SHALL BE INCIDENTAL TO THE CONTRACT.
- 4. THE CSPP AS WRITTEN HAS BEEN APPROVED BY THE AIRPORT AND THE FAA. PROPOSED CHANGES TO THE WORK LIMITS SHALL BE COORDINATED THROUGH THE FAA FOR AIRSPACE ANALYSIS AND WILL REQUIRE A MINIMUM OF 30 DAYS TO REVIEW.

2. PHASING

- 1. TOTAL CONTRACT TIME SHALL BE **60 CALENDAR DAYS**.
- 2. PHASING SHALL BE AS NOTED BELOW AND AS SHOWN ON THE CONSTRUCTION ACTIVITY PLAN (CAP) SHEET.

3. AREAS AND OPERATIONS AFFECTED BY THE CONSTRUCTION ACTIVITY

- 1. ALL RUNWAYS, TAXIWAYS AND APRONS SHALL BE KEPT OPEN TO AIRCRAFT TRAFFIC DURING CONSTRUCTION EXCEPT AS NOTED ON THE PHASING PLAN.
- 2. WHEN CONFLICTS ARISE BETWEEN CONSTRUCTION ACTIVITIES AND AIRCRAFT OPERATIONS AND SAFETY, AIRCRAFT OPERATIONS AND SAFETY SHALL TAKE PRECEDENCE AND SHALL GOVERN. FINAL AUTHORITY IN THE APPROVAL OF CONSTRUCTION SEQUENCING LIES WITH THE AIRPORT.
- 3. ALL CONSTRUCTION TRAFFIC SHALL IMMEDIATELY YIELD TO ONCOMING AIRCRAFT AT ALL TIMES.

5. CONTRACTOR ACCESS

- 1. CONTRACTOR ACCESS SHALL BE AS NOTED BELOW AND AS SHOWN ON THE SITE PLAN AND CONSTRUCTION ACTIVITY PLAN SHEETS. ALL COSTS RELATING TO CONTRACTOR'S ACCESS AND SECURITY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 2. THE CONTRACTOR IS TO ACCESS THE SITE USING THE GATES SHOWN. AIRPORT PERSONNEL SHALL PROVIDE ACCESS AND ESCORT TO THE CONTRACTOR WHEN ACCESSING THE AIRFIELD.
- 3. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND TEMPORARY EASEMENTS FOR THE PUBLIC ACCESS ROAD(S) SHOWN AND SHALL COMPLY WITH ALL REQUIREMENTS, LOAD RESTRICTIONS, & TRAFFIC CONTROL SIGNAGE REQUIRED BY THE VILLAGE, UNIVERSITY, COUNTY, TOWNSHIP, OR I.D.O.T.
- 4. CONTRACTOR'S VEHICLES AND EQUIPMENT SHALL BE MARKED AND FLAGGED PER SECTION 70-10 OF THE STANDARD SPECIFICATIONS. MAXIMUM HEIGHT OF CONTRACTOR'S EQUIPMENT WILL BE 25'.
- 5. DRIVERS OF TRUCKS CONTAINING MATERIAL DELIVERIES (AGGREGATE, CONCRETE, ETC.) NEED NOT OBTAIN AN AIRPORT ID BADGE BUT SHALL BE REQUIRED TO SUBMIT THEIR NAME, DRIVER'S LICENSE NUMBER, TRUCK LICENSE PLATE NUMBER AND NAME OF TRUCKING COMPANY TO THE PRIME CONTRACTOR PRIOR TO ENTERING THE JOBSITE. WHILE INSIDE THE AOA, THE TRUCK DRIVERS SHALL BE ESCORTED BY AIRPORT PERSONNEL.
- 6. THE CONTRACTORS STORAGE AND STAGING AREA WILL BE AS SHOWN IN THE SITE PLAN
- 7. THE CONTRACTOR SHALL KEEP A RECORD OF THE NAMES OF ALL EMPLOYEES ENTERING THE JOB SITE ON A DAILY BASIS. A RECORD OF EACH SUBCONTRACTOR ENTERING THE JOB SITE SHALL ALSO BE KEPT BY THE CONTRACTOR.
- 8. WHEN THE CONTRACTOR IS NOT WORKING, EQUIPMENT SHALL BE STORED AT THE STAGING AREA.
- 9. DURING ADVERSE WEATHER THE CONTRACTOR SHALL MAINTAIN ACCESS TO THE WORK AT NO ADDITIONAL COST TO THE CONTRACT. NO EXTENSION OF THE CONTRACT TIME WILL BE CONSIDERED FOR DELAYS DUE TO LACK OF ADEQUATE ACCESS TO THE WORK SITE.
- 10. THE CONTRACTOR WILL BE PERMITTED TO STORE EQUIPMENT AND MATERIALS ONLY AT THE LOCATIONS SHOWN. PARKED EQUIPMENT AND MATERIAL STOCKPILES SHALL NOT PENETRATE SURFACES DEFINED BY F.A.R. TITLE 14 PART 77 - OBJECTS AFFECTING NAVIGABLE AIRSPACE. EXISTING TURF AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY HIM AT HIS EXPENSE TO THE SATISFACTION OF THE RESIDENT ENGINEER AND THE AIRPORT.
- 11. ALL CONSTRUCTION TRAFFIC OPERATING ON, OR CROSSING RUNWAYS, TAXIWAYS AND APRONS OPEN TO AIRCRAFT TRAFFIC SHALL BE UNDER CONTROL BY A FLAGMAN OR ESCORT IN RADIO CONTACT WITH THE ATCT. THE CONTRACTOR SHALL PROVIDE HIS OWN FLAGMEN.
- 12. THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL CONSTRUCTION AREAS AND HAUL ROUTES WHICH WILL BE OPENED TO AIR TRAFFIC TO THE SATISFACTION OF AIRPORT OPERATIONS OR THE RESIDENT ENGINEER.

