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July 7, 1984

Subject: Monitoring and Schedule Review of Madison Square (Circle) Office Building
Miami, Florida
Walbridge Aldinger - Darin and Armstrong

Project: 84:30

Date of Monitoring: July 2 & 3, 1984 (working day 129 & 130)

Actions taken:

- Inspected project with Mr. Don Greenwell Jr.
- Reviewed current status of project with Mr. Norm Hankala.
- Reviewed contract conditions.
- Prepared summary network model of building close-in (sheets 1 and 2, Issue #1, dated July 3, 1984 (working day 130).
- Prepared network model for interior finish work at typical floor (sheet 3, Issue #1, dated July 3, 1984 (working day 130).

General Summary

The project consists of a 12 story reinforced concrete office tower, linked to a reinforced concrete parking deck. The structural frames are both substantially complete with erection of exterior precast panels underway at each building. Rough interior mechanical and electrical work is also in works at all floors of the office tower. Some studs for dry wall have been erected at office lower levels.

Our main evaluation efforts concentrated upon determining the feasibility of meeting a liquidated damages date of Oct. 20, 1984 (working day 207), or in lieu of this to determine a date by which we could reasonably expect, under current progress conditions, to have the facility completed. Of necessity, the network modeling was done on a very broad basis, although, within the diagram it is possible to select major milestones of close-in and interior finish work.

Since Mr. Hankala was not available for the full session, Mr. Greenwell and I made certain assumptions about sequencing of the close-in work and assignment of durations which might not be totally in agreement with those projected by the field forces. However, it is our opinion that the overall plan of operation, shown on the network models reflect a method by which the facility could be closed in and the ground floor completed, even though slight difference in the sequence might be encountered as the project moved ahead.

There are several contractural problems on the project at this time. These include:

- The original contractor for concrete work is no longer on the job and his work is being finished by Ceco and Darin and Armstrong.

- The electric contractor currently on the project does not show a strong inclination to man the job, nor is the procurement status for items such as light fixtures and other electrical equipment clearly identified.

- The hard tile contractor has gone bankrupt and although pavers and ceramic tile for the job are now in storage on the project, there is no assurance that the number of units required for the project, are actually available. An audit has already been made and another audit is probably going to be made of ceramic and pavers to determine the needs of the job.

  It will be necessary to award a new labor contract for hard tile work and it might be appropriate to make the audit a part of this new contractor's work, allowing unit prices for additional units needed. This matter should be given immediate attention.

  In addition, the hard tile contractor will be given the assignment of installing the granite and a source of supply for granite is now being considered.

- The site work, excavation and fill contract must yet be relet. This contractor left the job and is no longer involved on the project.

- Site work concrete still remains to be done and arrangements must be formulated to have this work completed by a contractor as yet undetermined. We must also complete negotiation for installation of spray on insulation.

In addition to problems that deal with contractors, there are several unresolved change situations that must be given attention. Currently, there are approximately 14 bulletins that have not been quoted. Some of these bulletins date back to January, 1984 and their content is such that, in some cases, they are reasonably critical to job progress. It should be remembered that the length of time remaining on the job to the liquidated damages date is 77 working days from July 3, 1984 (working day 130). This is a very short period of time and therefore, makes all administrative work involving change extremely urgent. Also, there are about 6 zero-number extra work items that have not yet been resolved, dating back to foundation work for the structures.

A thorough review should be made of the bulletin log, copies of which were given to Mr. Don Greenwell Jr., and this entire bulletin situation and zero-numer document work should be cleared up immediately.

Mr. Hankala mentioned at one point in our discussion that the turnaround on review and approval by the architect is taking as much as two months on some submittals. This could be a very serious problem on bulletins yet to be quoted since undoubtedly there will be reviews and approvals necessary on submittals as well as on issuance of change orders by the architect/engineer. I strongly recommend the turnaround required be investigated, and a method worked out with the architect/engineer by which the turnaround on submittals of any type is reduced to a bare minimum.

This project has encountered a series of difficult business and construction difficulties which might possible give rise to contested claims of various types. Thus, Walbridge Aldinger - Darin and Armstrong should make certain that any potential difficult situations are well documented and that the docments are filed in a safe place.

Closely related to this matter is the present location and availability of key job documents. Apparently, the Darin and Armstrong bid set has not been located, although there are bid sets that were generally used by all contractors. However, the original proposal set from which the bid was prepared should be retrieved and put in a safe place.

Also, the as-built drawings are being kept in the job trailer. These consist of a set of blue line containing annotations, marks, notes, overlays, and paste-ons, and thus represent a very valuable set of documents. It is always questionable whether such documents should be kept in the job trailer. Also, it is generally advisable to keep the as-built updating on a set of mylar reproducibles so prints can be made. Thus, if something does happen to the job trailer or to the print set, the master set can be used to duplicate those damaged or destroyed. Due to the nature of this project and its sensitive situation, I recommend that all documentation on the project be kept in a safe place, preferably away from the job trailer.

On the network models we showed the activities that are in need of procurement attention with a shaded red note. These include:

- Cooling tower supports
- Curtain wall at various areas
- Steel stairs

- Cooling tower enclosure structure
- Louvers
- Handrails
- Window wall
- Pre-glazed sash
- Store front, stainless steel column covers, and cladding
- Glass spandrels
- Fountain elements
- Landscaping
- Granite
- Vinyl wall covering
- Linear diffusers
- Light fixtures
- Vanities
- Modular units at the ground floor
- Ceramic tile
- Wood doors
- Electrical panels and equipment
- Marble thresholds
- Skylights
- Window blinds
- Light pole relocation
- Landscaping components
- Hot water heater (if any)
- Hot water tank (if any)

In discussions with Mr. Hankala, it appears that there is considerable remedial work to be done on all concrete, including cast in place, and pre-cast. We have attempted to take this into account in our network model and although not totally identified, it appears we have made adequate allowance for patching, sandblasting, and realignment.

