

75:55

- CRITICAL PATH PLANNING
- LAND PLANNING
- MANAGEMENT CONSULTING
- PLANT LOCATION

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

18064 WARWICK ROAD
DETROIT, MICHIGAN 48223
PHONE 273-5026

March 10, 1975

Mr. L. G. Shea, Vice President
Louis G. Redstone Associates, Inc.
10811 Puritan
Detroit, Michigan 48238

Re: Grace Hospital Remodeling

Dear Mr. Shea:

In accordance with our recent discussions, outlined below is a proposal for providing my professional construction planning and control services in remodeling the existing Grace Hospital Building. As I understand, the program will include a renovation of the first, second, third, fourth and fifth floors, with the addition of two mechanical penthouses and their related piping and electrical installation.

Work on a project of this type usually is accomplished in four basic stages, each of which may overlap with the other.

Phase I Preparation of preliminary network diagrams

During this stage of work preliminary network plans with all major tasks to be accomplished are prepared in conjunction with the contractors and where appropriate, with architect/engineer and owner participation. These preliminary diagrams are prepared in rough form and manually computed for use as field documents until the final network diagram is processed and issued.

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Phase I Preparation of preliminary network diagrams
(continued)

As part of this early work it is often desirable to prepare a summary diagram of hospital moves, particularly where there is a relation between vacating and reactivation of critical areas and one depends upon the other for its operation.

During the preliminary phase we also identify all major long lead time delivery items and establish their processing dates with as much accuracy as possible. In a project of this type it is sometimes desirable to defer start of construction until delivery of all critical long lead time items has been firmly set or until these critical items are actually on the job and countable. This matter should be a consideration in preparing the contract documents. Once preliminary diagrams have been prepared, approved and are satisfactory to all concerned, we then move into the second phase of work.

Phase II Drafting and formal issue of network documents

During Phase II the preliminary diagrams are drafted into final form for issue to the project staff. At this time we also prepare the required computer runs and other control documents to be used in monitoring during Phase III. Sometimes it is possible to use the manually computed networks for control documents, but I have assumed since this project is relatively complex with several different areas in which work will be proceeding concurrently that it will be desirable to prepare computer printouts for monitoring purposes.

When the construction control documents have been put into final form, they will be issued formally with a full explanation given of their use.

During and subsequent to Phases I and II I shall inspect the project periodically to observe field progress relative to the established plan of action. This monitoring is Phase III.

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Phase III Monitoring

Monitoring of the project will be on a continuing basis and I have assumed it will be adequate to inspect the project on an average of once per month during the course of major construction. The purpose of monitoring is to evaluate work progress and to confer with the responsible field and office managers to determine progress of the work as compared to the expected plan of action. This is a very critical part of the network control system.

It is my practice to personally inspect and monitor the project.

Occasionally, unexpected events cause a major dislocation from the anticipated plan of action. If this occurs, a fourth phase may be necessary.

Phase IV Updating

Due to the nature of the construction business, occasionally strikes, delivery delays, revisions or other such problems occur that may force the network logic to be revised. In this case we usually update the network to reflect the new course of action. In my work I have adopted a basic policy of making every effort to issue an accurate and acceptable network diagram during Phases I and II so as to reduce the possibility of needing major revisions to logic as the job moves along. Therefore, it has been my experience that updating is usually kept to a minimum in a well run project. However, if such problems do occur, In Phase IV we would prepare updated network plans.

I have assumed on this project that such updating will be kept to an absolute minimum.

* * * * * *

My fee for providing the above network planning and control services is \$30.00 per hour, plus reimbursement at cost for out of pocket expenses such as printing, computer costs,

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CONSULTING ENGINEER

reproductions and other such items. During Phase II drafting work is done by technicians at a cost of \$9.00 to \$12.00 per hour, depending upon the nature of the work. I estimate for Phases I, II, III and IV that the total cost on this project should range to about \$6500. This estimate does not include any provision for major updating since it is possible and very desirable that the project will run without any such need for updating. It may be that if the early phases fit together better than I have anticipated that some minor updating could be accommodated within the fee.

I believe that the network control system is one of the finest management tools that has emerged in our current business and technical world. It is a pleasure to use and when applied properly as a creative guide to work, can offer outstanding advantages to the owner, to the architect/engineer and to the contractors involved in performing the work. From our long work together on projects of similar complexity, I am certain that we can provide this project with an excellent set of control documents and a good ongoing working system.

Thank you very much for your confidence and I am looking forward to working with you on this program.

Sincerely yours,

Ralph J. Stephenson, P.E.

RJS
m

Enc.

June 25, 1975

Subject: Monitoring Report #1
Grace Hospital, Phase 2 Renovation
Detroit, Michigan

Project: 75:55

Date of Monitoring: June 20, 1975 (working day 121)

Starting date of project: To be established, probably about June 30, 1975
(working day 127)

Actions taken:

- Began preliminary network planning up through installation of mechanical and electrical risers
- Evaluated tentative starting dates for field construction
- Established major long lead time delivery items

General Summary

This meeting was primarily to review early work on the project and project a network plan for the early phases so as to establish starting points and general work sequences.

As part of our initial diagramming, we also assigned responsibility codes to the various key parties involved. These are as follows:

- 1 Grace Hospital (Don Biganeiss)
- 2 Louis G. Redstone Associates
- 3 Freeman-Darling - general contractor
- 4 F. J. O'Toole - electrical contractor
- 5 Brady Plumbing & Heating - mechanical contractor

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- 6 Great Lakes - food service contractor
- 7 Hollow metal supplier
- 8 Hardware supplier
- 9 Structural steel supplier and erector
- 10 Acoustic contractor
- 11 Plastering contractor
- 12 Carpentry contractor
- 13 Painting contractor
- 14 Vinyl tile contractors
- 15 Appropriate governmental agencies

Other codes will be added as planning proceeds and various other parties to the construction are identified.

First, we established requirements to bring the project up to start of construction. Presently there are some miscellaneous electrical revisions that must be made to obtain the building permit and these should be completed within four working days. It is hoped to obtain the permit the next day to avoid what apparently is to be an increase in permit costs on July 1, 1975 (working day 128). Concurrently with obtaining the building permit, it is expected to file for miscellaneous variances caused by the nature of the remodeling.

The initial planning anticipates that demolition and clearing of the fifth floor in the A wing will begin on July 15, 1975 (working day 137) and proceed down through floors 4, 3, 2 and 1 in the A wing. Once demolition is complete at each floor, reference lines will be provided at each floor to set critical dimensions for partition work. When the second floor of the A wing is cleared, coring will begin at two for both electrical and mechanical risers. Riser installation will move from the second to the third to the fourth to the fifth floors, along with demolition of the deck required for other riser installation.

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There are several delivery items that should be given particular attention although it appears that deliveries should be no major holdup to the job. Those of a normally critical nature include the following:

- hollow metal frames
- plastering and acoustic materials
- lighting and power panels
- motor starter panels
- food service equipment
- air handling units
- window units
- reheat coils
- chillers
- fan coil units

Sheets 1 and 2 of the network diagram will be distributed as noted below to those concerned for their review and revision, if appropriate.

- 5 copies Mr. Milt Shaffer at Freeman-Darling
 (he will distribute one to O'Toole and one to Brady)
- 2 copies Mr. Malin - Louis G. Redstone Associates
- 2 copies Owner, one to Mr. Hansen and one to Mr. Biganeiss

Monitoring reports on the project will be distributed as follows:

- 1 copy Mr. Milton Shaffer at Freeman-Darling
 (he will provide copies to O'Toole and Brady)
- 1 copy Mr. Malin at Louis G. Redstone
- 1 copy Dr. T. B. Coles, Grace Hospital

I shall be in touch shortly with Mr. Shea of the Redstone office to set the date for the next planning session. It probably will be when demolition is well in work and additional information on deliveries is available.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. Milton Shaffer
 Mr. Al Malin
 Dr. T. B. Coles, Jr.