5. CONTRACTOR ACCESS (CONTINUED)

- 16. ALL PAVEMENTS, DRIVES OR ANY OTHER AREAS UTILIZED BY THE CONTRACTOR FOR HAUL ROADS OR STORAGE AREAS SHALL BE MAINTAINED AND REPAIRED TO THE SAME CONDITION OR BETTER THAN THEY WERE PRIOR TO BEGINNING CONSTRUCTION. NO ADDITIONAL COMPENSATION WILL BE MADE TO THE CONTRACTOR FOR THIS WORK.
- 17. ALL VEHICLE AND EQUIPMENT OPERATORS USED BY THE CONTRACTOR SHALL BE PROPERLY TRAINED BY THE CONTRACTOR.
- 18. THE CONTRACTOR SHALL NOTIFY THE AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF) FACILITY IF CONSTRUCTION ACTIVITY WILL REQUIRE THE BLOCKAGE OF EMERGENCY ACCESS TO THE AIRPORT.

6. WILDLIFE MANAGEMENT

- 1. THE CONTRACTOR SHALL NOTIFY PUBLIC SAFETY OR THE ENGINEER IF ANY WILDLIFE IS SEEN ENTERING THE AIRPORT.
- 2. CONTRACTOR ACCESS GATES SHALL REMAIN CLOSED WHEN THE CONTRACTOR IS NOT WORKING.
- 3. THE CONTRACTOR SHALL DISPOSE OF ALL TRASH INCLUDING FOOD SCRAPS IN APPROVED CONTRACTOR PROVIDED CONTAINERS.
- 4. THE CONTRACTOR SHALL MAINTAIN THE SITE TO LIMIT STANDING WATER AND TALL GRASS TO REDUCE THEIR ATTRACTANT TO WILDLIFE.

7. NOTIFICATION OF CONSTRUCTION ACTIVITIES

- 1. THE CONTRACTOR SHALL PROVIDE A 24 HOUR EMERGENCY CONTACT PERSON AND PHONE NUMBER.
- 2. THE CONTRACTOR SHALL GIVE A MINIMUM OF 72 HOURS NOTICE TO AIRPORT OPERATIONS/ARFF PRIOR TO CLOSING ANY PAVEMENTS SO THAT PROPER NOTAMS MAY BE ISSUED BY THE AIRPORT.
- 3. FOR ANY EQUIPMENT USED BY THE CONTRACTOR WITH A HEIGHT GREATER THAN 25', THE CONTRACTOR SHALL PROVIDE TO THE AIRPORT THE TYPE OF EQUIPMENT, TOTAL HEIGHT, AND LOCATION WHERE THE EQUIPMENT WILL BE USED. THE AIRPORT WILL SUBMIT FAA FORM 7460-1 TO THE FAA FOR AN AIRSPACE STUDY. NO EQUIPMENT WITH A HEIGHT GREATER THAN 25' SHALL BE USED UNTIL A DETERMINATION FROM FAA IS RECEIVED.
- 4. IN THE EVENT OF AN EMERGENCY, THE CONTRACTOR SHALL CALL 911.
- 5. CONTACTS FOR THIS PROJECT ARE AS LISTED BELOW.
PUBLIC SAFETY
CHIEF JOHN RIEGEL - PUBLIC SAFETY
OFFICE (217) 244-8764
CELL (217) 202-8213

AIRPORT MAINTENANCE
TIM BANNON - MAINTENANCE CONTACT
OFFICE (217) 300-8225
CELL (217) ???

ENGINEER
WES IOERGER P.E. - PROJECT MANAGER
(217) 787-8050
RESIDENT ENGINEER TO BE DETERMINED
OFFICE (217) 787-8050

8. INSPECTION REQUIREMENTS

- 1. THE CONTRACTOR SHALL INSPECT THE JOBISTE DAILY TO ENSURE COMPLIANCE WITH THE CSPP. THE CHECKLIST FOUND IN APPENDIX 3 OF FAA AC 150/5370-2G MAY BE USED TO AID IN THE INSPECTIONS.
- 2. THE CONTRACTOR SHALL REQUEST OPERATIONAL INSPECTION OF EACH PHASE WORK AREA PRIOR THE AREA BEING REOPENED. PUBLIC SAFETY WILL DETERMINE IF THE WORK AREA IS ALLOWED TO BE OPENED.

9. UNDERGROUND UTILITIES

- 1. IT WILL BE NECESSARY FOR THE CONTRACTOR TO MAKE HIS OWN FIELD INVESTIGATION TO DETERMINE THE EXACT LOCATION OF THE UNDERGROUND UTILITIES AT CRITICAL POINTS. THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON THE PLANS HAS BEEN OBTAINED FROM EXISTING RECORDS. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY IN RESPECT TO THE ACCURACY, COMPLETENESS OR SUFFICIENCY OF THE INFORMATION. ANY UTILITY, INCLUDING AIRFIELD ELECTRICAL CABLE AND LIGHTS, DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY HIM AT HIS OWN EXPENSE IN A MANNER WHICH IS SATISFACTORY TO THE ENGINEER AND TO THE OWNER OF THE UTILITY. ANY REPAIRS THAT MUST BE MADE BY THE OWNER OF THE UTILITY SHALL HAVE THE COST REIMBURSED TO THE UTILITY BY THE CONTRACTOR. AIRFIELD LIGHTING CABLES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY A QUALIFIED ELECTRICIAN WITH THE COSTS TO BE BORNE BY THE CONTRACTOR.
- 2. BEFORE INITIATING ANY DIGGING, DRILLING OR EXCAVATING ON THE AIRPORT PROPERTY, THE CONTRACTOR SHALL CALL J.U.L.I.E. AND CONTACT THE LOCAL FAA OFFICE TO ARRANGE FOR UTILITY LOCATES. SEE SECTION 50-17 OF THE SPECIAL PROVISIONS FOR UTILITY CONTACT INFORMATION.

