

University of Michigan
Professional Studies Classroom Building
Flint, Michigan
Sorensen Gross - General Contractors
Monitoring Report #1

Ralph J. Stephenson, P.E.
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May 12, 2000

Monitoring Report #01: University of Michigan Professional Studies Classroom Building, Flint, Michigan

To: Bob Jesse, Jr. - Project Manager
From: Ralph J. Stephenson, P.E. - Consulting Engineer
Date of meeting: Tuesday May 9, 2000 (wd 601)
Location of meeting: Conference room at Sorensen Gross main office and job trailer at site

Current contract completion dates: October 26, 2001 P.M. (wd 976) -To be confirmed.

Monitored from: Network model, sheet #1, issue #5 dated April 11, 2000 (wd 581).

Those attending - listed alphabetically

Howard Inman - Project Superintendent - Sorensen Gross General Contractor
Bob Jesse - Project Manager - Sorensen Gross General Contractor
Frank Jobe - Vice President of Operations - Sorensen Gross General Contractor
Ralph J. Stephenson, P.E. - Consultant

Actions taken:

- Reviewed current job status with project team.
- Set agenda for monitoring evaluation #1.
- Inspected job with Mr. Inman.
- Prepared preliminary network model for Unit #2 sunshade.

Summary of current status of project as of May 9, 2000 (wd 601)

Site work

Installation of the west side site sanitary and storm sewers has been completed and east side storm sewers are about 60% complete. A bulletin for the work has been issued and priced for both sewer and water work. Its release is awaiting University of Michigan approval.

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May 12, 2000

Unit #1

Foundation work at Unit #1 is substantially complete except for the elevator pit and a portion of structural steel bracing which is to be enclosed with grade beam concrete. Mr. Inman said that this concrete encasement will be placed after structural steel for Unit #1 is erected, plumbed and bolted.

West half structural steel and metal deck in Unit #1 is erected and partially plumbed & trimmed. East half structural steel erection is just starting and is about 15 % complete. All structural steel erection is currently meeting target dates between early and late starts and finishes.

Metal deck in the east half of Unit #1 is about 40% installed and shear stud installation will start shortly.

Unit #2

Unit #2 foundation work is about 80% complete and lags late start and finish targets shown in the current network model. Mr. Inman said that additional elevator information is needed to complete Unit #2 foundations. This information is expected in the very near future. Mr. Inman said he plans to start full work on Unit #2 structural steel by about May 22, 2000. The current plan of work shows Unit #2 structural steel starting on May 25, 2000 (wd 613).

Unit #3

The unsuitable soil at Unit #3 has been removed and the excavation filled. The site is now ready to begin foundation work for Unit #3. Foundations will probably start about June 1, 2000. They have an early start of June 8, 2000 (wd 622) in the current plan of work,

Sunshade work at Unit #2

The project team began planning work on the sunshade at Unit #2 during this planning session. The preliminary network model is shown on sheet SS1, file number ix SS1 - Unit #2 - Sun Shade Plan of Work. The work plan shown on sheet SS1 is preliminary and should be reviewed carefully. There may be some difficulty in obtaining enough formwork to free up forms in the proper sequence so as to do work concurrently on two or more sections of the sunshade.

This can best be seen by preparing and analyzing a bar chart of the sunshade plan of

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May 12, 2000

work. The question that must be answered to get an good overview of the formwork sequencing is how many sets of scaffolds and forms must be available, and where will they come from to build the sunshade as it has been shown in the preliminary plan of work.

We should address this problem in detail as soon as possible, since close in of Unit #2 relates directly to erection of the sunshade and subsequent installation of sash and glass.

General Summary:

Foundation work and erection of structural steel is moving generally in conformance with Issue #5, dated April 11, 2000 (wd 581). There are some lags in excavation and in some foundation work. However the project team feels that they will be able to adhere to the current schedule of work for structural steel erection.

We prepared a preliminary plan of work for the Unit #2 sunshades and this network should be reviewed carefully to ensure that adequate formwork and scaffolding is available to meet the dates as planned.

I recommend that in our next planning session we check all project procurement activities to make certain that present delivery dates meet the full needs of the network model.

I shall be in touch with Mr. Bob Jesse shortly to set our next planning and monitoring date. Meanwhile this monitoring report is being sent to Mr. Jesse and he will make further distribution as he feels appropriate.

Ralph J. Stephenson, P.E.

University of Michigan
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Flint, Michigan
Sorensen Gross - General Contractors
Monitoring Report #2

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June 21, 2000

Monitoring Report #02: University of Michigan Professional Studies Classroom Building, Flint, Michigan

To: Bob Jesse, Jr. - Project Manager
From: Ralph J. Stephenson, P.E. - Consulting Engineer
Date of meeting: Friday June 16, 2000 (wd 628)
Location of meeting: Job trailer at site.

Current contract completion dates: October 26, 2001 P.M. (wd 976) -To be confirmed.

Monitored from: Close in network model, sheet #1, issue #5 dated April 11, 2000 (wd 581).

- Close in network - issue #5 dated April 11, 2000
- Interior networks - issue #5 dated April 11, 2000 - unit #1
- Interior networks - issue #5 dated April 19, 2000 - units #2 and #3
- Sunscreen network - issue #2 dated June 16, 2000 - unit #2

Those attending - listed alphabetically

Howard Inman - Project Superintendent - Sorensen Gross, General Contractor
Ralph J. Stephenson, P.E. - Consultant

Actions taken:

- Inspected project with Mr. Inman
- Monitored issue #5 close in and individual unit interior work.
- Reviewed procurement for all elements of the project.
- Discussed process of translating network into a computer data listing
- Started preparing monitoring report.

Summary of current status of project as of June 16, 2000 (wd 628)

• **Site Work**

Site work is proceeding as weather and building construction operations allow. However, we have not as yet prepared a full plan of site work. I recommend that at the next monitoring session we complete this important part of the planning work.

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Monitoring Report #2

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June 21, 2000

I shall discuss this with Mr. Jesse and Mr. Inman in the near future.

• Unit #1

Foundation work at Unit #1 is complete except for some grade beams and miscellaneous concrete work. To date this incomplete work has not delayed erection of structural steel and metal deck.

Cast stone base is now being installed at the first floor. Foundation work for the Unit #1 stair towers will be started during the week of June 19, 2000. This work was due to begin on an early start of June 15, 2000 (wd 627), and has a latest allowable start of June 28, 2000 (wd 636).

Installation of underground utilities and placement of fill at the first floor slab on grade is currently in work, and meeting dates within or ahead of planned early start and late start targets.

Concrete supported deck forming has moved well over the past month and Mr. Inman expects to make his first pour at the Unit #1 second floor on June 19, 2000 (wd 630). He further expects to pour out the second floor on June 22, 2000 (wd 633). The target date for the entire Unit #1 second floor deck pour is the PM of June 28, 2000.

Once a portion of the second floor concrete decks is complete, erection of exterior steel studs, in wall work and gyp board can start on the concrete deck. The target date for start of studs at Unit #1 is currently the A. M. of June 22, 2000 (wd 622). Mr. Inman says he is planning to meet that date.

Unit #2

Unit #2 structural steel erection is about 85% complete and the structure is partially plumbed, bolted and trimmed. Some metal deck erection has been started at Unit #2. The current target date for completion of all structural steel and deck at Unit #2 is the P.M. of July 28, 2000 (wd 658).