August 19, 1975

Subject: Monitoring Report #2

Grace Hospital, Phase 2 Renovation

Detroit, Michigan

Project: 75:55

Date of Monitoring: August 12, 1975 (working day 157)

Starting Date of Project: July 22, 1975 (working day 142)

Actions taken:

- Reviewed preliminary diagram, sheets 1 and 2 showing demolition, layout and riser work
- Diagrammed typical floor interior network
- Evaluated job progress
- Discussed major long lead time delivery items

General Summary

Currently the fourth and fifth floors of the A wing have been cleared with layout complete on the fifth floor and starting today on the fourth. Demolition is underway at the third floor and will begin on the second floor August 22, 1975 (working day 165). Generally work at present is about 15 working days behind Issue P1 dated June 20, 1975. However, a major realignment of the logic in which the coring and riser work will now start at the fifth floor and work down should soon bring the project substantially back in line with the earlier target dates. Dates have been recomputed on sheets 1 and 2 and distributed to all contractors concerned for their review.

A brief review of major delivery items is given below.

Hollow metal frames - currently to be delivered on October 13, 1975
(working day 200)

Note: These are very critical to start of studs at the fifth floor and should be expedited.

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CONSULTING ENGINEER**

- Owner furnished TV brackets - can be provided in as short a period as two weeks. Are critical for stud wall work.**
- Precast shower receptacles - shop drawings will be approved within the next couple of days. Delivery is in 60 working days. Present delivery to the site is November 7, 1975 (working day 219). This is a very critical element.**
- Penthouse air handling units - shop drawings will be approved within the next two weeks. Delivery is about 75 working days from approval bringing units to the job December 11, 1975 (working day 242).**
- Chillers - shop drawings will be approved within the next two weeks. Delivery is about 75 working days from approval bringing the units to the December 11, 1975 (working day 242).** J^A
- Early plumbing fixtures including tubs and baths - on job November 19, 1975 (working day 227).**

Of deliveries, the most critical presently are hollow metal frames and shower receptacles.

Following review of the rough work, we prepared an interior plan of work for a typical floor, selecting the fourth floor of the A wing as most typical. This is shown on sheet 3. A print of this typical diagram has been provided through Mr. Shaffer to all contractors concerned. In addition I have sent ten copies of the diagram to Mr. Foyle through Mr. Shaffer for him to insert additional work for each floor to be remodeled. Basically the preliminary interior plan of work indicates that from the start of rough above floor mechanical and electrical installation, it will take about 93 continuous working days to complete the general, mechanical and electrical contract work with another three days after that being allowed for the owner's carpet. A further analysis shows that the longest floor to floor move is in installation of toilet room plumbing fixtures, a 15 working day operation.

Thus, the floor turnover cycle will probably be about 15 working days. This means that if the fifth floor is the first floor to be finished as is presently planned, 15 days later the fourth floor will be ready for moving out, 15 days after that the third floor will be available, on down through the first floor. Although each floor is slightly different, the turnover cycle will be approximately the same.

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To maintain optimum job continuity it would be desirable for the hospital to move out of the C wing and into the A wing in such fashion so that the 15 day turnover cycle can be continued in the C wing. Thus, it will be necessary for the fifth and fourth floors of C to be vacated as soon as the fourth floor of A is complete. This would provide two floors of the C wing for work and allow demolition work to start at the fifth floor of the C wing while finishing work was continuing at the third, second and first floors of the A wing. This matter was brought to all parties' attention at the diagramming session. They will review the concept. It was also decided at this meeting that the first floor of the A unit would be turned over in the sequence noted above and no special early occupancy of that area is presently projected.

Another critical item that came up repeatedly throughout the conference was remodeling of the penthouse areas. Here the important element is to provide adequate access for all mechanical equipment to be set at these areas since the equipment will not be on the job until late fall or early winter. This matter will be resolved between the general and mechanical contractors.

To be stressed in expediting the work as outlined above is the need for prompt decisions and timely deliveries by all contractors as well as by the owner and the architect/engineer. It is critical in remodeling work of this type that all owner furnished equipment be identified, lead times established and deliveries expedited to the greatest extent possible. The prime responsibility for this with the hospital will be Mr. Biganeiss' and it will be critical for the general contractor to work closely with him and the architectural engineering representatives on the job to insure that timely delivery of all materials and equipment is made.

Some of the inter-disciplinary elements that can cause problems on a project of this type include:

- color schedule items
- owner furnished inserts in rough architectural trade work
- carpet selection and delivery
- curtain rods and drapery tracks
- cubicle curtains and screens
- furnishings including beds, chairs, dressers and other miscellaneous furniture
- signage and other graphics
- nurses' call systems
- telephone installation

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- owner certificates of occupancy
- fire marshall and health inspections
- final building inspections
- clearance of pending bulletins on variations

The above are only a few of the major items and as the project proceeds and discussions continue about the interrelation of these various elements, undoubtedly additional critical items from both the contractors, as well as others on the job, will be identified and we will incorporate them into the diagram.

Meanwhile, the basic network on sheet 3 will be used as a guide for our present planning and since the major difficulty presently with starting work at the fifth floor relates around the present installation of mechanical risers, it is recommended that everything possible be done to install these risers at an early date so they can be tested and insulated and not delay work at the fifth floor any longer than absolutely required.

Also, critical are the shower receptacles and the hollow metal door frames. If the job can be moved off and running by proper and selective expediting over the next few weeks, this will be reflected throughout the entire job.

I shall be in touch shortly with Mr. Shea of the Redstone office to arrange the next diagramming session. However, I recommend that some absorption time be given to allow those concerned with the project to get their deliveries in order and to study the present plan of work in more detail.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. Milton Shaffer
Mr. Al Malin
Dr. T. B. Coles
Mr. Don Biganeiss
Mr. Don Hansen

September 26, 1975

Subject: Monitoring Report #3
Grace Hospital, Phase 2 Renovation
Detroit, Michigan

Project: 75155

Date of Monitoring: September 24, 1975 (working day 187)

Starting Date of Project: July 22, 1975 (working day 142)

Completion Date for A Wing: Late May 1976 (This date to be confirmed by final computations of network)

Monitored from Issue P2 dated August 12, 1975

Actions taken:

- Reviewed all delivery items shown in Issue P2 dated August 12, 1975, sheet #1
- Revised current network to Issue #1 dated September 24, 1975
- Evaluated job progress

General Summary

Currently sheet metal ductwork and rough piping are moving very well, being almost complete at the 5th floor and well along at the 4th floor. Demolition, floor coring and floor patching are almost complete with only isolated areas at the first and second floors remaining to be cored and patched as under-floor duct arrives on the job.

There has been a major difficulty with electrical risers since these now are not able to be installed until lighting and power panel tube are on the job. This matter was discussed at length at the meeting and it is expected tube will be available at the site no later than October 15, 1975 (working day 202) at which time installation of electrical risers at the 5th floor will begin. It was decided at the meeting that risers will be installed from the 5th floor down to expedite readying the 5th floor for interior finish work.

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Generally, with the exception of electrical risers, work is currently meeting targets between early and late starts and finishes.

At the penthouse structural steel is erected for both penthouses and roofing is expected to start Friday, September 26, 1975 (working day 189). Major penthouse equipment is due to be delivered on the job December 11, 1975 (working day 242) and installation of this equipment will proceed from that point. Access problems are still being worked upon.

It appears that penthouse work will not be a holdup to remodeling of the A Wing. Therefore, we have not diagrammed penthouse work at the present time although Mr. Foyle has prepared a job plan he expects to follow. We will evaluate penthouse work on a continuing basis.

As part of our major diagramming work, we reviewed current deliveries. Critical elements are as below:

- **Hollow metal frames - presently due to be on the job by October 13, 1975 (working day 200)**
- **Lighting and power panels - discussed above**
- **G light fixtures - approvals not yet obtained. It was assumed at the meeting that approval would be available by October 1, 1975 (working day 192). Delivery of the G light fixtures is presently 40 working days which brings delivery to the job site by November 26, 1975 (working day 232). This could be a critical matter.**
- **Underfloor duct - due on the job October 3, 1975 (working day 194). Presently restraining completion of patching at the first floor.**
- **Food service equipment - approval has not yet been obtained. Hold current target delivery on December 3, 1975 (working day 236).**

- Shower receptacles - still critical. Word is they are due on the job November 7, 1975 (working day 219).

- Window units - a decision must be made on louvers at the window units but apparently this decision will not delay fabrication. Will hold a delivery of December 11, 1975 (working day 242).

- Penthouse equipment - generally due on the job December 11, 1975 (working day 242).

