

JULY 11, 1984

Subject: Monitoring Report #1
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities, State of Michigan
Account # 110-47-2699-001

Project: 84:29

Date of Monitoring: June 22, 1984 (working day 123)

Monitored from Issue #1, dated June 22, 1984 (working day 123)

Actions taken:

- Made preliminary review of project with State of Michigan Bureau of Facilities staff, prime contractors, and major subcontractors.
- Began preparation of laundry lists for structure and closings of buildings.
- Prepare network model for early work on building 300 (education and recreation building)

General Summary

This meeting was to make a preliminary review of the total contract A work, determine the overall construction sequence, and discuss basic major items of importance to the early construction process. Contract A prime contractors are: R.E. Dailey Co., general and architectural trades, Moote Electric, electrical trades, and Adams Sheet Metal, mechanical trades. The buildings under Contract A include the following:

Building 100 - Administration, Visiting and Staff Training

Building 200 - Minimum Security, Dining and Food Service, Warehouse, and Clinic Reception and Segregation.

Building 300 - Education and Recreation.

In our discussion it was decided it would probably be best to start work at Building 300. Therefore, we concentrated our early efforts on this structure. The work done is shown on sheets R1, 1, and 2 of the preliminary network model Issue #1, dated June 22, 1984 (working day 123). Sheet R1 is a random laundry list for early work, and this document will be maintained on through the diagramming process to obtain a complete list of all of the activities required. In addition on this sheet are listed the responsibility codes 1 through 13, set at this initial meeting. Early items

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identified as critical to starting work include the assignment of contractor sites by R.E. Dailey, confirmation of base line location by the Bureau of Facilities, checking of electrical equipment sizes for basement access, provision of temporary distribution and local electrical distribution within the A area and obtaining of building permits. Present plans are to have this work completed by July 6, 1984 (working day 132) for start of mass excavation at the site.

It should be stressed that the network model prepared at our initial session is preliminary and is for review and comment project team.

We were able to carry the network model on through to completion of masonry foundation walls at the upper area and to completion of the first floor supported slab at the basement. The rough network diagrams were sent to Mr. Mc Comb at the Bureau of Facilities. He will print and distribute these to the various contractors involved. Monitoring reports will be sent directly to the prime contractors' managers with copies to the Bureau of Facilities.

A major effort during early construction of the project will be to put the job in good condition for the winter. We were not able to, in the short time available, establish a full sequence of early construction but will discuss this in detail at subsequent meetings. Diagraming and monitoring sessions will be set through Mr. Mc Comb of the Bureau of Facilities and he in turn will establish the appropriateness of the meeting dates with the contractors involved.

These early sessions are important and every effort will be made to provide adequate lead time before the meeting so that each of the parties will be able to have information available that is needed.

RJS:gmy

Ralph J. Stephenson, P.E.

August 13, 1984

Subject: Monitoring Report #2
 Contract A, Northville, Michigan
 Scott Regional Facility
 Bureau of Facilities, State of Michigan
 Account #110-47-2699-001

Project: 84:29

Date of Monitoring: July 31, 1984 (working day 149)

Monitored from Issue #1 dated June 22, 1984 (working day 123)

Actions taken:

- Reviewed current status of project
- Completed network model for unit 300 through substantial close in
- Began preparation of network model for unit 200

General Summary

Excavation was started at unit 300 about July 13, 1984 and water was encountered soon after. The dewatering method has been designed, and well pointing was to be started July 31, 1984 (working day 149). It was expected that within four working days or by August 6, 1984 mass excavation for the basement area could begin. (Note: On sheet #1 Issue #2 dated July 31, 1984 (working day 149) the start of mass excavation is shown as working day 163. This should be day 153, August 6, 1984. However, mass excavation is still being delayed as of August 10, 1984 (working day 157) so corrections to the network will be deferred until an actual start date is set for basement work).

Meanwhile, upper area wall and column footings were started on July 30, 1984 (working day 148) and will proceed substantially as shown on the network model sheet #1 Issue #2 dated July 31, 1984 (working day 149).

At this session we continued preparing the plan of work for close in of the building. It is expected that the basement will be completed with the first floor supported deck and utilities installed at the upper areas prior to erection of structural steel and joists. Delivery of joists and structural

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Contract A, Northville , Michigan
Scott Regional Facility
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RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

steel is presently set for October 26, 1984 (working day 211). Erection should be able to begin after two days of shaking out and completion of footings. The current target for start of erection of structural steel and joists is set for late October, 1985.

Carrying the network model on through to close in it is expected that the roof can be on and exterior masonry erected generally block back up only by mid-February, 1985. This plan is to be studied in more detail to insure that these dates are feasible and can be met.

As part of our work today, we also began planning the construction activities for unit 200. Here mass excavation is expected to begin August 6, 1984 (working day 153) and to continue on with most masonry foundation walls being complete by early October, 1984. There is a problem with the roof drain size at this building, and the difficulty is presently being worked out among the owner, the design team, and the contractor. At unit 200 early masonry erection will require availability of security frames, if at all possible. Delivery of these may be a difficult item, and it is suggested that all members of the project team concentrate on expediting submittals, approvals, and fabrication and delivery.

At succeeding sessions for planning the project we shall continue to concentrate on unit 200 up through the close in. Meanwhile, prints of the rough diagrams prepared at this session were made and distributed by the State. I shall mail these monitoring reports directly to the individuals on the project from each prime contractor. Internal distribution will be as desired by each of the primes.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Robert McComb

cc: Mr. Ed Miller
Mr. Curtis Wilson
Mr. Jim Nugent

September 7, 1984

Subject: Monitoring Report #3
 Contract A, Northville, Michigan
 Scott Regional Facility
 Bureau of Facilities, State of Michigan
 Account #110-47-2699-001

Project: 84:29

Date of Monitoring: August 28, 1984 (working day 169)

Monitored from Issue #2 dated July 31, 1984 (working day 149)

Actions taken:

- Reviewed current status of project
- Continued diagramming units 300, 200, and 100
- Inspected project

General Summary

As of August 28, 1984 (working day 169) excavation is complete at building 300 and low area footings are expected to start shortly. However, there must first be a resolution of footing depth and bearing capacities expected. Presently the architect/engineer is preparing and will issue a bulletin for revisions to the basement work. This bulletin will be quoted and a review and approval made. The target for releasing this work revision is currently September 14, 1984 (working day 181). This will then allow basement wall and column footings to proceed.

Meanwhile, work at the upper level of building 300 has proceeded well and footings and foundation walls are installed as far as they can go until more work has been done at the basement area. Underground utilities are also well along at the upper area of building 300.

At building 200 interior and exterior wall and column footings are nearly complete with piers and masonry foundation walls following closely. This work is currently meeting early start/early finish targets. As of August 28, 1984 (working day 169) no official action has been taken on resolving the roof drain size. However, a letter is to be provided by the architect/engineer by September 4, 1984 (working day 173) which should allow underground utility work to proceed on out to completion.

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CONSULTING ENGINEER

A critical item at unit 200 is the need for spectra glaze to start up with masonry bearing walls. There is no current word on when spectra glaze will be available, and this item must be watched carefully.

Shop drawings have been submitted for structural steel needed early at the areas bounded by column line F.5, K, 11, and 14. This submittal should be given high priority attention since the steel is needed to complete masonry bearing walls at the minimum security area to the second floor.

Shop drawings are back on security frames although there is no current word on when delivery can be expected. This is another item that must be expedited to the greatest degree possible.

During our diagramming session we revised the building 300 network to reflect current conditions at the job and now have this building planned up through close in. We also continued planning building 200 and started building 100. The intent will be over the next two or three meetings to complete close in and begin interior finish work planning for these two facilities. Mr. McComb of the Bureau of Facilities will distribute prints of drawings 100-1, 200-1, 200-2, 200-3, 300-1, and 300-2 to the prime contractors. I shall send copies of the monitoring report directly to the prime contractors.

I shall be in touch with Mr. McComb shortly to set the next planning and diagramming session.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Robert McComb

cc: Mr. Ed Miller
Mr. Curtis Wilson
Mr. Jim Nugent

September 17, 1984

Subject: Monitoring Report #4
 Contract A, Northville, Michigan
 Scott Regional Facility
 Bureau of Facilities, State of Michigan
 Account #110-47-2699-001

Project: 84:29

Date of Monitoring: September 5, 1984 (working day 174)

Monitored from Issue #3 dated August 28, 1984 (working day.169)

Actions taken:

- Reviewed current status of project
- Continued preparing network model for units 300, 200, and 100

General Summary

At this session we continued our construction planning work for each of the units and were able to complete the basic close in work for units 300 and 200. We also completed a substantial portion of close in work for unit 100.

A brief review of each major building area is given below:

Unit 100 (sheets 100-1, 100-2, Issue #4 dated September 5, 1984
(working day 174))

Construction of wall and column footings is just getting under way, and it is expected that footings and masonry foundation walls could be complete by September 28, 1984 (working day 191). Structural steel delivery is currently being held for January 5, 1985 (working day 265). Most work at this area will continue on through to completion of underground work after which there will be a period of time in which the project will be waiting for structural steel delivery.

We were able to complete the network model on up through erection of structural steel, construction of the supported decks, installation of the slab on grade, erection of exterior masonry, insulation and roofing, and exterior man doors, windows and entries. At succeeding sessions we will concentrate on the interior rough and finish work for this facility.

As in all units an activity that must be given high priority attention is installation of security conduit. The security contractor was at the planning session today and was of great help in providing the necessary data for tying into major architectural and structural building erection. His participation is essential at the sessions since security installation is an integral part of the entire facility.

Unit 200 (sheets 200-1, 200-2, 200-3 Issue #4 dated September 5, 1984 (working day 174))

Interior and exterior column and wall footings are complete, piers are nearly complete and masonry foundation walls are in work. Underground utility work has been partially installed and a clarification is being provided regarding roof drain sizes. Spectra glaze for masonry bearing walls is expected on the job as of September 6, 1984 (working day 175). This will allow the masonry bearing walls at minimum security to start soon after. Of critical importance is approval of structural steel and joist shop drawings for area F.5/K/11/14. Shop drawings were submitted in early August, 1984 and are presently being reviewed. This steel is needed on the job shortly and will restrain erection of masonry bearing walls at the minimum security areas.

Another very critical item is security frames. Shop drawings were turned around promptly and sent back to the supplier in mid-August, 1984. There is no current word on delivery of these frames. Present planning indicates that masonry bearing walls are to start about September 19, 1984 (working day 184). If an earlier start can be made on the walls it will be done. It is desired to get as much weather sensitive work as possible complete early this fall.

We were able to complete the network model for unit 200 on through close in. Present plans are to have exterior masonry complete by about late July, 1985. It is hoped that insulation and roofing can be completed at an earlier date, and this will permit some of the more critical items such as roof top mechanical equipment and skylights to be installed early.

It also should be noted that erection of mechanical room structural steel and deck may have to be restrained by delivery of major mechanical equipment at the minimum security mechanical room. Present plans are to have this equipment available by February 7, 1985 (working day 282). This date must be confirmed.

Unit 300 (sheets 300-1, 300-2, Issue #4 dated Sept. 5, 1984 (working day 174))

A bulletin has been issued for revisions to the footing work affected by water, and the work is presently being quoted. It is expected

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

that construction of basement wall and column footings can be resumed about September 14, 1984 (working day 181).

Meanwhile, upper area footings, piers, and masonry foundation walls have been completed as far as possible until the basement is built and backfilled. Underground utility work is also proceeding to the furthest point possible at the upper areas under the first floor slab on grade. We are still holding a structural steel and joist delivery date of October 26, 1984 (working day 211) with the hope that some time can be picked up on construction of the remaining foundation work. Present plans are to start erection of structural steel and joists by November 14, 1984 (working day 224), although if time can be recaptured in footing work, steel could start earlier since it will be available at the job site at the earlier date.

Preliminary calculations indicate that the 300 unit exterior masonry will be complete about early March, 1985 with roofing on in early February, 1985. Presently it is desired to complete as much of the unit 300 work as early as possible to allow interior finish work on the total project to be initiated there and to work on through the latter part of the winter 1984-85. It appears presently that such a plan can be implemented.

General

Subsequent diagramming sessions will focus on the interior work for each of the facilities. Probably we should focus on the interior work initially for unit 300 since presumably this is the first of the three major buildings that will be available for interior work.

I have forwarded to each of the prime contractors a set of prints of the drawings prepared at this session. These are presently being drafted into final form and will be dated with calendar and working days.

Attached to this monitoring report is an updated copy of the abbreviations, names and responsibility codes for contract A. I shall be in touch with Mr. McComb shortly to set the next monitoring and planning session.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Robert McComb

cc: Mr. Ed Miller
Mr. Curtis Wilson
Mr. Jim Nugent
Mr. Rupert Davey

NUM	REFERENCE	REC#
001	DEPARTMENT OF CORRECTIONS - DOC	1
002	DEPARTMENT OF MANAGEMENT & BUDGET - DMB	2
003	TMP & ASSOCIATES	3
004	R.E. DAILEY & CO	4
005	MOOTE ELECTRIC	5
006	ADAMS SHEET METAL INC	6
007	MOBLEY FABRICATORS - STUCTURAL STEEL CONTRACTOR	7
008	MONTE COSTELLA & CO - MASONRY CONTRACTOR	8
009	MUELLER AND CARNAGO - EXCAVATING CONTRACTOR	14
010	CECO - FORMING CONTRACTOR	9
011	ELEVATOR CONTRACTOR	10
012	SARDO CONSTRUCTION - FLAT WORK	11
013	WATERPROOFING CONTRACTOR	12
014	ROOFING CONTRACTOR	13
015	CRAWFORD DOOR - DOORS	15
016	CARRIER CONSTRUCTION - CARPENTRY CONTRACTOR	16
017	AMERICAN GLASS & METAL - SASH & GLAZING CONTRACTOR	17
018	SCHLAIN, ABBOTT K. COMPANY	18
019	HONEYWELL COMMERCIAL DIVISION-SECURITY CONTRACTOR	19
099	TIME RESTRAINT	20

SCOTT REGIONAL FACILITY PROJECT NAME ABBREVIATIONS
LISTED BY NAME DATE PRINTED: SEP 16 1964
RALPH J. STEPHENSON PE PC D145