Unit #3

Foundation work at Unit #3 is about 50% complete and is currently meeting targets between early and late starts and finishes. Structural steel at Unit #3 has an early start of the A.M. of July 5, 2000 (wd 640).

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June 21, 2000

Sunshade work at Unit #2

Sunshade work at Unit #2 is currently planned to start about the A.M. of June 30, 2000. It is important to carefully plan construction of this element of the work so as to properly integrate it with the other Unit #2 structural work. We did not have time at this meeting to review the current network plan of the sunscreen in detail. I suggest that we do this at our next planning meeting

General Summary:

All major work is currently meeting target dates between early and late starts and finishes. Mr. Inman feels generally that the job progress will continue to be good in the immediate future.

As of this monitoring the network model, Issue #5, currently being used as the standard of performance, has not been officially issued to the project team. I strongly recommend that this be done in the near future so all parties to the project are working off the same plan of work.

I further suggest that the network models issued include the early starts and early finishes as well as the late starts and finishes. If it is desired by the project management to work to the early starts and finishes a note can be included on the network model to that effect, similar to the note regarding the use of float time.

I recommend we monitor the full project about once per month. Our next meeting, by this schedule of inspections should be held in mid July, 2000. I shall be in touch with Mr. Jesse and Mr. Inman in the near future to set the next monitoring date.

Meanwhile this monitoring report is being sent to Mr. Jesse and he will make further distribution as he feels appropriate.

Ralph J. Stephenson, P.E.

University of Michigan
Professional Studies Classroom Building
Flint, Michigan
Sorensen Gross - General Contractors
Monitoring Report #3

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July 24, 2000

Monitoring Report #03: University of Michigan Professional Studies Classroom Building, Flint, Michigan

To: Colin Tait - Vice President and Project Manager

From: Ralph J. Stephenson, P.E. - Consulting Engineer

Date of meeting: Wednesday July 19, 2000 (wd 650)

Location of meeting: Job trailer at site.

Current contract completion dates: October 26, 2001 P.M. (wd 976) -To be confirmed.

Monitored from: Close in network model, sheet #1, issue #5 dated April 11, 2000 (wd 581).

- Close in network - issue #5 dated April 11, 2000
- Interior networks - issue #5 dated April 11, 2000 - unit #1
- Interior networks - issue #5 dated April 19, 2000 - units #2 and #3
- Sunscreen network - issue #2 dated June 16, 2000 - unit #2

Those attending - listed alphabetically

Colin Tait - Vice President and Project Manager
Howard Inman - Project Superintendent - Sorensen Gross, General Contractor
Ralph J. Stephenson, P.E. - Consultant

Actions taken:

- Monitored issue #5 close in and individual unit interior work.
- Prepared draft of monitoring report.
- Updated i5 sheet 1, dated April 11, 2000 (wd 581) to i6, dated July 19, 2000 (wd 650)

Summary of current status of project as of July 19, 2000 (wd 650)

• **Site Work**

Site work is proceeding as issuance of bulletin #2 allows. Bulletin #2 was reviewed with the owner on Tuesday July 18, 2000 (wd 649) and verbal authorization to

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Monitoring Report #3

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July 24, 2000

proceed with the work is expected soon.

- Unit #1

Foundation work at Unit #1 is complete except for the stoop footings. These are not currently delaying field construction.

Cast stone base is about 95% complete at the first floor. Foundation work for the Unit #1 stair tower #2 is complete. Stair tower #1 foundations will be complete in about two weeks. Currently installation of these footings is meeting dates between desired early and late starts and finishes.

Installation of underground utilities and placement of fill at the first floor slab on grade is currently about 95% complete and is meeting dates between early and late starts and finishes. Stair tower #2 slab on grade has been poured out.

The first section of the first floor slab on grade at Unit #1 was poured out on July 19, 2000 (wd 650).

Concrete supported deck forming continues to move well and Mr. Inman has poured out the 2nd, 3rd and 4th supported decks. Penthouse floor will be poured out by the first week in August, 2000. The 2nd, 3rd, and 4th floor pours have met or bettered early starts. Penthouse floor work is about a week behind early finishes.

Exterior wall studs have been started at the second floor and should be able to continue without delay. In wall work, gyp board and spray on fireproofing will follow shortly.

Unit #2

Unit #2 structural steel erection is about 95% complete and the structure is partially plumbed, bolted and trimmed. Metal deck erection is about 80% complete. Unit #2 steel erection lags early starts by about 2 weeks, primarily due to delays in processing shop drawings.

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Monitoring Report #3

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July 24, 2000

Unit #3

Foundation work at Unit #3 is about 80% complete and is currently lagging desired dates by about 2 weeks.

Structural steel at Unit #3 is planned to start the A.M. of August 1, 2000 (wd 659). It is starting about 3 weeks later than planned due to delays in processing shop drawings. The lag may be possible to recapture in the field sequencing of construction of the structure and decks.

Sunshade work at Unit #2

No planning work was done on the Unit #2 sunshades at this meeting. Mr. Inman and Mr. Tait will review the logic plans prepared previously and update the sunshade networks in accordance with the construction decisions made in relation to the concrete frame. We will review the updated network before our next planning meeting. Work on the sunshades is expected to begin late in the week of August 1, 2000.

General Summary:

Most of the major project work is currently meeting target dates between early and late starts and finishes. However some lags are being experienced as noted above and procurement must be given ongoing and careful attention.

As of this monitoring the network model, Issue #5, is currently being used as the standard of performance. It has been updated and will be reviewed, revised as needed and issued for field use by the project team within the next week.

I recommend we continue to monitor the full project about once per month. Our next meeting, by this schedule of inspections will be held on Tuesday August 8, 2000 at the site. Meanwhile this monitoring report is being sent to Mr. Tait and he will make further distribution as he feels appropriate.

Ralph J. Stephenson, P.E.

University of Michigan
Professional Studies Classroom Building
Flint, Michigan
Sorensen Gross - General Contractors
Monitoring Report #4

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August 13, 2000

Monitoring Report #04: University of Michigan Professional Studies Classroom Building, Flint, Michigan

To: Colin Tait - Vice President and Project Manager

From: Ralph J. Stephenson, P.E. - Consulting Engineer

Date of meeting: Tuesday August 8, 2000 (wd 664)

Location of meeting: Job trailer at site.

Current contract completion dates: October 26, 2001 P.M. (wd 976) -To be confirmed.

Monitored from:

- Close in network model - sht #1, issue #6 dated July 19, 2000 (wd 650).
- Interior network unit #1 - sht - issue #5 dated April 11, 2000 (wd 581)
- Interior network unit #2 - sht 2U2 - issue #5 dated April 19, 2000 (wd 587)
- Interior network unit #3 - sheet # - issue #5 - dated April 19, 2000 (wd 587)
- Sunscreen network unit #2 - sheet SS1 - issue #3 dated August 8, 2000 (wd 664)

Those attending - listed alphabetically

Colin Tait - Vice President and Project Manager
Howard Inman - Project Superintendent - Sorensen Gross
Ralph J. Stephenson, P.E. - Consultant

Actions taken:

- Inspected project with Howard Inman
- Monitored issue #6 close in and individual unit interior work plans.
- Updated i6 close in sheet 1, dated July 19, 2000 to i7, dated August 8, 2000 (wd 664)
- Prepared draft of monitoring report.