10. PENALTIES

- 1. NONCOMPLIANCE BY THE CONTRACTOR WITH AIRPORT RULES AND REGULATIONS OR FAILURE TO COMPLY WITH THE AIRPORT'S APPROVED CSPP AND THE CONTRACTOR'S APPROVED SPCD MAY RESULT IN FINES AS ALLOWED BY LAW.

11. SPECIAL CONDITIONS

- 1. ADJACENT CONSTRUCTION MAY IMPACT THE OPERATIONS OF THE CONTRACTOR. SEE THE COORDINATION NOTES FOR ADDITIONAL INFORMATION.

12. RUNWAY AND TAXIWAY VISUAL AIDS

- 1. ALL RUNWAYS, TAXIWAYS, AND APRONS SHALL BE KEPT OPEN TO AIRPORT TRAFFIC DURING CONSTRUCTION EXCEPT AS NOTED IN THE CONSTRUCTION ACTIVITY PLAN.
- 2. IF ANY RUNWAY OR TAXIWAY CLOSURES ARE REQUESTED BY THE CONTRACTOR AND APPROVED BY THE AIRPORT, THE CONTRACTOR SHALL USE MARKING, LIGHTING AND SIGNS THAT FOLLOWING THE REQUIREMENTS OF FAA AC 150/5370-2G.

13. MARKING AND SIGNS FOR ACCESS ROUTES

- 1. BARRICADES AND SIGNS SHALL BE USED ALONG THE CONTRACTOR'S ACCESS ROUTE AS DETAILED IN THE PROJECT DOCUMENTS AND AS REQUIRED BY I.D.O.T.

14. HAZARD MARKING AND LIGHTING

- 1. THE CONTRACTOR SHALL FURNISH, ERECT, AND MAINTAIN MARKINGS AND ASSOCIATED LIGHTING OF OPEN TRENCHES, EXCAVATIONS, TEMPORARY STOCKPILES, AND HIS/HER CONSTRUCTION EQUIPMENT.
- 2. ALL CONSTRUCTION EQUIPMENT SHALL BE FLAGGED AND/OR LIGHTED IN ACCORDANCE WITH FAA ADVISORY CIRCULAR 150/5370-2G AND 150/5210-5D AT ALL TIMES WHILE OPERATING ON AIRPORT PROPERTY. THE MAXIMUM EQUIPMENT HEIGHT IS 25'.
- 3. BARRICADES SHALL BE PLACED AT THE LOCATIONS SHOWN ON THE CONSTRUCTION ACTIVITY PLAN SHEET OR AS DIRECTED BY THE ENGINEER.
- 4. THE CONTRACTOR SHALL INSPECT THE BARRICADES ONCE DURING EACH WORK DAY TO INSURE PROPER PLACEMENT AND PROPER OPERATION OF THE RED LIGHTS AND FLAG PLACEMENT.

15. PROTECTION

- 1. ALL WORK REQUIRED INSIDE OF RUNWAY SAFETY AREAS WILL REQUIRE THE RUNWAY TO BE CLOSED. THE CONTRACTOR SHALL COORDINATE WITH THE AIRPORT A MINIMUM OF 72 HOURS PRIOR TO THE REQUESTED CLOSURE TIME.
- 2. ALL WORK REQUIRED ON AN ACTIVE TAXIWAY OR INSIDE OF AN ACTIVE TAXIWAY OBJECT FREE AREA, WHICH EXTENDS 93' FROM THE TAXIWAY CENTERLINE OF 50' TAXIWAYS AND 130' FROM THE CENTERLINE OF 75' TAXIWAYS, WILL REQUIRE THE TAXIWAY TO BE CLOSED. THE CONTRACTOR SHALL COORDINATE WITH THE AIRPORT A MINIMUM OF 72 HOURS PRIOR TO THE REQUESTED CLOSURE TIME.
- 3. ALL WORK REQUIRED ON AN ACTIVE APRON OR INSIDE OF AN ACTIVE SAFETY AREA, WHICH EXTENDS 70' FROM THE APRON'S EDGE OF PAVEMENT, WILL REQUIRE A PORTION OF THAT APRON TO BE CLOSED. THE CONTRACTOR SHALL COORDINATE WITH THE AIRPORT A MINIMUM OF 72 HOURS PRIOR TO THE REQUESTED CLOSURE TIME.

16. OTHER LIMITATIONS ON CONSTRUCTION

- 1. IF, DURING CONSTRUCTION, AN EMERGENCY IS DECLARED BY THE AIRPORT, THE CONTRACTOR SHALL IMMEDIATELY CLEAR THE PAVEMENT OF ALL VEHICLES, PERSONNEL AND EQUIPMENT.
- 2. BROKEN CONCRETE, BROKEN ASPHALT, RUBBISH FROM DEMO, AND OTHER MISCELLANEOUS DEBRIS SHALL BE DISPOSED OF OFF AIRPORT PROPERTY, UNLESS OTHERWISE SPECIFIED.
- 3. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING THE AIRSPACE FOR THE CONSTRUCTION EQUIPMENT THAT IS TALLER THAN THAT SPECIFIED ON THE PLANS WITH THE FAA. THIS PROCESS MAY TAKE UP TO 12 WEEKS TO COMPLETE.