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ABB	NAME & TITLE	ORG	CONTR	REC#
ASM	ADAMS SHEET METAL INC	ASM	A/	18
CEC	CECO	CEC	A/B	56
CMC	COSTELLA, CHUCK M.	MCC	A/	26
DD	DROZD, DONALD	CEC	A/B	49
CH	HERTHERINGTON, CRAIG	MEL	A/	16
PK	KRYSINSKI, PAUL FIELD SUPT	RED	A/	24
MM	MARTINDILL, MARTIN	CEC	A/B	32
RJM	MCLAREN, RICH J. - PROJECT MANAGER	MFA	A/B	23
EHM	MILLER, ED H. - PROJECT MANAGER	RED	A/	8
MFA	MOBLEY FABRICATORS	MFA	A/B	22
MLM	MOBLEY, MAX L. - PRESIDENT	MFA	A/B	21
MCC	MONTE COSTELLA & CO	MCC	A/	20
MEL	MOOTE ELECTRIC INC	MEL	A/	15
JEN	NUGENT, JAMES E. - PROJECT MANAGER	MEL	A/	14
RED	R.E. DAILEY GENERAL CONTRACTORS	RED	A/	9
WS	SMITH, WARREN CONSULTANT	MFA	A/	25
CEC	THE CECO COMPANY	CEC	A/B	33
PVM	VILLA MONTE, PAUL PROJECT MANAGER	MCC	A/	19
CDW	WILSON, CURTIS D. - PROJECT MANAGER	ASM	A/	17

SCOTT REGIONAL FACILITY PROJECT GENERAL ABBREVIATIONS
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ABB	MEANING	CAT	REC#
1	BUILDING 100	LOC	50
2	BUILDING 200	LOC	51
3	BUILDING 300	LOC	52
4	BUILDING 400	LOC	53
400A	SOUTHERN HALF OF BUILDING 400	LOC	12
400B	NORTHERN HALF OF BLDG 400	LOC	13
401	SECTION OF 400 BLDG	LOC	24
401U	UPPER LEVEL OF BLDG 401	LOC	25
4A-1	SOUTH 2ND FL DECK OF BLDG 400A	LOC	3
4A-2	NORTH 2ND FL DECK OF BLDG 400A	LOC	5
4A-3	MECHANICAL EQUIP ROOM FLOOR OF BLDG 400A	LOC	6
4A-4	SOUTH ROOF DECK OF BLDG 400A	LOC	7
4A-5	NORTH ROOF DECK OF BLDG 400A	LOC	8
5	BUILDING 500	LOC	54
6	BUILDING 600	LOC	55
7	BUILDING 700	LOC	56
700A	NORTHERN HALF OF BLDG 700	LOC	14
700B	SOUTHERN HALF OF BLDG 700	LOC	15
A	CONTRACT A	NP	9
AW/CT	AWARD CONTRACT	NP	38
B	CONTRACT B	NP	10
BOF	BUREAU OF FACILITIES	ORG	41
BOF	BUREAU OF FACILITIES	ORG	57
C	CONTRACT C	NP	11
CE	CONTRACT C ELECTRICAL CONTRACTOR	NP	43
DEC	DETROIT EDISON COMPANY	ORG	45
DIR	DIRECTION	NP	34
DOC	DEPARTMENT OF CORRECTIONS	ORG	49
E	EAST	DIR	35
EFRP	EXCAVATE, FORM, REINFORCE & POUR	NP	16
EIB	EXCAVATE, INSTALL & BACKFILL	NP	19
EOP	END OF PROJECT	NP	28
ET/R	END TIME RESTRAINT	NP	23
EXT	EXTERIOR	NP	59
F/D	FABRICATE & DELIVER	NP	29
FFG	FILL & FINE GRADE	NP	18
FRP	FORM, REINFORCE & POUR	NP	39
FRPS	FORM, REINFORCE, POUR & STRIP	NP	17
HM	HOLLOW METAL	NP	40
HN	HIGHEST NODE NUMBER ON SHEET	NP	27
IFW	IN FLOOR WORK - RESTL, SLEEVES, INSERTS	NP	20
INT	INTERIOR	NP	60
LN	LOWEST NODE NUMBER ON SHEET	NP	26
LOC	LOCATION	NP	4
MIN	MINIMUM	NP	48
N	NORTH	DIR	37
NP	NETWORK PLANNING	NP	2
OH	OVERHEAD	NP	58
ORG	ORGANIZATION	NP	46
P/I	PREPARE & ISSUE	NP	30
P/S	PREPARE & SUBMIT	NP	31
R/A	REVIEW & APPROVE	NP	32
S	SOUTH	DIR	36
SEC	SECURITY	NP	47

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LISTED BY ABBREVIATION

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ABB	MEANING	CAT	REC#
SOG	SLAB ON GRADE	NP	21
T/R	TIME RESTRAINT	NP	1
TMP	TMP & ASSOCIATES	ORG	42
UG	UNDERGROUND	NP	22
W	WEST	DIR	33
WP	WATERPROOFING	NP	44

SCOTT REGIONAL FACILITY PROJECT NAME ABBREVIATIONS
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 RALPH J. STEPHENSON PE PC D145

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ABB	NAME & TITLE	ORG	CONTR	REC#
ASM	ADAMS SHEET METAL INC	ASM	A/	18
AGM	AMERICAN GLASS & METALS	AGM	B	45
SB	BEEBE, STAN - FIELD INSPECTOR TMP	TMP	ALL	10
AB	BORTOLON, AL - SUPT	FHB	B	35
CB	BRASSEL, CHARLES	FHB	B	34
TE	BUECHLE, TIM	AGM	B	48
CEC	CECO	CEC	A/B	56
CMC	COSTELLA, CHUCK M.	MCC	A/	26
GD	DAVENPORT, GAROLD - MANAGER CONST SERV DIV	DMB	ALL	5
RD	DAVEY, RUFERT	HCD	ALL	6
DEE	DEMERS ELECTRIC CO	DEE	B	31
AD	DEMERS, AL	DEC	B	30
DMB	DEPARTMENT OF MANAGEMENT & BUDGET	DMB	ALL	2
DEC	DETROIT EDISON CO	DEC	C	53
DD	DROZD, DONALD	CEC	A/B	49
FHG	FERGUSON, HOGLE & BRASSEL CONSTRUCTION CO	FHG	B	13
MG	GEHART, MICHAEL - PROJECT MANAGER	JFC	B	28
CH	HERTHERINGTON, CRAIG	MEL	A/	16
HAZ	HOGWARREN & ZIMMERMAN	HAZ	B	51
JMH	HOGLE, JOHN M VP	FHB	B	12
HCD	HONEYWELL INC, COMMERCIAL DIV	HCD	ALL	7
JWD	J & W DRYWALL CONSTRUCTION INC	JWD	B	47
JFC	J.F. CAVANAUGH CO INC	JFC	B	29
PK	KRYSINSKI, PAUL FIELD SUPT	RED	A/	24
JL	LANE, JACK	OHI	B	42
DLN	LORENZ, DAVID N - PROJECT MANAGER	HCD	ALL	54
RMM	MARINO, RALPH M. PROJECT MANAGER	SCC	C	3
MM	MARTINDILL, MARTIN	CEC	A/B	32
RTM	MCCOMB, ROBERT T. AREA SUPT	DMB	ALL	1
LJM	MCGOUGH, LEO J. - FIELD INSPECTOR	TMP	ALL	27
RJM	MCLAREN, RICH J. - PROJECT MANAGER	MFA	A/B	23
MWE	MICHAEL WILSON ENTERPRISES INC	MWE	B	37
EHM	MILLER, ED H. - PROJECT MANAGER	RED	A/	8
MFA	MOBLEY FABRICATORS	MFA	A/B	22
MLM	MOBLEY, MAX L. - PRESIDENT	MFA	A/B	21
MCC	MONTE COSTELLA & CO	MCC	A/	20
MEL	MOOTE ELECTRIC INC	MEL	A/	15
NMA	NAVETTA MASONRY INC	NMA	B	39
MN	NAVETTA, MIKE	NMA	B	38
JEN	NUGENT, JAMES E. - PROJECT MANAGER	MEL	A/	14
OCC	O'REILLY CONSTRUCTION CO	OCC	B	41
JO	O'REILLY, JIM	OCC	B	40
OHI	OSHTMO HILL	OHI	B	43
MF	PASTERAK, MIKE	HCD	ALL	50
RED	R.E. DAILEY GENERAL CONTRACTORS	RED	A/	9
SCC	SHERIDAN CONSTRUCTION COMPANY	SCC	C	4
WS	SMITH, WARREN CONSULTANT	MFA	A/	25
RJS	STEPHENSON, RALPH J. PE	RJS	ALL	52
ETE	TENCER, ELLEN - PROJECT MANAGER	FHG	B	55
CEC	THE CECO COMPANY	CEC	A/B	33
TMP	TMP ASSOCIATES INC	TMP	ALL	11
PVM	VILLA MONTE, PAUL PROJECT MANAGER	MCC	A/	19
JV	VOGELSBERG, JAMES	AGM	B	44
WW	WILLIAMS, WILLIE	JWD	B	46

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ABB	NAME & TITLE	ORG	CONTR	REC#
CDW	WILSON, CURTIS D. - PROJECT MANAGER	ASM	A/	17
MCW	WILSON, MICHAEL C	MWE	B	36

SCOTT REGIONAL FACILITY PROJECT NAME ABBREVIATIONS
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ABB	NAME & TITLE	ORG	CONTR	REC#
SB	BEEBE, STAN - FIELD INSPECTOR TMP	TMP	ALL	10
GD	DAVENPORT, GAROLD - MANAGER CONST SERV DIV	DMB	ALL	5
DMB	DEPARTMENT OF MANAGEMENT & BUDGET	DMB	ALL	2
DLN	LORENZ, DAVID N - PROJECT MANAGER	HCD	ALL	54
RTM	MCCOMB, ROBERT T. AREA SUPT	DMB	ALL	1
LJM	MCGOUGH, LEO J. - FIELD INSPECTOR	TMP	ALL	27
RJS	STEPHENSON, RALPH J. PE	RJS	ALL	52
TMP	TMP ASSOCIATES INC	TMP	ALL	11

October 29, 1984

Subject: Monitoring Report #5
 Contract A, Northville, Michigan
 Scott Regional Facility
 Bureau of Facilities, State of Michigan
 Account #110-47-2699-001

Project: 84:29

Date of Monitoring: October 11, 1984 (working day 200)

Monitored from Issue #4 dated September 5, 1984 (working day 174)

Actions taken:

- Inspected project
- Reviewed project with Mr. Robert Adams, owner's representative
- Evaluated current job status

Unit 100

Most footings and masonry foundation walls have been completed, and underground utility work is presently being installed. Steel delivery for unit 100 is set for January 5, 1985 (working day 265). This delivery date will be confirmed with the prime contractors on an ongoing basis. The network model for contract A, unit 100 has been completed up through general close in of the building to be accomplished, according to the present plan, by mid-July, 1985.

Unit 200

Most footings and foundation walls are complete, and the floor slab on grade has been poured out at the minimum security area. Forming for the second floor deck at minimum security is in work, and is presently slightly ahead of early starts and early finishes. Masonry bearing walls at the minimum security area are also in work and being completed.

It was noted that there may be some sleeving problems at the mechanical equipment room floor. This matter is presently

being resolved by the owner and the architect/engineer. Special attention should be given this item since present plans are to have work on the mechanical equipment room deck start at an early date of October 25, 1984 (working day 210).

Underground mechanical and electrical work is presently being installed at the maintenance area and warehouse area along with the food service area. This work is currently meeting targets between early and late starts and finishes.

Structural steel at F.5/K/11/14 has been erected and detailed, but there may be some retorquing of the connections necessary. Presently it is not expected this will cause any major difficulties. Structural steel for the remainder of the 200 unit is due on the project by November 26, 1984 (working day 231). There was no authentic word on whether this date is currently being held or not. We shall confirm the delivery at subsequent monitoring sessions.

The network model Issue #4 dated September 4, 1984 (working day 173) takes the network up through general close in of the building. Close in is set for early to mid-August, 1985. Most work currently is conforming to this overall close in target.

Unit 300

Basement walls are presently being constructed, and it appears that the current lag on these walls over early starts and finish dates is about 7 working days. The deck over the basement area was to have begun at an early start of October 19, 1984 (working day 206). There was no information available at our monitoring about when this deck would actually begin. However, with the good progress shown over the past two or three weeks it appears that some of this time may be able to be recaptured.

Most work at the upper slab areas has gone as far as it can until basement areas are complete and backfilling can be brought further along at the grade level.

Structural steel delivery for the 300 unit is set for October 26, 1984 (working day 211). There was, however, no confirmation of this information available at our monitoring.

The current network model Issue #4 dated September 5, 1984 (working day 174) shows general close in of the building by mid-February or early March, 1985. This will provide some winter working areas for trades following completion of the structure and concurrent and after close in has been completed.

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Contract A, Northville, Michigan
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RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

General

The network model Issue #4 dated September 5, 1984 (working day 174) has been drafted with early starts and finishes shown in working and calendar days. This network has been sent to Mr. Robert McComb at the Department of Management and Budget for printing and distribution. We shall use this network to monitor from until additional updating is desired or required.

Meanwhile, I shall be in touch with Mr. McComb to set the next planning session at which we should begin our work on interior finish work at each of the three buildings.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Robert McComb

cc: Mr. Ed Miller
Mr. Curtis Wilson
Mr. Jim Nugent
Mr. Rupert Davey

November 8, 1984

Subject: Monitoring Report#6
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities, State of Michigan
Account #110-47-2699-001

Project: 84:29

Date of Monitoring: November 1, 1984 (working day 215)

Monitored from Issue #4 dated September 5, 1984 (working day 174)

Actions taken:

- Briefly reviewed current status of project
- Prepared network model for building 300 interior rough and finish work

General Summary

The purpose of this session was to prepare the network model for all interior rough and finish work in building 300. For planning the building has been divided into three major areas - the first floor shop and locker area (35H), the second floor classroom area (3CR), and the first floor gymnasium area (3GY). The network models prepared are shown on sheets #3, #4, #5, and #6, Issue #5, dated November 1, 1984 (working day 215). These drawings have been printed and issued directly to Mr. Ed Miller at Dailey, and the tracings have been sent to Mr. Robert McComb at the Department of Management and Budget for distribution to the other prime contractors. Copies of the report are being sent to all prime contractors involved in the B contract.

We did not have a full set of contractors attending the session, however R. E. Dailey and the Adams Sheet Metal were represented. It is expected that the other contractors who were not able to be there will review the network models and provide comments on the sequence and durations. Meanwhile, we shall proceed to draft these models into final form and make whatever changes are suggested upon review of the networks by the other contractors in the model before issuing it for field use.

Completion dates for each of the three major areas were as follows:

- Early finish at shop and locker area (3SH) - evening of August 14, 1985 (working day 415)
- Second floor classroom area (3CR) - evening of September 3, 1985 (working day 428)
- Gymnasium area (3GY) - evening of June 3, 1985 (working day 372)

We have maintained late finishes at each of the three areas in accordance with the late finish at the longest of the areas to complete, the second floor classroom area. This late finish has been set for the evening of September 3, 1985 (working day 428). Late finishes for the other two areas are also set for this same target.

Again, it is to be stressed that these are merely selected early and late finish targets. The current contract date is the evening of July 2, 1986 (working day 640) (to be confirmed). The earlier dates identified here are targets desired by the prime contractors and are a matter of discretion and agreement among them, and subject to change as job conditions warrant.