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Monitoring Report #4

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August 13, 2000

Summary of current status of project as of August 8, 2000 (wd 664)

• Site Work

Site work is proceeding as issuance of bulletin #2 allows. It is currently assumed by the field forces that bulletin #2 will be approved as a change order by August 9, 2000 (wd 666). However this is currently an assumption made to allow modeling for the updated network sheet #2, issue #7 dated August 8, 2000 (wd 664).

• Unit #1

Currently foundation work at unit #1 is substantially complete and underground work is proceeding as revisions are being issued to the underground utility design. Currently underground work and other work related to total completion of foundation work and slab on grade work lags early and late starts and finishes in the issue # 6 network model by 10 to 16 working days.

Structural steel in unit #1 is almost complete except for miscellaneous opening framing around penthouse floor penetrations for sheet metal ductwork. This steel framing is planned to start about August 9, 2000 (wd 665).

Work is well along on the metal stud and gyp board exterior at the east elevation of unit #1. Stair tower masonry is also in work and the sequence of most exterior work will follow by elevation around the perimeter of the building.

Above floor rough mechanical work is in progress at the upper floors of unit #1 and is proceeding well in alignment between early and late starts and finishes. At our next monitoring meeting we will be better able to judge progress of rough mechanical and electrical work.

Perimeter spray on fireproofing is proceeding as allowed and required by progress of structural steel and exterior enclosure.

In summary, erection of the structural frame is proceeding fairly well, with the major lag of concern at present in the pouring out of the unit #1 first floor slab on grade. However most of the lag in the work currently should be able to be regained in the near future as work moves up in the building and around the perimeter of

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Monitoring Report #4

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August 13, 2000

unit #1.

Unit #2

Unit #2 structural steel erection is nearly complete, the structure is about 80% trimmed out, and metal deck and shear studs are about 50% complete. Work currently is slightly lagging dates between early and late starts and finishes. However Mr. Inman has discussed the erection sequence and schedule and it appears at present that unit #2 structural steel and unit #3 structural steel can proceed concurrently so as to achieve the targets set for dates between late starts and finishes for structure of the building.

Care must be taken however, in all units, to insure that the sequence of work after erection of the structure is planned follows very close to the current plan of work.

Unit #3

In unit #3 structural steel erection has started. The current plan of work is to complete erection of unit #3 steel by about August 15, 2000, plumbing and bolting about September 8, 2000, and completion of metal deck about September 20, 2000. This plan of work should put the erection of the structural steel frame at a point in the close in target to allow following work to proceed in accordance with the current plan of work over the winter months.

Sunshade work at Unit #2

At this planning session Mr. Inman, Mr. Tait and I replanned the sunshade work for unit #2. This updated network model is shown on sheet SS1 - issue #3 dated August 8, 2000 (wd 664). The plan of work still must be reviewed carefully since proper allocation of tradesmen and formwork will be essential to carry the work through the period presently being considered. Mr. Tait and Mr. Inman will review the plan of work proposed carefully over the next few days. We should validate the proposed work plan at our next monitoring meeting.

Presently work on the sunscreen is to start about mid August, 2000 and to continue through early December, 2000.

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Monitoring Report #4

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August 13, 2000

This is a very fussy piece of project work and must be constructed so as to follow the building work proper very closely and not interfere with the main sequence of work.

General Summary:

Major project work currently lags early and late starts and finishes in unit #1 by 10 to 16 working days. The lag is primarily in the floor slab on grade that has been held up by delays to installing underground utilities. Work in units #2 and #3 as measured by structural steel erection is generally meeting planned target dates. There are some miscellaneous lags from the plan of work, but these appear to be able to be made up over the next three to four weeks.

Close in work is moving well in unit #1, with the current sequence showing erection of the exterior skin by elevation. Sunscreen work in unit #2 is to begin in mid August and proceed concurrently with the major building construction.

I am presently translating the updated network models into an early and late start and finish listing and will send these to Mr. Tait in the near future for his distribution. I will also be in touch with Mr. Inman to set the date of our next field planning and monitoring meeting.

The planning and monitoring information derived from this meeting was transferred and given to Mr. Inman on a disk for his and for Mr. Tait's use. This monitoring report is being sent to Mr. Tait for further distribution as he feels appropriate.

Ralph J. Stephenson, P.E.

University of Michigan
William S. White
Professional Studies Building
Flint, Michigan
Sorensen-Gross General Contractors
Monitoring Report #5

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October 24, 2000

Monitoring Report #05: University of Michigan - William S. White Professional Studies Classroom Building, Flint, Michigan

To: Colin Tait - Vice President and Project Manager

From: Ralph J. Stephenson, P.E. - Consulting Engineer

Dates of meeting: Tuesday October 17, 2000 (wd 713) and Thursday October 19, 2000 (wd 715)

Location of meeting: Job trailer at site and Sorensen-Gross office.

Current contract completion dates: October 26, 2001 P.M. (wd 976) -To be confirmed.

Monitored from:

- Close in network model - sht #1, issue #7 dated August 8, 2000 (wd 664).
- Interior network unit #1 - sht 2U1 - issue #5 dated April 11, 2000 (wd 581)
- Interior network unit #2 - sht 2U2 - issue #5 dated April 19, 2000 (wd 587)
- Interior network unit #3 - sht 2U3 - issue #5 - dated April 19, 2000 (wd 587)?
- Sunscreen network unit #2 - sht SS1 - issue #3 dated August 8, 2000 (wd 664)

Above dates to be verified.

Those attending

Colin Tait - Vice President and Project Manager
Howard Inman - Project Superintendent - Sorensen Gross
Ralph J. Stephenson, P.E. - Consultant

Actions taken:

October 17, 2000 (wd 713)

- Inspected project with Howard Inman.
- Monitored issue #7 close in.
- Discussed agenda for Thursday October 19, 2000 (wd 715) agenda

October 19, 2000 (wd 715)

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October 24, 2000

- Updated sheet #1, issue #7 close in, dated July 19, 2000 to issue #8, dated October 19, 2000 (wd 715).
- Updated sunshade network model sheet SS1, issue #3 to issue #4 dated October 19, 2000 (wd 715).

Summary of current status of project as of October 17, 2000 (wd 713).

• Site Work

Site utilities have proceeded well over the past few weeks and the site sanitary sewers, storm sewers and electrical feeds are substantially complete. Gas and water site utilities are yet to be installed.

Site grading is still being partially held to allow access as required for close in and rough trades at all units. I suggest we review the general sequencing for site work at our next planning and monitoring session. It would be appropriate to discuss how much close in work must be done to properly prepare for winter weather so that as close in proceeds, site work can be installed concurrently. I shall discuss this with Howard Inman and Colin Tait in the near future.

• Unit #1

As of October 17, 2000 (wd 713) structural steel and metal deck in Unit #1 is substantially complete. Installation of exterior wall studs, gyp board and masonry is meeting major targets between early and late starts and finishes. The first floor slab on grade is almost complete and supported decks at levels 2, 3, 4 are poured out. Equipment bases at the penthouse floor are installed and penthouse equipment is being set.