License No. OFFICE NUMBER
CONSULTANTS

FOR BIDDING
NOVEMBER 16, 2018

REHABILITATE AIRPORT
ENTRANCE ROAD

OWNER



UNIVERSITY OF ILLINOIS
WILLARD AIRPORT
SAVOY, ILLINOIS

MARK | DATE | DESCRIPTION

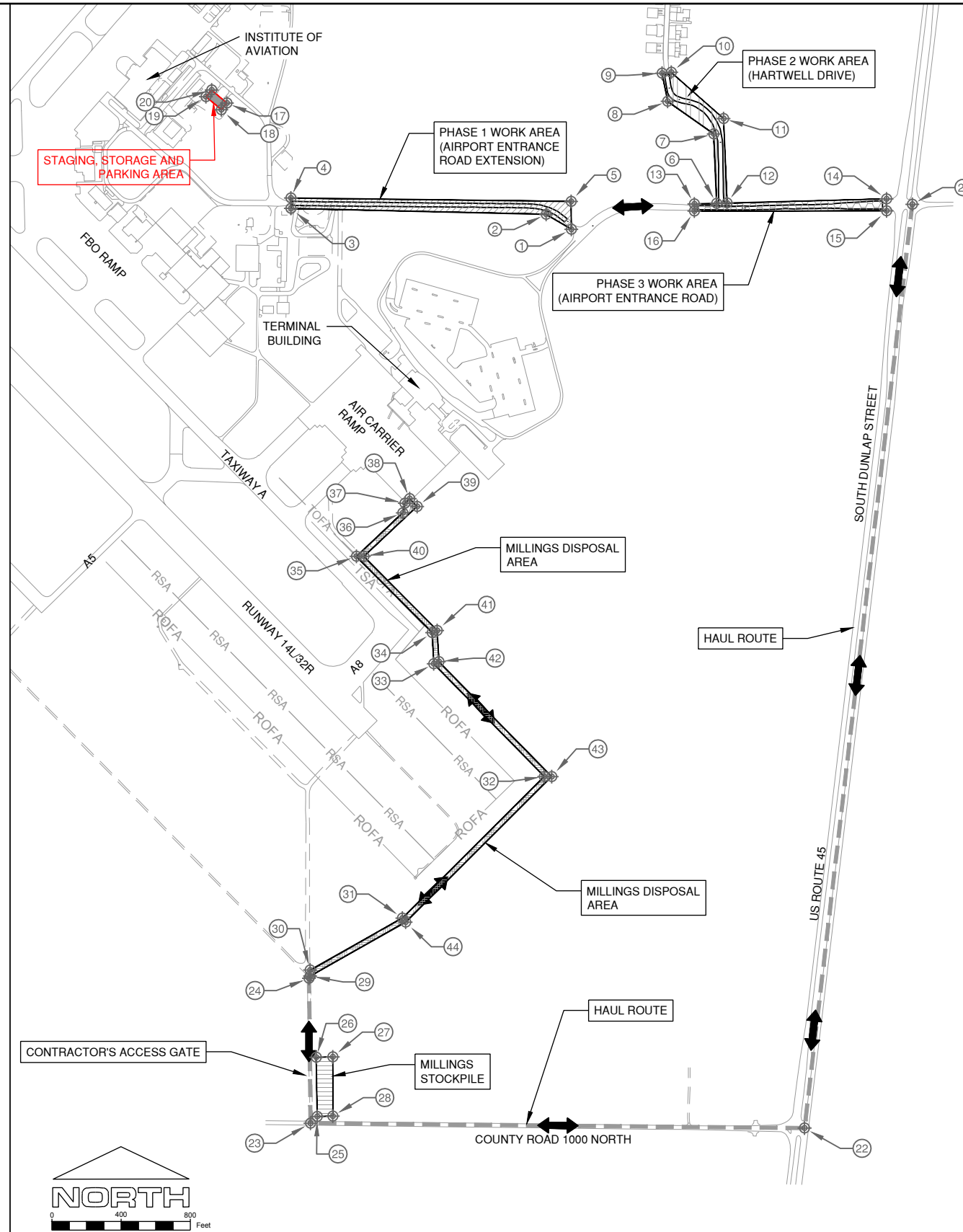
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CMT PROJECT NO: 18059-01-00
CAD DWG FILE: GC001 SAFETY PHASING PLAN NOTES.DWG
DESIGNED BY: HWI
DRAWN BY: CMT
CHECKED BY: CBG
APPROVED BY: CBG
COPYRIGHT:

SHEET TITLE
**SAFETY PHASING
NOTES & DETAILS**

Path: K:\Champaign\A018059-01\Drawn\Sheets\GC001 SAFETY PHASING PLAN NOTES.dwg
Date: Wednesday, January 2, 2019 9:13:31 AM