We shall continue to evaluate the desired targets as the project proceeds and planning continues.

At building 300 it is intent to continue on through the winter getting the building in condition to install both rough interior and finish interior work at the earliest possible dates. Floor slabs on grade are expected to begin in mid or late November, 1984 and continue on through from column line A to F being poured out about December 7, 1984.

Once exterior block and roof metal deck are complete at the gym it is the present intent to do whatever is needed to thaw the sub-base at the gym and then to construct that slab on grade by an early finish of February 14, 1985 (working day 287). Again, these plans are subject to change as conditions dictate on the project. However, it is desired presently to get as much interior work available at the 300 unit as possible so as to provide a place for contractors to work this winter.

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

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I shall be in touch with Mr. McComb shortly to set the next planning session for the remaining interior rough and finish work at buildings 100 and 200. At our next session we will probably focus on building 200 since it is the more complex of the two.

Ralph J. Stephenson, P.E

RJS:sps

To: Mr. Robert McComb

cc: Mr. Ed Miller
Mr. Curtis Wilson
Mr. Jim Nugent
Mr. Rupert Davey

January 3, 1985

Subject: Monitoring Report #7
 Contract A, Northville, Michigan
 Scott Regional Facility
 Bureau of Facilities, State of Michigan
 Account #110-47-2699-001

Project: 84:29A

Date of Monitoring: December 18, 1984 (working day 247)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)
 (to be confirmed)

Contract completion date: July 2, 1986 p.m. (working day 640)
 (to be confirmed)

Actions taken:

- Inspected project
- Reviewed project status with Paul Krynski, architectural field superintendent
- Evaluated current job status

General Summary

This monitoring was basically a field inspection to determine the current physical status of the work at the site. The inspection was made individually since DOC and TMP staff were not available. However, I did meet briefly with Mr. Paul Krynski of R. E. Dailey, the architectural/structural prime contractor on the project to review the current status of his work.

At present the network models for units 100 and 200 are diagrammed and drafted into final form with early starts and early finishes up through close in of the facility. Unit 300 is drafted complete with all interior work and early and late starts and finishes are shown. No detailed diagramming has been yet done on the site work although this planning will be resumed shortly. Security installation is diagrammed as an integral part of each of the major contracts.

A brief review of the status of each project is given below:

Building 100 - Monitored from Issue #4 dated September 5, 1984
(working day 174)

Most foundation and other related work including underground installation is completed to a point where structural steel and joists could be erected upon delivery. Delivery of structural steel and joists is currently set for an early date of January 15, 1985 (working day 265). There was as of this session no authentic word on whether this date would be met. Currently the steel fabricator is having difficulty meeting his fabrication commitments; therefore, there is a possibility that the January 15, 1985 (working day 265) date may have to be revised. We shall again review deliveries at our next planning session.

As of December 18, 1984 (working day 247) the project is meeting targets between early and late starts and finishes.

Building 200 - Monitored from Issue #4 dated September 5, 1984
(working day 174)

Activities with the exception of structural steel erection are currently meeting targets between early and late starts and finishes. Work at the minimum security area has proceeded well and supported decks at the second level, mechanical room level, and roof levels have been poured and stripped. These areas are generally available for rough overhead work and some installation has been started.

Exterior face masonry is also being erected as is bearing masonry to the mechanical area roof level. Work at the minimum security area is currently meeting targets well in conformance with early start/early finish dates.

The remainder of the building is ready for structural steel. Steel was due to have been delivered to the project for the main portion of the facility on November 26, 1984 (working day 231). However, steel is not yet on the site and there does not appear to be any authentic information as to when delivery can be actually expected. Thus, currently steel erection for all areas except at the minimum security lags desired early start targets by about 16 working days. Current lag is a lag measured against the current planned starts or finishes of an activity being started or completed. It is a fairly serious lag since the 200 building is the most complex of the three in contract A.

At our next planning session we shall update the network model in accordance with revised structural steel field start dates and determine the impact upon close in and succeeding work.

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

Building 300 - Monitored from Issue #4 dated September 5, 1984
(working day 174) and Issue #5 dated November 1, 1984 (working
day 215) sheets #3 through #6

As of the monitoring date, December 18, 1984 (working day 247)
unit 300 is ready for structural steel erection. Some structural
steel has been delivered to the job, but apparently it is not
enough to begin erection. It appears that the start of
structural steel work may be delayed between 1 and 6 working
days.

Structural steel at unit 300 was due to begin November 14,
1984 (working day 224). Thus, the current lag is about 23 working
days, with the projected lag being about 30 working days. It
was hoped to be able to erect steel and close in unit 300 to a
point where interior work could start off slabs on grade some-
time this winter. Since steel is now delayed an effort has been
made to get the west slab on grade at the first level ready
for pouring the slab. This has been possible to date because
of the mild weather and the relatively unfrozen sub-base.
However, there is some question now as to whether this pour
is going to be able to be made prior to erection of structural
steel. It will depend totally upon weather and temperature.

The 300 unit has been diagrammed on up through installation of
finish work at the three major areas, the first floor shop
and locker room area, the second floor classroom area, and
the first floor gym area. In all likelihood, this network model
will have to be updated once a firm start of structural steel
is set. This will be an early priority at our planning
session after the first of the year.

General

Overall, the project is now being delayed primarily by late
deliveries of structural steel. The current lag at the 200 unit
is about 16 working days and at the 300 unit about 23 working
days. These are relatively serious delays and impose a need
to consider updating the current network models. This matter
will be addressed at our planning sessions once steel delivery
dates have been determine with more exactness.

I shall be in touch with Mr. McComb shortly to set future
planning sessions for contract A work.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Robert McComb
cc: Mr. Ed Miller
Mr. Curtis Wilson
Mr. Jim Nugent
Mr. Rupert Davey

January 25, 1985

Subject: Monitoring Report #8
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities, State of Michigan
Account #110-47-2699-001

Project: 84:29A

Date of Monitoring: January 17, 1985 (working day 267)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)
(to be confirmed)

Contract completion date: July 2, 1986 p.m. (working day 640)
(to be confirmed)

Actions taken:

- Inspected project
- Reviewed status of project with Dan Hoey of TMP
- Reviewed project status briefly with Mr. Paul Krynski, architectural field superintendent

General Summary

The weather has now turned cold, and considerable precipitation has been encountered over the past few days. Thus, work on the site is quite difficult since most of the facilities are still open to weather. However, work is proceeding wherever possible, and in some areas progress has been quite good. A major delay to the contract A program has been late delivery and erection of structural steel. However, steel is now beginning to arrive and it is hoped that some time can be picked up in the coming weeks on the close in trades.

A brief review of the status of each project is given below:

Building 100 - Monitored from Issue #4 dated September 5, 1984
(working day 174)

Little, if any, work has been done here since the previous monitoring. The project is generally ready for structural

steel and joists and present projections are that steel will be starting up at building 100 sometime in early or mid-March, 1985.

Building 200 - Monitored from Issue #4 dated September 5, 1984
(working day 174)

Work at the minimum security area has been proceeding well since the area is now closed to weather. Masonry has been erected at the first and second levels and is currently meeting early start/early finish targets. Bearing masonry to the mechanical room roof has been completed, and it appears that this area is presently ready for structural steel.

Structural steel at building 200 is to start January 17, 1985 (working day 267). It was originally intended to start November 21, 1984 (working day 231). Thus, the current lag of structural steel at building 200 is about 36 working days. This is a serious lag since it impacts upon most succeeding trades. Therefore, we can consider that the present behind situation at the unit 200 is the full amount of the projected lag.

It is intended to meet soon to continue planning for contract A work. At this next session we shall update the building 200 network model to reflect the late steel delivery, revise the close in network, and do as much work on interior rough and finish network models as possible.

Building 300 - Monitored from Issue #4 dated September 5, 1984
(working day 174) and Issue #5 dated November 1, 1984 (working day 215) sheets #3 through #6

As of January 17, 1985 (working day 267) structural steel is substantially erected and being trimmed out. The current status of structural steel shows that the project lags by about 33 working days. Since the weather has now turned cold and snowy, work progress on steel is slow. It is expected that following trades will be delayed, although every effort is being made to maintain a field operation on them.

The intent is to temporarily enclose the left end of unit 300 and to continue work on the slab on grade. It is not possible presently to project whether this can be done as planned or not.

General

Overall, the project is still being delayed by erection of structural steel and now also by the winter weather.

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CONSULTING ENGINEER

However, every effort seems to be in effect to maintain field work, and it is possible that some of the projected and current lags can be recaptured. We shall continue planning the project soon, and Mr. McComb of the State of Michigan Department of Management and Budget will notify the lead contractors of the date and location of this meeting.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Robert McComb

cc: Mr. Ed Miller
Mr. Curtis Wilson
Mr. Jim Nugent
Mr. Rupert Davey

February 25, 1985

Subject: Monitoring Report #9
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities, State of Michigan
Account #110-47-2699-001

Project: 84:29A

Dates of Monitoring: February 14, 1985 (working day 287) and
February 22, 1985 (working day 293)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)
(to be confirmed)

Contract completion date: July 2, 1986 p.m. (working day 640)
(to be confirmed)

Actions taken:

- Met with prime contractors for general mechanical, electrical, and security trades to monitor, update, and prepare new diagrams for contract A buildings
- Prepared network models for remainder of building 200
- Completed random laundry list of interior work for mechanical, electrical, and security work activities for building 200.
- Evaluated current job status

General Summary

These two meetings were to complete as much planning work for the project as possible. In them, the unit 100 close in network, Issue #4 dated September 5, 1984 (working day 174) sheets #1 and #2 were updated to Issue #5 dated February 14, 1985 (working day 287). This diagram took into account a revised steel delivery date of February 21, 1985 (working day 292). The revisions brought basic close in for 100 to late July or early August, 1985.

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RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

Unit 200 plans were also updated to reflect the later steel delivery dates actually experienced, and this network model was then calculated through close in. The close in sequences are shown on sheets #2 and #3 Issue #5 dated February 14, 1985 (working day 287). In addition, we prepared network models for unit 200 at the clinic area (CL), the segregation housing area (SH), the minimum security area (MS), the food service upper and lower level areas (FS), and the warehouse and maintenance area (WM). These appear on sheets #4 through #13. The methodology used was to prepare a basic logic plan with all of the contractors involved on the project, to obtain durations from them on a random activity laundry list and then to use the basic logic plan, in consultation with the general trades contractor to prepare the final preliminary network model. This model will be given to Mr. McComb for printing and distribution to all contract A prime contractors for comments.

Meanwhile, we shall begin drafting the model into final form for formal issue.

We also updated unit 300 from Issue #4 dated September 4, 1984 (working day 174) to Issue #5 dated February 14, 1985 (working day 287) sheets #2, #3, #4, #5, and #6. This again is to reflect the later than expected delivery of structural steel and joists.

A brief review of each project in contract A is given below:

Building 100 - Monitored from Issue #5 dated February 14, 1985 (working day 287) sheets #1 and #2

Most foundation work has been completed although underground security and mechanical work is yet to be done. Since start of structural steel has been rescheduled to February 12, 1985 (working day 292) underground electrical and security work will be completed at a later date just ahead of filling, fine grading and setting in floor work for the slab on grade. The present intent is to start this filling and fine grading work by April 15, 1985 (working day 329). As noted above, close in of unit 100 is now planned for mid-August, 1985. We have not as yet diagrammed the interior finish work at unit 100 and will focus on this area at our next session. It presently appears that the job can be completed well in line with current contract requirements.

Building 200 - Monitored from Issue #5 dated February 14, 1985 (working day 287) sheets #2 through #13.

These updated network models take into account the revised sequencing of close in and show the building to be basically

closed to weather by mid or late August, 1985. Meanwhile, interior rough and finish work will continue as slabs are poured out and the building exterior skin proceeds.

Building 200 has been divided into several major areas including:

- clinic (CL)
- segregation housing (SH)
- minimum security (MS) including the service areas and mechanical room - This part of the project is already well along, being nearly closed in and ready to receive many of the rough and finish interior trades.
- food service area, upper and lower levels (FS) - This area is diagrammed on sheets #10 and #11, Issue #6, dated February 22, 1985 (working day 293). Presently the target completion date for the food service area is about mid-January, 1986. These dates are taken from the unchecked calculations in the latest issue network model.
- warehouse and maintenance area (WM) - This area is diagrammed on sheets #12 and #13, Issue #6, dated February 22, 1985 (working day 293) and shows an early finish of late September or early October, 1985. This WM area, as with all areas, will have to be staggered with a selection of appropriate late finishes.

It should be noted that the contract completion date of the evening of July 2, 1986 (working day 640) (to be confirmed) is considerably later than the dates being set at present as early starts and early finishes. However, it is the desire of the contractors on the job to finish as early as possible and this will be reflected in the network model late finishes according to their desires and wishes.

Early rough calculations indicate that building 200 can be completed well within the contract limits, provided no major unforeseen difficulties are generated. Of extreme importance is the fabrication and delivery of door frames. The network model takes into account a later than desired delivery on these items and assumes that most other materials will fall in place at the point required on the job as defined in the network. We shall check this assumption on a regular basis.

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

Building 300 - Monitored from Issue #5 dated February 14,
1985 (working day 287) sheets #2 through #6.

As of February 14, 1985 (working day 287) shear studs are being installed, metal deck is being completed, and masonry is in work. The goal at unit 300 is to get the insulation and roofing on by early May, 1985 and to have exterior sash and the clerestories along with doors and other skin elements complete by late June, 1985.

The building 300 has been broken into three main sections - first floor shop and locker room area (SH), second floor classrooms (CR), and first floor gym area (GY). Reprojecting completion dates from the updated network model shows it can be expected to have the first floor shop and locker room area (SH) completed about mid-October, 1985 as an early finish. The second floor classroom area could be completed as early as mid-October, 1985 and the gym area could be completed slightly earlier, probably in early or mid-August, 1985. These are early finish dates and must be carefully examined to determine how much float time available is to be used in establishing the latest allowable finish dates. These latest allowable finish dates should be such to insure the work is done early enough at each unit to prevent heavy buildup of trade requirements near the contract completion date of the project.

General

Contract A work has now all been planned in rough except for the interior rough and finish operations at unit 100. We will have the network model drafted into final form and concurrently issue rough copies of the models to the contractors and parties affected. It is anticipated that we will work aggressively on completing the final drafted sheets of the network models in the near future. Therefore, any comments on the models should be communicated to Mr. McComb as early as possible. I shall be in touch with Mr. McComb shortly to set the next planning and monitoring session.

Ralph J. Stephenson, P.E.