A sizable amount of time was spent discussing Bulletin 5 and its approval. This is a long and critical bulletin and it was decided at the meeting that most work under Bulletin 5 would be authorized by a field order, and that the louver problem at the window units would be decided at a later but relatively soon date. The louver decision will affect cutting openings in the exterior walls and therefore, should be made so those openings can be properly cut in good weather prior to the onset of cold weather.

Another item that will be of importance as finish trades proceed is provision of adequate heat to maintain working temperatures in the A Wing. Some heat may be available from adjoining areas but this will be limited and probably supplemental heating sources will be required. The matter will be resolved among the field and office managers of the contractors on the job.

As part of our diagramming work, we completed computations for the 4th and 5th floor interior work of the A Wing. It was decided at this meeting that the initial issue of the network diagram, including the computer print-out, will be only for the fifth, fourth, third, second and first floors of the A Wing, along with sheets 1 and 2 showing delivery and riser work. Issue of the C Wing will be held pending a decision as to whether it can be dovetailed with construction of the A Wing.

Initial manual computations show that the 5th floor can be expected to be complete, ready for move-in about March 3, 1976 (working day 299). The 4th, 3rd and 2nd floors will follow on a 15 day turnover cycle which brings their completion to March 24, 1975 (working day 314) for the 4th floor, April 14, 1976 (working day 329) for the third floor, and May 5, 1976 (working day 344) for the second floor. First floor construction will have

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a slightly less duration since the work there is not quite as complex in mechanical/electrical areas as at the upper floors. Therefore, completion of the first floor will probably be sometime between May 12, 1976 (working day 349) and May 27, 1976 (working day 359). This date will be set firmly when the initial issue is made.

Some discussion was had with Mr. Hanson regarding detailing of movement and occupancy of the A and C Wings. Presently it appears that when two floors of the A Wing are completed and ready for move-in it might be desirable to move the 5th floor patients from the C Wing into the A Wing to allow work to begin in the C Wing. If this pattern can continue, it is possible that the 15 working day turnover cycle can be continued without interruption over into the C Wing. This is, of course, provided that adequate area can be made available so as to get mechanical and electrical risers in at the appropriate time. This is a desirable situation and will be looked at in more detail by the hospital staff. We will consider this matter at our next diagramming session. Of critical importance is the timely movement of patients from one wing to the other and installation of risers so testing can proceed and not delay application of wallboard at the 5th floor. It should be remembered that completion of testing at the 5th floor in the A Wing was restrained by completion of risers at the 1st floor and testing of the vertical and horizontal systems. It may be that some valving will be necessary to accomplish this in the C Wing.

I shall now process the Issue #1 network dated September 24, 1975, sheets 1, 2, 3, 4, 5, 6 and 7 for computer printing and distribute it with a full dated network sometime in the near future. This will be issued to all concerned for use in field guidance.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. Milton Shaffer
Mr. Al Malin
Dr. T. B. Coles
Mr. Don Bignolas
Mr. Don Hanson

November 14, 1975

Subject: Monitoring Report #4
Grace Hospital Phase 2 Renovation
Detroit, Michigan

Project: 75155

Date of Monitoring: November 12, 1975 (working day 222)

Starting Date of Project: July 22, 1975 (working day 142)

Completion Date for A Wing: May 12, 1976 (working day 349)

Monitored from Issue #1 dated September 24, 1975

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Foyle and Mr. Malin
- Evaluated job progress
- Prepared project status report from November 12, 1975 (working day 222) through January 2, 1976 (working day 256)

General Summary

Currently steel studs are being installed at the fourth and fifth floors with some wall board being installed at the fifth floor. Studs are to begin at the third floor within the next week. Above floor sheet metal ductwork is to be started at the second floor by early next week. First floor work presently is focused on starting horizontal mechanical and electrical installation above ceiling.

Electrical risers have not yet begun, awaiting installation of studs at each floor to receive the electrical back boxes. These are on the job and it is expected that electrical work will proceed in the near future. At the fifth floor unistrut is in place and ready for the panel backs.

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

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- **Hollow metal frames** - all hollow metal frames are on the job with the exception of the large frames at corridor doors. These have been approved but there is no current word on delivery. Delivery of these frames will restrain completion of end room finishes on each floor.
- **Ceramic tile** - samples have been approved and tile is expected on the job in early December. No problem with this delivery currently.
- **Most paint samples** have been approved but there are some special areas that should be checked. There are no current problems in this respect.
- **Owner TV brackets** - approximately 62 of these are required and 20 are on the job. It will be important to have the remaining brackets delivered to the job site just as quickly as possible. These are needed for installation on the studs, particularly now at the 4th and soon at the 3rd floors.
- **Lighting fixtures G** are in fabrication with no word currently on delivery. Originally they were scheduled to be on the job no later than November 28, 1975 (working day 233). This item should be checked.
- **Food service equipment** is being revised slightly. Most shop drawings have been approved and work is presently in fabrication. However, this item should be resolved and any revisions expected should be made as quickly as possible.
- **Plumbing fixtures** - these are currently in fabrication and no problem exists.
- **All other items shown on sheet 1 of Issue #1 dated September 24, 1975** are in good shape and most major deliveries have been made to the job of critical items except those as noted above.

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A brief review of each major area is given below.

Fifth Floor

Work here is currently about 5 working days ahead of late start/late finish target dates.

Fourth Floor

Present work at the fourth floor is about 5 working days ahead of late start/late finish dates.

Third Floor

As of November 12, 1975 (working day 222) third floor work is in accordance with late start/late finish dates.

Second Floor

Currently second floor work is in line with late start/late finish dates.

First Floor

Horizontal rough work at the first floor is just getting underway and meeting late start/late finish dates.

A Wing Fan Room

The concrete equipment deck has been poured and most major equipment is setting at the roof level. Placement of equipment should begin sometime early next week. Presently it does not appear that there will be any difficulty in completing the equipment room ready to service the A Wing.

G Wing Fan Room

The metal deck for the floor slab is placed but concrete will not be put in place until an effective hoisting arrangement is available. Most equipment for this room is on the site. Handling and storage of this equipment prior to placement in final position will be worked out in the field.

General Summary

As of November 12, 1975 (working day 222) the project is in excellent condition

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with only minor delivery problems offering some current difficulty. These are primarily in large hollow metal frames at the corridor entrances, TV brackets and G type light fixtures. Also, food service equipment is a minor problem but should not be a holdup to the job.

It should be pointed out that completion of the A Wing is currently planned for May 12, 1976 (working day 349) and that if a method can be worked out by which the 15 day turnover cycle presently anticipated can be carried over into the C Wing, it will be a desirable way of working the job. However, as pointed out in the previous monitoring report (#3), it will be necessary to provide floor adequate areas so mechanical and electrical risers can be installed prior to start of horizontal work at the floors. This may pose some difficulties and should be reviewed at our next planning session.

It should be further noted relative to current work progress that stud work was delayed about two weeks over the anticipated date until October 27, 1975 (working day 210) by financial and administrative details required to be resolved with the subcontractor. However, this work has proceeded very well since that point and as noted above, is currently meeting late start/late finish target dates.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. Milton Shaffer
Mr. Al Mallin
Dr. T. B. Coles
Mr. Don Biganeiss
Mr. Don Hansen

December 19, 1975

Subject: Monitoring Report #5

Grace Hospital Phase 2 Renovation

Detroit, Michigan

RJS Project: 75:55

Date of Monitoring: December 17, 1975 (working day 246)

Starting Date of Project: July 22, 1975 (working day 142)

Completion Date for A Wing: May 12, 1976 (working day 349)

Monitored from Issue #1 dated September 24, 1975

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Foyie
- Evaluated job progress
- Prepared project status report from December 17, 1975 to February 1, 1976

General Summary

Overall the project is moving very well with metal studs, rock lath, hard ceiling suspension and rough mechanical and electrical work holding close to late start/late finish targets and in some cases, being ahead of these targets. Reviewing the current status of deliveries, we find the following:

- All hollow metal frames except the special frames at the corridors are on the job with many being set. Delivery of the special corridor frames should be sometime near the first of next year. We will maintain a present target delivery of January 2, 1976 (working day 256) for discussion purposes. These frames have been an inconvenience but have not delayed major work.

