

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

*Don Enger
Vide*

February 19, 1975

Subject: Monitoring Report #1
Expansion and Remodeling of Concourse E
Detroit Metropolitan Airport

Project: 74:95

Date of Monitoring: February 13, 1975 (working day 31)

Date of Notice to Proceed: February 10, 1975 (working day 28)

Target Completion Date:

Allegheny Airlines Apron Level - June 1, 1975 (working day 107)

Main level holding rooms - to be determined

Final completion date - to be determined

Actions taken:

- Began preparation of preliminary detail diagrams and summary networks

General

This meeting focused on reviewing the overall project program and concentrating on several detail areas that appeared to be able to start in the field at an early date. We also began assigning responsibility codes to identify parties that are to accomplish each of the tasks. This list is shown on sheet 1 of the preliminary network diagram. Prints of sheets 1, 2, 3 and S1, the beginning of the summary diagram, were issued to Mr. Bob Kanis, Wayne County Road Commission, Mr. Lou Walter, Barton Malow, Mr. Vitas Bagdonas of Redstone's office and to Ralph J. Stephenson. These sheets are noted Issue #1 dated February 13, 1975.

The intent of the general contractor is to mobilize and move on the site as soon as he can be assured that continuity of field action can occur. Presently there are several elements that must be cleared before such continuity can be obtained. These include approval of

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the electrical subcontractor by the Wayne County Road Commission, submission and partial approval of the early subcontractor list (this basically is EEO approval), and obtaining the general building permit by Bartow Malow. Also, approval and delivery of temporary apron lighting fixtures should be accomplished at an early date so installation of the temporary lighting can proceed in the field.

It is the present intent to begin work on the new footings at column line 21 - 25 as early as possible. Concurrently with this, it is expected that after installation of temporary apron lighting, the new columns and roof deck over the present concourse can be put into work. For this we have defined five pours:

Pour #1 - column line 3 - 12, south

Pour #2 - column line 3 - 12, north

Pour #3 - column line 13 - 21, south

Pour #4 - column line 13 - 21, north

Pour #5 - column line 22 - 26, south and north

To finish out the new roof deck at pour #5, it will be necessary to have the new construction up to the main level deck between column lines 21 and 25. Thus, these two elements of construction are closely related. The logic plan for this work is shown on sheet #1.

Concurrently with the new concrete work, remodeling of the Allegheny Airlines space identified by section 5.6.1 of the specifications will be started. This identification code has been shortened in our diagram to 561. We will use numbers to identify each of the spaces to be remodeled. There are large numbers of items that must be processed and delivered for work to proceed uninterruptedly at the apron level. These are listed in detail on sheet 2 of Issue #1 dated February 13, 1975. I strongly suggest that this sheet be used on a continuing basis to identify when all of the elements needed must be detailed, approved, fabricated and delivered. Most critical now to the job is a decision on hollow metal frames. These items have long detailing and fabrication lead times. Therefore, it is considered possible to reuse frames which would considerably expedite the beginning of work at the Allegheny apron level. Apparently this space is a high priority area and therefore, every effort

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should be made by all concerned to accommodate whatever actions are necessary to improve delivery.

Our preliminary planning shows that without any delivery restraints imposed upon the remodeling plan, it would take approximately 65 working days, or nearly three months, to complete remodeling space #561. It would probably take a similar length of time to remodel space 562 which presently will be worked upon following completion of 561. Thus, it is apparent that the delivery of both of these spaces by June 1, 1975 (working day 107) becomes difficult unless complete expediting of all materials is accomplished now and unless both areas can be worked on concurrently. These matters are being looked into and should be resolved prior to our next diagramming session.

In summary, the present work on the job is limited to obtaining approvals on subcontractors, obtaining the general building permit and beginning overall layout of the project. However, the job must soon move into an accelerated program, particularly if we are to meet our current early dates. At our next session we shall continue to plan in detail all of the major areas, as well as continuing to generate the summary diagram, giving an overlook at the total project area by area.

Ralph J. Stephenson, P. E.

RJS/m

To: Mr. Robert Kania
Mr. Lou Walter
Mr. Bernie Colton

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Relative to roof construction, it will be important to fabricate and deliver the temporary apron lighting so that existing lighting can be removed and replaced. The removed fixtures will be rehabilitated by Harlan in their shop and brought back to the job to be re-installed once the roof pours are made.

EEO approvals are moving relatively well and apparently most of the early contractors have now been cleared so that actual ordering and shop drawing work can proceed on most critical items. It is expected that all remaining EEO approvals will be in for the major contractors and vendors by March 14, 1975 (working day 52).

Reviewing the work at area 561, the Allegheny operational area, we prepared a detailed plan of work showing the impact of long delivery times on interior finish work. These findings are shown on sheets 2 and 3 of Issue #2 dated March 5, 1975. The major problem still is in delivery of hollow metal frames and hollow metal doors. We did discuss several ways of working around these long delivery times and the problem will be reviewed in depth by Mr. Enos and Mr. Walter. Presently we have assumed that construction of temporary barricade at area 561 will begin on March 13, 1975 (working day 51), and that work there will proceed as rapidly as possible with the hope that the actual work in progress will expedite deliveries to the job site.

It is still not known whether we can construct areas 561 and 562 concurrently. However, this matter is being investigated by all parties concerned.

As part of our new diagramming work, we also planned total close-in of the roof structure over the main concourse level. We also isolated the major delivery items for close-in including:

- Precast wall panels
- Roofing and sheet metal materials
- Curtain wall material
- Glass
- Hollow metal frames

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- **Hardware**
- **Louvers**
- **Hollow metal doors**

It appears presently we can expect close-in of the building to be progressive between early August 1975 and mid-October 1975. One problem that will hinder work progress is the need to close the area totally before we can strip the existing roof except at the first section to be closed in, column line 3 - 12. At this area there is an asphalt black topping and rough interior work could start on this topping without damage to its waterproofing qualities. However, at other areas it will be necessary to maintain minimal traffic on the existing roof until total close-in occurs due to the danger of accidentally destroying the integrity of the existing roofing system.

At our next diagramming session we shall complete planning interior finish work at the main level and work on the apron level remodeling. I shall be in touch with Mr. Walter and Mr. Kania re our next diagramming session.

Sheets 1, 2, 3 and 4, Issue #2 dated March 5, 1975 have been distributed to all parties concerned. It should be further noted that the work on sheet 4 in the rough set comes directly off of sheet 1. In the final draft, however, the information on sheets 1 and 4 will be merged.

Ralph J. Stephenson, P. E.

**RJS
m**

**To: Mr. Robert Kania
Mr. Lou Walter *orig*
Mr. Bernie Colton**

RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER

April 17, 1975

Subject: Monitoring Report #3
Expansion and Remodeling of Concourse E
Detroit Metropolitan Airport

Project: 74:95

Date of Monitoring: April 11, 1975 (working day 72)

Date of Notice to Proceed: February 10, 1975 (working day 28)

Target Completion Dates:

Allegheny Airlines Apron Level - June 1, 1975 (working day 107)
(to be revised)

Main level holding rooms - to be determined

Final completion date - to be determined

Actions taken:

- Reviewed job progress
- Continued planning remodeling of operational areas
- Reviewed delivery status
- Distributed drafted and manually computed (ES/FF) copies of Issue #2 dated March 5, 1975, sheets 1, 2, 3 and 4 showing planning work completed to date

General Summary

Main Level Addition

Construction work on columns to the roof at the main level is presently meeting early start/early finish dates. Columns have been partially completed in pours #1 and #2 but are being held at areas where existing apron lighting occurs. Temporary lights have not yet arrived but are due now on April 11, 1975 (working day 72) - about 12 working days later than originally expected. Also, light pole anchor bolts are still

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not on the job and this has held work on the columns slightly. Some forming has begun for roof pour #1 and this work is presently ahead of early starts and finishes.