POINTS OF INTEREST

POINT	POINT DESCRIPTION	LATITUDE	LONGITUDE	GROUND ELEVATION	OBSTRUCTION HEIGHT	ABOVE GROUND ELEVATION
1	WORK AREA 1	N40° 02' 20.51"	W88° 15' 38.85"	745'	25'	770'
2	WORK AREA 1	N40° 02' 21.36"	W88° 15' 40.71"	741'	25'	766'
3	WORK AREA 1	N40° 02' 21.71"	W88° 15' 59.69"	742'	25'	767'
4	WORK AREA 1	N40° 02' 22.30"	W88° 15' 59.69"	742'	25'	767'
5	WORK AREA 1	N40° 02' 22.10"	W88° 15' 38.86"	747'	25'	772'
6	WORK AREA 2	N40° 02' 21.98"	W88° 15' 28.05"	742'	25'	767'
7	WORK AREA 2	N40° 02' 25.94"	W88° 15' 28.26"	740'	25'	765'
8	WORK AREA 2	N40° 02' 27.81"	W88° 15' 31.68"	736'	25'	761'
9	WORK AREA 2	N40° 02' 29.41"	W88° 15' 32.10"	730'	25'	755'
10	WORK AREA 2	N40° 02' 29.47"	W88° 15' 31.40"	730'	25'	755'
11	WORK AREA 2	N40° 02' 26.82"	W88° 15' 27.52"	735'	25'	760'
12	WORK AREA 2	N40° 02' 22.00"	W88° 15' 27.28"	737'	25'	762'
13	WORK AREA 3	N40° 02' 21.95"	W88° 15' 29.71"	742'	25'	767'
14	WORK AREA 3	N40° 02' 22.23"	W88° 15' 15.41"	738'	25'	763'
15	WORK AREA 3	N40° 02' 21.55"	W88° 15' 15.41"	738'	25'	763'
16	WORK AREA 3	N40° 02' 21.54"	W88° 15' 29.71"	742'	25'	767'
17	STAGING AND STORAGE	N40° 02' 27.73"	W88° 16' 04.45"	746'	25'	771'
18	STAGING AND STORAGE	N40° 02' 27.35"	W88° 16' 04.86"	746'	25'	771'
19	STAGING AND STORAGE	N40° 02' 28.10"	W88° 16' 06.00"	747'	25'	772'
20	STAGING AND STORAGE	N40° 02' 28.48"	W88° 16' 05.56"	747'	25'	772'
21	HAUL ROUTE	N40° 02' 21.92"	W88° 15' 13.51"	740'	25'	765'
22	HAUL ROUTE	N40° 01' 29.15"	W88° 15' 21.57"	744'	25'	769'
23	HAUL ROUTE	N40° 01' 29.46"	W88° 15' 58.28"	748'	25'	773'
24	HAUL ROUTE	N40° 01' 37.73"	W88° 15' 58.38"	746'	25'	771'
25	STOCKPILE	N40° 01' 29.84"	W88° 15' 57.79"	746'	25'	771'
26	STOCKPILE	N40° 01' 33.23"	W88° 15' 57.85"	748'	25'	773'
27	STOCKPILE	N40° 01' 33.24"	W88° 15' 56.62"	747'	25'	772'
28	STOCKPILE	N40° 01' 29.86"	W88° 15' 56.62"	747'	25'	772'
29	MILLINGS DISPOSAL AREA	N40° 01' 37.87"	W88° 15' 58.30"	747'	25'	772'
30	MILLINGS DISPOSAL AREA	N40° 01' 38.20"	W88° 15' 58.31"	747'	25'	772'
31	MILLINGS DISPOSAL AREA	N40° 01' 41.17"	W88° 15' 51.44"	746'	25'	771'
32	MILLINGS DISPOSAL AREA	N40° 01' 49.25"	W88° 15' 40.89"	746'	25'	771'
33	MILLINGS DISPOSAL AREA	N40° 01' 55.69"	W88° 15' 49.10"	744'	25'	769'
34	MILLINGS DISPOSAL AREA	N40° 01' 57.47"	W88° 15' 49.21"	746'	25'	771'
35	MILLINGS DISPOSAL AREA	N40° 02' 01.84"	W88° 15' 54.84"	746'	25'	771'
36	MILLINGS DISPOSAL AREA	N40° 02' 04.32"	W88° 15' 51.39"	745'	25'	770'
37	MILLINGS DISPOSAL AREA	N40° 02' 04.87"	W88° 15' 51.23"	748'	25'	773'
38	MILLINGS DISPOSAL AREA	N40° 02' 05.13"	W88° 15' 50.88"	748'	25'	773'
39	MILLINGS DISPOSAL AREA	N40° 02' 04.68"	W88° 15' 50.33"	745'	25'	770'
40	MILLINGS DISPOSAL AREA	N40° 02' 01.83"	W88° 15' 54.29"	745'	25'	770'
41	MILLINGS DISPOSAL AREA	N40° 01' 57.60"	W88° 15' 48.84"	746'	25'	771'
42	MILLINGS DISPOSAL AREA	N40° 01' 55.82"	W88° 15' 48.72"	744'	25'	769'
43	MILLINGS DISPOSAL AREA	N40° 01' 49.24"	W88° 15' 40.35"	746'	25'	771'
44	MILLINGS DISPOSAL AREA	N40° 01' 40.93"	W88° 15' 51.21"	746'	25'	771'



LEGEND

- PHASE 1 WORK AREA
- PHASE 2 WORK AREA
- PHASE 3 WORK AREA
- MILLINGS DISPOSAL AREA
- MILLINGS STOCKPILE AREA
- CONTRACTOR'S STAGING, STORAGE, AND PARKING AREA
- CONTRACTOR'S ACCESS/HAUL ROUTE
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- TAXIWAY SAFETY AREA
- TAXIWAY OBJECT FREE AREA
- CRITICAL POINT



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NOVEMBER 16, 2018

REHABILITATE AIRPORT
ENTRANCE ROAD

OWNER



UNIVERSITY OF ILLINOIS
WILLARD AIRPORT
SAVOY, ILLINOIS

MARK | DATE | DESCRIPTION

IL PROJ. NO. CMI-4606
CMT PROJECT NO: 18059-01-00
CAD DWG FILE: GC002 CONSTRUCTION ACTIVITY PLAN.DWG
DESIGNED BY: HWI
DRAWN BY: DPA
CHECKED BY: MJD
APPROVED BY: CBG
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SHEET TITLE
**CONSTRUCTION
ACTIVITY PLAN**

ITEM 401 – BITUMINOUS SURFACE COURSE
(Central Plant Hot Mix)

DESCRIPTION

401-3.2 ADD: This item shall consist of providing bituminous surface course for the rehabilitated and full-depth pavements.

MATERIALS

DELETE: THIS SECTION

ADD: Bituminous Surface Course materials shall conform with the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Adopted April 1, 2016, Division 1000, Section 1030 – HOT-MIX ASPHALT, IL-9.5 surface.

COMPOSITION

DELETE: THIS SECTION

ADD: Bituminous Surface Course Mix Composition shall be as follows:

*** See Memorandum 80306m for Guidance on PG-64-22 or other allowable.**

MIX COMPOSITION	IL 9.5
AC/PG	PG-64-22 *
MAX RAP %	0 **
% VOIDS	4% @ Ndes 50
FRICTION AGGREGATE	N/A

**** See attached Memorandum 80306m for RAP % in Mix**

CONSTRUCTION METHODS

401-4.12 TRANSPORTING, SPREADING, AND FINISHING

DELETE: The fifth paragraph and replace with:

The contractor shall place the bituminous material by controlling the thickness of the mixture. Stringline will not be required to construct the surface course.

401-4.12 JOINTS

ADD: After the first paragraph of this section.