Spray on fireproofing is sequencing closely with exterior skin work and rough mechanical and electrical above ceiling work.

Rough overhead work at all floors is in progress and installation of interior metal studs is following closely. Most rough above floor work is currently meeting targets between early and late starts and finishes. However it will be important to insure that installation of dry wall, which signals the start of interior finish work, begins just as quickly as adequate close in protection is complete.

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Monitoring Report #5

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October 24, 2000

Stair towers are being constructed as part of the exterior wall system and stairs are being installed as allowed by stair tower structures. Stair treads are being filled temporarily as the stairs are erected. This allows most floors in the building to be reached by stairs.

Window installation is planned to start on Monday October 23, 2000 (wd 717) and will follow the studs, dry wall and masonry around the building.

Unit #2

Unit #2 structural steel, metal deck, and concrete slabs are substantially complete at the 2nd, 3rd and 4th floor. The first floor slab on grade at Unit #2 is lagging early and late starts and finishes by 11 to 17 working days. However it is possible that some revisions to the logic and durations will allow a portion of this time to be recaptured.

At exterior walls close in elements and spray on fireproofing are being installed concurrently.

The sunshade structure is being constructed at Unit #2 and columns to the sunshade have been poured out. There have been some corrections needed to the color in one of the columns. This matter is being resolved between the architect and the contractors involved. We are currently replanning the sequence of sunshade construction and at our next meeting the intent is to reach agreement on a plan of construction that is to be followed in the immediate future.

Unit #3

Unit #3 structural steel is 90% complete, metal deck is 50% complete and installation of underground utilities at the first floor is about 20% complete. At present the estimated lag of work at Unit #3 over late starts and late finishes is between 30 and 33 working days. It was noted in our monitoring that some Bulletin #5 work restrains pouring out the first floor slab on grade. This restraint is being reviewed at present and its resolution should help bring the work at Unit #3 partially back into line with the desired work plan.

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October 24, 2000

At our next planning and monitoring session Mr. Tait, Mr. Inman and I will concentrate on the close in and interior building work at Units #2 and #3 along with sunshade construction. Meanwhile it is essential that the close in be accomplished as quickly as possible since interior work must be continued over the winter months.

General Summary:

The current major lag is in completing Unit #3 close in work and pouring out the slab on grade. Other areas of the project also lag slightly but some of these work work can be regained if the weather holds good for a few more days.

At our next meeting Mr. Inman and I plan to update the close in and interior work for Units #1 and Unit #2. In addition we will try to complete updating the sunshade work and recheck the interconnections between the three units. Tentatively our next meeting is scheduled for 8:30 A.M. on Thursday, November 9, 2000 (wd 730) at the job site. I shall call Mr. Inman shortly to confirm this date with him.

This monitoring report is being sent to Mr. Tait for further distribution as he feels appropriate.

It should be noted that the project staff revisited and updated the charter for the project on October 20, 2000 (wd 716). Details of the meeting, those attending, and a copy of the updated charter have been distributed by Mr. Robert Jesse of Sorensen-Gross to project team members.



Ralph J. Stephenson, P.E.

University of Michigan
William S. White
Professional Studies Building
Flint, Michigan
Sorensen-Gross General Contractors
Monitoring Report #6

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e-mail ralphjs@gte.net
November 20, 2000

Monitoring Report #06 University of Michigan - William S. White Professional Studies Classroom Building, Flint, Michigan

To: Colin Tait - Vice President and Project Manager

From: Ralph J. Stephenson, P.E. - Consulting Engineer

Date of meeting: Friday November 10, 2000 (wd 731)

Location of meeting: Job trailer at site.

Current contract completion date: October 26, 2001 P.M. (wd 976) -To be confirmed.

Monitored from:

- Close in network model - sht. #1, issue 8 dated October 19, 2000 (wd 715).
- Master sheet interior network unit #1 - sht. 2U1 - issue #5 dated April 11, 2000 (wd 581)

Those attending

Colin Tait - Vice President and Project Manager
Howard Inman - Project Superintendent - Sorensen Gross
Ralph J. Stephenson, P.E. - Consultant

Actions taken:

- Inspected project with Howard Inman.
- Monitored issue #8 close in network model
- Monitored issue #5 U1 - master sheet interior work plan for unit #1
- Updated issue #8 close in network model, to issue #9 dated November 10, 2000 (wd 731).

Summary of project status as of November 10, 2000 (wd 731).

• **Site Work**

Site utilities are being installed as site space becomes available and construction interference problems are resolved. We plan to review the sequencing for remaining site work at our next planning and monitoring session.

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November 20, 2000

There was some discussion at this meeting about the location of the under river utility work connecting the existing campus facilities to the new William S. White Professional Studies Building. We should attempt to gain some additional information about this connection, and if appropriate, add it to the close in network model at our next meeting.

• **Unit #1**

As of November 10, 2000 (wd 731) erection of exterior masonry is in work on the north and west elevations with major activities currently meeting dates between early and late starts and finishes. Installation of sash and glass has been started on the east elevation. The close in objective was to have as much sash and glass installed by the start of winter weather. However winter has arrived early this year and temporary protection of window openings will be installed as it is necessary in Unit #1.

Structural steel, metal deck and steel floor studs are substantially complete in units #1 and #2 and near completion in unit #3. Stair treads in Unit #1 are being poured out and should be complete soon. Although stair tread fill is currently lagging early and late starts in Units #1 and #2 this activity was locked into desired late finish dates and is not presently impeding interior work progress.

Unit #1 roofing and walls are at a point where the building is substantially closed to the weather at the roof. Exterior walls of the penthouse are about 75% complete.

Spray on fireproofing at lower floors is still being integrated with the installation of rough interior mechanical and electrical work. Interior trades are working around spray on operations as needed.

Rough overhead and above floor work at all levels is in progress and installation of interior metal studs is following closely. However the project team is still working on the interior plans of work for Unit #1 and will address sequencing of interior work of these floors in our next planning session. This meeting will be held in early December, 2000 with Mr. Tait and Mr. Inman. At that time we should have adequate information about the close in operations to set the starting and turn over cycles for all floors in Unit #1.

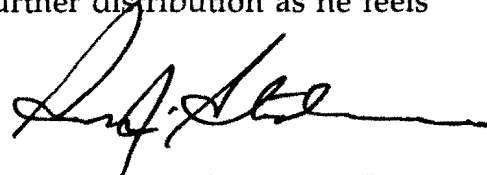
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November 20, 2000

General

Time did not permit a full evaluation of Units #2 and #3 nor did it allow an accurate assessment of the current status of the sunshade work at Unit #2. Mr. Inman and I have discussed the need for an intensive session to complete all elements of the project and current plans are to have this session in early December, 2000. We hope to complete all planning for the project at this conference. I shall be in touch with Mr. Inman and Mr. Tait in the very near future to set firm dates for this planning and scheduling work.

Monitoring report #6 is being sent to Mr. Tait for further distribution as he feels appropriate.



Ralph J. Stephenson, P.E.