At the west end of the concourse, new footings at column line 21 to 25 are well along and presently slightly ahead of early start/early finish dates. Generally work on the new structure except for temporary lighting is moving very well.

Area 561 (Allegheny Operational Area)

Here the major difficulty is in start of slab on grade which unlocks most of the interior work. Apparently the slab has been delayed waiting for city inspection. Most underground plumbing is in and underground and tunnel electrical feeders are in work presently. Mr. Fnos presently expects to pour out the slab by the evening of April 15, 1975 (working day 75). It was due to be completed on April 7, 1975 (working day 69), so lags currently by about 6 working days. However, above floor sheet metal, mechanical piping, sprinklers and electrical feeders and conduit have begun early so this may help in picking up the current lag.

Of strong concern are some deliveries about which there was lack of information. Masonry materials have still not been delivered to the job and are going to be needed very shortly. Hollow metal shop drawings also have not been submitted as yet and currently lag the early finish date by two working days. Hollow metal doors should also be watched carefully. Fabrication of the overhead door frames at this area is also late. They were due on the job at an early date of April 9, 1975 (working day 70). They are now scheduled to be delivered by April 18, 1975 (working day 77) so will be approximately 7 days later than originally planned. Light fixture shop drawings have still not been cleared but the electrical contractor feels they will pose no problem.

I strongly suggest that those involved in the project management review sheet 3 of Issue #2 dated March 5, 1975 very carefully to insure that all deliveries needed for this remodeling are being expedited as required.

Close-in Work for Main Level at New Concourse

The delivery items shown on sheet 2 of Issue #2 dated March 5, 1975 were reviewed in detail and all appear to be presently in fairly good shape with the exception of approval of the roofing and sheet metal

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system. This matter should be checked as early as possible. We made some minor additions to the logic on sheet 2 relative to demolition and erection of curtain wall at column line 1 to 3.

Rough and Finish Interior Work at New Main Level

On sheets 5 and 6, Issue #3, dated April 11, 1975, we planned installation of the rough and finish interior work for the main level. This work is heavily dependent upon properly timed installation of stairs 3, 4, 5, 6, 7, 8, 9, 10 and 11. Considerable effort was exerted in establishing the interrelationship of these stairs with the installation of conduit and topping over the main level structural slab once it has been stripped of roofing. The work was divided into two sections, the interior installation from column lines 1 through 12 and from column lines 13 through 26.

The logic was completed for this work and durations assigned with early starts and early finishes computed. Copies of sheets 5 and 6 have been sent to the parties concerned. Presently it appears that interior work at the main level can be complete sometime near the beginning of February. These computations will be checked prior to the final issue.

General Summary

Overall, the project is moving fairly well although I suggest a careful review of all long lead time delivery items be made immediately. This is particularly the case in the operational remodeling areas at the apron level since these are projects of relatively short duration.

It was decided at this meeting that the distribution of drawings will be as follows:

Mr. Lou Walter	-	1 reverse sepia and 3 blueines
(Mr. Walter will distribute however he desires to the subcontractors)		
Mr. Robert Kania	-	3 blueines
Mr. Bernie Colton	-	2 blueines

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CONSULTING ENGINEER

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I recommend that all major subcontractors of Barton Malow be provided current prints of the networks so they might properly evaluate the logic, durations and effectively implement their plan of work.

It appears that installation of the various stairways will play a major role in insuring effective installation action of the new topping slab at the main level. This sequence of stair installation should be reviewed in relation to apron level remodeling.

I shall be in touch with Mr. Colton and Mr. Kania to set the next planning session in the very near future.

Ralph J. Stephenson, P. E.

RJS
m

To: Mr. Lou Walter
Mr. Robert Kania
Mr. Bernie Colton

May 23, 1975

Subject: Monitoring Report #4
Expansion and Remodeling of Concourse E
Detroit Metropolitan Airport

Project: 74:95

Date of Monitoring: May 16, 1975 (working day 97)

Date of Notice to Proceed: February 10, 1975 (working day 28)

Target Completion Dates:

Allegheny Airlines Apron Level	-	was June 1, 1975 (working day 107); revised for area 561 to June 4, 1975 (working day 109) for partial completion adequate for occupancy. Area 562 completion date to be determined.
North Central Apron Level	-	to be determined upon release of change order for current bulletin. Area divided into two sections, 5711 and 5712
Main level holding rooms	-	to be determined
Final completion date	-	to be determined

Actions taken:

- Reviewed job progress**
- Continued planning operational area remodeling**
- Reviewed delivery dates**
- Distributed drafted and manually computed (ES/EF) copies of Issue #2 dated March 5, 1975, sheets 3 and 4 (replaced previous sheets 3 and 4 which were renumbered 5 and 6)**

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**RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER**

General Summary

Main Level Addition

Work on the structure at the main level has been delayed due to lagging progress on form work erection and field difficulties with completing column resteel at light pole supports. The light pole columns had to be specially detailed to receive columns above and this has delayed completing the deck. However, the problem has now been resolved and work can proceed on completing forming for pour #1 (column 3 - 7.5). Mr. Enos said he intends to pour out #1 on or about June 5, 1975 (working day 110). This pour was due to be made on May 14, 1975 (working day 95) so the deck lags by 15 working days. Other pours will probably maintain this lag condition and since it is a real delay over late starts and late finishes, the entire main level addition lags by the 15 working days.

At the new addition from column line 21 - 25, columns are about to start up to the main level. These were due to begin at an early start of May 1, 1975 (working day 86) and thus currently lag by about 11 working days over early starts and early finishes. However, there is some float time in this work and the lag over late starts and late finishes is zero at present.

I strongly suggest that intensive efforts now be focused on the main level structure since it will soon be critical to open up additional areas of interior rough work.

Reviewing the status of major delivery items, we find the following:

- Precast wall panels are just going into fabrication and should be available as needed.
- Roofing and sheet metal systems approval has been held by a decision as to whether or not to use the existing fascia. Presently the fascia is not to be used.
- Curtain wall shop drawings have been approved and delivery is to be reconfirmed.
- Glass samples have not yet been submitted. This should be expedited.
- Hollow metal frames are due at the job June 17, 1975 (working day 118).

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- Hardware is currently in fabrication and should be available as needed.
- Louvers shop drawings have not yet been approved.
- Refab of old light fixtures is currently in work although a status report was not available at this monitoring.
- Hollow metal doors are due on the job by July 16, 1975 (working day 138)

Of the above, it appears that the roofing and sheet metal system, glass samples and louver shop drawings should be given a high priority of attention since they currently appear to be exhibiting some signs of distress.

Reviewing sheet 4, Issue #3, dated April 11, 1975, the target completion for the main level is on a preliminary basis without the current lag about February 4, 1976 (working day 279). Adjusting this for the current 15 working day lag gives a target completion date of February 25, 1976 (working day 294). This figure is to be confirmed.

Area 561 (Allegheny Operational Area)

Most above floor sheet metal, piping, sprinkler and rough electrical work is done and acoustic ceiling suspension will start on Monday, May 19, 1975 (working day 98). Ceiling work was due to begin on May 9, 1975 (working day 92) so that the lag is approximately 6 working days.

There was considerable discussion regarding the methods by which occupancy of the area could be made on June 4, 1975 (working day 109). A thorough review of the network showed that as of June 4, 1975 (working day 109) the corridor, lunch room, locker room, auto work shop and wash rack could be turned over for occupancy minus hollow metal frames, doors and louver, overhead doors and toilet room work. Toilet room work would be complete by June 13, 1975 (working day 116) without painting. Painting in the toilet rooms would be finished on June 17, 1975 (working day 118). All hollow metal doors would be complete in the area by July 22, 1975 (working day 142) with the overhead door installed and painted by June 11, 1975 (working day 114). These early completion problems were caused primarily by long lead time deliveries of hollow metal doors and frames along with a necessary revision to the overhead door opening size due to tenant requirements. The above occupancy schedule will be reviewed with the tenant to determine its acceptance.