Using July 3, 1984 (working day 130) as a base date in the network model, at the first floor, the time to complete work through installation of landscaping, fountain, outside pavers, and ground floor interior finish work, brings the tentative completion to January 7, 1985 (working day 259). This assumes a duration of approximately 40 working days after the close-in of the building and the first floor, to do all interior finish work that must be protected from the weather at the ground floor. This finishing time might be a little long since the only major interior work to be done is at the public area. However, it is a high area and one that may require special attention. Therefore, it has been felt best to be conservative in our approach.

Another potentially difficult area to construct is the link between the garage and the office tower. This link, as at the entrance on the south, has several stepped back soffits which have hard ceilings. It may be necessary to scaffold the area, and work there will probably be slow, particularly if concurrent with front entrance work. We did not do any planning on this area but the consideration that it would be concurrent with other work in the building influenced our thinking about assignments of durations to the other work.

Activities on the project that seem to be critical and should be given special attention include:

- Erection of exterior precast on through installation of insulation and roofing.

- Removal of the tower crane and the personnel hoist which frees up completion of precast erection.

- Construction of slabs on grade, particularly at the outside soffit areas and the south entrance.

- Installation of ceiling work in the staggered high areas, which occur at the south entrance installation of store front, stainless steel column covers, cladding, and store front glass.

This leads us to a close-in point at the ground floor of about November 7, 1984. At each individual floor it appears the length of time it will take to finish the interior from start hanging wall and ceiling dry wall to clean up and move out is about 19 working days. We have assumed a turnover cycle of 5 working days, which means we will complete a floor every 5 working days in sequence, and have used the tentative close-in point, established by the installation of end wall bubble curtain wall insulation and roofing, lobby window wall, and north elevation pre-glazed sash as a starting point. This date is about September 17, 1984. Adding the time required to complete interior work gives us a completion of interior work at the typical floors from 2 through 12 of about December 24, 1984.

Again, this date is based upon projecting progress in the future at somewhat the same pace it has occurred in the past. Undoubtedly, there are some work areas that can be imporved upon but if improvement is to be assumed, steps will have to be taken immediately to bring the job strategy and operations into alignment with the schedule desired.

I strongly recommend the project be carefully evaluated and compared against our preliminary network model on 2 or 3 week intervals over the next 2 months. In addition, it would be very wise, on the preliminary network model sheets 1, 2, and 3, Issue #1, dated July 3, 1984 to confirm and revise as desired the logic and durations that were assigned.

Several job related items should be restressed and emphasized. Removal of the tower crane and the personnel hoist appear to be critical pivot points since they are located at places that prevent flexible mobile crane usage in erecting the pre-cast. Another element related to removal of the personnel hoist concerns installation of elevators. Elevator divider beames are just being installed and there is a considerable amount of shaft work yet to be done. Normally elevator work proceeds slowly until close-in of the shaft is accomplished. At present, of course, the Madison Circle shaft is open to weather. Therefore, it will be very important to determine from the elevator supplier and installer exactly when the work is to be done and when we can expect to have vertical transportation available in the building for personnel and materials.

Apparently, all elevator materials, including rails, door frames, doors, platforms, cabs, and machinery are on the project site. This should be checked to assure that there are no loose ends that will cause delays once we are ready to install and activate the elevators.

It is essential that permanent power be provided at an early date. There apparently is some difficulty in accomplishing this. I suggest the project team follow up on the matter of permanent power and set a fixed date as to when it must be available and then work towards achieving installation by that date.

Also soon, if not already, need will be had to connect into other utility lines at the site. The project team should make absolutely certain that these tie ins can be accomplished as needed and without delay.

In our review of the working drawings it was noted that there are 3 power poles to be relocated across the street from their present location. Since the street is a state highway, apparently 3 levels of government approvals must be obtained. With the potential electrical difficulties on the job, it would be well for the project staff of Walbridge Aldinger - Darin and Armstrong to address this matter early to insure something is being done about it now.

To be also noted that for the turnover cycle on interior finish work, a duration of 5 working days was used. The long duration items in the interior model are vanities and plumbing fixtures at 5 working days, ceramic tile floors and walls at 4 working days, and doors and hardware at 5 working days. Thus, we have generally assumed the turnover cycle to be a duration of the longest of these items. If there is any action that takes longer then it may tend to increase the turnover cycle. Also to be watched is installation of metal studs, hard ceiling suspension and in wall work. This work is estimated to take 6 working days per floor and at present, has only been completed at the lowest of the typical floors. Thus, if the work is delayed much longer it is conceivable that the turnover cycle may be set by the 6 working day duration rather than the 5 working day duration. However, it appears there is adequate time, if attention is given this matter now, to move into a 5 working day turnover cycle on the typical floor.

Again to be emphasized is that the project will require constant managerial attention and continuous monitoring to insure it is adhering to a plan of work that will bring it to the completion point desired. There is, in my opinion, some chance for compression of the times that have been assumed in our preliminary planning work. However, in order to improve on their times, it is imperative that careful planning of resources and integration of all contractors work with other trades be started on a more intense basis immediately.

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I shall be in touch with Mr. Greenwell shortly to determine if there is additional analysis work to be done. In the meantime, he has the network models and the updated procurement data sheets available for his and the company's use.

rjs/gmy

Ralph J. Stephenson, P.E.