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- Ceramic tile installation is due to start, according to our Issue #1 network, no later than December 26, 1975 (working day 252). Since it appears difficult to start this trade during the holiday season, probably tile deliveries will be scheduled so as to be able to start on January 2, 1976 (working day 256).
- All paint approvals have been given. Paint is available as needed.
- Owner TV brackets - all brackets are on the job now with most being in place.
- Lighting fixture G - this fixture is in fabrication and presently scheduled to be shipped on December 19, 1975 (working day 248). Probably the fixture will be on the job by the first of the year - January 2, 1976 (working day 256).
- Food service equipment has been approved and will be delivered to the job starting on January 8, 1976 (working day 260). Equipment should be available as installation proceeds.
- Plumbing fixtures - apparently plumbing fixtures are available as needed, with no difficulty anticipated.

A brief review of each major area is given below.

Fifth Floor

All studs and a good share of the rock lath and gyp board on walls is installed. The hard ceiling suspension along with the related electrical conduit is substantially complete. Work at the 5th floor, taking into account the slight revisions to logic, is on late start/late finish target dates. Skim coat plastering is due to begin next week and should make its late start target of December 22, 1975 (working day 249).

Some delay has been encountered in installation of wall board due to lack of insulation. However, a shipment arrived on the job today and this should free up additional areas at the 4th and 5th floors and so will not delay the project.

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Fourth Floor

Fourth floor work is about the same position as the 5th floor with slightly less rock lath and gyp board installed. Work here, however, is in better alignment with the network and actually could be considered as much as 5 working days ahead of the projected target dates. Projected lags will come about through the need to wait for electrical in-wall work to complete board work. There is a sizable amount of electrical in-wall work and although this work did start slowly, it is now moving very well. It is expected that the late start target on skim coating will be met.

Third Floor

Third floor progress is well ahead of projected late start/late finish dates. Studs are well along and most above floor mechanical and electrical work is in excellent condition at 3.

Second Floor

Frames and studs at the second floor are well along, as are rough mechanical and electrical above floor items. This area is currently meeting field targets substantially ahead of the Issue #1 late start/late finish dates.

First Floor

Field measuring has been completed for sheet metal ductwork and fabrication is in work. Some horizontal mechanical piping has been installed and progress at the first floor is substantially ahead of late start/late finish targets.

A Wing Fan Room

Equipment has been moved inside the fan room and at present the area is ready to receive fireproofing plaster. This is a special installation which requires certification of the installer. A man is now attending a special school to receive this certification and work is expected to begin on fireproofing next week.

C Wing Fan Room

All equipment has been moved inside the fan room. However, the concrete floor has not yet been poured. This floor will be held until it is convenient to pour.

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General Summary

As of December 17, 1975 (working day 246) the project is moving well and still is in good alignment with late start/late finish target dates, particularly at the 4th, 3rd, 2nd and 1st floors of the A Wing. The 5th floor of the A Wing is just meeting late start/late finish dates. However, as the trades move off the 5th floor and into the other floors and on down, the rate of floor turnover could very well pick up.

Fan room work is also in good condition and should cause no major problems with turnover targets.

As part of our discussion today we met with Mr. Hansen briefly to review the implications of an early move from the A Wing work to the C Wing. It is considered desirable to start work if possible in the C Wing prior to total completion of work in the A Wing since this could conceivably save as many as 30 working days on the total construction project.

There are problems, however, as has been pointed out in previous monitoring reports. One of the major difficulties is maintenance of services to lower floors that are occupied while the upper floors are vacated and demolition work proceeds. If the utility service problems can be worked out, it would be desirable to move patients from the 4th and 5th floors of the C Wing to the 4th and 5th floors of the A Wing when these two A Wing floors are complete, presently projected for March 18, 1976 (working day 310). At this point the owner would complete installing carpet, clean the floor, obtain the necessary inspections and move in. If we assume that this process would take about three weeks for the two floors and that we could immediately begin work in the A Wing at that point, a desirable compression of the contract targets could occur.

Mr. Foyle will examine the technical implications of this problem over the next few weeks while Mr. Hansen will review the conditions surrounding such an early occupancy as they relate to the hospital function.

As a part of this monitoring I prepared a project status report for the period from December 17, 1975 to February 1, 1976. This will be issued to the general contractor, the architect/engineer and the owner.

Ralph J. Stephenson, P. E.

RJS/m

To: Mr. Malin, Mr. Shaffer, Dr. Coles,
Mr. Biganice, Mr. Hansen

February 9, 1976

Subject: Monitoring Report #6

Grace Hospital Phase 2 Renovation

Detroit, Michigan

RJS Project: 75:55

Date of Monitoring: February 4, 1976 (working day 279)

Starting Date of Project: July 22, 1975 (working day 142)

Completion Date for A Wings: May 12, 1976 (working day 349)

Monitored from Issue #1 dated September 24, 1975

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Foyle and Mr. Malin
- Evaluated job progress
- Conferred with owner re turnover points
- Prepared project status report from February 4, 1976 through March 15, 1976

General Summary

Overall the project continues to move well with skin coating substantially completed on the 5th and 4th floors and presently in work on the 3rd. Ceramic tile is substantially complete at the 5th floor and well along at the 4th floor. Tile is expected to start at the 3rd floor before the end of the week. Most equipment and material have been delivered to the job site and the only outstanding major item of delivery is the food service equipment. Apparently it is ready to ship.

A brief review of each major area is given below.

Fifth Floor

Presently all surfaces have been plastered and primed with painting well along. Ceramic tile is substantially complete and toilet room plumbing fixtures are being installed. It is expected to start acoustic ceiling suspension, grid and conduit about February 10, 1976 (working day 283). This item has a target late start of February 13, 1976

Monitoring Report #6
Grace Hospital, Phase 2 Renovation
Page two

(working day 286). Generally there is a slight lag at the 5th floor in painting and installation of doors and hardware. Doors will be on the job in mid-February. Installation was due to start no later than January 30, 1976 (working day 276). However, this lag should cause no major dislocation to completion of the floor.

It is the intent to clean up and move out of the floor near the end of February and Mr. Foyle expects that the target date of February 27, 1976 (working day 296) for start of owner carpet can be held.

It should be pointed out that in order for work to proceed uninterruptedly and the patient move presently planned to be accomplished that the owner should plan to have his carpet available by that date, ready to bring onto the job and install.

Fourth Floor

Fourth floor work is in about the same position as 5th floor work except that prime painting is not yet begun. Ceramic tile at the 4th floor is well along and generally the work is in fairly good alignment with late start/late finish targets. Painting is expected to start shortly. It was due to begin on a late start of February 4, 1976 (working day 279).

The target end date for the floor, to allow owner carpet installation, is presently being held at March 19, 1976 (working day 311). This appears a feasible date.

Third Floor

Plastering is well along at the third floor with skim coat being applied as the brown coat is completed. Ceramic tile is to begin this week and the area is currently ahead of late start/late finish targets.

Second Floor

Stud work is completed and in-wall work is moving well at the second floor. Some wall rock lath and gyp board have been installed. This floor is generally ahead of late start/late finish targets.

First Floor

Above ceiling rough work is almost complete and hollow metal frames are set with in-wall work at the studs just beginning.

Currently the floor is meeting or is well ahead of late start/late finish targets.

General Summary

At present the project is being brought to completion at the 5th floor with a target of February 26, 1976 (working day 296) being held for carpet. Overall, the project is in good shape and the present floor completions are expected to be met or possibly bettered.

As a part of our work today, we met with Mr. Hansen, Mr. Biganeiss and Mr. Malin to discuss the possibility of turning over the south wing earlier than had been originally intended. It looks as though once two floors of the north wing (4 and 5) have been completed on or about March 19, 1976 (working day 311) that the hospital could move patients from the south (C) wing into these two floors and allow the contractor to move in and begin miscellaneous work possible without excessive noise or dirt. This would allow an early start on remodeling and certainly could save some time if it could be accomplished, rather than waiting until the entire A wing is complete for the move to be made.

The matter will be again reviewed in detail and a final decision made although tentative approval has been given to this course of action. Again, the owner should check immediately on the carpet delivery status to insure there will be no holdups or delays to installation and subsequent cleanup and move-in of patients.