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Area 562 (Allegheny Operational Area)

Area 562 will be started on June 4, 1975 (working day 109) with construction of the temporary barricades. This area work was diagrammed on sheets 7 and 8, Issue #3 dated May 16, 1975 and has been distributed for review to the contractor, architect and owner. It appears that remodeling of area 562 will take approximately 70 working days with completion projected at September 12, 1975 (working day 179). This data is to be checked to confirm that actual erection of structural barricades can begin on the June 4th date, as presently planned. One element that should be watched carefully and given early attention is the installation detail for the new counter. It was generally decided at this meeting that a separate counter wall frame would be installed along with the above ceiling rough work so that finish counter millwork would not have to be installed until the area was properly protected and other finish work was well along.

*7/8/75 (132) Work started Mon
July 7, 1975 (131)*

Area 5711 and 5712 (North Central Operation Area)

This work is currently being held for issuance of a change order on bulletin #2. At our meeting it was decided we would strive for a target starting date of June 5, 1975 (working day 110).

The plan of work at the North Central Area 5711 indicates that the total time required for the work is about 89 working days which, if started on June 5, 1975 (working day 110) would bring completion of the area to October 10, 1975 (working day 199).

As with area 562, this portion of the work should have the advantage of most materials being available or on the job site by the time they are needed.

Upon completion of 5711, North Central could move into the space and allow remodeling at area 5712 to begin. Area 5712 remodeling ties into the erection of stair #9 which is also affected by stripping off the existing roof at the main level after close-in. Stair 9 work is critical to timely completion of the work at area 5712. Generally it appears that area 5712 work will take approximately 65 working days and could be completed by about January 14, 1976 (working day 264).

General Summary

Overall the project has lost time both at the main level and at Allegheny operation area 561. At the main level problems have been encountered with column dowels and deck forming. The lag there is approximately 15 working

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CONSULTING ENGINEER**

days. At the Allegheny operational area, difficulties have been encountered with plumbing and with early delivery of built-in masonry items which have caused a lag there of approximately 8 working days on critical interior finish items. An alternate partial occupancy schedule was worked out at our planning session and will be reviewed with the tenant next week.

Meanwhile, I shall redraft all rough diagrams into final form and prepare a new set of manually computed (early start/early finish) networks for all of the areas diagrammed to date. This will be issued as soon as complete.

Meanwhile, I shall be in touch with Mr. Kania and Mr. Bagdonis in the near future to set the date of our next meeting. I shall also initiate on-the-job monitoring inspections to periodically evaluate actual field progress of the job.

Ralph J. Stephenson, P. E.

**RJS
m**

**To: Mr. Lou Walter
Mr. Robert Kania
Mr. Bernie Colton**

July 23, 1975

Subject: Monitoring Report #5
Expansion and Remodeling of Concourse E
Detroit Metropolitan Airport

Project: 74:95

Dates of Monitoring: July 8, 1975 (working day 132) and July 11, 1975
(working day 135)

Date of Notice to Proceed: February 10, 1975 (working day 28)

Target Completion Dates:

Allegheny Airlines Apron Level - Area 561 presently
being occupied
Area 562 current target
October 9, 1975 (working
day 198)

North Central Apron Level - Area 5711 currently
October 28, 1975 (working
day 211)
Area 5712 to be determined

Note: The above targets are based on preliminary manual
computations and will be further checked

Main Level holding rooms - to be determined

Final completion date - to be determined

Actions taken:

- Inspected project
- Reviewed job progress
- Continued planning operational area remodeling
- Analyzed impact of delayed curtain wall delivery upon project
- Evaluated need for total enclosure before stripping off existing roof

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Actions taken (continued):

- Completed preliminary diagramming work for areas 5711 and 5712 (North Central Airlines)
- Re-evaluated interior network for area 562 Allegheny Airlines

General Summary

Main Level Addition (Monitored from Issue #4 dated May 20, 1975)

Pours #1 and #2 have been made and are presently stripped or being stripped. Pour #3 will be made on July 24, 1975 (working day 144), which will bring the roof pour sequence back on schedule.

Columns have been poured out in pour #4 and the new south main level deck, column line 21 - 25, is presently in work. The north main level deck, column line 21 - 25, will be started about July 22, 1975 (working day 142). It will be necessary to get these decks completed prior to roof deck forming for pour #5. To construct the south columns at pour #5, the south main level deck, column line 21 - 25, should be completed. Presently it appears that this work, although tight, can maintain the present schedule set up in our Issue #4 network.

As we reviewed deliveries, it was found that a potential problem exists in delivery of curtain wall materials. Originally it was hoped to have curtain wall on the job by July 30, 1975 (working day 148). However, this delivery has now been confirmed at September 8, 1975 (working day 175) which means that if we must wait for total close-in before stripping the roofing from the existing deck, a delay may be encountered in finishing the main level deck. Therefore, Mr. Walter and Mr. Enos asked that an evaluation of the implications of stripping the deck roofing at an earlier point be made. I am presently preparing this evaluation and will forward it to Mr. Walter and Mr. Enos for their review in the near future.

Also to be watched is rehabilitation of existing light fixtures which is presently being done by the electrical contractor. The problem here revolves around setting these fixtures relative to laying insulation and roofing on the main roof deck. The entire close-in process should be subjected to very careful analysis since it is entirely possible that the existing roof may have to be cleared at an earlier date than originally anticipated because of the difficulties outlined above.

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CONSULTING ENGINEER**

Timing on erection of stair #9 is also important since it affects laying of topping from column line 13 to 21. Presently the stair is due to be installed about November 26, 1975 which is considerably later than may be desirable. This element will also be studied by the general contractor in the evaluation to be made of the weather-tight requirements.

Reviewing the status of major delivery items, we find the following:

- Precast wall panels can be delivered at any time needed.
- Roofing materials are presently on the job.
- Curtain wall materials will be delivered September 8, 1975
(working day 175)
- Glass will be delivered September 8, 1975 (working day 175).
Glass samples still must be submitted and approved.
- Hollow metal frames do not appear to be a major problem at this time. This should be checked.
- Hardware is currently in fabrication and should be available as needed.
- The status of the louvers was not reviewed.
- Refab of light fixtures is to be reviewed relative to building close-in.
- Hollow metal doors not reviewed.

Due to late delivery of curtain wall, it is now planned to install curtain wall first at column lines 3 - 12, then from 13 - 21. Curtain wall from 21.3 - 26 will be installed next, followed by erection of precast and curtain wall, column line 1 - 3.

Area 561 (Allegheny Operational Area)

Move-in is presently in work at this area.

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Area 562 (Allegheny Operational Area)

Completion of demolition is expected by July 22, 1975 (working day 142), after which interior underground plumbing, electrical feeders and above ceiling counter framing can start. Work at 562 was held until 561 could be occupied. This accounts for the late start of the job. It was originally intended that work would start there on June 4, 1975 (working day 109) so the substantial start which began about July 16, 1975 (working day 138) was 29 working days later than originally anticipated.

The network for this area on sheet 7 was re-evaluated in Issue #5 dated July 11, 1975. Presently it anticipates a completion of the area by October 9, 1975 (working day 198). This date will be rechecked when the network is put into final form.

Area 5711 and 5712 (North Central Operational Area)

The field order to release Bulletin 2 work was completed on June 23, 1975 (working day 122). Delivery of early materials took another nine days and temporary services and the temporary facility partition are presently in work and to be completed on July 18, 1975 (working day 140). After a two day moving period, erection of construction barricades should begin on July 22, 1975 (working day 142). Work is expected to be completed in area 5711 by October 28, 1975 (working day 211). This again was calculated from the rough diagram and will be confirmed when the diagram is put into final form.