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Monitoring Report #7

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February 14, 2001

Monitoring Report #07 University of Michigan - William S. White Professional Studies Classroom Building, Flint, Michigan

To: Colin Tait - Vice President and Project Manager

From: Ralph J. Stephenson, P.E. - Consulting Engineer

Date of meetings: Thursday and Friday December 7 and 8, 2000
Friday December 15, 2000
Tuesday February 6, 2001
Tuesday February 13, 2001

Location of meetings: RJS office in Mt. Pleasant, Michigan and job trailer at site in Flint, Michigan.

Current contract completion date: October 26, 2001 P.M. (wd 976) -To be confirmed.

Network models used to monitor progress:

- Close in network model sheet #1 - issue #12a monitored 02/06/2001 (wd 795)
- Master plan interior work sheet U1 - issue #7 monitored 12/08/2000 (wd 750)
- Master plan interior work sheet U2 - issue #7 monitored 02/06/2000 (wd 790)
- Interior work - sheet U3 - issue #7 02/13/2001 (wd 795)
- Sunshade work - sheet SS1-U2 - issue #3 monitored 02/06/2001 (wd 795)

Network models currently in effect (all updated at planning meeting on February 13, 2001 (wd 795):

- Close in network model sheet #1 - issue #13 dated February 13, 2001 (wd 795)
- Master plan interior work sheet U1 - issue #8 dated February 13, 2001 (wd 795)
- Master plan interior work sheet U2 - issue #8 dated February 13, 2001 (wd 795)
- Interior work - sheet U3 - issue #7 dated February 13, 2001 (wd 795)
- Sunshade work - sheet SS1-U2 - issue #4 dated February 13, 2001 (wd 795)

Those attending (note: Mr. Tait attended selected portions of meetings)

Colin Tait - Vice President and Project Manager
Howard Inman - Project Superintendent - Sorensen Gross
Ralph J. Stephenson, P.E. - Consultant

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February 14, 2001

Actions taken:

- Inspected project with Howard Inman and Colin Tate.
- Monitored building close in
- Monitored interior work at unit #1
- Monitored interior work at unit #2
- Monitored interior work at unit #3
- Monitored sunshade work progress
- Updated full set of network models for the following components of the project:
 - Close in - sheet #1
 - Master plan interior work sheet U1
 - Master plan interior work sheet U2
 - Interior work - sheet U3
 - Sunshade work - sheet SS1-U2

Summary of project status as of February 13, 2001 (wd 795)

• **Site Work**

Site work was not fully monitored at this series of project inspections and updatings. Full site work network models have not yet been prepared for the site work. I suggest that we discuss the information needed to plan site work in a near future planning and monitoring session.

• **Unit #1**

As of February 13, 2001 (wd 795) work on exterior masonry, sash, glass, curtain wall and roofing trim is continuing. The building is substantially closed to weather and finish trades are being installed at all floors, including hanging dry wall, installing interior sash framing, completing above ceiling rough mechanical and electrical work, and framing ceiling drops and soffits.

Mr. Inman and I reviewed the floor turnover cycles in detail and at this point in time the following completion dates have been set for the floors in Unit #1:

From issue 7 dated February 13, 2001 (wd 795)

Unit 1, floor 2 final clean - Complete pm July 25, 2001 (wd 910)

Unit 1, floor 3 final clean - Complete pm August 27, 2001 (wd 933)

Unit 1, floor 4 final clean - Complete pm September 12, 2001 (wd 944)

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February 14, 2001

Unit 1, floor 1 final clean - Complete pm September 26, 2001 (wd 954)

• **Unit #2**

As of February 13, 2001 (wd 795) work at Unit #2 is focussed on sunshade work which, as it is completed, will free up building close in work to be proceed. Sunshade work has encountered several delays which have made sequenced construction difficult to maintain. However Mr. Inman and Mr. Tait have established a pattern of work as shown in the issue #4 network for the sunshade that can be used to continue analyzing the work with the purpose of completing the sunshade roofing at an earlier date than presently shown. This will also allow an earlier completion of the Unit #2 close in.

The following completion dates have been tentatively set for the floors in Unit #2 based on sunshade information currently available:

From issue 7 dated February 13, 2001 (wd 795)

- Unit 2, floor 1 turn over - PM December 26, 2001 (wd 1017)
- Unit 2, floor 2 turn over - PM November 30, 2001 (wd 1000)
- Unit 2, floor 3 turn over - PM November 12, 2001 (wd 987)
- Unit 2, floor 4 turn over - PM November 14, 2001 (wd 989)

As noted above the project team will continue to review the current target dates with the objective of expediting sunshade work that affects turnover dates for Unit #2 floors.

In our updating of Unit 2 Mr. Inman reviewed the commissioning elements he had discussed with Mr. Tait. We added these tasks to the Unit 2 network models and also made other miscellaneous revisions to the networks suggested by Mr. Tait.

• **Unit 3**

Interior work at Unit 3 has been slowed by weather conditions. Slab on grade installation is presently planned to start with underground utility work in mid March 2001. Underground work will be followed by placing the vapor barrier and the radiant heating piping. Placement of the slab on grade is currently planned to start on May 1, 2001 (wd 850). Placing the slab on grade will allow work to proceed on above-ceiling rough work and spray on fireproofing at the Unit 3 first floor.

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February 14, 2001

Roofing work at Unit 3 will continue as weather conditions allow, with the present target for completion of the roof flashing and trim planned to be in place in mid May 2001. Completion of Unit 3 is currently set for November 19, 2001 (wd 992).

• **General:**

Overall Unit 1 is moving fairly well with interior work at Unit 1 falling into a sequence of work that moves from the 2nd floor to the 3rd, to the 4th and then out of the building on level 1.

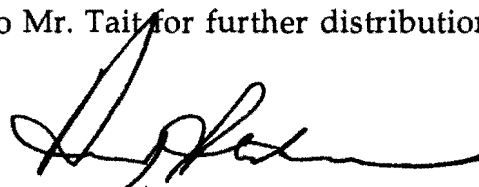
A strong effort is to be made in the next few weeks to expedite sunshade work to allow full close in of Unit 2 to be completed at an earlier date than presently planned.

In Unit 3 the key to unlocking major interior work is getting the slab on grade work in process as soon as possible and concurrently putting the building in the dry.

Mr. Inman plans to concentrate his immediate efforts on regaining a suitable interior floor finish sequencing for Unit 2 and Unit 3. This is very important to completing the project by the present completion targets.

I gave Mr. Inman a disk containing all of the updated network models. He will review these with the Sorensen-Gross staff, and print and distribute them to his subcontractors. I shall be in touch with Mr. Inman and Mr. Tait shortly to set the next date to monitor the project at the job site. I shall also obtain any comments that may require further revision of the job plan of action.

This monitoring report #7 is being sent directly to Mr. Tait for further distribution as he feels appropriate.



Ralph J. Stephenson, P.E.

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Monitoring Report #8

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April 2, 2001

Monitoring Report #08 University of Michigan - William S. White Professional Studies Classroom Building, Flint, Michigan

To: Colin Tait - Vice President and Project Manager
From: Ralph J. Stephenson, P.E. - Consulting Engineer

Date of meetings: Tuesday March 27, 2001 (wd 825)

Location of meetings: Job trailer at Flint, Michigan site.

Current contract completion date: October 26, 2001 P.M. (wd 976) -To be confirmed.