In general, the job presently is in good condition and meeting most late start/late finish targets.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. Milton Shaffer
Mr. Al Malin
Dr. T. B. Coles
Mr. Don Biganeiss
Mr. Don Hansen

March 10, 1976

Subject: Monitoring Report #7

Grace Hospital Phase 2 Renovation

Detroit, Michigan

RJS Project 75:55

Date of Monitoring: March 2, 1976 (working day 298)

Starting Date of Project: July 22, 1975 (working day 142)

Completion Date for A Wing: May 12, 1976 (working day 349)

Monitored from Issue #1 dated September 24, 1975

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Foyle
- Evaluated job progress
- Prepared project status report from March 2, 1976 through April 12, 1976 (working day 298 - working day 327)

General Summary

Overall the project continues to move well although at the upper two floors there have been some material delivery delays that are presently causing concern. These primarily concern toilet room accessories and wood doors. Apparently the wood door manufacturer would not make a run on the doors until he was able to fabricate all at the same time. This became difficult due to revisions and thus, the information came at a late date that doors would not be on the job as originally planned by mid-February.

However, enough doors were available locally for the 5th floor and they have been installed there. But for the 4th, 3rd, 2nd and 1st floors, doors may not be on the job until April 2, 1976 (working day 321). This will cause some inconvenience but Mr. Foyle feels that the owner's carpet installation can proceed on the 4th floor in the rooms concurrently with installation of doors. Thus, the lag expected by the late delivery on the doors relative to completion of the floor area proper will be about nine working days.

Toilet room accessory installation will be starting this week with material available now. However, brushed finish stainless material is due to arrive about March 22, 1976 (working day 312). This equipment will be installed concurrent with remaining work on the floor.

The hoist is expected to be removed about March 22, 1976 (working day 312) which will allow all floors to be finished on out at the present location of the openings to the exterior.

Thus, it appears that generally we can expect to have the fourth and fifth floors completed except for doors and carpet on or about April 1, 1976 (working day 320). This will be, as noted above, about nine working days late.

A brief review of each floor is given below:

Fifth Floor

Presently most major work has been completed at the fifth floor except for doors, hardware, acoustic ceiling panels, resilient base, toilet room accessories and owner's carpeting. It is anticipated that the floor will be complete except for accessories by about March 10, 1976 (working day 304). The brushed finish accessories, as noted above, will be arriving about March 22, 1976 (working day 312) and their installation should take no more than 2 or 3 days.

Fourth Floor

Painting is well along, acoustic ceiling suspension is complete and final work on the floor is in progress. The delays at four as noted will be in installation of doors and hardware. It is possible that this floor can be completed on out to the point of carpet installation and then that this work could go on concurrently with door installation if so desired. It is anticipated that this floor will be complete except for doors and carpet by April 1, 1976 (working day 320).

Third Floor

Plastering is complete and some painting has been done. Toilet room fixtures are being installed along with ceiling grills and diffusers. Millwork and trim for the floor has not yet started since millwork will be on the job slightly later than anticipated, arriving on March 18, 1976 (working day 310). This should not pose a major delay to the floor delivery.

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Grace Hospital Phase 2 Renovation
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Third Floor (continued)

It is felt that the floor will be ready for carpet by April 9, 1976 (working day 326). This date will probably be met, or very close to it, except for installation of doors which are being delivered late as noted. In all likelihood carpet installation here, as at four, could proceed concurrently with doors if desired.

Second Floor

Plastering is almost complete and ceramic tile is just starting at the second floor. Some hard surface light fixtures have been installed and presently work at the second floor is meeting target dates between early and late starts and finishes. The target completion for start of owner's carpet is April 30, 1976 (working day 341).

First Floor

Most above ceiling work has been completed and studs put in place. Wall rock lath and gyp board is now being installed, along with hard ceiling board. Progress at the first floor is currently meeting targets between early and late starts and finishes. The target completion of the first floor for owner's carpet is May 7, 1976 (working day 346). It appears presently that this date can be held.

General

Overall the project continues to move well although there has been some delay to some trades that will carry the first two floors to be delivered, fifth and fourth, past the anticipated target completion by about 9 working days. This will require some concurrent installation of owner's carpet with items expected as a late delivery. These include doors, hardware and toilet room accessories.

As of this monitoring, there is still a continuing discussion about occupancy of the A Wing and when work can begin at the C Wing. I shall be in touch with Mr. Malin and Mr. Foyle on this matter.

As part of the monitoring, I prepared a project status report for the period from March 2, 1976 (working day 298) through April 12, 1976 (working day 327). This will be issued with the monitoring report.

Ralph J. Stephenson, P.E.

RJS/m

To: Messrs. Shaffer, Malin, Biganeiss, Hansen
Dr. Coles

April 26, 1976

Subject: Monitoring Report #8
Grace Hospital Phase 2 Renovation
Detroit, Michigan

RJS Project: 75:55

Date of Monitoring: April 20, 1976 (working day 333)

Starting Date of Project: July 22, 1975 (working day 142)

Completion Date for A Wing: May 12, 1976 (working day 349)

Monitored from Issue #1 dated September 24, 1975

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Foyle, Mr. Biganeise and Mr. Malin
- Evaluated job progress

Note: A project status report was not prepared at this monitoring.

General Summary

The 4th and 5th floors are turned over and carpeting is being completed at each of these levels. The third floor is being made ready for carpet which is to start on April 21, 1976 (working day 334). Carpet will start at the second floor about April 27, 1976 (working day 338) and the first floor, it appears presently, will be completed by our target date of May 12, 1976 (working day 349).

A major share of our monitoring today dealt with a discussion as to movement from construction of A Wing into construction of C Wing. It is expected that patients can be moved to the A Wing from the C Wing on the 5th and 4th floors sometime within the next 10 to 15 working days, provided a problem on fusing of window boxes is resolved promptly.

All equipment and material is now on the job for completion of the A Wing except for the bullet-proof glass at the first floor. This is expected to be delivered soon and can be installed immediately upon completion of cabinet work.

It will be critical to Wing C remodeling to decide immediately when the patient move can be made. Mr. Foyle is ready to move to the C Wing when vacated but the 4th and 5th floors must be cleared before any major work can start. The earlier access can be obtained to the C Wing, of course, the sooner the area can be completed.

During our monitoring we made a rough projection that if the fusing problem on window units could be cleared within 2 weeks - by May 4, 1976 (working day 343) - that work could start at the 5th floor of the C Wing one day later - by May 5, 1976 (working day 344). Using this as a basis, it appears presently we should be able to complete remodeling on or probably before the end of 1976.

It is anticipated considerable time will be saved by not having to wait on key deliveries since practically all materials and equipment are on the job and ready for installation at the C Wing.

A brief review of each A Wing floor is given below.

Fifth Floor

Carpet is practically complete at the 5th floor and most trim is done. The only remaining item is to fuse the through-wall window units. Carpeting was started on the 5th floor April 13, 1976 (working day 328).

Fourth Floor

Carpeting is nearly complete at the 4th floor. There still remains some miscellaneous trim and some accessory work to be done in the toilet rooms. Carpeting at the 4th floor began on April 16, 1976 (working day 331).

Third Floor

Most major work is done at the 3rd floor except some acoustic panels and some miscellaneous trim and accessories. Carpet is expected to start at the 3rd floor on April 21, 1976 (working day 334). This area should be ready for occupancy within the next two weeks.

Second Floor

Most major work at the second floor is complete. There still remain some miscellaneous accessories, acoustic panels and trim to install. Carpet will probably start at the second floor on April 27, 1976 (working day 338).

First Floor

Acoustic ceiling suspension is just starting at the first floor. Most doors are installed and painting is well along. The current lag at the first floor over our projected plan of work is about 3 working days. This is not a serious lag and probably will be recaptured with the target date for completion of the entire floor including carpet installation being held at May 12, 1976 (working day 349).

Summary

Overall the project has moved extremely well and the probability of meeting our originally projected end target date is excellent. I strongly recommend that the matter of fusing the through-wall units be resolved immediately so that these units can be made operative and move-in initiated.

Work at the C Wing should be able to start sometime within the next 15 working days. If this is the case, target completion for this work will probably be in December 1976. Once decisions have been made relative to the C Wing starting point, we will meet and diagram this area.

Meanwhile I have asked Mr. Foyle to please review the network for the A Wing so necessary or desirable revisions he desires can be made when we prepare the network for the C Wing.

Ralph J. Stephenson, P.E.