Area 5712 will be released for the five day waiting period on October 28, 1975 (working day 211) and preliminary calculations show it will take approximately 59 working days from start of barricade construction. This puts completion of area 5712 on or about January 29, 1976 (working day 275). This, as with the other areas, is a preliminary calculation of the rough network and will be checked as the diagrams are drafted into final form.

General Summary

Overall, the project is maintaining fairly good conformance to the Issue #4 network dated May 20, 1975. Some time has been lost in construction of the main level roof but it is expected that this time will be picked up over the next few weeks.

The delay in turning over area 561 caused area 562 to start about 22 working days later than originally intended. This, in turn, will delay turnover

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CONSULTING ENGINEER**

of area 562. Area 5711 was delayed from starting by a need to issue a field order so it was pushed back to a later starting date than originally intended.

Our diagramming of the project is now substantially complete for the main level and for areas 562, 5711 and 5712. I shall prepare the evaluation of the roofing stripping point for the existing roof and once Mr. Walter and Mr. Enos have evaluated this, shall incorporate their decision into the final network and prepare the diagram for issue to the field. Meanwhile, I shall plan to monitor the project on a regular basis and measure it against our present Issue #5 diagram dated July 11, 1975 (working day 135).

Ralph J. Stephenson, P. E.

**RJS
m**

**To: Mr. Lou Walter
Mr. Robert Kania
Mr. L. G. Shea**

August 6, 1975

Subject: Monitoring Report #6

Expansion and remodeling of Concourse E

Detroit Metropolitan Airport

Project: 74:95

Date of Monitoring: August 4, 1975 (working day 151)

Date of Notice to Proceed: February 10, 1975 (working day 28)

Target Completion Dates:

**Allegheny Airlines Apron Level - Area 561 present occupied.
Area 562 current target
October 9, 1975 (working
day 198)**

**North Central Apron Level - Area 5711 current target
October 28, 1975 (working
day 211)
Area 5712 current target
January 29, 1976 (working
day 275)**

**Main Level Holding Rooms - Current target March 18, 1976
(working day 310)**

**Final Completion Date: Currently about 70 working days
following completion of main level
holding rooms or June 25, 1976 (work-
ing day 380) to allow completion of
apron level holding rooms**

**Note: The above targets are based on preliminary manual
computations and will be further checked by the
final computer run.**

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Don Enes
- Evaluated project progress

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August 6, 1975
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General Summary

Main Level Addition (Monitored from Issue #5 dated July 11, 1975)

Pours 1, 2 and 3 have been made and are presently stripped or being stripped. Pour 3 was made on July 25, 1975 (working day 145). This gives a lag of approximately five working days over the Issue #5 network early start dates. (Note: The previous Monitoring Report #5 was in error on page 2 in reporting that making pour 3 on July 24, 1975 would bring the roof pour sequence back on schedule. It still was behind early finish dates by approximately four working days.) However, present pouring sequences are well within late start/late finish targets.

Pour 4 is expected to be made on August 14, 1975 (working day 159) and the entire roof is expected to be poured out by September 8, 1975 (working day 175). This sequence will maintain a five working day lag over the early start/early finish dates. However, it is within late start/late finish allowable ranges.

The north main level deck at column lines 21 to 25 will be poured out about August 8, 1975 (working day 155). This will also then lag approximately 5 working days over early finish targets, but will be within late finish allowable range.

Rough above floor sheet metal ductwork and piping have been started at the east end of the main level and are currently meeting targets between early and late starts and finishes. Electrical work is scheduled to start this week on August 8, 1975 (working day 155).

It has been decided to leave the present roof at the floor of the main level on the deck until curtain wall is erected and glazed at each section. For instance, the roof at column lines 3 to 12 will be removed when the area from 3 to 12 has been glazed. This is alternate #2 which has been reviewed in previous correspondence and was selected by Mr. Enos and Mr. Walter of Barton Malow as a desirable course of action. Under this sequencing the close-in of the building will be substantially completed in each section prior to stripping the existing roof off from the main level floor.

Reviewing the current status of deliveries, we find the following:

- Precast wall panels can be delivered whenever needed

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- Roofing materials are on the job and roofing is expected to start on August 11, 1975 (working day 156)
 - Curtain wall materials still will be delivered according to present commitments on September 8, 1975 (working day 175)
- Note: There still is no confirmation of this delivery date
- Glass will be delivered September 8, 1975 (working day 175). Samples have been submitted.
 - Hollow metal frames should be on the job August 8, 1975 (working day 155).
 - Hardware is in fabrication and should be available as needed.
 - Louver shop drawings have been submitted and louvers are currently in fabrication.
 - Refabrication of light fixtures is currently in work. They will all be brought to the job at one time and erected continuously. Erection will not delay insulation and roofing.
 - Hollow metal doors are due on the job October 1, 1975 (working day 192)

The curtain wall sequence will be as described in the previous monitoring, #5, starting at column lines 3 to 12, moving to column lines 13 - 21 and next column lines 21.3 to 26, followed by erection of precast and curtain wall between column lines 1 to 3.

Area 561 (Allegheny operational area)

Move-in is complete.

Area 562 (Allegheny operation area) (Monitored from Issue #5 dated July 11, 1975)

Demolition is complete. Underground plumbing, electrical feeders and above ceiling counterframing are complete. Above ceiling sheet metal is well along as is above floor mechanical plumbing

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work. This area is currently meeting major early start/early finish targets.

Areas 5711 and 5712 (North Central operational areas)
(Monitored from Issue #5 dated July 11, 1975)

Rough interior, underground plumbing, electrical work and masonry erection are just starting. All major tasks are currently meeting early start/early finish targets.

Area 5712 will be released for the five day waiting period on October 28, 1975 (working day 211).

Area 543 575

Area 543 work was originally part of the main level holding rooms which is to be released for remodeling work following remodeling at the new main level area. However, some of these areas, specifically rooms 101, 102, 120, 121 and stair #4 have been released early so that a head start might be obtained. Mr. Enee has moved into these areas and demolition work is presently proceeding with floors being cut and partitions being erected. We shall plan this work in greater detail in the near future.

General Summary

Overall, the project continues to move in good conformance to the Issue #5 network diagrams dated July 11, 1975. The main level area is approximately five working days behind early start/early finish dates, but within late start/late finish dates. Remodeling at areas 562 is meeting early start and finish targets as is remodeling of area 5711.

An early start has been obtained on area 543 and work there is moving relatively well.

The network plans for all areas except the main level holding rooms to be remodeled after completion of the new main level have now been drafted in final form and are presently being computerized for distribution to the field. This work will be issued in the near future. It was being held pending a decision in relation to stripping the existing roofing. Alternate #2 has been selected.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. Lou Walter
Mr. Robert Kania
Mr. L. G. Shea
Mr. Roger Densmore

September 18, 1975

Subject: Monitoring Report #7
Expansion and remodeling of Concourse E
Detroit Metropolitan Airport

Project: 74:95

Date of Monitoring: September 16, 1975 (working day 181)

Date of Notice to Proceed: February 10, 1975 (working day 28)

Target Completion Dates:

Allegheny Airlines Apron Level -	Area 562 current target October 3, 1975 (working day 195)
North Central Apron Level -	Area 5711 current target October 27, 1975 (working day 211) Area 5712 current target January 28, 1976 (working day 275)
Main Level Holding Room -	Current target March 17, 1976 (working day 310)
Final Total Completion Date:	Currently July 6, 1976 (working day 386)

Actions taken:

- **Inspected project**
- **Reviewed job progress with Mr. Don Enos**
- **Evaluated project progress**
- **Prepared project status report work sheet**

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Main Level Addition (Monitored from Issue #5 dated July 11, 1975)

All reinforced concrete structures have been poured out and all but the far west end is totally stripped. All form work is expected to be cleared by October 6, 1975 (working day 195). The lag on pouring out the structure was about 10 working days. This is slightly greater than the lag reported in Monitoring #6. The increase can be attributed almost directly to the heavy rains encountered in August and September.