RJS:sps
To: Mr. Robert McComb
cc: Mr. Ed Miller
Mr. Curtis Wilson
Mr. Jim Hugent
Mr. Rupert Davey

March 12, 1985

Subject: Monitoring Report #10
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities, State of Michigan
Account #110-47-2699-001

Project: 84:29A

Date of Monitoring: March 6, 1985 (working day 301)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)
(to be confirmed)

Contract completion date: July 2, 1986 p.m. (working
day 640) (to be confirmed)

Actions taken:

- Inspected project
- Reviewed job progress with owner representative
and architect/engineer representative
- Spoke briefly to general contract superintendent
- Evaluated current job status

Building 100 - Monitored from Issue #5 dated February 14,
1985 sheets 100-1 and 100-2

Foundations for building 100 are in place and ready to receive structural steel. Steel erection had been rescheduled to mid-February but as of March 6, 1985 (working day 301) had not yet started. According to the owner, steel was to be delivered March 6, 1985 (working day 301). This would place the project approximately 10 working days behind the Issue #5 network dated February 14, 1985 (working day 287). Planning for close in of building 100 has been completed and we will complete interior rough and finish work planning at a session to be held in the near future.

I shall be in touch with Mr. Miller and Mr. McComb to set this next meeting.

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Contract A, Scott Regional Facility
Page two**

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

**Building 200 - Monitored from Issue #5 dated February 14,
1985 (working day 287)**

Structural steel erection is in work at building 200. It lags slightly over the intended dates established in Issue #5 network model dated February 14, 1985 (working day 287). However, if steel fit and trimming can be completed expeditiously, this lag probably could be recaptured.

Work at the minimum security area continues with interior rough work well along at the main minimum security housing areas and in the service core adjoining. There is no current word on when this area will be roofed and close in will be initiated, although in our Issue #5 network model dated February 14, 1985 (working day 287) it was the intent to start roofing in early March, 1985 so as to close the area and allow interior finish work to start. As of this monitoring close in has not yet been completed at the minimum security area.

(Please note that in the rough network model printed and issued by Mr. McComb that there is an error in the numbering of sheets #7 and #5 for building 200. The segregation housing (SH) floor interior work drawing labeled 200-7 should be labeled 200-5. The clinic (CL) floor interior work drawing numbered #5 should be labeled 200-7. Please make this correction to your rough set at your convenience.)

**Building 300 - Monitored from Issue #6 dated February 14,
1985 (working day 287)**

Structural steel erection and installation of metal deck is nearly complete with most work now focusing on corrective action relative to the camber in steel beams. There has been considerable trouble with the fit of the steel on the job and this corrective work is in progress. Exterior masonry is moving fairly well and generally meeting target early start/early finish dates in the Issue #6 network model dated February 14, 1985 (working day 287).

General

Overall, progress on the project has been slowed because of heavy winter weather in February and early March, 1985 along with some disruptive steel fabrication and erection problems that are now being resolved. I am currently drafting the latest updated diagrams for buildings 100, 200, and 300, and

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

will be issuing these in the near future. Building 300 will be issued first followed by 200 and 100. Meanwhile, as noted above, I shall plan to meet with Mr. Miller and Mr. McComb soon to complete planning work for building 100. I shall be in touch with each of these gentlemen at an early date.

Ralph J. Stephenson, P.E.

RJS:sps
To: Mr. Robert McComb

cc: Mr. Ed Miller
Mr. Curtis Wilson
Mr. Jim Nugent
Mr. Rupert Davey

ML
RALPH J. STEPHENSON, P.E., P.C.

CONSULTING ENGINEER

April 5, 1985

Subject: Monitoring Report #11

Contract A, Northville, Michigan

Scott Regional Facility

Bureau of Facilities, State of Michigan

Account #110-47-2699-001

Project: 84:29A

Dates of Monitoring: April 3, 1985 (working day 321) and April 5, 1985 (working day 323)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)
(to be confirmed)

Contract completion date: July 2, 1986 p.m. (working day 640)
(to be confirmed)

Actions taken:

- Completed preparing network model for unit 100
- Reviewed current job status with general contractor
- Inspected project
- Reviewed electrical tie-in work for permanent power
- Evaluated current job status

General Summary

On April 3, 1985 (working day 321) I met with Mr. Ed Miller of Dailey and Mr. Jim Nugent of Moete to complete the network modeling for unit 100. This resulted in updating of sheets 1 and 2 and preparation of new sheets 3, 4, 5 and 6, issue #7 dated April 7, 1985 (working day 321). Units 200 and 300 had been updated previously and have been issued for field use.

The wet spring weather has made the site extremely muddy. However, as much work as possible is proceeding on each of the units. Building 100 is still encountering structural steel erection difficulties. Building 200 is being closed in and slabs on grade at several areas will be constructed soon. Building 300 is

moving toward close in with the second floor deck poured out and work on the slab on grade to restart in the near future.

Overall, although the project does currently lag, it appears that if the aggressive attention shown in the past on the project is continued, that a pick up in the lags can be anticipated.

Before the monitoring on April 5, 1985 (working day 323) the three electrical contractors for contracts A, B and C met to discuss tie-in of permanent power to the cable being pulled by the contract C prime electrical contractor. Within buildings 100, 200 and 300 there are not many restraints to pulling cable to meet tie-in points. Some masonry is required at the second floor in buildings 100 and 200, but there is no major problem presently at 300 which might delay installation of cable to the manhole and tie-in point.

Present plans are for the contract C electrical prime to have permanent power available at building C by June 1985 or possibly earlier. Pulling main runs of cable is expected to begin in mid-June 1985 and be complete by early July 1985. Removal of the temporary power system will start approximately 22 working days after permanent power is available. Thus the temporary power system should be removed from the site almost entirely by the end of July 1985. There may be some need to leave isolated parts of it in service, but present plans are to remove as much of it as possible as early as can be done. Permanent power to the building should be available by mid or late July 1985.

A brief review of each major building in contract A is given below:

Unit 100 - Monitored from issue #7 dated April 3, 1985 (working day 321).

Considerable difficulty has been encountered in erecting, plumbing and bolting structural steel and joists. However, this work is now at a point where completion of steel and deck can be expected by April 23, 1985 (working day 335) or earlier. Using this as a target date, the slab on grade could be poured out by May 20, 1985 (working day 354). Once the second floor supported deck is poured out, exterior masonry can be initiated with completion of masonry presently expected by August 5, 1985 (working day 407) or possibly earlier. Roofing could go on in early August 1985.

The present early completion target for building 100 is early November 1985 for the second floor and early January 1986 for the first floor. These are desired dates and are considerably earlier than the contract target dates. We shall monitor the project carefully on a regular basis, and as it moves into close-in and interior work, we should be able to obtain a better feeling for the date it can be brought to completion and occupied.

Unit 200 - Monitored from issue #6 dated February 22, 1985
(working day 293), sheets 200-2 through 200-13

Structural steel and metal deck erection is well along and except for miscellaneous framed openings, substantially complete. At the minimum security area close-in is still not complete, but the intent is to start installation of light weight roof fill at the minimum security area sometime this month. Light weight fill was going to begin about February 28, 1985 (working day 297) weather permitting and thus the current lag is about 26 working days.

Work on waterproofing and topping at the mechanical equipment room in 2A will start by the end of the month. This work was originally to begin about March 4, 1985 (working day 299) thus will lag early starts and early finishes by about 35 working days unless an earlier start is established. The delay to close-in and subsequent exposure to weather at the interior has delayed start of interior finish work, particularly at the minimum security area. Although at present the lags are sizable, it does not appear that they are critical since float time is available in the various activities over the contract completion target. It should be noted, however, using large amounts of float time this early in the project does pose some problems since this time is then not available for later use at what might be a more critical and appropriate time.

Exterior masonry is moving relatively well and should be able to make its target early finish date of July 31, 1985 (working day 404). Since the logic of our plans shows exterior masonry preceding installation of roofing, masonry becomes very critical to complete closing in of the building. Once the weather clears slightly it should be possible to make a more comprehensive and accurate projection of work in this rather complicated sub-project.

Unit 300 - Monitored from issue #6 dated February 14, 1985 (working day 485) sheets 300-2 through 300-6

Most structural steel and joists are erected, roof deck is installed and the second floor supported deck has been poured out. It is anticipated presently that a roof should be on the building by mid-May 1985, which will give a lag over the target completion for insulation and roofing of May 1, 1985 (working day 342) of 10 to 15 working days.

Slab on grade work will resume shortly and it is intended to pour out the first floor slab on grade starting in mid-April 1985. This should allow the floor slab work to proceed to a point soon where spray-on fire proofing and rough overhead work can move into full production.

Monitoring Report #11
Scott Regional Facility - Contract A
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RALPH J. STEPHENSON, P. E., P. C.
CONSULTING ENGINEER

There is still a need to clarify the extent of the spray-on fire proofing. This is an important item and I suggest heavy attention be given it early so it does not delay the project. The general contractor superintendent and the owner will check with the architect-engineer to get answers to questions about this matter.

General

Overall the project has tended to move slower than desired because of a variety of reasons, one of which currently is the very wet weather. However, many of the problems are now resolved on the job and as the weather improves it should be possible to pick up some of the lost time.

All of the units have now been planned with units 300 and 200 having been drafted into final form and issued. Building 100 roughs have been issued to each of the prime contractors. (Note: Sheet 6 of contract A building 100 mistakenly had the designation 200 over the drawing number circle. This drawing is entitled Contract A, second floor interior work issue #7 dated April 3, 1985 (working day 321). It is in the sequence that follows sheet 100-5. (Please change the 200 designation above the circle to 100 on this sheet). When building 100 is drafted it will be issued in final form to the concerned parties.

Ralph J. Stephenson, P.E.

RJS/pw

To: Mr. Robert McComb
cc: Mr. Leo McGough
Mr. Ed Miller
Mr. Curtis Wilson
Mr. James Nugent
Mr. Rupert Davey

May 9, 1985

Subject: Monitoring Report #12
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities, State of Michigan
Account #110-47-2699-001

Project: 84:29A

Date of Monitoring: May 3, 1985 (working day 343)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)
(to be confirmed)

Contract completion date: July 2, 1986 p.m. (working day 640)
(to be confirmed)

Actions taken:

- Inspected project
- Conferred with general contractor superintendent
- Reviewed project with owner representative
- Evaluated current job status

A brief review of the current observed status of each project is given below:

Building 100 - Monitored from Issue #7 dated April 3, 1985
(working day 321)

Structural steel is nearly complete at the 100 unit although apparently there still remains some miscellaneous iron and general trimming out to do. No shear studs have yet started at the 2nd floor. Shear studs were due to have begun on April 23, 1985 (working day 335); thus, currently they lag by about 8 working days. Some work has started on filling and fine grading for slab on grade, and this work is currently meeting targets between early and late starts and finishes.

However, it is too early at present to determine with any accuracy what the current status of unit 100 truly is. We are

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presently expecting that slab on grade work would be completed by an early finish of May 17, 1985 (working day 354) and that roofing on the project which follows erection of masonry would be completed by August 16, 1985 (working day 417). The critical items are completion of slab on grade, the 2nd floor slab, and exterior masonry.

The network model for unit 100 has now been drafted and issued as Issue #7 dated April 3, 1985 (working day 321). We shall continue to evaluate the project against this desired target date as we monitor in the future.

Building 200 - Monitored from Issue #6 dated February 22, 1985 (working day 293)

Work at building 200 is now concentrated on completion of structural steel, and slab on grade work at the maintenance and warehouse areas. Work at the minimum security area has slowed, apparently awaiting close in. Structural steel and roof deck is complete at the minimum security activities area, and roofing at the minimum security area was due to have begun on March 18, 1985 (working day 309). Thus, the lag there is currently 34 working days. This, however, is not overly serious since the finish work there had considerable float time available relative to the contract completion date.

At the warehouse and maintenance area, the floor slab on grade is presently being poured out. Some overhead work has started there, and in general, work at the warehouse and maintenance portion of the facility is currently meeting early start/early finish targets.

At the clinic area, there is no major work currently in progress. Structural steel has been erected but there have been some delays in erection of metal deck and installation of shear studs. Metal deck for the entire 200 unit was due to have been completed by March 29, 1985 (working day 319) with shear studs to follow immediately. Once shear studs were in, second floor decks were to have been poured out. These decks were to have been completed by May 6, 1985 (working day 345) p.m.

Pouring out these decks releases relatively important trades including continuation of exterior masonry and spray on fireproofing.

The lag on structure and close in appears to be presently about 19 working days. Although relative to each of the interior areas this does not pose too serious a problem, in

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terms of the contract completion date, the lag will tend to cause bunching up of trades near the end of the project and could cause some manpower level difficulties if sequencing is not reestablished soon.

At the segregation housing area, no major production above floor rough work has yet begun. This work was due to start at an early date of June 5, 1985 (working day 365).

At the food service areas, above floor rough work was due to begin by an early start of May 14, 1985 (working day 350). It does not appear presently that this date will be met.

Overall, unit 200 is not in serious trouble at this point except that the desired trade sequencing as has been established in the network model Issue #6 dated February 22, 1985 (working day 293) is presently out of phase. As the project proceeds we shall make subsequent evaluations with the contractor to determine their desires relative to the procedures through various areas of the building.

Building 300 - Monitored from Issue #6 dated February 14, 1985 (working day 287)

Exterior masonry is being completed with some areas having been left out for access to the interior of the building. The slab on grade column line A to F has been poured out, and rough work at shop areas is currently meeting late start/late finish dates. The second floor slab has been poured, and the isolation slab at the second floor is expected to begin shortly. This isolation slab work was due to have begun at a late start of April 1, 1985 (working day 319) so currently lags by about 24 working days.

No insulation and roofing has yet been placed, but it is anticipated by the contractor that it will be installed in mid or late May, 1985. The target date for start of installation was April 11, 1985 (working day 327). Thus, the projected lag there could be as much as one to one and one-half months.

A trade that must be watched carefully and planned very soon is spray on fireproofing. Spray on was due to begin May 2, 1985 (working day 342) and will be essential to start before too much additional above floor rough work is installed due to possible interference problems.

Thus, at building 300 we now are getting under way at the isolation slab at the 2nd floor, completing close in of the building, and initiating work on spray on fireproofing. Again,

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CONSULTING ENGINEER

the project is not dislocated sufficiently far from the Issue #6 network diagram dated February 14, 1985 (working day 287) to cause serious concern about the completion date relative to the contract completion. We shall be able to evaluate better at our next session where the job actually stands since at present, the entire construction work on contract A is emerging from the winter weather and still is straightening out so far as sequence is concerned.