Network models used to monitor progress:

- Close in network model sheet #1 - issue #12a
- Master plan interior work sheet U1 - issue #7
- Master plan interior work sheet U2 - issue #7
- Interior work - sheet U3 - issue #7
- Sunshade work - sheet SS1-U2 - issue #3

Network models currently in effect (as updated at planning meeting on February 13, 2001) (wd 795): to be reviewed.

- Close in network model sheet #1 - issue #13R dated March 2, 2001 (wd 808)
- Master plan interior work sheet U1 - issue #8 dated February 13, 2001 (wd 795)
- Master plan interior work sheet U2 - issue #8 dated February 13, 2001 (wd 795)
- Interior work - sheet U3 - issue #7 dated February 13, 2001 (wd 795) - not updated
- Sunshade work - sheet SS1-U2 - issue #4R dated March 2, 2001 (wd 808)

Those attending

Colin Tait - Vice President and Project Manager
Howard Inman - Project Superintendent - Sorensen Gross
Ralph J. Stephenson, P.E. - Consultant

Actions taken:

- Monitored building close in
- Monitored interior work at unit #1
- Monitored interior work at unit #2

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April 2, 2001

- Monitored interior work at unit #3
- Monitored sunshade work progress
- Updated full set of network models for the following components of the project:
 - Close in - sheet #1
 - Master plan interior work sheet U1
 - Master plan interior work sheet U2
 - Sunshade work - sheet SS1-U2

Summary of project status as of March 27, 2001 (wd 825)

Site Work

Mr. Inman has prepared a template for the site work: However time did not permit using the template to prepare a full network model of the site job sequencing. We plan to prepare site networks at our next inspection and monitoring session.

Sheet 1, Structure & Close In Network for Units #1, 2 & 3, issue #8, dated February 13, 2001 (wd 795)

As of March 27, 2001 (wd 825) work on major exterior masonry, sash, glass, curtain wall, and roofing and trim is continuing. Some building areas are partially closed to weather and finish trades are being installed at many floors, particularly in Unit #1, including hanging dry wall, installing interior sash framing, completing above ceiling rough mechanical and electrical work, installing acoustic tile, installing ceramic tile, and framing ceiling drops and soffits.

In Unit #3 work on the slab on grade is in progress and the current objective is to be able to move on the first floor for interior work by May 1, 2001 (wd 850). It should be noted that a detailed review of Unit #3 interior work was not made at this monitoring since major interior work is not planned to begin until May 1, 2001 (wd 850)

Unit #1 - sheet U1, issue #8, dated February 13, 2001 (wd 795)

Second Floor - Unit #1

Second floor interior work at Unit #1 is currently meeting targets between early and late starts and finishes. Most overhead rough mechanical and electrical work is complete, and installation of the second floor acoustic ceiling suspension and grid is

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April 2, 2001

well along, and is currently meeting dates between early and late starts and finishes. Installing ceiling grills and diffusers, light fixtures, and sprinkler heads is meeting targets between early and late start and finish dates, and installation of toilet room vanities, and plumbing fixtures is slightly ahead of early starts and finishes.

Third Floor - Unit #1

Interior rough work at the third floor is currently meeting target dates between early and late starts and finishes. Interior finish installation at ceilings is meeting major dates between early and late starts and finishes. Toilet room ceramic tile is substantially complete and installation of toilet room vanities and fixtures is about to begin.

Fourth Floor - Unit #1

Fourth floor work is meeting construction targets between early and late starts and finishes. Acoustic ceiling installation is moving well and with the current progress light fixtures and other ceiling trim work should be able to meet projected targets between early and late starts and finishes.

First Floor - Unit 1

First floor interior gyp board and acoustic ceiling work in Unit #1 is meeting major dates between early and late starts and finishes.

Unit #2 - sheet U2, issue #8

Completing the Unit #2 close in work is dependent on completing portions of the sunshade work. This construction element is now moving toward completion which will free up exterior close in and rough and finish interior work at Unit #2. The target date for this milestone in sunshade work is presently set for June 25, 2001 (wd 886). It represents a major date to be achieved for closing in Unit #2 and being able to work with continuity between Units #1 and #2.

Sunshade Work

Current work on the sunshade is being concentrated on completing all concrete pours and getting the sunshade work to a point where building close in can be completed in all units. The sunshade has been a major pivot point in tying Units #1, 2, and 3 together and allowing work continuity for all three structure. Provided the weather holds reasonably well Mr. Inman feels this major structural feature of the project should be completed about mid-May, 2001.

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April 2, 2001

Unit 3

Slab on grade work is just starting with installation of underground utility work. Underground work will be followed by placing the vapor barrier and the radiant heating piping. Pouring the slab on grade is currently planned to start on May 1, 2001 (wd 850). Placing the slab on grade will allow work to proceed on above-ceiling rough work and spray on fireproofing at the Unit 3 first floor.

Roofing work at Unit 3 is in work with the present target for completion of the roof flashing and trim planned to be in place in mid May 2001. Completion of Unit 3 is currently set for November 19, 2001 (wd 992).

General:

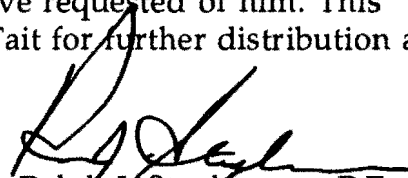
Work on the total building project is now moving relatively well, with site work being planned to be started in the near future.

Unit 1 continues to progress well with interior work at Unit 1 still sequenced from the 2nd floor to the 3rd, to the 4th and then out of the building on level 1.

Sunshade work is being expedited to the greatest degree possible so as to tie the three building units together and complete close in as rapidly as possible.

Unit 2 interior work is proceeding as rapidly as permitted by progress at the sunshade. In Unit 3 the key to unlocking major interior work still is getting the slab on grade work completed as soon as possible while concurrently putting the building in the dry. Mr. Inman is concentrating his major efforts in maintaining a suitable interior floor finish sequencing for Units 2 and 3. This is very important to completing the project by the present completion targets.

I have provided Mr. Tait with disks containing a set of monitored network models and a set of updated network models. This should allow him to provide the University of Michigan with the materials they have requested of him. This monitoring report #8 is being sent directly to Mr. Tait for further distribution as he feels appropriate.



Ralph J. Stephenson, P.E.

99.18

University of Michigan
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Monitoring Report #9

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April 27, 2001

Monitoring Report #09 University of Michigan - William White Professional Studies Classroom Building, Flint, Michigan

To: Colin Tait - Vice President and Project Manager
From: Ralph J. Stephenson, P.E. - Consulting Engineer

Date of meetings: Tuesday April 24, 2001 (wd 845)

Location of meetings: Job trailer at Flint, Michigan site.

Current contract completion date: To be reviewed.

Network models used to monitor progress:

- Close in network model sheet #1 - issue #14 - dated March 27, 2001 (wd 825)
- Master plan interior work sheet U1 - issue #9 - dated March 27, 2001 (wd 825)
- Master plan interior work sheet U2 - issue #9 - dated March 27, 2001 (wd 825)
- Interior work - sheet U3 - issue #7 - dated February 13, 2001 (wd 795)
- Sunshade work - sheet SS1-U2 - issue #5 - dated March 27, 2001 (wd 825)

Those attending

Howard Inman - Project Superintendent - Sorensen Gross
Ralph J. Stephenson, P.E. - Consultant

Actions taken:

- Monitored project from network models listed above.
- Inspected project with Mr. Inman.
- Prepared site network model from template prepared by Mr. Inman.