Above floor sheet metal ductwork, mechanical piping and rough electrical feeders is moving well at the main level and is currently ahead of the late start/late finish targets. The major current problem at this area is lagging delivery of exterior curtain wall. Curtain wall was due on the project by September 5, 1975 (working day 174). Some sill pieces have arrived and erection can start. However, the main frames are presently not expected to arrive until October 1, 1975 (working day 192). This puts the actual start of major work on exterior curtain wall about October 1, 1975 (working day 192). It was originally due to start on September 8, 1975 (working day 175) which gives a projected lag of about 17 working days. To help counter this, temporary exterior protection is being erected which will allow some work to begin on exposing the rough existing roof slab so some topping work can start at the mechanical equipment rooms.

Generally the lag at the main level can be considered to be between 10 and 15 working days with an excellent chance existing to pick up this lag if stripping of the roof can proceed with the temporary protection.

The new roof at the main level structure is in work with presently about one third being complete. The original intent was to erect light poles prior to this new roofing going on. However, an arrangement has been worked out so that the poles can be put in place at any time during the roofing process without harming the integrity of the roof. They will be erected as they arrive on the job.

Reviewing the status of deliveries, we find the following:

- Precast panels - can be delivered as needed
- Roofing has started

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**RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER**

- **Curtain wall materials - discussed above**
- **Glass samples have been submitted, delivery is not set and should be reviewed**
- **Hollow metal frames are on the job**
- **Hardware is in fabrication and available as needed**
- **Louvers are in fabrication**
- **Refabrication of light fixtures continues**
- **Hollow metal doors have been again delayed and are now expected on the job about October 15, 1975 (working day 202)**

Area 561 (Allegheny operational area)

Area is complete - no report will be made in subsequent monitorings.

Area 562 (Allegheny operations area) (Monitored from Issue #5 dated July 11, 1975)

Generally work at the 562 area lags by about 10 working days, primarily in installation of acoustic ceiling suspension, grid and conduit. The lag will be difficult to pick up since we are presently close to the current end target. However, 10 days have been allowed for cleaning up and turning over the space and it is possible that some time compression can occur here.

**Areas 5711 and 5712 (North Central Operational Areas)
(Monitored from Issue #5 dated July 11, 1975)**

Rough mechanical/electrical work has moved well at this area. However, because of crewing problems masonry has not yet started. This masonry was due to begin on August 7, 1975 (working day 154). Mr. Enos feels, however, that studs, in-wall work and board at the stud walls can proceed independently of masonry walls and intends to start stud work on September 22, 1975 (working day 185). The late start target for stud work was September 5, 1975 (working day 174). Thus, the lag is projected at about 11 working days.

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Again, although it will be difficult to pick up this lag, it is possible that some time can be compressed from here on out since there is a slightly longer period to the target completion than at area 562. Area 5712 will be released for the waiting period after completion of area 5711.

Area 573

Area 573 work which was originally part of the main level holding rooms is being released in part as the project proceeds which allows this work originally to have been done after the main holding room was done to be completed concurrently. We will make a review of how much work will remain after completion of the main holding room at an early date which should allow us to project our total completion date with more accuracy than has been possible in the past.

General Summary

Overall, the project currently lags in most areas by from 10 to 15 working days with the 15 working day lag being primarily in area 5711 and the 10 working day lag in other areas currently in work. There is some possibility of compressing time remaining in area 562 and 5711 so the lag can be picked up although it is doubtful that all the lag can be recaptured.

At the main level, it is entirely possible that this portion of the project can be brought back on schedule soon, although a change in plans has been made necessary by the late delivery of curtain wall to the job. Mr. Enos is now working around this situation by using temporary weather protection.

The network plans for all areas except those remaining after completion of the main level have been issued and are currently being used for field monitoring.

Ralph J. Stephenson, P. E.

RJS/m

To: Mr. Lou Walter
Mr. Robert Kania
Mr. L. G. Shea
Mr. Roger Densmore

November 10, 1975

Subject: Monitoring Report #8
Expansion and remodeling of Concourse E
Detroit Metropolitan Airport

Project: 74:95

Date of Monitoring: November 6, 1975 (working day 218)

Date of Notice to Proceed: February 10, 1975 (working day 28)

Target Completion Dates:

Allegheny Airlines Apron Level	-	Area 562 occupied October 1, 1975 (working day 192)
North Central Apron Level	-	Area 5711 current target October 27, 1975 (working day 211) - Target revised to about November 20, 1975 (working day 228) - see below
Main Level Holding Room	-	Currently March 17, 1976 (working day 310)
Final Total Completion Date	-	Currently July 6, 1976 (working day 386)

Actions taken:

- Inspected project**
- Reviewed job progress with Mr. Don Enos**
- Evaluated project progress**
- Prepared project status report work sheet for period
from November 6, 1975 (working day 218) to December 19,
1975 (working day 248)**

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Main Level Addition (Monitored from Issue #5 dated July 11, 1975)

Work here is now being focused on closing in the structure to weather and installing major interior rough work up to the point where finish trades can start. Floor topping has been completed for about 2/3 of the area; work is proceeding in the east mechanical equipment room; and above ceiling rough mechanical, electrical and sheet metal work is moving well throughout and currently is in alignment with early and late start and finish targets.

There has been some difficulty in erecting curtain wall and installing floor topping at the west third of the structure. There still is an informal delay in effect on erection of curtain wall due to the need to resolve the method of calking between sash and the mullions. However, work is expected to proceed on this in the near future and if a decision is given promptly, it should not be a major delay to the job.

So far as the topping is concerned, apparently the deck elevation of the existing roof concrete rises toward the west. Thus, at the east end the full depth of 2" of topping was achieved but as the middle and west thirds were approached, the depth of topping possible to maintain a floor elevation in accordance with the agreed upon benchmark became more and more difficult. In fact, at the west end there are some areas where it appears that the floor may be even with or slightly above the topping elevation. Presently this matter is under consideration and will be resolved shortly. Mr. Enos said it is possible he could install the thinner topping and sections where it becomes difficult or impossible to place could be left out to be floor-stened at a later date. This problem must be given prompt attention.

In the project status report several items show that may appear serious but actually are presently critical because of field inability to accomplish a desired course of action. This is particularly the case with installation of stairs 6, 7 and 10. It was originally intended that these stairs would be installed prior to completion of rough work at the main level; however, it has been found impossible to work on the stairs presently because of activities currently being conducted below the stair location. Therefore, work at stairs 6, 7 and 10 will not begin until the main level is occupied. This should not cause any major difficulties or delays.

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Another item that shows up as being behind is installation of doors and frames in the exterior wall at the jetways. The frames are in and in fact, at the north side three jetways have been installed. The doors are on the job but will not be installed to avoid material damage.

Generally the criteria for measuring the main level status is installation of the plaster soffit which was anticipated to begin at a late start of November 6, 1975 (working day 218). Presently it appears that this soffit may be able to start in one to two weeks which will make the real lag at the main level from 5 to 10 working days. This lag will be in the east half of the main level. Work at the west half of the main level is well in line with the current schedule. Thus, if work at the east can be picked up slightly, it appears there could possibly be no major lag on the project within the next month.

However, the lag is now between 5 and 10 working days. This is a reduction over the last monitoring. The project status report shows a slightly larger lag in completion of exterior curtain wall and glazing. However, Mr. Enos expects that if the present field problems can be resolved quickly, curtain wall could be glazed out as early as late November. This will aid materially in starting finish trades.

Reviewing status of deliveries, we find that most major delivery delay items reviewed in previous reports are now on the job and deliveries should cause no further problems within the next two or three month period.

Work on the equipment room 208 has just started and it looks as though another month or so will be required to get it in operation. However, adequate heat should be available so that temporary warming of the space will not be a major problem.

Area 562 (Allegheny operations area)

Area is complete. Move-in started on October 1, 1975 (working day 192). This was approximately 2 working days ahead of the projected completion date. No report will be made in subsequent monitorings.