General

Although there has been some dislocation of the project from the network models for building 100, 200, and 300 we shall defer any replanning until felt essential by the parties to the contract. I shall continue to monitor from these networks and report progress in comparison to them. I shall also stay in touch with the owner and the prime contractors to determine their desires on updating. Meanwhile, I shall be in touch with Mr. McComb shortly to set the next monitoring session.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Robert McComb
cc: Mr. Leo McGough
Mr. Ed Miller
Mr. Curtis Wilson
Mr. James Nugent
Mr. Rupert Davey
Mr. Walter Baraboll
Mr. David Renshaw

June 13, 1985

Subject: Monitoring Report #13
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities, State of Michigan
Account #110-47-2699-001

Project: 84:29A

Date of Monitoring: June 7, 1985 (working day 367)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)
(to be confirmed)

Contract completion date: July 2, 1986 p.m. (working day 640)
(to be confirmed)

Actions taken:

- Inspected project
- Conferred with general contractor superintendent
- Reviewed project with owner and architectural engineering representatives
- Evaluated current job status

A brief review of the status of each project is given below:

Building 100 - Monitored from Issue #7 dated April 3, 1985
(working day 321)

The target end dates in the Issue #7 network model dated April 3, 1985 (working day 321) are p.m. October 31, 1985 (working day 470) for the 2nd floor and p.m. January 7, 1986 (working day 515) for the 1st floor. The measurement in this monitoring is against these end dates which are considerably earlier than the contract end date.

At unit 100, portions of the 1st floor slab on grade have been poured out and the second floor slab will probably be poured out near the end of the month. The lags in the building measured against the current network model used for monitoring are 16 working days as a current lag at the slab on grade and 39 working days as a projected lag for the 2nd floor deck.

Current lag is the measurement as of the monitoring without taking into account any projected completions. Projected lags take into account information that projects ahead as to when an action will occur. Thus, we can generally presume that with the current logic and network model that this project is about 39 working days behind the target completion.

It should be noted that the exterior masonry was shown as starting after completion of the second floor supported deck. It is possible that this masonry could begin earlier depending upon the desires of the general contractor. At present, however, the masons are on strike. This strike began Monday, June 3, 1985 (working day 363) and is currently affecting all units in contract A. There is no authentic word on when the strike might be resolved although there is some feeling that it could be settled by the end of the month or earlier. However, at present all masonry work for contract A and the other contracts is at a standstill.

Building 200 - Monitored from Issue #6 dated February 22, 1985 (working day 293)

The end dates shown in this issue of the network model (Issue #6 dated February 22, 1985, (working day 293) are as follows:

- Clinic (CL) - p.m. January 10, 1986 (working day 518)
- Segregation housing (SH) - p.m. December 27, 1985 (working day 509)
- ^{M.S.} Medium security (MS) - p.m. June 28, 1985 (working day 383)
- Food service (FS) - p.m. January 9, 1986 (working day 517)
- Warehouse and maintenance (WM) - p.m. November 11, 1985 (working day 482)

It should be noted that these dates are presently considered as desired target late finishes for each of the areas. However, the contract end dates for the entire contract A work is considerably later being July 2, 1986 p.m. (working day 640). The lags noted below are not as yet too serious; however, they are getting large enough to consider updating the plan sometime in the near future.

At the clinic area, the main lag is in the slab on grade work which will be completed sometime during the middle or end of

June. The lag there is estimated at approximately 30 working days projected. At segregation housing, the lag appears to be in spray on fireproofing and is about 22 working days currently, although some overhead work has been started ahead of the spray on.

At the minimum security area, closing in the building is still moving slowly and the lag there is estimated at 53 working days currently. Food service area slab on grade is also to be poured the latter part of June, 1985 and the projected lag there is about 38 working days.

At the warehouse and maintenance area, considerable overhead work is under way and the slab on grade is being completed. Currently there is no lags over late starts and late finishes.

As noted above, the masonry strike has stopped work on all exterior masonry. Overall, the lags and their impact on contract end dates are still not of serious concern; however, it is beginning to appear that the lags are increasing to a point where it would be wise to re-evaluate the current target desired end dates.

Building 300 - Monitored from Issue #6 dated February 14, 1985 (working day 287)

The target end dates for the various areas of building 300 are:

- shop and locker room (SH) - p.m. October 17, 1985 (working day 460)
- classroom (CR) - p.m. October 28, 1985 (working day 467)
- gym (GY) - p.m. September 5, 1985 (working day 430)

At building 300, shop and locker room area above floor rough work is moving quite well although no sprinkler piping has been installed as yet. All other above floor rough work there is currently meeting targets between early and late starts and finishes. I suggest sprinkler piping be given close attention over the next few days to insure that it does not hold up succeeding work. Also of concern is spray on fireproofing which has not yet been applied on the structural steel members. The area is becoming congested enough so that difficulty might be encountered in applying this spray on fireproofing. It would be well to consider how it can be put

on as soon as possible. Apparently there are some dead load considerations that are presently influencing a decision in this matter, and I suggest the sequencing be re-evaluated very carefully.

At the second floor classroom area, the isolation slab has been poured out and jacking of this slab to elevation is expected to begin June 14, 1985 (working day 372) if the concrete has reached its desired strength. Jacking of this slab was originally expected to begin no later than April 22, 1985 (working day 334) so the projected lag in jacking the slab into place is about 38 working days; however, work has started on above floor rough work at the classroom area and the current lag on this work is about 15 working days, which represents a more accurate measurement of the behind situation. Again, sprinkler piping is the major lagging trade at the 2nd floor.

At the gym area, the slab on grade has not yet been installed, although it is expected that this work will be completed about June 20, 1985. Meanwhile, it is anticipated that some overhead rough work will begin in the very near future. The lag at the gym presently appears to be about 28 working days, projected from start of installation of the above floor rough mechanical and electrical work. Roofing has not yet been applied at the gym area, but should be installed sometime within the next one or two weeks.

Most exterior masonry at 300 except for access to the building is complete, and does not appear presently to be a major holdup to the work.

At interior areas, a key trade to watch for over the next few weeks will be the start of plastering. This work was due to begin at the 2nd floor at the classroom area no later than July 8, 1985 (working day 387), and at the shop and locker areas at the 1st floor no later than July 18, 1985 (working day 395). As of June 7, 1985 (working day 367) the amount of time left between the end dates reflected in the network model Issue #6 dated February 15, 1985 (working day 287) and the projected end dates from the present lags is not excessive although the amount of finish work being pushed back in each of the areas is enough to warrant concern as to excessive bunching up of trades near the end of the project.

General

Overall, work at the contract A areas buildings 100, 200, and 300 continues to lose time over the desired end dates reflected in the current network models. The amount of loss

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RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER

over the past four and a half weeks is sufficient to warrant review of the project to see if an updating to provide more accurate end targets would be in order. I shall discuss this matter with the parties involved and, at our next monitoring, we can perhaps review this in greater detail. In any event, I suggest we wait until the masonry strike is over to make any major updating of the network models.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Robert McComb
cc: Mr. Leo McGough
Mr. Ed Miller
Mr. Curtis Wilson
Mr. James Nugent
Mr. Rupert Davey
Mr. Walter Baraboll
Mr. David Renshaw

August 2, 1985

Subject: Monitoring Report #14
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities, State of Michigan
Account #110-47-2699-001

Project: 84:29A

Date of Monitoring: July 24, 1985 (working day 399)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)
(to be confirmed)

Contract completion date: July 2, 1986 p.m. (working day
640) (to be confirmed)

Actions taken:

- Inspected project
- Reviewed progress with owner representative
- Discussed project briefly with mechanical contractor
superintendent
- Evaluated current job status

General

The masons strike noted in the previous report has been settled; however, there are now some minor difficulties in roofing of buildings in contract A. This matter is being resolved quickly and should pose no delay to closing in roof areas of each facility.

A brief review of each building status is given below:

Building 100 - Monitored from Issue #7 dated April 3, 1985
(working day 321)

Target end date for second floor - p.m. October 31, 1985
(working day 470) (541) (Iss. #1)

Target end date for first floor - p.m. January 7, 1986
(working day 515)

(571) (Iss. #8)

Close in of the project continues to lose ground, and the current lag on exterior masonry is about 54 working days. This is a sizable delay situation and is beginning to move the desired end dates noted above closer to the contract completion date. This, of course, tend to bunch up trades near the end of the project and is a situation that had been desired to avoid by virtue of staggering completion dates on the entire contract A work.

The slab on grade is poured out as is the 2nd floor slab, and interior rough work is in progress. Interior rough work lags by 9 to 24 working days at the first level. Thus, if time can be picked up on close in of the project it is possible that the project could be brought back into closer alignment with dates on the current network model, Issue #7 dated April 3, 1958 (working day 321).

The lag is now large enough in unit 100 that I suggest we seriously consider updating the current network model to more closely reflect actual target dates desired by all concerned.

Building 200 - Monitored from Issue #6 dated February 22, 1985 (working day 293)

The various lags at the 200 building are fundamentally in close in and above floor rough mechanical and electrical work. This work, of course, was dependent upon getting floor slabs on grade in place and supported decks ready to receive above floor mechanical and electrical work. Most slabs on grade are now complete, as are the supported decks. Masonry is moving on around the building and it should be closed vertically in the near future. Roofing of the total complex lags and there probably will be additional delays until roofing difficulties are resolved.

At present, the lags at each of the major areas are approximately as follows:

- Clinic (CL) 29 to 49 working days in above floor rough electrical work
- Security housing (SH) - from 2 to 11 working days in above floor rough work
- Medium security (MS) - approximately 85 working days in close in of the building
- Food service (FS) - approximately 45 working days in rough above floor work

- .- Warehouse and maintenance area (WM) - approximately 11 working days in above floor rough work

These lags are not excessively serious at present due to the large amount of float time available over desired late finishes as outlined in Monitoring Report #13 page two dated June 13, 1985. However, the slippage is such that it would be well to consider a complete updating of the building 200 network model to more closely reflect what is actually to be done on the project in the coming 9 - 12 months.

Building 300 - Monitored from Issue #6 dated February 14, 1985 (working day 287)

At the shop and locker room areas (SH), the current major lag is in sprinkler piping which is behind late starts and late finishes by about 50 working days. Spray on fireproofing has been started, and currently lags by about 57 working days, although this does not reflect a true delay since much of the work that was originally to be done after spray on had been completed is already in place.

The true lag on the shop area can be measured against the projected starting point for installation of plaster ceiling and enclosure framing and lath. This was due to have begun no later than June 19, 1985 (working day 375) and the current lag over this date is 24 working days.

Here, too, the lags are enough to warrant consideration of an updating of the entire network model to reflect current positions.

At the gym area, the floor slab on grade has been poured out, and work there is in reasonably good shape measured against the contract completion date. However, sprinkler piping has not yet started. This was due to have begun no later than May 7, 1985 (working day 345) and currently lags by almost two months. However, this installation should not materially hold up painting which is the next trade to begin at the gymnasium. Painting was due to begin no later than June 5, 1985 (working day 365). This was measured against a desired late finish at the gym of September 5, 1985 p.m. (working day 430). Finishing will undoubtedly be later but it should have no significant impact upon the contract target completion date.

The second floor classroom areas are now being concentrated upon with masonry well along and much of the above floor mechanical and electrical work in place. Again, sprinkler work has not yet started and lags at the second level by 47 working

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

days currently. The floor slab at the 2nd floor was raised into place in about ten working days and apparently no difficulties were encountered in bringing it to the correct elevation.

Lags at the classroom areas can be measured against the start of installation of plaster framing and lath. The framing and lath was due to begin no later than June 14, 1985 (working day 372) with plastering to have begun no later than July 8, 1985 (working day 387). These are all measured against a target completion desired of October 29, 1985 (working day 467).

General

Overall, the status of the contract A work in buildings 100, 200, and 300 is presently such as to warrant serious consideration of updating. I strongly recommend this updating be done and will discuss it with Mr. McComb and the other parties involved. It would be well to update in August at our regular planning and monitoring session. The amount of time required should not be a great deal since the logic is to a great extent already done and set out for those areas not yet in work. Again, I shall be in touch with Mr. McComb shortly to set the dates for this updating process.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Robert McComb

cc: Mr. Leo McGough
Mr. Rupert Davey
Mr. David Renshaw
Mr. Walter Baraboll
Mr. Curtis Wilson
Mr. Ed Miller
Mr. James Nugent

WM.
RALPH J. STEPHENSON, P. E., P. C.
CONSULTING ENGINEER
September 6, 1985

Subject: Monitoring Report #15
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities, State of Michigan
Account #110-47-2699-001

Project: 84:29A

Date of Monitoring: August 29, 1985 (working day 425)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)
(to be confirmed)

Contract completion date: July 2, 1986 p.m. (working day
640) (to be confirmed)

Actions taken:

- Inspected project
- Reviewed progress with owner and contractor representatives
- Updated all units in contract A to following issues:
 - Building 100 - Issue #8 dated August 29, 1985 (working day 425)
 - Building 200 - Issue #7 dated August 29, 1985 (working day 425)
 - Building 300 - Issue #7 dated August 29, 1985 (working day 425)
- Evaluated current job status

General

Due to the ongoing lag on the project it was felt desirable to make a complete updating of the entire network model for all contract A work. The updating was done at this session in conjunction with the owner, the general contractor, the mechanical contractor, and the owner. The electrical contractor was not present at the meeting but the updated

network model will be distributed to them for their review and use. In addition, the general contractor will bring to the attention of the electrical contractor those updating revisions made. In general, we tried to conform mainly to existing logic and durations making changes only where it was absolutely essential.

Overall, the project appears to be capable of completion by the presently assumed contract date of July 2, 1986 (working day 640) p.m. However, for certain sections of the building, primarily at building 200, specifically at the food service area, the new contract completion dates in the updated network model are extremely close to the contract completion date. Care will have to be taken that these projects do not slip excessively over the target dates shown in the network model issue of August 29, 1985 (working day 425).

The difficulties that have been encountered due to business problems with the original roofer are being resolved gradually but still are impacting upon the project. Of greater importance presently is the apparent inability to develop a production installation cycle on above floor rough fire protection work. Sprinkler piping is now extremely critical to all three units, and it is imperative that better progress be shown in this trade if conformance to the updated network model is to be maintained. I strongly recommend immediate conference steps be taken to determine what the difficulties are and how they are to be resolved. Sprinkler piping repeatedly proved to be an important item in the updating of the network models and needs attention now.

In the analysis below, we have used the calculated dates from the rough updated diagrams. These calculations are yet to be checked and therefore, the dates given are subject to change. However, they are the best information available currently. The updated network models are presently being drafted into final form and will be issued in the near future.

Building 100 - Monitored from Issue #8 dated August 29, 1985 (working day 425)

Estimated target end date for 2nd floor - p.m. February 12, 1986 (working day 541)

Estimated target end date for 1st floor - p.m. March 26, 1986 (working day 570)

Projected completion dates are considerably later than those anticipated by the network model, Issue #7 dated April 3, 1985 (working day 321). Nevertheless, the completions still fall within the total contract completion time.

At present, masonry is being erected at the exterior of the building and it is anticipated this masonry should be complete within the next 15 - 25 working days. Meanwhile, interior slab on grade work has been completed. Above floor rough sheet metal, mechanical piping, and electrical conduit and feeders is proceeding at both the first and second floors. The trade that is most likely going to pose delay difficulties is sprinkler piping presently due to begin in the building on October 1, 1985 (working day 447), primarily due to a lack of manpower. It is imperative that this work be brought on the project as quickly as possible since presently it shows every sign of being a major delay item.