At any time during the bituminous surface course paving operation it becomes necessary to end a paving lane at a location other than the proposed finished pavement edge because of ending a day's paving, machinery breakdown, etc., the lane end will be sawed back a sufficient distance to provide a smooth, neat appearing joint from which to resume paving. The sawed face will be painted with a liquid asphalt and this work shall be considered incidental to Item 401, Bituminous Surface Course, and no additional compensation will be allowed.

REVISE: The sixth sentence of the fourth paragraph as follows:

"...at a random location as determined by the Resident Engineer..."

401-4.15 ACCEPTANCE TESTING OF HMA MIXES FOR DENSITY

ITEM 403 – BITUMINOUS BASE COURSE
(Central Plant Hot Mix)

DESCRIPTION

403-1.2 ADD: This item shall consist of providing bituminous base course for the full-depth pavement section of the Airport Entrance Road Extension and incidental to the Subgrade Repair pay item.

MATERIALS

DELETE: THIS SECTION

ADD: Bituminous Surface Course materials shall conform with the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Adopted April 1, 2016, Division 1000, Section 1030 – HOT-MIX ASPHALT, IL-19.0 binder.

COMPOSITION

DELETE: THIS SECTION

ADD: Bituminous Base Course Mix Composition shall be as follows:

* See Memorandum 80306m for Guidance on PG-64-22 or other allowable.

MIX COMPOSITION	IL 19.0
AC/PG	PG-64-22 *
MAX RAP %	∅ **
% VOIDS	4% @ Ndes 50
FRICTION AGGREGATE	N/A

** See attached Memorandum 80306m for RAP % in Mix
CONSTRUCTION METHODS

403-4.11 JOINTS

ADD: After the first paragraph of this section.

At any time during the bituminous base course paving operation it becomes necessary to end a paving lane at a location other than the proposed finished pavement edge because of ending a day's paving, machinery breakdown, etc., the lane end will be sawed back a sufficient distance to provide a smooth, neat appearing joint from which to resume paving. The sawed face will be painted with a liquid asphalt and this work shall be considered incidental to Item 403, Bituminous Base Course, and no additional compensation will be allowed.

BASIS OF PAYMENT

403-6.1 DELETE: The second paragraph.

ADD: Payment will be made under:

Item AR403610 – Bituminous Base Course – per ton.


For Subgrade Repair:

Payment of this item shall be incidental to Item AR152511 Subgrade Repair.



Illinois Department of Transportation

Memorandum

To: Regional Engineers
From: Jack A. Elston 
Subject: Special Provision for Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)
Date: September 28, 2018

This special provision was developed to combine the two existing BDE special provisions, "Reclaimed Asphalt Pavement (RAP)" and "Reclaimed Asphalt Shingles (RAS)" into one.

This special provision has been revised to allow 5% higher asphalt binder replacement (ABR) for HMA contracts with Illinois Flexibility Index (I-FIT) testing requirements.

This special provision should be inserted in all HMA contracts, including those using the I-FIT test.

The districts should include the BDE Check Sheet marked with the applicable special provisions for the January 18, 2019 and subsequent lettings. The Project Coordination and Implementation Section will include a copy in the contract.

This special provision will be available on the transfer directory September 28, 2018.

80306m

RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (BDE)

Effective: November 1, 2012

Revise: January 1, 2019

Revise Section 1031 of the Standard Specifications to read:

“SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES

1031.01 Description. Reclaimed asphalt pavement and reclaimed asphalt shingles shall be according to the following.

- (a) Reclaimed Asphalt Pavement (RAP). RAP is the material produced by cold milling or crushing an existing hot-mix asphalt (HMA) pavement. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.
- (b) Reclaimed Asphalt Shingles (RAS). Reclaimed asphalt shingles (RAS). RAS is from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material, as defined in Central Bureau of Materials Policy Memorandum, “Reclaimed Asphalt Shingle (RAS) Sources”, by weight of RAS. All RAS used shall come from a Central Bureau of Materials approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 93 percent passing the #4 (4.75 mm) sieve based on a dry shake gradation. RAS shall be uniform in gradation and asphalt binder content and shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.
 - (1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.
 - (2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

1031.02 Stockpiles. RAP and RAS stockpiles shall be according to the following.

- (a) RAP Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. No additional RAP shall be added to the pile after the pile has been sealed. Stockpiles shall be sufficiently separated to prevent intermingling at the base. Stockpiles shall be identified by signs indicating the type as listed below (i.e. “Homogeneous Surface”).

Prior to milling, the Contractor shall request the District provide documentation on the quality of the RAP to clarify the appropriate stockpile.

- (1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, HMA (High and Low ESAL) mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. All FRAP shall be fractionated prior to testing by screening into a minimum of two size fractions with the separation occurring on or between the #4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP shall pass the sieve size specified below for the mix into which the FRAP will be incorporated.

Mixture FRAP will be used in:	Sieve Size that 100 % of FRAP Shall Pass
IL-19.0	1 1/2 in. (40 mm)
IL-9.5	3/4 in. (20 mm)
IL-4.75	1/2 in. (13 mm)

- (2) Homogeneous. Homogeneous RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) mixtures and represent: 1) the same aggregate quality, but shall be at least C quality; 2) the same type of crushed aggregate (either crushed natural aggregate, ACBF slag, or steel slag); 3) similar gradation; and 4) similar asphalt binder content. If approved by the Engineer, combined single pass surface/binder millings may be considered "homogeneous" with a quality rating dictated by the lowest coarse aggregate quality present in the mixture.
- (3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality, but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate RAP shall be processed prior to testing by crushing to where all RAP shall pass the 5/8 in. (16 mm) or smaller screen. Conglomerate RAP stockpiles shall not contain steel slag.
- (4) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

RAP/FRAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, joint sealants, etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

- (b) RAS Stockpiles. Type 1 and Type 2 RAS shall be stockpiled separately and shall not be intermingled. Each stockpile shall be signed indicating what type of RAS is present.