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**Area 5711 (North Central Operational Area) (Monitored from Issue #5
dated July 11, 1975)**

Work here was slowed by late delivery of a critical hollow metal frame. The frame was in a major dividing partition and has now been installed but did delay work at area 5711 for about 3 or 4 weeks.

Presently the lag at 5711 is of varying lengths. Mr. Enos feels that he should be able to complete work there within the next ten working days which would bring completion to about November 20, 1975 (working day 228). The target cleanup and turnover point was October 27, 1975 (working day 210) which gives a projected lag at the space of about 18 working days.

**Area 5712 (North Central Operational Area) (Monitored from Issue #5
dated July 11, 1975)**

Work at this area will not be able to start until completion of work at 5711. The lag there will be approximately 18 working days in the starting date. I shall evaluate at the next monitoring whether it would be appropriate to revise the current network to reflect this delay.

Area 573 (Monitored from Issue #6 dated September 17, 1975, sheet 10)

This will be done following completion of the main level. Mr. Enos reports that through excellent cooperation from North Central Airlines he has been allowed to work in certain areas at the lower level at an early date. This should assist materially in finishing off the project once main level work has been completed and the area occupied.

It should be pointed out that any work that can be done now will save time once the main level has been occupied.

General Summary

Overall, the project currently lags by from 5 to 18 working days. This is a reduction in the amount of lag over the previous monitoring on September 18, 1975 (working day 183). There still are some major problems that must be resolved primarily related to caulking, curtain wall and floor finish thickness. However, with good cooperation among

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**RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER**

the owner, the architect/engineer and the contractor, these matters should be able to be resolved promptly. They are critical to closing in and finishing rough work for the main level space and require immediate attention.

The longer lag is at area 5711 where a late delivery of a frame caused delays to stud walls. However, this matter has been resolved and it is expected that the delivery of the space will be sometime in late November.

Network plans for all areas have been issued and a full set of monitoring documents is available to measure performance in the field.

As part of this monitoring, a project status report for the period from November 6, 1975 (working day 218) through December 19, 1975 (working day 248) was prepared and will be issued with this report.

Ralph J. Stephenson, P. E.

**RJS
m**

**To: Mr. Len Walter
Mr. Robert Kania
Mr. L. G. Shea
Mr. Roger Densmore**

December 15, 1975

Subject: Monitoring Report #9
Expansion and Remodeling of Concourse E
Detroit Metropolitan Airport

Project: 74:95

Date of Monitoring: December 10, 1975 (working day 241)

Date of Notice to Proceed: February 10, 1975 (working day 28)

Target Completion Dates:

**Allegheny Airlines Apron Level - Area 562 occupied October 1, 1975
(working day 192)**

**North Central Apron Level - Area 5711 occupied November 24,
1975 (working day 230). This was
19 working days later than the
October 27, 1975 (working day 211)
target.**

**Main Level Holding Room - Currently March 17, 1976
(working day 310)**

Final Total Completion Date - July 6, 1976 (working day 386)

Actions taken:

- **Inspected project**
- **Reviewed job progress with Mr. Don Enos**
- **Evaluated project progress**
- **Prepared project status report work sheet for period from
December 10, 1975 (working day 241) to January 26, 1976
(working day 272)**

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**RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER**

Main Level Addition (Monitored from Issue #5 dated July 11, 1975)

Exterior sash is almost completely glazed and glass work is being completed presently at the west end. This will substantially close the building in to weather except at the jetway doors. These are on the job but not being hung to avoid damage from other work in progress.

The acoustic ceiling suspension, along with light fixtures, is well along and stud work has begun at the east end of the project. Interior masonry is substantially complete at the east half and about 30% complete at the west half of the facility.

There has been some change in logic sequencing in respect to the plaster soffits at the exterior windows. It was originally intended that these plaster soffits would be installed and prime painted along with the plaster enclosures at the columns prior to start of acoustic ceiling suspension. However, the plasterer has decided he would prefer to install the ceiling suspension first, followed by the plaster soffits and columns. This change in sequence should not materially delay installation of succeeding work since plaster can be done while limited epoxy terrazzo floor finish is being installed and concurrent with installation of light fixtures and fin tube radiation. However, plaster will still restrain installation of acoustic ceiling panels which originally had been shown to be completed before installing interior doors and hardware along with signing, ceiling speakers and finish painting. Therefore, it appears presently that the delay at the ceiling, provided plaster suspension and lath can start by December 15, 1975 (working day 244) as planned, should be kept at the previous lag of from 5 to 10 working days.

It should be noted that in the mathematical analysis prepared for the project status report that the lag shown there will be considerably greater than noted above. This is because the analysis is measured from the formal project status report on the basis of the original logic.

It will be important to attempt to maintain as close to the original schedule on the area between column lines 1 to 12 as possible since the completion date for the entire main level is currently holding at March 17, 1976 (working day 310). This is only 69 working days from now and it will be critical to avoid bunching up trades at the end of the project. This was the original reason for sequencing the east and west halves of the building in a sequential logic.

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CONSULTING ENGINEER**

It also should be noted that stairs 6, 7, 9 and 10 will continually show up as lagging since the original intent was to install those at an early date. Work on stairs has been delayed until the apron level areas could be made available. It is hoped that work on stair #7 can begin about December 11, 1975 (working day 242). Work at stair 6 and stair 10 will begin when pedestrian traffic at the lower level lessens, probably about January 12, 1976 (working day 262). Stair #9 work will begin on December 29, 1975 (working day 253) and is being held presently by field order revisions made necessary by changes in ductwork location and sizes.

Equipment room 208 has proceeded more slowly than had been anticipated and activation of the hot water system is two to three weeks away. It will be important to provide temporary heat on the project and attention should be given this important matter at an early date. Work at equipment room 214 is about 60% complete and is moving well.

**Area 5711 (North Central Operational Area) (Monitored from Issue #5 dated
July 11, 1975)**

North Central moved into this area on November 24, 1975 (working day 230). The original target date for completion of the area was October 27, 1975 (working day 211). This actual move-in then was a lag of approximately 19 working days over the projected date. Work is now complete and will not be reported on in future monitorings.

**Area 5712 (North Central Operational Area) (Monitored from Issue #5 dated
July 11, 1975)**

Currently, because of the delay in starting work at area 5712 which was restrained by area 5711, the lag is between 12 and 16 working days. The projected target date for completion originally was January 29, 1976 (working day 275). If the 16 day lag is not regained, the present projected completion date will be about February 25, 1976 (working day 294).

Area 573 (Monitored from Issue #6 dated September 17, 1975, sheet 10)

The continued cooperation of the airlines is allowing more and more of area 573 work to be completed prior to completion of the main level. This is a major assist in finishing the total project at an earlier date and should be continued to the greatest extent possible.

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**RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER**

General Summary

Overall, the project still lags between 5 and 16 working days. The major lag continues to be in the ceiling of the main level and in remodeling of apron level spaces. Basically the project over the past month has moved reasonably well and lost little, if any, time over the measurement of the job at the previous monitoring.

Again, it should be cautioned that the project status report will show major lags in plaster soffits and stair work which should be tempered by the logic revisions which have been made in the field by the subcontractors.

Ralph J. Stephenson, P. E.