At present, the sequencing plan shows interior work on the two floors proceeding somewhat concurrently although first floor installation probably will take longer than that at the 2nd floor. It should be noted that security equipment installation is not included as part of the target end dates described above. This work will continue on past the installation of the other trades and probably will continue into late May, 1986. We shall evaluate these sequences as the close in of the buildings proceeds and interior work is initiated.

Building 200 - Monitored from Issue #7 dated August 29, 1985 (working day 425)

The updated estimated target completion dates (subject to further check) are as follows:

- Clinic (CL) - p.m. June 20, 1986 (working day 632)
- Segregation housing (SH) - p.m. April 30, 1986 (working day 596)
- Minimum security (MS) - p.m. January 14, 1986 (working day 520) (514) 614 (522) security
- Food service area (FS) - p.m. June 30, 1986 (working day 638)
- Warehouse and maintenance (WM) - p.m. November 26, 1985 (working day 488) (485)

Again, these are tentative early finish dates and will again be checked prior to issuance and use. This process is now in progress.

At present at unit 200, most floor slabs on grade have been poured out and above floor rough sheet metal, mechanical piping, and electrical work is being installed. Masonry is

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moving along fairly well with exterior masonry yet to be completed. There probably are 15 to 25 working days remaining to complete exterior masonry. As with other contract A units, sprinkler piping must be given special attention. We used a starting date for above floor rough sprinkler piping in the clinic area and other sectors of the building of December 2, 1985 (working day 490). This appears to be a very late date for this work to start, and I suggest attempts be made to improve upon it. This will be given special attention by the prime contractors.

Building 300 - Monitored from Issue #7 dated August 29, 1985 (working day 425)

Revised completion targets for building 300 are as follows:

- 1st floor shop and locker room area - p.m. January 28, 1986 (working day 530)
- 2nd floor classroom area - p.m. February 18, 1986 (working day 545)
- gymnasium - late finish of p.m. March 31, 1986 (working day 574)

As with other units completion targets are subject to further check. At building 300, the facility is nearly closed in and interior finishes are ready to start. However, as with other areas the major problem remains installation of sprinkler piping. Sprinkler piping is partially complete in the building but is still a restraint on following work particularly ceiling installation at many other areas.

The present target completion date reflected in Issue #7 dated August 29, 1985 (working day 425) are within the contract completion limits. However, the excessive amount of slippage that has occurred on the project over the past few months is cause for concern and makes it imperative that careful attention be given to maintaining adherence to the current network model.

General

The updating is now completed and the finish network model is being put into final form and dated. It will be issued to

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Page five

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

Mr. McComb for distribution sometime in the near future.
Meanwhile, we shall monitor from the updated issues as noted
above.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Robert McComb
cc: Mr. Leo McGough
Mr. Rupert Davey
Mr. Tom Davis
Mr. Walter Baraboli
Mr. Curtis Wilson
Mr. Ed Miller
Mr. James Nugent

September 24, 1985

Subject: Monitoring Report #16
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities
State of Michigan
Account #110-47-2699-001

Project: 84:29A

Date of Monitoring: September 19, 1985 (working day 439)

Monitored from issues noted below

Date of notice to proceed: June 5, 1984 (working day 110
(to be confirmed))

Contract completion date: July 2, 1986 p.m. (working
day 640) (to be confirmed)

Actions taken:

- Inspected project
- Reviewed progress with owner representatives
- Evaluated current job status

A review of each building and its current observed status is given below:

Building 100 - Monitored from Issue #8 dated August 29, 1985
(working day 425)

Estimated target end date for 2nd floor - p.m. February 12,
1986 (working day 541)

Estimated target end date for 1st floor - p.m. March 26,
1986 (working day 571)

(Note: In Monitoring Report #15 on page #2 the working day designation for the estimated target end date for the 1st floor was given as 570. This should be 571. Please make this correction on your copy.)

Exterior masonry is still in progress as of September 19, 1985 (working day 439). It had an estimated target early completion date of September 20, 1985 (working day 440). Probably erection of masonry will continue on past that date although it does not appear that presently it is causing any serious inconvenience. However, cold weather is rapidly approaching, and it would be well to close in the building as soon as possible. Roofing was due to begin by September 20, 1985 (working day 440). Because of major difficulties that have been encountered with the roofer, however, there is no current assurance that roofing will begin in the very near future. This is a serious matter and is being constantly addressed by all parties affected.

Work at the 1st and 2nd floors on above floor rough mechanical and electrical installation is proceeding; however, difficulty still is being experienced in installation of above floor rough sprinkler piping. In the network model being used for current monitoring, sprinkler piping was due to begin at the 1st floor by October 1, 1985 (working day 447) and to start concurrently at the 2nd floor. This is still a vitally important trade, and if any time is to be picked up it will be critical to regain it in this operation.

The combination of the delay to sprinkler piping and the problems being encountered in completing insulation and roofing are of a very serious current nature. At the 1st and 2nd floor both plastering is restrained by the dry in of the building which presently is expected to be achieved, according to this network model, by October 4, 1985 (working day 450). The plan of work shows the true restraint on plastering to be above floor sprinkler piping, which in turn restrains the installation of the plaster ceiling suspension and lath. It should be re-emphasized here that the completion dates mentioned earlier are for building work exclusive of the security installation. Security installation in accordance with the current network model Issue #8 dated August 29, 1985 (working day 425) is anticipated to continue on to late May, 1986 which is very close to the target contract completion date.

Building 200 - Monitored from Issue #7 dated August 29, 1985 (working day 425)

Exterior masonry erection is continuing, and probably will extend on past the desired completion point on the morning of September 20, 1985 (working day 440). No estimate was available as to how much longer masonry might require.

The major problems at this unit as with the others is installation of insulation and roofing and erection of interior fire protection piping. These items still lag, and the building is now approaching a point where close in is essential to maintain ongoing progress of trades in the field.

At the clinic area, above floor sheet metal duct work is moving reasonably well; rough mechanical piping is substantially complete, and rough electrical conduit and feeders are in work. No work has started on sprinkler piping as yet.

At the clinic, the sprinkler piping start was shown on our updated network model as being on December 2, 1985 (working day 490). This is quite late and every effort should be made to improve on the start. No word was available as to whether this would be possible or not. In accordance with this target start, the completion of the clinic area is presently set for the p.m. of June 20, 1986 with security systems to be complete by no later than the evening of June 30, 1986 (working day 638). These dates, as can be seen, are extremely close to the contract completion date and thus, it is desirable to pick up time on potentially delaying trades early, rather than trying to recapture the time at a later point. We should review the possibility of an earlier fire protection start at each of our monitoring sessions.

At the security housing area (SH), above floor rough work again, with the exception of sprinkler piping, is moving relatively well, and there does not appear to be any problem meeting the plaster ceiling suspension framing and lath date with the current target start of sprinkler piping. However, again, this date must be improved upon if we are to bring total completion of security housing back earlier than is shown on the p.m. of April 30, 1986 (working day 596).

At the minimum security area, there has been very little change from the previous monitoring. The area is still not closed in, and there is still sprinkler piping and other above floor rough work to install. The key item here is plastering, which under our present plan of work has an early start of October 14, 1985 (working day 456). There is no current word on the probability of meeting this date. However, again, in order to space trades properly, it is important that careful attention be given to expediting rough work to the greatest degree possible, concurrently with expediting close in work.

Above floor rough mechanical and electrical work at the food service area is in progress with the exception of rough sprinkler piping. This food service area is one of the later finishing areas, and anything that can be done to expedite work leading to the start of plastering would be of help. Here, as with some of the other areas, sprinkler piping was set to begin December 2, 1985 (working day 490). However, this is a very serious matter presently, not only because of its late starting, but also because other areas have also been projected to begin at the same time. It is apparent that without adequate manpower it would be difficult for the sprinkler contractor to work in several different areas of building 200 at the same time. Further discussions about this matter must be carried out as the work continues, to determine how the contractor intends to proceed with the sequencing of the fire protection work.

Rough work at the warehouse and maintenance area (WM) is moving reasonably well although again sprinkler piping is not yet fully under way. Here sprinkler piping was set to begin on December 9, 1985 (working day 495) since the area is a relatively unfinished portion of the building, and other work can proceed concurrently while sprinkler piping is being installed.

A full re-evaluation of the warehouse and maintenance will be made as soon as more authentic information is available relative to the sprinkler installation work.

Building 300 - Monitored from Issue #7 dated August 29, 1985
(working day 425)

Roofing at the 300 unit is still not complete, and must be done before water can be kept out of the building without damaging finish trades. Presently this remains the major unfinished close in element aside from glazing. At the first floor shop and locker room area, overhead work is in reasonably good shape with the exception of sprinkler piping which still remains to be completed. Work is in progress at the first floor on installation of plaster ceilings and enclosure framing and lath. Plastering was due to begin on the first floor by October 25, 1985 (working day 465). Depending on whether or not sprinkler piping can be completed in a timely fashion, this date can possibly be met.

At the classroom area on the 2nd floor, overhead work with the exception of sprinkler piping has moved well, and as soon as sprinkler piping is complete, column and ceiling plaster

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CONSULTING ENGINEER

framing and lath can start on a production basis. Plastering at the 2nd floor was due to begin no later than October 25, 1985 (working day 465). We shall continue to evaluate the probability of meeting this date as we monitor the project.

General

The updated network models for the contract A work are now being drafted and will be issued in the very near future. The dates shown in these networks reflect some of the difficulties that have been encountered with the roofing contractor and the fire protection contractor. Some end dates are uncomfortably close to the contract end dates and must be evaluated on an ongoing basis. We shall continue to gauge the project at our monitoring sessions relative to the desirability of updating if improved performance can be gained from some of the present lagging trades. However, for the present, we will plan to issue the network model as updated at our most recent planning and updating session.

Ralph J. Stephenson, P.E.

RJS;sps

To: Mr. Robert McComb
cc: Mr. Leo McGough
Mr. Rupert Davey
Mr. Tom Davis
Mr. Walter Baraboll
Mr. Curtis Wilson
Mr. Ed Miller
Mr. James Nugent

October 28, 1985

Subject: Monitoring Report #17
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities
State of Michigan
Account #110-47-2699-001

Project: 84:29A

Date of Monitoring: October 22, 1985 (working day 462)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)
(to be confirmed)

Contract completion date: July 2, 1986 p.m. (working day 640)
(to be confirmed)

Actions taken:

- Inspected project
- Reviewed progress with owner representative
- Evaluated current job status

A review of each building and its current observed status as of October 22, 1985 (working day 462) is given below:

Building 100 - Monitored from Issue #8 dated August 29, 1985 (working day 425)

Estimated target end date for 2nd floor - p.m. February 12, 1986 (working day 541)

Estimated target end date for 1st floor - p.m. March 26, 1986 (working day 571)

It should be noted that the above target end dates are desired dates set in Issue #8 dated August 29, 1985 (working day 425). The project status in this report is measured against these end dates.

At building 100, most exterior masonry is complete, the roof is on but there are some corrections that must yet be done.

Roof top equipment is set. Exterior sash is not yet installed. However, the building is, at this point relatively easy to close in when finish trades are to start. At the 1st floor, overhead work is moving very well and except for sprinkler piping is in alignment with target early and late starts and finishes. Sprinkler piping which was due to have begun on October 1, 1985 (working day 447) is not yet started in production. Thus, the lag there is about 15 working days. This is a serious lag since if it is allowed to affect the start of interior finish work it will be bring the floor end date to early or mid-March, 1986 which is relatively close to the contract target end dates.

The major measurement of project status will be against start of interior plaster ceiling suspension, framing, and lath and the subsequent beginning of plastering. The suspension framing and lathe is due to begin no later November 12, 1985 (working day 477) with plastering to begin no later than November 19, 1985 (working day 482).

At the 2nd floor, above floor rough work was to proceed concurrently with that at the first floor, and sprinkler piping there is also 15 working days behind the desired target early and late start dates of October 1, 1985 (working day 447). Again, at the 2nd floor plastering suspension and framing was due to begin on November 12, 1985 (working day 477) with plastering to start no later than November 27, 1985 (working day 488). The lag at the 2nd floor like at the 1st, is also 15 working days, currently. This lag brings the projected completion, as of October 22, 1985, to late April, 1986 also later than had been desired.

It should be remembered that the target completion dates above are for building work. Security work has a different set of completion dates which will be affected by any delays in early building work. For instance, at the 1st floor, security systems were to be completed and checked by the evening of May 21, 1986 (working day 611). If we consider the current lag of 15 working days to reflect itself in a delay to security work and checking out of the systems, this 1st floor checking will be completed by June 13, 1986 (working day 626) now only 14 working days from the contract completion date. I strongly urge that careful attention be paid the unit 100 along with the other contract A units to insure that work is being expedited to the greatest extent.

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CONSULTING ENGINEER

Building 200 - Monitored from Issue #7 dated August 29, 1985
(working day 425)

Most major rough close in items are complete except for required roofing corrections and miscellaneous opening closures in exterior walls. At the clinic area (CL), rough overhead installation is very well along except for sprinkler piping which is just barely starting. We had assumed sprinkler piping as beginning on December 2, 1985 and thus it is currently not a critical problem. The finish date for the clinic work, however, was June 20, 1986 p.m. (working day 632) for major building work and June 30, 1986 p.m. (working day 638) for security work. Since these dates are extremely close to the contract completion dates, it would be wise to initiate interior finish operations as quickly as possible.

Presently plaster ceiling suspension and framing is due to begin no later than January 15, 1986 (working day 520). If sprinkler piping moves well, it is entirely possible this date could be improved upon and thus, improve upon the total completion. I highly recommend consideration be given to such course of action.

At the segregated housing area (SH), rough overhead work is continuing except for sprinkler installation. Here plaster ceiling suspension and lath was due to begin no later than December 9, 1985 (working day 495) with total completion of segregated housing by April 30, 1986 p.m. (working day 596). This indicates that there will be little, if any, trouble meeting the target desired end dates for finish work.

At the minimum security area, work is still not moving as well as it could, and installation of framing and lath for plaster surfaces which was due to begin no later than September 16, 1985 (working day 436) has not yet started. The lag currently is 36 working days. This lag is critical even though the target end date of the unit is January 6, 1986 p.m. (working day 514). Such a large lag, which seems to be ongoing, could easily cause problems of schedule completion at the minimum security area (MS).

Food service rough in work is moving relatively well, except for sprinkler piping. Sprinkler piping, however, was due to begin no later than December 2, 1985 (working day 490). This brought us to a completion point on the project for the food service area of the p.m. of June 30, 1986 (working day 638). This, again, is very close to the contract target completion and anything that can be done to improve installation performance for sprinkler piping would be of help. The target date for starting plaster ceiling suspension framing and lath is currently January 22, 1986 (working day 525) or earlier.