Unless otherwise specified by the Engineer, mechanically blending manufactured sand (FM 20 or FM 22) up to an equal weight of RAS with the processed RAS will be permitted to improve workability. The sand shall be "B Quality" or better from an

approved Aggregate Gradation Control System source. The sand shall be accounted for in the mix design and during HMA production.

Records identifying the shingle processing facility supplying the RAS, RAS type, and lot number shall be maintained by project contract number and kept for a minimum of three years.

1031.03 Testing. RAP/FRAP and RAS testing shall be according to the following.

(a) RAP/FRAP Testing. When used in HMA, the RAP/FRAP shall be sampled and tested either during or after stockpiling.

(1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).

(2) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

Each sample shall be split to obtain two equal samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedure. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

(b) RAS Testing. RAS or RAS blended with manufactured sand shall be sampled and tested during stockpiling according to Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Shingle (RAS) Source".

Samples shall be collected during stockpiling at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 250 tons (225 metric tons) thereafter. A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). Once a ≤ 1000 ton (900 metric ton), five-sample/test stockpile has been established it shall be sealed. Additional incoming RAS or RAS blended with manufactured sand shall be stockpiled in a separate working pile as designated in the Quality Control plan and only added to the sealed stockpile when the test results of the working pile are complete and are found to meet the tolerances specified herein for the original sealed RAS stockpile.

Before testing, each sample shall be split to obtain two test samples. One of the two test samples from the final split shall be labeled and stored for Department use. The

Contractor shall perform a washed extraction and test for unacceptable materials on the other test sample according to Department procedures. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

If the sampling and testing was performed at the shingle processing facility in accordance with the QC Plan, the Contractor shall obtain and make available all of the test results from start of the initial stockpile.

1031.04 Evaluation of Tests. Evaluation of test results shall be according to the following.

- (a) Evaluation of RAP/FRAP Test Results. All of the extraction results shall be compiled and averaged for asphalt binder content and gradation, and when applicable G_{mm} . Individual extraction test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	FRAP/Homogeneous/ Conglomerate
1 in. (25 mm)	
1/2 in. (12.5 mm)	± 8 %
No. 4 (4.75 mm)	± 6 %
No. 8 (2.36 mm)	± 5 %
No. 16 (1.18 mm)	
No. 30 (600 μm)	± 5 %
No. 200 (75 μm)	± 2.0 %
Asphalt Binder	± 0.4 % ^{1/}
G_{mm}	± 0.03

1/ The tolerance for FRAP shall be ± 0.3 %.

If more than 20 percent of the individual sieves and/or asphalt binder content tests are out of the above tolerances, the RAP/FRAP shall not be used in HMA unless the RAP/FRAP representing the failing tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the ITP, "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)".

- (b) Evaluation of RAS and RAS Blended with Manufactured Sand Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content and gradation. Individual test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	RAS
No. 8 (2.36 mm)	± 5 %

No. 16 (1.18 mm)	± 5 %
No. 30 (600 µm)	± 4 %
No. 200 (75 µm)	± 2.0 %
Asphalt Binder Content	± 1.5 %

If more than 20 percent of the individual sieves and/or asphalt binder content tests are out of the above tolerances, or if the percent unacceptable material exceeds 0.5 percent by weight of material retained on the # 4 (4.75 mm) sieve, the RAS or RAS blend shall not be used in Department projects. All test data and acceptance ranges shall be sent to the District for evaluation.

1031.05 Quality Designation of Aggregate in RAP/FRAP.

(a) RAP. The aggregate quality of the RAP for homogeneous and conglomerate stockpiles shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.

(1) RAP from Class I, Superpave/HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.

(2) RAP from Class I binder, Superpave/HMA (High ESAL) binder, or (Low ESAL) IL-19.0L binder mixtures are designated as containing Class C quality coarse aggregate.

(b) FRAP. If the Engineer has documentation of the quality of the FRAP aggregate, the Contractor shall use the assigned quality provided by the Engineer.

If the quality is not known, the quality shall be determined as follows. Coarse and fine FRAP stockpiles containing plus #4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5000 tons (4500 metric tons). The Contractor shall obtain a representative sample witnessed by the Engineer. The sample shall be a minimum of 50 lb (25 kg). The sample shall be extracted according to Illinois Modified AASHTO T 164 by a consultant laboratory prequalified by the Department for the specified testing. The consultant laboratory shall submit the test results along with the recovered aggregate to the District Office. The cost for this testing shall be paid by the Contractor. The District will forward the sample to the Central Bureau of Materials Aggregate Lab for MicroDeval Testing, according to ITP 327. A maximum loss of 15.0 percent will be applied for all HMA applications.

1031.06 Use of RAP/FRAP and/or RAS in HMA. The use of RAP/FRAP and/or RAS shall be the Contractor's option when constructing HMA in all contracts.

(a) RAP/FRAP. The use of RAP/FRAP in HMA shall be as follows.

(1) Coarse Aggregate Size. The coarse aggregate in all RAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.

- (2) Steel Slag Stockpiles. Homogeneous RAP stockpiles containing steel slag will be approved for use in all HMA (High ESAL and Low ESAL) Surface and Binder Mixture applications.
- (3) Use in HMA Surface Mixtures (High and Low ESAL). RAP/FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall be FRAP or homogeneous in which the coarse aggregate is Class B quality or better. FRAP from Conglomerate stockpiles shall be considered equivalent to limestone for frictional considerations. Known frictional contributions from plus #4 (4.75 mm) homogeneous FRAP stockpiles will be accounted for in meeting frictional requirements in the specified mixture.
- (4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. RAP/FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP, homogeneous, or conglomerate, in which the coarse aggregate is Class C quality or better.
- (5) Use in Shoulders and Subbase. RAP/FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, homogeneous, or conglomerate.
- (6) When the Contractor chooses the RAP option, the percentage of RAP shall not exceed the amounts indicated in Article 1031.06(c)(1) below for a given Ndesign.
- (b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.
- (c) RAP/FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with RAP or FRAP in HMA mixtures up to a maximum of 5.0 percent by weight of the total mix.
- (1) RAP/RAS. When RAP is used alone or RAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the Max RAP/RAS ABR table listed below for the given Ndesign.