Summary of project status as of April 24, 2001 (wd 845)

Site Work

Mr. Inman and I prepared a site plan construction model from a template Mr. Inman had assembled last month. Mr. Inman will review this model with Mr. Tait and the subcontractors, confirm the logic, make changes as needed, and assign durations in the near future.

Once he has completed the model he will send it to me for review and printing to be used as a monitoring document.

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April 27, 2001

Sheet 1, Structure & Close In Network for Units #1, 2 & 3

As of April 24, 2001 (wd 845) miscellaneous close in work on the project is continuing with glass at the serpentine wall in unit #1, and installation of elevator lobby curtain wall framing at unit #2. Close in work for unit #2 is still dependent on additional work at the sunscreen structure. This work is in progress and is meeting most target dates between early and late starts and finishes. The sunscreen work is still an area that must be continually expedited so that the unit #2 close in and interior work can proceed in sequence from unit #1 to #2 to #3.

At unit #3 slab on grade is proceeding well with the vapor barrier and the radiant heating piping being installed to allow a slab pour date in early May, 2001. Installation of the slab on grade will unlock installation of stud and masonry walls at unit #3 along with roofing and other miscellaneous close in and finish items.

Overall the structure and close in is meeting major targets between early and late starts and finishes.

Unit #1 - sheet U1

Second Floor - Unit #1

Currently second floor interior work at Unit #1 lags the plan of action by five to seven working days. This lag is measured against the current early finish target date for the second floor of the P.M. of 07/18/01 (wd 905). Installation of acoustic ceiling grid and tile is the trade that shows a high potential for extensive overlapping at all floors.

The need at present is to bring the interior environment of the building to a point where the temperature and humidity of the buildings will allow installation of finish trades, particularly acoustic work, without damage to installed materials.

Third Floor - Unit #1

Interior work at the third floor of unit #1 is currently meeting target dates between early and late starts and finishes.

Fourth Floor - Unit #1

Fourth floor work is meeting construction targets between early and late starts and finishes.

First Floor - Unit #1

First floor interior gyp board and acoustic ceiling work in Unit #1 is meeting major

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April 27, 2001

dates between early and late starts and finishes.

Unit #2 - sheet U2

All floors

Unit #2 close in work is dependent on completing portions of the remaining sunshade work. This construction element is now moving toward completion which will free up exterior close in and rough and finish interior work at Unit #2. The target date for this milestone in sunshade work is presently set for June 25, 2001 (wd 886). It represents a major date to be achieved to allow closing in Unit #2 and being able to work with continuity between Units #1 and #2.

Sunshade Work

Current work on the sunshade is being concentrated on completing all concrete pours and getting the sunshade work to a point where building close in can be completed in all Units. The sunshade has been a major pivot point in tying Units #1, #2, and #3 together and allowing work continuity to be maintained at all three structures. Provided the weather holds reasonably well Mr. Inman feels this major structural feature of the project should be completed about mid-May, 2001.

Unit #3

Unit #3 slab on grade work is continuing with installation of radiant heating work at the first floor slab on grade. Pouring the slab on grade is currently planned to start on May 1, 2001 (wd 850). Completion of the slab on grade will allow work to proceed on above-ceiling rough work and spray on fireproofing at the Unit #3 first floor.

Roofing work at Unit #3 is in work with the present target for the roof flashing and trim planned to be in place in mid May 2001. Completion of Unit 3 is currently set for November 19, 2001 (wd 992).

General:

Work on the total building project is moving relatively well, with site work being planned to be started in the near future. Unit #1 continues to progress well with interior work at Unit #1 still sequenced from the 2nd floor to the 3rd, to the 4th and then out of the building on level 1. Sunshade work is being expedited to the greatest degree possible so as to tie the three building Units together and complete close in as rapidly as possible.

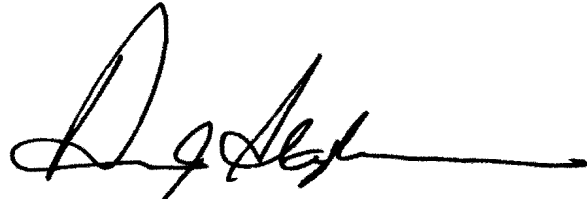
Unit #2 interior work is proceeding as rapidly as permitted by progress at the sunshade. In Unit #3 the key to unlocking major interior work still is getting the slab

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April 27, 2001

on grade work completed as soon as possible while concurrently putting the building in the dry. Mr. Inman is concentrating his major efforts in maintaining a suitable interior floor finish sequencing for Units 2 and 3. This is very important to completing the project by the present completion targets.

I shall be in touch with Mr. Tait or Mr. Inman shortly to set the next planning and monitoring session. This report is being sent to Mr. Tait. He will further distribute the report as felt appropriate.

A handwritten signature in black ink, appearing to read 'R. J. Stephenson', with a long horizontal flourish extending to the right.

Ralph J. Stephenson, P.E.

University of Michigan
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Flint, Michigan
Sorensen-Gross General Contractors
Monitoring Report #10

Ralph J. Stephenson, P.E.
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July 30, 2001

Monitoring Report #10 - University of Michigan - William White Professional Studies Classroom Building, Flint, Michigan

To: Colin Tait - Vice President and Project Manager - Sorensen-Gross

From: Ralph J. Stephenson - Consulting Engineer

Dates of meetings: Monday June 18, 2001 (wd 883)
Wednesday June 27, 2001 (wd 890)
Tuesday July 10, 2001 (wd 898)
Wednesday July 11, 2001 (wd 899)

Location of meetings: Job trailer at site,
Ralph J. Stephenson, P.E. office, and
Sorensen-Gross main office.

Network models used to monitor progress: Building close in - sheet #1- CLS - Issue 15, dated July 10, 2001 (wd 898)
Unit #2 interior network - sheet #2- U3 - Issue #15, dated July 10, 2001 (wd 898)
Unit #3 interior network - sheet #MSTR 2 - Issue #15, dated July 10, 2001 (wd 898)
Site work network - sheet #S1 - Issue #15, dated July 17, 2001 (wd 904)

Those attending mtgs. Colin Tait - Vice President and Project Manager
Howard Inman - Project Superintendent
Ralph J. Stephenson - Consulting Engineer

Actions taken:

- Reviewed current status of projects and monitored project status during June and July, 2001.
- Updated network models as required by project monitoring
- Brought updating of networks to common date for reference convenience

Summary of project status as of July 18, 2001 (wd 904)

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Site Work - Sheet #S1 - Expected completion date - pm October 18, 2001 (wd 969)

The plan of work for site construction on Sheet #S1, Issue #15 dated July 17, 2001 (wd 904) shows major site operations starting at an early start of July 17, 2001 (wd 903) for saw cutting parking lot and sidewalks. Concurrent work starting in late July and early August, 2001 shows an early start of sub grade construction at the west entrance starting beginning August 1, 2001 (wd 914).

Structure and Close In for Units 2 and 3, Sheet #1 - CLS -- Expected completion dates set by end time restraints shown in the network model.

Various close in dates are shown for Units #2 and #3 in this network model. Major unit #1 late finish dates are shown as part of activities which impact these partial close in dates within the master network plan.