RJS
m

To: Mr. Milton Shaffer
Mr. Al Malin
Dr. T. B. Coles
Mr. Don Biganeiss
Mr. Don Hansen

May 20, 1976

Subject: Monitoring Report #9
Grace Hospital Phase 2 Renovation
Detroit, Michigan

RJE Project: 75:55

Date of Monitoring: May 13, 1976 (working day 350)

Starting Date of Project: July 22, 1975 (working day 142)

Completion Date for A Wing: May 12, 1976 (working day 349)

Monitored from Issue #1 dated September 24, 1975

Actions taken:

- Briefly inspected project
- Reviewed job progress with Mr. Foyle, Mr. Shaffer and Mr. Biganeiss
- Evaluated job progress
- Prepared preliminary network for C Wing

Note: A project status report was not prepared at this monitoring.

General Summary

The 5th and 4th floor are now occupied and the 3rd and 2nd floors are about ready to be occupied. First floor work is taking slightly longer than had been anticipated and presently there appears to be about 5 to 10 working days more of installation to complete there.

Work is about ready to begin in the C Wing and it is expected that by May 25, 1976 (working day 357) demolition work will start in full at the 5th floor.

At this session Mr. Foyle, Mr. Shaffer, Mr. Biganeiss and I began our initial diagramming and were able to complete the 5th, 4th, 3rd and 2nd floors of the C Wing. This network was manually computed and was sent to Mr. Foyle and Mr. Shaffer for their review. Copies were also furnished to Mr. Biganeiss, Mr. Hansen and Mr. Malin for reference.

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Grace Hospital Phase 2 Renovation
Page two**

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

With the current schedule which was compressed slightly from the A Wing, it appears that the C Wing can be completed for start of carpet at the 5th floor on October 15, 1976 (working day 458) on the 1975/76 calendar; (working day 203) on the 1976/77 calendar. Using a 15 working day turnover cycle allows second floor completion to start of carpet at December 20, 1976 (working day 503) 1975/76 calendar; (248) on the 1976/77 calendar.

First floor work is considerably different in the C Wing from the floors above. Therefore, the present intent is to work at the first floor when it is available and complete it along with the upper floors. The present target is to complete all work in the C Wing by December 20, 1976 (working day 503) on the 1975/76 calendar; (248) on the 1976/77 calendar.

This is a slightly tighter plan of work than for the A Wing but it is hoped that since most of the materials are presently on the job that a compression can be achieved. Mr. Foyle will review the network with the other contractors involved and I will be in touch with him to determine if any changes are required. After receiving approval from Mr. Foyle, I shall draft the network into final form and issue it for field use.

Ralph J. Stephenson, P. E.

**RJS
m**

**To: Mr. Milton Shaffer
Mr. Al Malin
Dr. G. B. Coles
Mr. Don Biganeles
Mr. Don Hansen**

July 9, 1976

Subject: Monitoring Report #10
Grace Hospital, Phase 2 Renovation
Detroit, Michigan

Project: 75:55

Date of Monitoring: July 7, 1976 (working day 387)

Starting date of work in Wing A: July 22, 1976 (working day 142)

Starting date for work in Wing C: May 24, 1976 (working day 357)

Monitored from Issue #1 for C Wing dated May 13, 1976

Actions taken:

- Reviewed project status with Mr. Foyle
- Inspected project
- Evaluated current job status

General Summary

Work at the C wing is now actively underway with demolition substantially complete at the 5th, 4th and 3rd floors. Demolition at the second floor is in work and should be complete by the end of this week. Openings have been broken in the 5th, 4th and 3rd floors. However, openings at the 2nd floor cannot be started until the first floor is vacated.

Coring is substantially complete at the 5th, 4th and 3rd floors. It also will start at the 2nd floor immediately upon vacation of the 1st floor.

It is quite important that the first floor be vacated and we had extensive conversations with Mr. Biganeiss regarding when he felt it could be accomplished. Most furniture for the remodeled first floor in the A wing is on the job or expected momentarily and most other areas needed to move from the C wing first floor are available. This move is underway and should be complete by Thursday evening, July 8, 1976. This will allow work to begin actively at the second floor supported slab on Friday, July 9, 1976 (working day 389).

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Grace Hospital Phase 2 Renovation
Page two**

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

At the 5th floor sheet metal ductwork and mechanical piping are substantially along and nearly complete. Hollow metal frames and studs including wall ripper board are to start July 14, 1976 (working day 392). This work was due to begin no later than July 1st, 1976 (working day 384). Therefore, the lag at the 5th floor presently is about 8 working days over late starts and finishes. It is expected this lag can be picked up as soon as work flow and continuity are established in the C wing.

It should be noted that above floor rough electrical work must be held until the risers are in place. Risers will begin as soon as the openings are cut through the second floor into the first floor.

At the fourth floor sheet metal ductwork is presently in fabrication and is due to start by July 14, 1976 (working day 392). Installation was due to begin no later than July 9, 1976 (working day 389). The lag at four in sheet metal is about 3 working days.

Horizontal mechanical piping has already started at the fourth floor.

No major above ceiling rough work has begun at the third floor. However, sheet metal ductwork is presently in fabrication and is expected on the job soon.

Work at the second floor is presently in demolition only, while at the first floor work is about ready to begin.

The current lag of from 3 to 8 working days should not cause any major delays so long as it is possible to get the first floor vacated and break-throughs started from the second floor immediately. This is essential to installation of risers and other vertical construction elements.

Present plans are to test piping work at the 4th, and 5th floors together from the third floor. This will allow partition work to proceed at the 4th and 5th floors at an early date. Testing is expected to begin at the 4th and 5th floors on July 13, 1976 (working day 391). This is slightly ahead of the projected schedule in Issue #1 of July 16, 1976 (working day 394).

**Monitoring Report #10
Grace Hospital Phase 2 Renovation
Page three**

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

The Issue #1 network for the C wing dated May 13, 1976 was distributed at the monitoring session. Two copies were given to Mr. Malin, six copies were given to Mr. Foyle who will distribute them to his office and I also left two copies with Mr. Foyle to give to the owner. The computer printout is presently being bound and this will be issued on Thursday, July 8, 1976 to the parties concerned.

Ralph J. Stephenson, P. E.

**RJS
m**

**To: Mr. Milton Shaffer
Mr. Al Malin
Dr. T. B. Coles
Mr. Don Biganeis
Mr. Don Hansen**

145:55
RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER

August 6, 1976

To:

Mr. Milton Shaffer
Mr. Al Malin
Dr. T. B. Cole
Mr. Don Bigandias
Mr. Don Hansen

Re: Monitoring Report #10

Grace Hospital, Phase 2 Renovation

It has been noted that on the above monitoring report the starting date of work in Wing A was listed as being July 22, 1976 (working day 142). This is an error. The starting date should be July 22, 1975 (working day 142). We trust that this has caused you no significant inconvenience.

Ruth C. Korman
Secretary

R

RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER

August 6, 1976

Subject: Monitoring Report #11
Grace Hospital Phase 2 Renovation (C Wing)
Detroit, Michigan

Project: 75:55

Date of Monitoring: August 4, 1976 (working day 407)

Starting date of work in Wing A: July 22, 1975 (working day 142)

Starting date of work in Wing C: May 24, 1976 (working day 357)

Monitored from Issue #1 for C Wing dated May 13, 1976 (working day 350)

Actions taken:

- Inspected project
- Reviewed project status with Mr. Foyle
- Evaluated current job progress

General Summary

As of August 4, 1976 (working day 407) the project lags by from 5 to 10 working days, primarily at the 5th, 4th and 3rd floors. This lag is due to difficulty in getting a full work pace underway at the C Wing. At the 5th floor studs are well along with in-wall mechanical and electrical work proceeding. Generally overhead work at the 5th floor is substantially complete. It is expected to start a full rock lath and gyp board operation on August 6, 1976 (working day 409). This was due to begin no later than July 30, 1976 (working day 404) which accounts for a 5 working day lag in wall board.

It is too early yet to determine whether this lag can be picked up. The present projected start of owner carpet at the 5th floor is being held at October 15, 1976 (working day 458) and further evaluation will be made against that at our next monitoring.

The 4th floor lag is about 9 working days in installation of rough sheet metal and electrical work. Studs at the 4th floor lag by about 5 working days. Here, there is a good chance that the major share of this lag will be recaptured within the next month although it would be better to hold an evaluation of this until our next monitoring. Currently we are targeting for a start of carpet date on the floor by the owner of November 5, 1976 (working day 473).