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The warehouse and maintenance area (WM) work is in fairly good shape since the target completion in the Issue #7 network model dated August 29, 1985 (working day 425) was set at December 4, 1985 p.m. (working day 493). Interior painting was due to begin on September 6, 1985 (working day 430). No major production operation has yet begun there. Thus, the lag could be considered about 25 to 30 working days. This has no major serious effect upon meeting contract target dates but it would be well to get the area closed in and available for interior finish work by the time cold weather starts.

Building 300 - Monitored from Issue #7 dated August 29, 1985
(working day 425)

Most close in at building 300 is complete, although there is a possibility that portions of the roof will have to be reworked. This matter is being evaluated.

At the first floor shop and locker room area (SH), installation of plaster and lath enclosures continues, and plastering should be able to begin sometime in the near future. The target starting date in the network model Issue #7 dated August 29, 1985 (working day 425) was October 25, 1985 (working day 465). It appears that this date could be met although there was no current word on whether plastering will begin then or not.

Elevator work has moved slowly and to date, there is nothing in terms of major progress relative to elevator installation except for having the hydraulic shaft sunk. Steel stairs are installed and other miscellaneous interior work is in progress.

The key date for first floor operations is the start of plastering so as to meet the target completion date of January 28, 1986 p.m. (working day 530).

At the 2nd floor, the major holdup there will be sprinkler piping which was due to begin no later than September 6, 1985 (working day 430). This restrains the installation of ceiling work which is critical. The target end date for the 2nd floor classroom areas (CR) was set at February 18, 1986 p.m. (working day 545). The current lag is about 30 working days which means that completion could now be as late as April 2, 1986 (working day 575). This, of course, brings the completion closer to the contract completion date and is beginning to bunch up trades when taken in conjunction with other area work that is currently lagging.

On this contract, it will be important to space out the work so that excessive demands for trade action is not concentrated all in one or two months. This is one of the reasons why the

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end dates were staggered. It would be well for all concerned to review present plans and schedules to determine where such undesirable bunching of trades is apt to occur, and then to take steps to avoid it.

General

All contract A units - 100, 200, and 300 - are showing ongoing lagging tendencies, particularly in closing and start of interior finish trades. This will become increasingly critical as cold weather approaches, and many of the trades will now have to be installed during these lower temperature times of the year. Thus, it becomes imperative that full close in for all units is accomplished as quickly as possible.

I shall be in touch with Mr. McComb shortly to set the next monitoring session.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Robert McComb
cc: Mr. Leo McGough
Mr. Rupert Davey
Mr. Tom Davis
Mr. Walter Baraboll
Mr. Curtis Wilson
Mr. Ed Miller
Mr. James Nugent

December 16, 1985

Subject: Monitoring Report #18
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities
State of Michigan
Account #110-47-2699-001

Project: 84:29A

Date of Monitoring: December 11, 1985 (working day 497)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)
(to be confirmed)

Contract completion date: July 2, 1986 p.m. (working
day 640) (to be confirmed)

Actions taken:

- Inspected project**
- Reviewed progress with owner and architect/engineer representatives**
- Evaluated current job status**

A review of each building and its current observed or reported status as of December 11, 1985 (working day 497) is given below:

Building 100 - Monitored from Issue #8 dated August 29, 1985
(working day 425)

Estimated target completion date for 1st floor -
p.m. March 26, 1986 (working day 571)

Estimated target completion date for 2nd floor -
p.m. February 12, 1986 (working day 541)

It should be noted that the above target end dates are desired dates set in Issue #8 dated August 29, 1985 (working day 425). The project is being measured against these end dates.

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Currently in building 100 most exterior skin work is complete except that the damaged roof must be repaired. Apparently most of this damage occurred during a storm on December 2, 1985 (working day 490). Delays to the repair work could seriously affect interior finish work progress and should be expedited.

At the first floor current lags are in sprinkler piping, installation of hollow metal frames and erection of interior masonry. Sprinkler piping was due to begin at a late start of October 1, 1985 (working day 447). It has not yet begun in a full production mode. Thus, the lag in sprinkler piping is currently about 40 working days.

Hollow metal frames and masonry are in progress at the first floor but currently lag the network model by about 24 working days each. This is a serious delay and must be picked up so that as the sprinkler piping moves to completion interior studs and ceiling work can proceed without delay.

Applying the current lag to desired completion dates shows a projected completion of building work on May 7, 1986 (working day 601) and of security installation on July 18, 1986 (working day 651). The building completion is prior to the contract end date but security installation apparently will extend beyond the contract date by about 11 working days. This lag is very serious and if immediate action is not taken to improve field performance will be difficult to recapture and bring the project to completion as required.

Stairs to the second floor are not yet installed. Work at the second floor lags the current network by about 50 working days, basically in installation of sprinkler piping. This affects most interior finish item work, and as on the first floor is a serious matter.

Based on the current lag, projected completion dates for second floor building work are presently about April 23, 1986 and for security work about May 22, 1986. The problem with the delay impacts on finish work is that they are now pushing projected end dates out to a point where installation of finish work in many areas of the project is being done concurrently or without adequate sequencing time. This will tend to bunch up interior work trade operations and may make it difficult to adequately man the project.

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Building 200 - Monitored from Issue #7, dated August 29, 1985
(working day 425)

Completion dates for building 200

Clinic building work - June 20, 1986 p.m.
(working day 632)
Clinic security work - June 30, 1986 p.m.
(working day 638)
Segregated housing building and security - April 30,
1986 p.m. (working day 595)
Minimum security building and security - January 6,
1986 p.m. (working day 514)
Food service - June 30, 1986 (working day 638)
Warehouse and maintenance - December 4, 1985
(working day 493)

Most major close in work is complete on 200 with the exception of the roofing. Some of the roof ballast apparently must be removed and replaced and some roof damage must be repaired. This is very important work to complete, particularly the damage repair since interior work is in progress in some of the building areas.

At the clinic area interior work is currently meeting target dates between early and late starts and finishes. Rough overhead utilities are being installed and hard ceiling work is due to begin no later than January 15, 1986 (working day 520). This will be a major measuring point to be evaluated to determine if the completion date is to be met. We will continue to use the dates noted above for the clinic as completion objectives.

In the segregated housing area no major sprinkler production work has begun. The current lag in this installation is seven working days. Plaster ceiling framing was due to have begun December 9, 1985 (working day 495). No ceiling work has as yet started. Installation of ceilings will be a basic measure of the job lag and there was no current word on when the work would begin. There is also a lag of seven to ten working days in masonry. Thus the current position of the area is about seven working days late in critical items. This gives a currently projected completion date of approximately May 14, 1986 (working day 606).

At the minimum security area installation of plaster suspension is just beginning and lags late start/late finish dates by 55 to 60 working days. This brings the projected

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completion date for building work to March 28, 1986 (working day 573) and for security work to April 7, 1986 (working day 579). In the case of minimum security the concern is not necessarily about the actual lag, but for the continued increase in the size of the lag. It appears that very little work has been done in the area since the previous monitoring. The constant increase in lag must be halted as soon as possible.

The food service area work is currently meeting targets between early and late starts and finishes. Considerable work has been completed on above floor rough interior utilities and quarry tile is well along at kitchen areas. As of December 11, 1985 (working day 497) the completion target of June 30, 1986 (working day 638) can probably be met, provided roof repairs do not affect the water tightness of the building and delay interior finishes.

Painting at the warehouse and maintenance area currently lags by about 67 working days. Apparently the space is being used presently for fill in work. Utilizing the current lag to reproject completion targets, the new estimated completion date is about March 11, 1986. This area, like minimum security, has shown a continually increasing lag and the trend will have to be stopped as the current projections approach the actual contract completion date.

Building 300 - Monitored from Issue #7, dated August 29, 1985 (working day 425)

Completion targets for building 300

1st floor shop and locker rooms - January 28, 1986 p.m.
(working day 530)

2nd floor classrooms - February 18, 1986 p.m.
(working day 545)

Gym - late finish of March 31, 1986 p.m. (working day 574)

Close in of 300 is substantially complete except for necessary roof replacement and repairs. The gym roof ballast must be placed, the sloped roof must be repaired and the two story section roof is damaged and must be repaired and in some areas replaced.

The critical nature of roof work can be seen in that at the second floor many of the areas have been prime painted and ceiling grid is well along. Thus roof work that will affect water tightness of the building must be done as quickly and as soon as possible.

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In first floor shop and locker room areas plastering on enclosures is nearing completion. This work lags the network model late starts and finishes by about 19 working days. However, this lag can be reduced slightly since some priming has started. Thus, the actual current lag is about 15 working days. Installation of the elevator is actively in work and the platform is set. The lag of elevator work over early starts and finishes is about 58 working days. This is not contributing directly to any major delays to building work except it is dirty work and impacts slightly on the floor areas at the shaft.

The revised current projection of shop and locker room completion based on the lag is about February 18, 1986. As with some of the other areas in contract A, the actual lag is not so serious as is the constantly increasing amount of delays in the work.

At the second floor classroom areas, a good start has been made on interior painting and acoustic ceiling grid is following closely. Some plaster suspension has been installed. The lag in this work is currently about 34 working days. However, because of painting and acoustic work that has moved ahead, the actual delay amount can be reduced to about 14 working days. This gives a current projected completion date at the second floor of March 10, 1986 (working day 559). Due to work on painting and ceiling grid there has been a lessening of the lag since the previous monitoring.

Here, as at the first floor, care must be taken when making the roof repairs not to allow water into the area to cause damage to already installed finish work.

In the gym, installation has begun on the enclosure at the folding partition. No major painting work has started and overall, work at the interior is currently meeting early and late start and finish targets. We can still hold the current late finish date of March 31, 1986 (working day 574).

General

Work in contract A is currently in such condition that I recommend we have a major updating meeting to reevaluate each of the present network models. I have recommended this to Mr. Gary Davenport and present plans are to meet shortly after the first of the year to revise and reissue the network plans now in effect. I shall be in touch with Mr. Davenport shortly to set the date of the review meeting.

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

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Meanwhile. it would help greatly if each of the prime contractors would carefully review their copies of the network and determine prior to the updating meeting, the course of action they will be following on remaining work and what the length of each remaining task is to be.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Robert McComb
cc: Mr. Leo McGough
Mr. Rupert Davey
Mr. Tom Davis
Mr. Walter Baraboll
Mr. Curtis Wilson
Mr. Ed Miller
Mr. James Nugent

March 12, 1986

Subject: Monitoring Report #19
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities
State of Michigan
Account #110-47-2699-001

Project: 84:29A

Dates of Monitoring: January 24, 1986 (working day 527)
and March 7, 1986 (working day 557)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)
(to be confirmed)

Contract completion date: July 2, 1986 p.m. (working day 640)
(to be confirmed)

Actions taken:

- Inspected project
- Reviewed project progress with owner representative
and architect/engineer representative
- Discussed project briefly with general contractor
project manager
- Evaluated current job status

General Summary

The network model was updated on January 2, 1986 (working day 511) to reflect the current position of the project. This was 46 working days ago and the networks have been used to monitor from since that point. There is a tendency for lags to increase more than is acceptable at certain areas of the facility. This trend of continuing and increasing lags is serious, and it is essential that right now every effort be made possible to bring the job back into line with the current network models. Otherwise, we can expect time overruns on several critical portions of the job.

The updated network model has been distributed to all concerned and we are monitoring from the issues noted for each of the items below.

Building 100 - Monitored from Issue #9 dated January 2, 1986
(working day 511)

- Target completion dates for 100 building -
- 1st floor building work - June 5, 1986 p.m.
(working day 621)
 - 1st floor security work - August 1, 1986 p.m.
(working day 661)
 - 2nd floor building work - June 5, 1986 p.m.
(working day 621)
 - 2nd floor building security work - May 22, 1986
p.m. (working day 612)

At present, work on the 1st floor of building 100 is primarily concerned with rough work installation and plastering is just getting under way. This plastering was due to be started on January 31, 1986 (working day 532). It has not yet started in production and thus lags by about 25 working days. Applying this to the current network model target dates indicates that work here will probably extend past the contract completion date unless something is done to bring the project into better alignment with the current plan and schedule.

An even more serious effect of this is that security work which has been kept somewhat independent of building work in the network model will be finishing in mid-September, 1986 rather than early August, 1986 as has been planned. This, too, is serious in that it produces an impact upon the total job and the completion date that can be achieved.

At the second floor, work is presently proceeding on metal studs and board and is generally meeting targets between early and late starts and finishes. Building 100 is a very critical facility since it houses many of the administrative functions for the Scott correctional facility. As such it is entirely possible that certain areas of this building might be desired as early as possible. This matter has not yet been addressed in detail but should be given serious consideration over the next few weeks as plans for the move in proceed.

Building 200 - Monitored from Issue #8 dated January 2, 1986
(working day 511)

- Target completion dates for building 200 -
- Clinic building work - June 20, 1986 p.m. (working day 632)
 - Clinic security work - June 30, 1986 p.m. (working day 638)

Segregated housing building and security - late finish June 20, 1986 p.m. (working day 632)
Minimum security area - building work - late finish June 20, 1986 p.m. (working day 632)
Minimum security security work - p.m. April 24, 1986 (working day 592)
Food service areas - building work and security - June 20, 1986 late finish (working day 632)
Warehouse and maintenance area - building and security - late finish June 20, 1986 (working day 632)

Presently lags are being encountered in portions of the 200 unit and it can be seen from the dates above that any sizable lags could extend the project beyond contract completion points.

At the clinic area (CL) plastering is in work as is installation of gyp board. Some acoustic ceiling work has started along with painting. However, work there seems to be presently somewhat out of sequence and care must be taken not to damage interior finish work with rough trades. Evaluating work that is installed along with work that is yet to be installed, it appears that the lag in the clinic ranges from four to twelve working days. On January 24, 1986 (working day 527) the lag at the clinic area was about 7 working days. Thus, there has been a slight increase in the amount of lag since then and it is this trending that causes most concern relative to completion of the project.

At the segregation housing area on the 2nd floor, presently plaster ceiling, suspension, framing, and lath is being installed and plastering is just beginning. Plastering was due to begin no later than February 6, 1986 (working day 536) and thus lags by about 21 working days currently. The lag as of January 24, 1986 (working day 527) was about two working days so over the past 30 working days there has been an increase in the lag at this area of about 19 working days. As with other areas, this is a serious problem since at the segregated housing area it could result in a considerable overrun of the contract completion date.

At minimum security, the lag currently over the issue #8 dated January 2, 1986 (working day 511) is about 11 working days whereas on January 24 the lag was about two working days. This is an increase in nine working days over the past 30 working days in lag at the minimum security area. The lags mentioned in this report are measured against late starts and late finishes and thus, represent amounts of time that we can be expected to be delayed beyond the completion dates mentioned above if all work from here out proceeds in accordance with the current plan of action.