**RJS
m**

**To: Mr. Lou Walter
Mr. Robert Kania
Mr. L. G. Shea
Mr. Roger Densmore**

January 12, 1976

Subject: Monitoring Report #10
Expansion and Remodeling of Concourse E
Detroit Metropolitan Airport

Project: 74:95

Date of Monitoring: January 6, 1976 (working day 258)

Date of Notice to Proceed: February 10, 1975 (working day 28)

Target Completion Dates:

Allegheny Airlines Apron Level	-	Area 562 occupied October 1, 1975 (working day 192)
North Central Apron Level	-	Area 5711 occupied November 24, 1975 (working day 230). This was 19 working days later than the October 27, 1975 (working day 211) target. Area 5712 original target - January 28, 1976 (working day 275). Note this date will probably now be revised to about March 4, 1976 (working day 300) due to current lags at the area.
Main Level Holding Room	-	Currently March 17, 1976 (working day 310)
Final Total Completion Date	-	July 6, 1976 (working day 386)

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Don Enos
- Evaluated project progress
- Prepared project status report work sheet for period from
January 7, 1976 (working day 259) to February 13, 1976
(working day 286)

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RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER

Main Level Addition (Monitored from Issue #5 dated July 11, 1975)

The building is substantially closed in and heat is generally available from a portion of the existing system. Therefore, temperatures in the area have been able to be kept at working levels and interior trades have proceeded. The plaster soffit at the windows is about 70% complete, column plastering is well along and most of the area is ready for epoxy terrazzo floor finish. This epoxy was due to begin no later than December 16, 1975 (working day 245). It, however, will not start until January 7, 1976 (working day 259), giving a current lag in epoxy of about 14 working days.

This would be an accurate evaluation of the lag if terrazzo can be accomplished in the time allocated. However, further checks with the floor finish contractor indicate that it may be necessary to extend this time. Therefore, the lag at the main level could increase to as much as 25 working days if additional time is required for installation of the epoxy. Generally the lag at this floor can be measured by epoxy floor finish installation times. Ceiling suspension and iron have moved well and are nearly complete. Acoustic panels will be started as soon as an area is cleared with the epoxy and rough grinding.

Equipment room 208 is almost complete with the system yet to be purged and the miscellaneous work to be completed. The equipment room at the west end of the area is about 70% installed.

Drywall partition work is moving relatively well although it will show as currently lagging since it was originally desired to get most of this work done as early as possible. However, it is not a major delay factor on the project.

Another item to be noted is that the lag indicated by stair delays should not be considered a measure of job progress. It was originally hoped to be able to install most stairs at an early date. However, due to field conditions, it was not possible to install these as early as had originally been hoped. Therefore, they show as lagging but do not cause the job to lag. They are to proceed as the airlines release the space. Again, it should be noted here that the airlines have been very cooperative in releasing space for work at the apron level and this should materially assist in shortening the completion time from turnover of the main level to total completion of the facility.

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Expansion and Remodeling of Concourse E
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**RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER**

**Area 5712 (North Central Operational Area) (Monitored from Issue #5
Dated July 11, 1975)**

Field order 33 resolving the conflict between sheet metal and stair supports at stair #9 was released January 5, 1976 (working day 257). Work will begin January 7, 1976 (working day 259) on the stair area. Also, other work released by the field order will begin.

The stair work was due to begin no later than November 19, 1975 (working day 227) which gives a lag of 32 working days. However, because some later work has already been completed, the actual lag is closer to 28 working days. Above floor sheet metal ductwork was due to start no later than December 4, 1975 (working day 237). It is now starting January 7, 1976 (working day 259) which gives it a lag of 22 working days.

Thus, the lag at the area 5712 is currently 22 to 28 working days. The original target date was January 28, 1976 (working day 275) and adding 25 working days to that completion brings it to March 4, 1976 (working day 300). This is a fairly accurate projection if no further delays occur.

Area 573 (Monitored from Issue #6 dated September 17, 1975, sheet 10)

The continued cooperation of the airlines still is allowing additional work to be done in these areas as they are released.

General Summary

Overall, the main level lags currently by 14 to 25 working days, primarily in installation of epoxy terrazzo. It is hoped that the time to install this epoxy terrazzo can be maintained near to the originally scheduled durations. This would then give the lag as the lower number. If an increased duration is necessary, the lag would tend toward the latter number.

Because of the nature of the terrazzo installation, it will be difficult to do much final finish work until after terrazzo is installed and rough ground for a distance out into the main level. Mr. Enos hopes to be able to dovetail following activities with this terrazzo installation and thus, it still appears possible to meet the March 17, 1976 (working day 310) date.

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**RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER**

Since this is now only 52 working days from today, the amount of time left is becoming quite short. This means as much concurrent activity as possible will have to be maintained as the project is finished out. However, since a good share of the ceiling work is completed and a relatively straightforward installation of tile remains, it is possible that some compression can occur. We are still maintaining the March 17th completion target.

Area 5712 has been delayed by issuance of the field order resolving interference problems. This work is now from 22 to 28 working days behind and will delay turnover of the space. This space is critical and every effort should be made to reduce the lag as much as possible. Present turnover can be expected about March 4, 1976 (working day 300).

As part of our monitoring, I prepared a project status report for the period from January 7, 1976 (working day 259) to February 13, 1976 (working day 286). This has been distributed to the various parties on the project.

Ralph J. Stephenson, P. E.

**RJS
m**

**To: Mr. Lou Walter
Mr. Robert Kania
Mr. L. G. Shea
Mr. Roger Densmore**

February 27, 1976

Subject: Monitoring Report #10
Expansion and remodeling of Concourse E
Detroit Metropolitan Airport

Project: 74:95

Date of Monitoring: February 24, 1976 (working day 293)

Date of Notice to Proceed: February 10, 1975 (working day 28)

Target Completion Dates:

Allegheny Airlines Apron Level - Area 562 occupied October 1, 1975
(working day 192)

North Central Apron Level - Area 5711 occupied November 24, 1975
(working day 230). This was 19 working
days later than the October 27, 1975
(working day 211) target.

Main Level Holding Room - Currently March 17, 1976
(working day 310)

Final Total Completion Date: July 6, 1976 (working day 386)

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Don Enos
- Evaluated project progress
- Prepared small rough networks for completion of main level
and apron level work

Main Level Addition (Monitored from Issue #5 dated July 11, 1975)

Finishing of the upper level is well along with acoustic ceiling work being substantially complete at column lines 1 to 12 and currently in work between column lines 13 to 26. Terrazzo polishing is proceeding from east to west and is in the area of column lines 1 through 12 and stair rough work has been substantially completed. In general, all final finish operations are being concentrated upon at the main level.

Mr. Enos and I prepared a network diagram for completing all work at the main level. This diagram indicates we still can expect to complete by the evening of March 17, 1976 (working day 310). However, it is a very

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CONSULTING ENGINEER

tight schedule with the critical elements being stanchions, rails, carpet and polishing of terrazzo. I left the original of this rough diagram with Mr. Enos for his work in the field. If copies are desired, they are available. The network was primarily to confirm we will be able to maintain the target date.

It is anticipated that 5 working days will be needed to move into the main level from the apron level areas. Thus, under present conditions, it appears that the move can begin the morning of March 18, 1976 (working day 310) if desired.

Area 5712 (North Central Operational Area) (Monitored from Issue #5 dated July 11, 1975)

Work at area 5712 is now being completed with minor painting and resilient floor tile left to be finished. Mr. Enos intends to bring the area to completion by March 4, 1976 (working day 300) if at all possible. It appears that this is a feasible target although slightly tight.

Area 573 (Monitored from Issue #6 dated September 17, 1975, sheet 10)

Mr. Enos and I prepared a small rough network of the remaining work to be done at area 573 on the apron level following occupancy of the main level. Starting work at the main level on March 25, 1976 (working day 315) it is estimated that all work there could be completed by May 11, 1976 (working day 348). This is a preliminary schedule based upon work that appears to remain. As in any remodeling, there may be unexpected problems encountered.

However, giving the areas over at an early date on a piece-meal basis has been of enormous help in minimizing work to be completed after the main move has been made.

As noted above, the target completion date for the final work on the whole job was July 6, 1976 (working day 386). If work at the apron level can be completed by mid-May as presently planned, this will be a pickup of nearly two months on the total job completion. Again, this was possible by the fine cooperation exhibited by the airlines in making space available to the contractors.