As of August 4, 1976 (working day 407) third floor lags by about 7 working days in start of sheet metal ductwork. Sheet metal is expected to begin on August 10, 1976 (working day 411). It was due to begin no later than July 30, 1976 (working day 404), thus accounting directly for the 7 working day lag. Target date for start of carpeting at the 3rd floor is November 29, 1976 (working day 488).

Second floor work is just getting underway with sheet metal in fabrication. There currently is no lag at this floor and if sheet metal can be delivered by its current target of August 17, 1976 (working day 416), the floor will be slightly ahead of schedule. Target start of carpet for the owner on this floor is December 20, 1976 (working day 503).

At the first floor demolition has been substantially completed and installation of new ceilings is in work. Mr. Foyle estimates that the remodeling at the first floor will probably take about 2½ months. Present completion is targeted for mid-October.

At the ground floor, the same target completion as for the first floor will be held for remodeling. Presently at the ground and first floors, ceilings have been all removed and work on above ceiling sheet metal plumbing and electrical work is underway.

At the penthouse, floors have been poured out in penthouses A and C. While inspecting the penthouse areas, it was necessary to travel on the roofs and quite noticeable was the condition of the base flashing and roofing in Wing A. Although my monitoring and evaluating job status does not encompass, as a general rule, a qualitative evaluation of building elements, here, some possible impact on scheduling future work was observed. If roof repairs are necessary and appear desirable, it would be wise to do these presently while the areas are open and free to ongoing construction operations. The roof over the A Wing does appear to have deteriorated over the years, probably through the impact of weather and other normal roof conditions. Since the entire A Wing has recently been remodeled inside, it perhaps would be prudent to consider completing any roof repairs now that might assist in keeping new interior work in good condition.

In summary, the project is currently moving fairly well with the lags at the 3rd, 4th and 5th floors ranging from 5 to 10 working days. Probably the entire project will be able to be completed at the C Wing by our present total target completion date although it may be that individual floors will be slightly late.

A better evaluation of this can be made at our next monitoring.

I shall be in touch with the appropriate parties to set the date of the next project review.

Ralph J. Stephenson, P.E.

RJS

R

To: Messrs. Shaffer, Malin, Bigancias, Hansen
Dr. T. B. Coles

September 2, 1976

Subject: Monitoring Report #12
Grace Hospital Phase 2 Renovation (C Wing)
Detroit, Michigan

Project: 75:55

Date of Monitoring: August 26, 1976 (working day 423)

Starting date of work in Wing A: July 22, 1976 (working day 142)

Starting date of work in Wing C: May 24, 1976 (working day 357)

Monitored from Issue #1 for C Wing dated May 13, 1976 (working day 350)

Actions taken:

- Inspected project
- Reviewed project status with Mr. Foyle
- Evaluated current job progress
- Prepared project status report for period from August 26, 1976 (working day 423) to October 10, 1976 (working day 448)

General Summary

As of August 26, 1976 (working day 423) the project lags from 4 to 16 working days with the lags being the greatest at the upper floors.

A brief review of each floor follows:

Fifth Floor

Target date for owner to start carpet - October 15, 1976 (working day 458)

Wall studs are substantially complete at the 5th floor with some board already hung at the ceiling levels. Hard ceiling suspension and frames are well along and it is expected that ceiling rock lath will begin Monday, August 30, 1976 (working day 425). This work was due to have started no later than August 6, 1976 (working day 409) which accounts directly for the maximum 16 working day lag. It does not appear presently that

this total lag can be recaptured although every effort will be made, of course, to do so. However, it is still the intent to complete the total project by the present target date of December 20, 1976 (working day 503) as the date for owner to lay carpet at the second level.

Fourth Floor

Target date for owner to start carpet - November 5, 1976 (working day 473)

The current lag at the 4th floor is about 8 working days, primarily in installation of hard ceiling suspension, frames and conduit. This work was due to begin by August 20, 1976 (working day 419). It should be well in work by September 1, 1976 (working day 427). Thus accounting directly for the 8 working day lag.

Third Floor

Target date for owner to start carpet - November 29, 1976 (working day 488)

The current lag at the 3rd floor is about 4 working days in installation of in-wall work at the studs. This work has just started. It was due to begin no later than August 20, 1976 (working day 419). Sheet metal ductwork also lags slightly at this floor but Mr. Foyle feels that it will not interfere with installation of wall work and hard ceiling suspension.

Second Floor

Target date for owner to start carpet - December 20, 1976 (working day 503)

The lag at the 2nd floor as of August 26, 1976 (working day 423) is about 7 working days primarily in the start of sheet metal ductwork. Installation was due to begin no later than August 20, 1976 (working day 419). It will begin on August 31, 1976 (working day 426). Rough horizontal electrical work and piping have already begun there so there is a possibility that some of this lag at the second floor can be recaptured.

First Floor

Target completion - mid October 1976

Remodeling of the first floor ceilings continues moving well. This work consists basically of replacing ceilings and general cleaning and patching of areas.

Ground Floor

Target completion - mid October 1976

At the ground floor work is proceeding on an as-needed basis since the area is being used presently for fill in. There should be no difficulty at this level meeting the current target date.

General

Overall, the project lags the Issue #1 targets by about 14 working days, primarily at the upper floors. The lag is of such nature that it might not be possible to totally recapture it. However, Mr. Foyie's goal presently is to bring the total project home by its target date irrespective of the fact that each individual floor above the second may be finished slightly later than its current projected target. Overall, the entire project should be brought to completion well within the contract limits.

As part of this monitoring a project status report was prepared for the period from August 26, 1976 (working day 423) to October 1, 1976 (working day 448). It should be noted that an interpretation of the project status report should be made in conjunction with the monitoring evaluation.

Ralph J. Stephenson, P. E.

**RJS
m**

**To: Mr. Milton Shaffer
Mr. Al Malin
Dr. T. B. Coles
Mr. Don Biganeiss
Mr. Don Hansen**

October 4, 1976

Subject: Monitoring Report #13

Grace Hospital Phase 2 Renovation (C Wing)

Detroit, Michigan

Project: 75:55

Date of Monitoring: September 28, 1976 (working day 445)

Starting date of work in Wing A: July 22, 1976 (working day 142)

Starting date of work in Wing C: May 24, 1976 (working day 357)

Monitored from Issue #1 for C Wing dated May 13, 1976 (working day 350)

Actions taken:

- **Inspected project**
- **Reviewed project status with Mr. Foyle**
- **Evaluated current job status**
- **Prepared project status report for period from September 28, 1976 (working day 448) to November 1, 1976 (working day 469)**

Summary

As of September 28, 1976 (working day 445) the project lags from 0 to 21 working days. At the lower levels, some slight pickup in time has been accomplished, which has brought the overall job back into fair alignment with the total completion date presently projected. At the upper floors the lag has increased slightly which means these floors will probably be delivered later than had been projected in the network planning.

A brief review of each floor follows.

Fifth Floor

Target date for owner to start carpet - October 15, 1976 (working day 458)

Skim coating has been completed and plaster is presently almost dry and ready for painting. Mr. Foyle reports painting will start September 30, 1976 (working day 447). This work was due to begin no later than August 31, 1976 (working day 426), which gives a projected lag of approximately 21 working days. Some of this time probably will be picked up and presently the projection is to complete the floor about 10 to 12 working days after the October 15th target. This would bring completion of the 5th floor to about November 1, 1976 (working day 469).

Fourth Floor

Target date for owner to start carpet - November 5, 1976 (working day 473)

The current lag at the 4th floor is about 10 working days primarily in the finishing up of skin coat plaster on rock lath. This is a slight increase in lag over the previous monitoring but probably can be picked up by some expediting of the following work. Generally the present goal is to finish this floor within 5 to 10 working days of the present target of November 5, 1976 (working day 473).

Third Floor

Target date for owner to start carpet - November 29, 1976 (working day 488)

The current lag at the 3rd floor is about 9 working days behind the present plan of work. This lag is primarily in installation of wall rock lath and gyp board. The lag is a slight increase over the previous lag but it appears that we will be able to finish this floor about 5 working days later than the target of November 29, 1976 (working day 488). This gives a completion date of December 6, 1976 (working day 493).

Second Floor

Target date for owner to start carpet - December 20, 1976 (working day 503)

The lag at the 2nd floor has been reduced to 0 in major tasks and work there is proceeding very well. Presently wall rock lath and gyp board are just starting with hard ceiling suspension well along. We are holding the target completion for the 2nd floor for all contractor work of December 20, 1976 (working day 503).