The Unit #1 close in network model is in work and will be issued in the near future by Mr. Tait and Mr. Inman. Meanwhile we shall monitor the project from the Units #2 and #3 plan of work. I shall be in touch with Mr. Tait and Mr. Inman shortly to set the next monitoring inspection date.

Interior Work for Unit #2 - Sheet MSTR2 -- Expected completion dates for interior work in Unit #2 set by end time restraints as shown in the network model.

The late finish date currently shown on the Issue 15, network model for Unit #2 interior work dated July 10, 2001 (wd 898) is for the second floor and shows the late finish on the pm of November, 20, 2001 (wd 993).

The next monitoring inspection will give a more accurate measure of the job progress and I will be in contact with Mr. Tait and Mr. Inman to set this date in the near future.

Interior Work for Unit #3 - Sheet - 1ST -- Expected completion date for interior work in Unit #3 set by time restrains and interconnections to the Unit #3 network model.

The early start date for Unit #3 interior work is shown as July 17, 2001 (wd 903). The completion date for Unit #3 interior work is shown at the pm of November 19, 2001 (wd 992).

Since the most recent monitoring date was July 10, 2001 (wd 898) we will have a more accurate monitoring at our next inspection. I shall be in touch with Mr. Tait and Mr. Inman in the near future to set this meeting date.

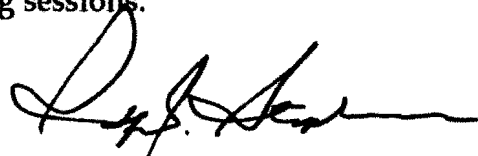
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General

This monitoring report is derived from observations and discussions held during June and July, 2001. As such it has only recently been updated.

Mr. Tait and Mr. Inman will be completing an update of Unit #1 in the near future and will issue this network for use by the project team on an ongoing basis, and by Mr. Tait, Mr. Inman and me at our near future monitoring sessions.



Ralph J. Stephenson, P.E.,

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Monitoring Report #11

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September 21, 2001

Monitoring Report #11 - University of Michigan - William White Professional Studies Classroom Building, Flint, Michigan

To: Colin Tait - Vice President and Project Manager - Sorensen-Gross

From: Ralph J. Stephenson - Consulting Engineer

Dates of meetings: Thursday September 13, 2001 (wd 944), and Friday September 14, 2001 (wd 945)

Location of meetings: Job trailer at site,

Network models used to monitor progress:

Unit #1 Interior network - sheet #2-U1 - Issue #16 dated September 13, 2001 (wd 944)

Unit #2 Interior and Atrium networks - sheet #MSTR 2 - Issue #16 dated August 29, 2001 (wd 934)

Unit #3 Interior network - sheet #2-U3 - Issue #16, dated August 30, 2001 (wd 935)

Site work network - sheet #S1 - Issue #16, dated September 15, 2001 (wd 946)

Building close in - Major remaining close in network plan activities have been included in the building interior network models according to Mr. Tait and Mr. Inman

Those attending mtgs. Colin Tait - Vice President and Project Manager
Howard Inman - Project Superintendent
Ralph J. Stephenson - Consulting Engineer

Actions taken:

- Inspected building work and site with Mr. Inman
- Reviewed current status of project and monitored building and site work

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- Updated site work to Issue #16, dated September 15, 2001
(wd 946)

Summary of project status as of September 13 and 14, 2001 (wd 944 and 945)

Site Work - Sheet #S1 - Expected completion date - pm November 7, 2001 (wd 984)

At this monitoring Mr. Tait, Mr. Inman and I updated the site work network plan to Issue #16, dated September 15, 2001 (wd 946). Activities that are in work or about to start include:

- Removal of existing 8" water main at the southwest section of the site.
- Construction of light pole bases.
- Completion of sidewalks at parking areas.
- Construction of concrete paving at the loading dock.
- Backfilling curb and gutter at parking lot entrances.
- Installation of stone base at west parking area.
- Completion of concrete curbs for brick pavers at west entrance.

Mr. Inman and Mr. Tait are currently reviewing the updated site work action plan and we will continue monitoring progress from this model.

Unit 1 interior work - Sheet 2-U1 - Expected completion date - pm November 20, 2001 (wd 993)

The major lag in Unit #1 interior work is in setting elevator door frames and installing related work which follows. The lag over late starts, as of September 13, 2001 (wd 944), was about 12 working days at both the second and third floors. Other activities at these floors lag early starts and finishes by various amounts but should be given close attention to avoid passing late starts or late finishes at this relatively late time in the project.

I suggest efforts be made to bring the second and third floors into a construction sequence to avoid excessive stacking of trades at the two floors with like trades in the other areas of the total facility.

Work at the fourth level as of September 13, 2001 (wd 944) lags the current plan of work by about seven working days in setting of elevator door frames.

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At the first floor most major activities were meeting dates between their early and late starts and finishes. If the lags in elevator area work at the 2nd, 3rd and 4th floors can be recaptured wholly or in part, other lagging work may be able to be brought into line with desired target dates. Efforts are currently being made by the project team to accomplish this by heavy expediting efforts and daily schedule reviews with affected sub contractors.

Unit 2 interior work - Sheet MSTR 2 - Expected completion date - pm November 28, 2001 (wd 998)

As of September 13, 2001 (wd 944)) most major work at atrium areas is meeting dates between early and late starts and finishes. Framing the atrium ceilings and other dry wall areas is showing some signs of slowness but is currently maintaining good alignment with desired early start and finish dates. Atrium interior curb installation at exterior walls is lagging early starts and finishes, but is expected to regain desired target dates in the near future.

Elevator car installation in Unit 2 lags late starts by about 10 working days, and related work at the elevators lags by varying amounts at level 1. Wall , ceiling and painting interior work lags early starts at level 1.

At the Unit 2, second floor ceiling, framing and dry wall installation lags late starts by about 7 working days. However there has been some overlap by painting with wall work which should reduce the overall lag in the finish work.

At the Unit 2 third floor, there is a slight lag in ceiling framing and rough above ceiling work. However prime painting has begun and should reduce the overall lag in dry wall work

At the Unit 2 fourth floor, major work is meeting dates between early and late start targets as of September 13, 2001 (wd 944).

Unit 3 interior work - Sheet #2-U3 - Expected completion date - pm December 4, 2001 (wd 1012)

As of September 13, 2001 (wd 944) most major interior work in Unit 3 is meeting target dates between early and late starts and finishes. The standing seam roof is yet to be installed but from the appearance of the work in

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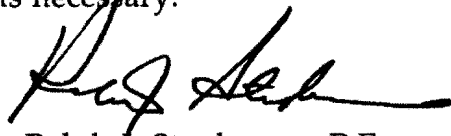
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progress the building is relatively dry, and interior finish work is being installed without major disruption. The standing seam roof is expected on the job the last week in September, 2001 and installation should begin then.

General

I shall be in touch with Mr. Tait and Mr. Inman shortly to set the next planning and monitoring meeting. Depending on job progress, there may be a need be only for one or two more major evaluation and updating sessions.

This report is being sent to Mr. Tait for his use and review. Further distribution will be made by him as he deems necessary.



Ralph J. Stephenson, P.E.,