General Summary

Overall, the project is currently in such shape that it appears we will make the major targets of a March 17, 1976 start of move-in at the main level and a completion on or before July 6, 1976 (working day 386) for the total job.

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CONSULTING ENGINEER

I shall probably monitor the project once or twice more since presently the work is at a point where major attention on a day to day basis can evaluate the short interim goals. I shall be in touch with Mr. Enos regarding the next monitoring soon.

Because of the re-diagramming, a project status report was not prepared from this monitoring session.

Ralph J. Stephenson, P.E.

RJS

m

To: Mr. Lou Walter
Mr. Robert Kania
Mr. L. G. Shea
Mr. ~~Jeger Densmore~~

Don Salovey

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

March 29, 1976

Subject: Monitoring Report #11
Expansion and Remodeling of Concourse E
Detroit Metropolitan Airport

Project: 74:95

Date of Monitoring: March 26, 1976 (working day 316)

Date of Notice to Proceed: February 10, 1975 (working day 28)

Target Completion Dates:

Allegheny Airlines Apron Level - Area 562 occupied October 1, 1975
(working day 192)

North Central Apron Level - Area 5711 occupied November 24, 1975
(working day 230). This was 19 working
days later than the October 27, 1975
(working day 211) target.

Main Level Holding Room - The airlines began their move-in on
March 22, 1976 (working day 312)
and it is expected the area will be
open for flights officially on
Saturday, March 27, 1976 (working
day 317)

Final Total Completion Date: July 6, 1976 (working day 386)

Note: Presently an earlier target of May 11, 1976 is set for
contractor's completion. This is working day 348.

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Don Enos
- Evaluated project progress

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RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

Main Level Addition (Monitored from small network prepared with Mr. Enos on February 24, 1976 (working day 293))

The upper level is now substantially complete and the airlines expect to initiate flight service from the area on Saturday, March 26, 1976 (working day 317). This is three days later than the completion of move-in had been originally expected. There still are various items to be cleaned up at the upper level, the main of which is completion of handrail installations around the stairs, particularly at the west end. Also, signs are not yet on the job and there is some miscellaneous finish work that can be done while the area is put into operation.

Area 5712 (North Central Operational Area)

This area is complete and turned over to North Central. Their move-in began about March 5, 1976 (working day 301).

Area 573 (Monitored from revised small network prepared with Mr. Enos on February 24, 1976 (working day 293))

(Note: This network is available at Mr. Enos' office and is presently being used as a monitoring document.)

Work scope includes all remaining construction at the main level, including remodeling of stair #1. It is expected that heavy work on area 573 will begin Monday, March 29, 1976 (working day 317). It was due to begin no later than March 25, 1976 (working day 315), so is starting two working days late.

Generally the plan of work proposed still appears feasible of achievement with completion of the entire project by May 11, 1976 (working day 348).

The difficult area here will be remodeling of stair #1. It is expected to erect the temporary partition at stair #1 on Monday, March 29, 1976 (working day 317). Following that, demolition and steel erection will take place, followed by construction of the slab at the stair. Finish work will then be completed. The original target completion of area 573 was set at July 6, 1976 (working day 386) so the present projected goal will bring it home considerably earlier.

General Summary

The project is now winding down with passenger operations at the upper level due to begin Saturday, March 27, 1976 (working day 317). Work at the apron

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**RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER**

level will continue on through to about May 11, 1976 (working day 348) and the job should be totally complete sometime about that date.

It is to be noted that the schedule performance by Mr. Enos and Barton Malow has been excellent and also that the tenant operational groups have been of great help in expediting and dovetailing work at the upper and lower levels. This has all contributed substantially to the basically on-time performance enjoyed on the project.

I will monitor probably one additional time to observe and close out the construction planning reporting and shall be in touch with Mr. Enos regarding the next session. At that point the project should be substantially well along and any further work needed for scheduling purposes can be done on a day to day field basis.

Ralph J. Stephenson, P.E.

**RJS
m**

**To: Mr. Lou Walter
Mr. Robert Kania
Mr. L. G. Shea
Mr. Don Paloskey**

May 13, 1976

Subject: Monitoring Report #12
Expansion and Remodeling of Concourse E
Detroit Metropolitan Airport

Project: 74:95

Date of Monitoring: May 10, 1976 (working day 347)

Date of Notice to Proceed: February 10, 1976 (working day 28)

Target Completion Dates:

**Allegheny Airlines Apron Level - Area 562 occupied October 1, 1975
(working day 192)**

**North Central Apron Level - Area 5711 occupied November 24, 1975
(working day 230). This was 19 working
days later than the October 27, 1975
(working day 211) target.**

**Main Level Holding Room - Move-in began on March 22, 1976
(working day 312). Area open for
flights on Saturday, March 27, 1976
(working day 317)**

Final Total Completion Date: July 6, 1976 (working day 386)

**Note: At our monitoring #11 an earlier target of May 11, 1976
(working day 348) was set. The areas are substantially
complete as of now except for additional work which will
be reviewed below.**

Actions taken:

- **Inspected project**
- **Reviewed job progress with Mr. Don Enos, Mr. Vitas Bagdonas,
Mr. Bill Renton and Mr. Paul Brzezinski. Mr. Lou Walter
was present for a short period of time.**
- **Evaluated project progress**

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RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

Main Level Addition

The upper level is complete and operational.

Area 573

Work here is substantially complete and was finished in accordance with the revised small network which was prepared with Mr. Don Enos and reported on in Monitoring Report #11.

General Summary

Project work under the main scope of work is now substantially complete and did meet or better major total completion targets. Still to be done on the exterior of the building is a water test to be run on curtainwalls. This will be started Wednesday, May 12, 1976 (working day 349). It probably will take from 2 to 5 working days to complete.

Also, the exterior concrete fascia must be rubbed down. Mr. Enos said this will be done from a scaffold and should start sometime this week. It is expected that rubbing down will take from 20 to 30 working days. Work will have to be coordinated to minimize interferences with airline activities.

Inside the building there are presently pending two bulletins - #3 and #6. #3 has been authorized and is for revision of toilet facilities to accommodate handicapped. There is an approximate 6 week delivery on material with one week of installation. This brings completion of Bulletin #3 work to July 28, 1976 (working day 402). Bulletin #6 concerns addition of several lineal feet of handrail at the stairs. Material is due in from 30 to 35 working days which will bring completion of Bulletin #6 work also to July 28, 1976 (working day 402). The date was discussed with all present and it was agreed this will be taken as the current target completion for all work.

There was some minor discussion about the starting point of warranty dates. I suggested and it was agreed that this matter be reviewed at a regular progress meeting and that the warranties be related to turnover points of the various areas that have already been completed.

Generally the project has met targets established for it in good fashion and the work remaining can be coordinated and scheduled on a day to day basis by those most directly involved.

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**RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER**

It has been a pleasure working on this project and I wish to compliment the staff of the owner, the contractor and the designing group for this participation in which has been a very smooth running project, built well in conformance with the established schedules.

Ralph J. Stephenson, P.E.

**RJS
m**

**To: Mr. Lou Walter
Mr. Robert Kania
Mr. L. G. Shea
Mr. Don Paloskey**

Subject

Concourse

Date

2/21/76

Job No.

Work @ Area 573

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- Temp park remove @ stairs #1
- Demolition @ stairs #1
- Instl shaft roof slabs @ stairs #1
- Comp floor @ stairs #1
- Comp floors @ stairs #1
- Comp R.I.S. @ stairs #1
- Comp AC with shaft @ apron level
- Comp AC with shaft @ stairs #1
- Repair/reinforce apron @ apron level
- Comp demolition @ off areas
- Comp erect masonry
- Comp elev.
- Comp paint
- Comp erect rd wall
- Instl ~~work~~ doors
- Instl work shaft trim
- Instl work shaft trim
- Instl work shaft trim

Follow SWD for vacation of apron level to main level