RAP/RAS Maximum Asphalt Binder Replacement (ABR) Percentage

HMA Mixtures <i>1/, 2/</i>	RAP/RAS Maximum ABR %		
	Binder/Leveling Binder	Surface	Polymer Modified
30	30	30	10
50	25	15	10
70	15	10	10
90	10	10	10

- 1/ For Low ESAL HMA shoulder and stabilized subbase, the RAP/RAS ABR shall not exceed 50 percent of the mixture.
 - 2/ When RAP/RAS ABR exceeds 20 percent, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28). If warm mix asphalt (WMA) technology is utilized and production temperatures do not exceed 275 °F (135 °C), the high and low virgin asphalt binder grades shall each be reduced by one grade when RAP/RAS ABR exceeds 25 percent (i.e. 26 percent RAP/RAS ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).
- (2) FRAP/RAS. When FRAP is used alone or FRAP is used in conjunction with RAS, the percentage of virgin asphalt binder replacement shall not exceed the amounts listed in the FRAP/RAS table listed below for the given Ndesign.

FRAP/RAS Maximum Asphalt Binder Replacement (ABR) Percentage

HMA Mixtures <i>1/, 2/</i>	FRAP/RAS Maximum ABR %						
	Ndesign	Binder/Leveling Binder		Surface		Polymer Modified	
		w/o I-FIT	with I-FIT	w/o I-FIT	with I-FIT	w/o I-FIT	with I-FIT
30	50	55	40	45	10	15	
50	40	45	35	40	10	15	
70	40	45	30	35	10	15	
90	40	45	30	35	10	15	
SMA	--	--	--	--	20	25	
IL-4.75	--	--	--	--	30	35	

- 1/ For Low ESAL HMA shoulder and stabilized subbase, the FRAP/RAS ABR shall not exceed 50 percent of the mixture.
- 2/ When FRAP/RAS ABR exceeds 20 percent for all mixes, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28). If warm mix asphalt (WMA) technology is utilized and production temperatures do not exceed 275 °F (135 °C), the high and low virgin asphalt binder grades shall each be reduced by one grade when FRAP/RAS ABR exceeds 25 percent (i.e. 26 percent ABR would require a virgin asphalt binder grade of PG 64-22 to be reduced to a PG 58-28).

1031.07 HMA Mix Designs. At the Contractor's option, HMA mixtures may be constructed utilizing RAP/FRAP and/or RAS material meeting the detailed requirements specified herein.

- (a) RAP/FRAP and/or RAS. RAP/FRAP and/or RAS mix designs shall be submitted for verification. If additional RAP/FRAP and/or RAS stockpiles are tested and found that no more than 20 percent of the results, as defined under "Testing" herein, are outside of the control tolerances set for the original RAP/FRAP and/or RAS stockpile and HMA mix design, and meets all of the requirements herein, the additional RAP/FRAP and/or RAS stockpiles may be used in the original mix design at the percent previously verified.
- (b) RAS. Type 1 and Type 2 RAS are not interchangeable in a mix design.

The RAP, FRAP, and RAS stone bulk specific gravities (G_{sb}) shall be according to the "Determination of Aggregate Bulk (Dry) Specific Gravity (G_{sb}) of Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)" procedure in the Department's Manual of Test Procedures for Materials.

1031.08 HMA Production. HMA production utilizing RAP/FRAP and/or RAS shall be as follows.

- (a) RAP/FRAP. The coarse aggregate in all RAP/FRAP used shall be equal to or less than the nominal maximum size requirement for the HMA mixture being produced.

To remove or reduce agglomerated material, a scalping screen, gator, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAP feed system to remove or reduce oversized material.

If the RAP/FRAP control tolerances or QC/QA test results require corrective action, the Contractor shall cease production of the mixture containing RAP/FRAP and either switch to the virgin aggregate design or submit a new RAP/FRAP design.

- (b) RAS. RAS shall be incorporated into the HMA mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. The portion of RAS shall be controlled accurately to within ± 0.5 percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that the mixture production is halted when RAS flow is interrupted.

- (c) RAP/FRAP and/or RAS. HMA plants utilizing RAP/FRAP and/or RAS shall be capable of automatically recording and printing the following information.

(1) Dryer Drum Plants.

- a. Date, month, year, and time to the nearest minute for each print.
- b. HMA mix number assigned by the Department.

- c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- d. Accumulated dry weight of RAP/FRAP/RAS in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.
- f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
- g. Residual asphalt binder in the RAP/FRAP material as a percent of the total mix to the nearest 0.1 percent.
- h. Aggregate and RAP/FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAP/FRAP are printed in wet condition.)

(2) Batch Plants.

- a. Date, month, year, and time to the nearest minute for each print.
- b. HMA mix number assigned by the Department.
- c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
- d. Mineral filler weight to the nearest pound (kilogram).
- e. RAP/FRAP/RAS weight to the nearest pound (kilogram).
- f. Virgin asphalt binder weight to the nearest pound (kilogram).
- g. Residual asphalt binder in the RAP/FRAP/RAS material as a percent of the total mix to the nearest 0.1 percent.

The printouts shall be maintained in a file at the plant for a minimum of one year or as directed by the Engineer and shall be made available upon request. The printing system will be inspected by the Engineer prior to production and verified at the beginning of each construction season thereafter.

1031.09 RAP in Aggregate Surface Course and Aggregate Wedge Shoulders, Type B.

The use of RAP in aggregate surface course (temporary access entrances only) and aggregate wedge shoulders, Type B shall be as follows.

- (a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except "Non-Quality" and "FRAP". The testing requirements of Article 1031.03 shall not apply. RAP used shall be according to the current Central Bureau of Materials Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications".
- (b) Gradation. One hundred percent of the RAP material shall pass the 1 1/2 in. (37.5 mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded or single sized will not be accepted."

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