First Floor

Target completion - Now revised to early November 1976

Ceiling suspension is in work with the suspending grid and some of the T bars already installed. Because of the sizable amount of electrical work remaining, it was decided to set a slightly later target completion for turnover to the owner on this floor. Thus, the target has been revised from mid-October to early November. Mr. Foyle will set a specific date in conjunction with the owner and the architect/engineer.

Ground Floor

Target completion - Concurrent with the first floor

At the ground floor work continues on an as-needed basis with the area presently being used for fill in.

General

Overall, the project lags from 0 to 21 working days. However, the major lag is at the upper floors and it is the present intent to maintain the overall target completion date as set for the 2nd floor being ready for owner's carpet by December 20, 1976 (working day 503). As part of this monitoring, a project status report was prepared for the period from September 28, 1976 (working day 445) to November 1, 1976 (working day 469). This will be issued concurrently with the monitoring report.

Ralph J. Stephenson, P.E.

**RJS
m**

**To: Mr. Milton Shaffer
Mr. Al Mallin
Dr. T. B. Coles
Mr. Don Biganellas
Mr. Don Hansen**

November 6, 1976

Subject: Monitoring Report #14
Grace Hospital Phase 2 Renovation (C Wing)
Detroit, Michigan

Project: 75155

Date of Monitoring: November 3, 1976 (working day 471)

Starting date of work in Wing A: July 22, 1976 (working day 142)

Starting date of work in Wing C: May 24, 1976 (working day 357)

Monitored from Issue #1 for C Wing dated May 13, 1976 (working day 350)

Actions taken:

- Inspected project
- Reviewed project status with Mr. Foyle and Mr. Malin
- Evaluated current job status
- Prepared project status report for period from November 3, 1976 (working day 471) to December 3, 1976 (working day 492)

Summary

As of November 3, 1976 (working day 471) the project continues to lag although Mr. Foyle presently feels he will be able to complete the third and second floors substantially by December 23, 1976 (working day 506) for owner's carpet. Carpet was due to begin on the second floor no later than December 20, 1976 (working day 503). There is a possibility that work will extend on through to the beginning of 1977 since at the holidays, it is difficult to maintain a heavy work schedule, particularly while finishing up the job.

It should be pointed out that one of the major delays to occupying the floors has been difficulty in completing the south fan room. This fan room has a special fireproof ceiling and plastering of the ceiling has been difficult to complete. Presently, however, it is done and the hookup of the fan room is proceeding.

It is expected that the 5th and 4th floors can be turned over for occupancy by about November 24, 1976 (working day 486). Mr. Main pointed out that in the A wing, fire inspection was a problem and therefore, here notice has already been given to the fire marshall about completion dates for inspection. There is a sizable backlog of inspections pending for the marshall and it is still not possible to determine whether he will be able to make the inspection at the desired time.

At the lower floors the present goal is to complete the third and second floors by December 23, 1976 (working day 504) as mentioned above. At the first floor efforts are being exerted to complete by November 24, 1976 (working day 486). However, there is a sizable amount of piping and above ceiling rough mechanical work yet to do.

A brief review of each floor follows:

Fifth Floor

Target date for owner to start carpet - October 15, 1976 (working day 458)

This floor is near complete with cleaning presently in work. Mr. Foyle reports that owner's carpet is expected to start at the 5th floor Friday, November 5, 1976 (working day 473). It was originally due to begin no later than October 15, 1976 (working day 458) which gives about a 15 working day lag. Due to a revision in the type of base, the base will be installed after the carpet is laid. This should complete the floor well in time for the turnover on November 24, 1976.

Fourth Floor

Target date for owner to start carpet - November 6, 1976 (working day 473)

The current lag at the 4th floor is about 6 working days projected in start of carpet. Carpet was due to begin no later than November 5, 1976 (working day 473). Presently it is planned to begin by about November 15, 1976 (working day 479). Most major work is complete with painting being finished and all miscellaneous items needed to clean up and move off the floor presently in work.

Third Floor

Target date for owner to start carpet - November 29, 1976 (working day 488)

At the third floor the lag is currently about 32 working days in start of ceramic. Ceramic tile was due to begin no later than September 27, 1976 (working day 444). It will begin about November 10, 1976 (working day 476). However, Mr. Foyle feels that he can recapture enough of this lag so that carpet could begin before Christmas on the floor. This would bring the lag back to about 18 working days and allow the third and second floors to be turned over together.

Second Floor

Target date for owner to start carpet - December 20, 1976

The current lag at the second floor ranges from 3 to 17 working days. The major lag is in ceramic tile which was due to begin no later than October 18, 1976 (working day 459). It is planned to begin tile at this floor November 10, 1976 (working day 476). This accounts directly for the 17 working day lag. Mr. Foyle feels he can compress the scheduled work between now and presently planned turnover for carpet so the turnover point will be December 23, 1976 (working day 506). The original target turnover point was December 20, 1976 (working day 503).

First Floor

Target completion - Now revised to November 24, 1976 (working day 486)

This first floor target has again been revised because of the extensive work being encountered at the ceiling in installation of mechanical piping and other related trades. There have been some miscellaneous problems regarding the scope of work at the first floor and these are now resolved but did result in slight delays.

Ground Floor

At the ground floor work continues on an as-needed basis. There are no major present problems.

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

General

Overall the project lag has increased slightly at the lower floors although much of the very difficult work here has been substantially completed and the areas are about ready to move into finish trades. Mr. Foyle expects the lags noted above can be reduced as he completes each floor. Thus, target finishing now is aimed at December 23, 1976 for start of owner's carpet at the lower floors. This would be a lag of about 3 working days over our target completion.

It should again be pointed out that the contract completion date was in mid or late January. Thus, the project is still currently well in line with that contract completion target.

As part of this monitoring, a project status report was prepared for the period from November 3, 1976 (working day 471) to December 3, 1976 (working day 492). This will be issued concurrently with the monitoring report.

Ralph J. Stephenson, P.E.

RJS
m

To: Mr. Milton Shaffer
Mr. Al Malin
Dr. T. B. Coles
Mr. Don Biganeiss
Mr. Don Hansen

December 27, 1976

Subject: Monitoring Report #15
Grace Hospital Phase 2 Renovation (C Wing)
Detroit, Michigan

Project: 75:55

Date of Monitoring: December 22, 1976 (working day 505)

Starting date of work in Wing A: July 22, 1976 (working day 142)

Starting date of work in Wing C: May 24, 1976 (working day 357)

Monitored from Issue #1 for C Wing dated May 13, 1976 (working day 350)

Actions taken:

- Inspected project
- Reviewed project status with Mr. Foyle
- Evaluated current job status

Summary

As of December 22, 1976 (working day 505) the 5th and 4th floors have been occupied and carpet will start at the third floor as soon as the carpet layer can bring material and manpower on the job. At the second floor, it is expected to start carpet about January 5, 1977 (working day 514) and probably the floor will be ready for occupancy a week after. The target date for start of carpet at the third floor was November 29, 1976 (working day 488). Thus, the lag there is about 19 working days. The target date for completion of the second floor ready for carpet was December 20, 1976 and the job will now be at that point on January 5, 1977 (working day 514) which is a lag of about 11 working days. These were desired contractor target completions that had been set and it should be pointed out are slightly earlier than the contract completion dates of mid to late January. Thus, the project is being completed well within the contract limits.

The first floor was turned back to the owner for his work about December 1, 1976 (working day 490) and presently work at the ground floor is continuing in the corridor. This work also will probably be completed by the first week in January.

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RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

Since scheduling of construction in Wing C from here is on a day to day basis, I shall not monitor the job additionally unless special problems arise.

This brings to a close the monitoring of both the north and south wings, each of which was completed generally on schedule and in timely fashion. I would like to compliment the owner for his cooperation and assistance in both the construction and monitoring processes and to congratulate those on the design and construction team that did the actual work in the office and field. It has been a good job and was delivered well within the time limits required.

Please accept my best wishes for a pleasant and prosperous holiday season.

Ralph J. Stephenson, P.E.

RJS
m

To: Mr. Milton Shaffer
Mr. Al Malin
Dr. T. B. Coles
Mr. Don Biganese
Mr. Don Hansen