At food service, plastering is in work in the main serving areas while at the kitchen areas acoustic ceiling is being installed and painting is proceeding. There is some out of sequence activity going on at the food service area that will require careful protection of finished installation. The lag, taking into account interior work already done, appears to be about nine working days. The lag as of January 24, 1986 (working day 527) was five working days so there has been an increase of four working days lag over the past 30 working days.

At the warehouse and maintenance area, very little has been done in this portion of the building since the network was updated on January 2, 1986 (working day 511). There is no major lag here except that the area is open and available for work and it might be wise to consider moving into it as soon as possible to complete the work. Painting at the warehouse and maintenance area was due to start no later than March 25, 1986 (working day 569).

Building 300 - Monitored from Issue #8 dated January 2, 1986 (working day 511)

Completion targets for building 300:

1st floor shop and locker rooms - late finish p.m. May 27, 1986 (working day 614)

2nd floor classroom area - late finish p.m. May 27, 1986 (working day 614)

Gym - p.m. May 27, 1986 (working day 614)

At building 300, there are no major current lags over late starts and late finishes. At the 1st floor shop area, painting is in work and many of the finish trades have been installed. At the 2nd floor, the plastering is complete, painting is well along, and acoustic ceiling work is proceeding well.

At the gym, the folding door track is substantially installed. A stacking problem with the folding doors has been resolved, and installation of the enclosure of the folding door track is proceeding. Some painting has proceeded at the gym; however, it should be noted that start of paint completion work was due to begin no later than March 4, 1986 (working day 554). This is because to achieve a completion date of the p.m. of May 27, 1986 (working day 614) it would be necessary to have painting done, doors and hardware installed, the gym floor down, and

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

the folding partitions and telescoping bleachers in. These are items that take considerable time to do and I strongly recommend that attention be given now to reinitiating work on finishes at the gym area.

General

The work in contract A is at a critical point where given proper attention and adequate direction it could be brought home within desired contract completion target dates. However, since there are only 83 working days remaining to completion of contract this will have to be done immediately since there are presently serious lags at the facility. I suggest a thorough review of the project be made among the owner, the contractors, and the architect/engineer to insure that all parties are in clear agreement as to any matters that must be resolved, and the plans of the contractors to achieve this are thoroughly understood. Meanwhile, I shall monitor the project in the near future and shall be in touch with Mr. Jerry Whiting to set the date.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Jerry Whiting
cc: Mr. Leo McGough
Mr. Ed Miller
Mr. Curtis Wilson
Mr. James Nugent
Mr. Rupert Davey
Mr. Walter Baraboll
Mr. Tom Davis

April 30, 1986

Subject: Monitoring Report #20
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities, State of Michigan
Account #110-47-269-001

Project: 84:29A

Date of Monitoring: April 11, 1986 (working day 582)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)

Contract completion date: July 2, 1986 p.m. (working day 640)

Actions taken:

- Inspected project
- Reviewed project progress with owner representative
- Evaluated current job status

Building 100 - Monitored from Issue #9 dated January 2, 1986
(working day 511)

Target completion dates for 100 building:

- 1st floor building work - June 5, 1986 p.m.
(working day 621)
- * 1st floor security work - August 1, 1986 p.m.
(working day 661)
- 2nd floor building work - June 5, 1986 p.m.
(working day 621)
- 2nd floor building security work - May 22, 1986 p.m.
(working day 612)
- * PASI contract completion date

The analysis below is based on the network which reflects these target end dates. At present, work at the 1st floor of building 100 is being concentrated on early finish elements. Plastering has started and ceiling work at the lobby of the building is under way. There has been considerable amount of acoustic ceiling suspension and framing grid installed. Overall, it appears that the area is from 24 to 31 working days behind. This brings the projected completion date of 1st

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Page two

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CONSULTING ENGINEER

floor building work to the middle or latter part of July, 1986. Security work at the 1st floor will probably in turn be affected by the lag and may extend into mid-September, 1986. At the second floor a considerable amount of wall board work had to be replaced according to the owner and this slowed the work there. At present, plastering is just being completed and painting should be under way shortly. The lag there currently is about 37 working days over a target building completion of June 5, 1986 (working day 621). This brings projected completion of the 2nd floor building work to a point near late July, 1986, and probably will correspondingly affect security work.

Miscellaneous iron stairways are now being installed but there are some ongoing fitting problems with these stairs.

It is to be stressed here that the 100 building is a key occupancy element of the project. It is where most of the administrative and control operations originate, and would be a desirable building to get on line just as quickly as possible.

I have recommended to Mr. Davenport at the Bureau of Facilities that he obtain from the contractors a detailed schedule for punch out work on all buildings in contract A. We are now only about 58 working days from contract completion targets and it is essential that plans for turning over the facilities be put actively into work. This matter cannot be stressed too heavily since there will be sizable amounts of work to review and inspect in the field. Correspondingly, it is important that the contractors on the project now begin to prepare their own punch lists for each facility. This should be done prior to involving the architect/engineer and owner in the final punch list work. The schedule of punch list activities is a critical ingredient in beginning to close the project out.

It is not now too early to insist that this schedule be prepared and followed.

Building 200 - Monitored from Issue #8 dated January 2, 1986 (working day 511).

Target completion date for building 200:

Clinic building work - June 20, 1986 p.m. (working day 632)

Clinic security work - June 30, 1986 p.m. (working day 638)

Segregated housing building and security - late finish June 20, 1986 p.m. (working day 632)

Minimum security security work - p.m. April 24, 1986
(working day 592)
Food service areas - building work and security -
June 20, 1986 late finish (working day 632)
Warehouse and maintenance area - building and security-
late finish June 20, 1986 (working day 632)

Lags continue in the building work and it is to be pointed out that the above dates are tight enough to contract completion date that any increase in lag could extend the project beyond contract completion points.

At the clinic area, interior finish work is continuing with the overall lag about five working days in painting, doors and hardware, and ceiling grid and suspension. There is also a sizable lag, perhaps more than the five working days in installation of plumbing fixtures, but this is apparently not affecting continuation of architectural trade work. However, installation of plumbing fixtures should begin just as quickly as possible.

At the second floor in the segregated housing area, work is continuing on plastering required interior surfaces. This plastering work was supposed to have been completed no later than February 26, 1986. Some painting has been started there which somewhat reduces the total lag so currently work at the segregated housing is about 25 working days behind the desired position. This pushes the projected completion date for segregated housing well past the current target of June 20, 1986 p.m. (working day 632). Heavy attention will have to be given this area if it is to be brought back in line with desired network targets.

At the minimum security portion of building 200, the current lag is about 24 working days over a target completion of April 24, 1986 p.m. (working day 592). This lag is still in interior finishes, now primarily painting and installation of plumbing fixtures. Again, the size of the lag and particularly the increase in lag over the previous month makes it questionable as to whether this area will be completed by the contract target date.

At the food service area, the current lag is about 11 working days. The lag here as at other places in unit 200, is primarily in interior finishes, painting, and ceiling work. The actual food preparation area is somewhat out of sequence and efforts should be made to better knit together the installation of food service equipment, floor finishes, wall surfaces and installation of ceilings. The apparent lag here shows a slight increase over the previous month's monitoring.

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

The warehouse and maintenance area presently lags by a very small amount probably one or two working days. The major problem here as with other areas is merely a concentration of effort. It is going to be very difficult to work on every area in the contract A project particularly during the finishing up of the job. Thus, it is wise to consider now how the manpower buildup and the focus on priorities is made for the remainder of the project.

Building 300 - Monitored from Issue #8 dated January 2, 1986
(working day 511)

Completion targets for building 300:

1st floor shop and locker rooms - late finish p.m. May 27, 1986 (working day 614)

2nd floor classroom area - late finish p.m. May 27, 1986 (working day 614)

Gym - p.m. May 27, 1986 (working day 614)

First floor shop area work at building 300 is currently meeting targets between early and late starts and finishes. It, in all likelihood, will have little if any difficulty meeting its current plan date. At the second floor classroom area, work is also meeting targets between early and late starts and finishes.

As has been pointed out previously, it is imperative that the work at all of the units be progressively completed, cleaned up, punched out by the contractor, and then punched out by the architect/engineer and the owner. Since building 300 areas at the classroom and shop portions of the building are in good shape, it would be wise to focus on these and lock them up as they are completed.

At the gym, considerable time has been lost over the past month and the lag there now over the projected completion date is about 25 working days primarily in finishes. It must be kept in mind that there are two very time consuming operations yet to be completed - installation of the gym floor followed by installation of equipment such as folding partitions and telescoping bleachers. This work must begin as soon as possible. If the projection of lag is accurate, it means that major steps will have to be taken to expedite the work so as to finish by the contract completion date.

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

General

Overall, work in contract A needs heavy attention in the short time remaining to the contract completion point. The problem is that most work on the project lags between zero and 25 to 30 working days. Thus, the chances of completion by the contract completion requirement date is becoming increasingly slim. The major difficulty will be in completing all of the various areas which are widely separated geographically in a concurrent and satisfactory manner. It should be remembered that there is an amount of time that must be allocated to punching out the project both by the contractor and the owner. This is time consuming and because of problems with workmanship is liable to be a very difficult process. Thus, I strongly suggest that a concerted plan of punching out be established now to give body to the completion targets that must be set. I shall be in touch with Mr. Whiting soon to set the next monitoring session.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Jerry Whiting
cc: Mr. Leo McGough
Mr. Ed Miller
Mr. Curtis Wilson
Mr. James Nugent
Mr. Rupert Davey
Mr. Walter Baraboll
Mr. Tom Davis

May 23, 1986

Subject: Monitoring Report #21
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities, State of Michigan
Account #110-47-269--001

Project: 84:29A

Date of Monitoring: May 9, 1986 (working day 602)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)

Contract completion date: July 2, 1986 p.m. (working day 640)

Actions taken:

- Inspected project
- Reviewed project progress with owner representative
- Briefly reviewed project progress with general contractor superintendent
- Evaluated current job status

Building 100- Monitored from Issue #9 dated January 2, 1986
(working day 511)

Target completion dates for 100 building:

- 1st floor building work - June 5, 1986 p.m.
(working day 621)
- * 1st floor security work - August 1, 1986 p.m.
(working day 661)
- 2nd floor building work - June 5, 1986 p.m.
(working day 621)
- 2nd floor building security work - May 22, 1986 p.m.
(working day 612)
- * Past contract completion date

The analysis below is based on a network model reflecting target dates as shown above.

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The current lag at the 1st floor is between 31 and 40 working days primarily in installation of doors and hardware and in installation of plumbing fixtures. Doors and hardware are critical in our current plan since they restrain the start of installation of security trim and devices. This leads on out to completion of security work currently projected at late September or early October, 1986. This date is beyond our contract completion date and that coupled with the current lag in work at the 1st floor makes it appear at present that completion of this building 100 floor may not be accomplished until as late as early October, 1986.

The first floor of building 100 is a critical administrative floor for the facility and should be given special attention since it is an area that perhaps could be used somewhat earlier than the total facility. This matter should be reviewed with the owner and their desires ascertained since at present the lag there is so large that chances of meeting a July 2, 1986 p.m. completion (working day 646) are remote. The lag has increased since the previous monitoring on April 11, 1986 (working day 582).

Sequencing of trades in the 100 building appears to be getting increasingly difficult and at present there is work going on in practically every section of the facility. This makes it difficult to complete the building in any ordered manner and tends to provide difficult housekeeping problems.

At the second floor the current lag is about 57 working days in finishing trades. Most plastering is complete and dried and following trades can start. Work there over the past month has been exceptionally slow and it does not appear that a great deal of progress has been made in work at this level. As with the other areas of 100 I suggest that a definite finishing sequence be re-established in the field, and that the project plan take into account a moving out of the facility on a structured basis. With the current lag it appears that the second floor will be finished sometime in early or mid-August, 1986.

Building 200 - Monitored from Issue #8, dated January 2, 1986 (working day 511)

Target completion dates for building 200:

Clinic building work - June 20, 1986 p.m. (working day 632)

Clinic security work - June 30, 1986 p.m. (working day 638)

Segregated housing building and security - late finish
June 20, 1986 p.m. (working day 632)

Minimum security security work - p.m. April 24, 1986
(working day 592)

Food service areas - building work and security -

June 20, 1986 late finish (working day 632)

Warehouse and maintenance area - building and security -
late finish June 20, 1986 (working day 632)

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The project continues to lag and at the clinic area (CL) the behind position is now about 25 working days which is a considerable increase over the previous monitoring. This brings completion of the clinic area to mid or late July, 1986. The lag is primarily in interior finishes and, of course, in security system installation which follows early interior finish work.

At the second floor in the segregated housing, the current lag is about 25 working days a reduction from the previous behind position at the April, 1986 monitoring. The lag here will probably result in a finish sometime in early or mid-July, 1986 if current progress is maintained.

At the segregated housing areas, work has moved aggressively into the interior finish operations and is being concentrated on those at present particularly painting, ceiling work, and finish mechanical and electrical installation.

At the minimum security area, the current lag over the network model Issue #8 dated January 7, 1986 (working day 511) is about 47 working days. This projected into the current completion target shows the area being finished sometime in late August, 1986. Probably the completion of this area could be brought to an earlier point; however, the work there has shown little, if any, signs of major progress since the previous monitoring. It is an area that could be brought to completion in relatively quick time if a concentrated effort was made on its interior work.

The food service area lag currently is about 17 working days which brings its completion to about mid-July, 1986 given the current rate of progress. Again, as with most of the areas in building 200 the food service areas have lost additional time since the previous monitoring. At present work continues on installation of food service equipment, ceiling work, doors and hardware, painting, and other interior finish items. Housekeeping at the food service area is difficult since it is the major storage and work sector of the facility. However, at some point soon it will be necessary to begin cleaning out the food service area, particularly the large dining hall, so that the finish work can be moved down and out of the building in an orderly fashion. The lag at the warehouse and maintenance area is now about 20 working days again as with other areas in the interior finish trades. This brings completion of the area to about mid-July, 1986 although as with some of the other sectors of building 200 a concentrated effort on interior finish work now could result in an earlier completion.

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Building 300 - Monitored from Issue #8 dated January 2, 1986
(working day 611)

Completion targets for building 300:

- 1st floor shop and locker rooms - late finish p.m. May 27, 1986 (working day 614)
- 2nd floor classroom area - late finish p.m. May 27, 1986 (working day 614)
- Gym - p.m. May 27, 1986 (working day 614)

The lag at the 1st floor shop area has now reached ten to fifteen working days which is an increase over the previous monitorings where the project was being maintained substantially in line with target late starts and late finishes. This brings projected completion of the shop area at the first floor to somewhere in early or mid-June, 1986. The first floor shop area is close enough to completion that it could quite easily be finished off and generally locked to construction traffic. I highly recommend that the items that must be corrected there be worked upon, and to the greatest extent possible be closed to all traffic except those trades actually working on the floor. Housekeeping is becoming a problem at both levels of the 300 building and it might be that closing the buildings off to traffic could help alleviate this problem.

At second floor classroom areas, the lag is now five to ten working days which brings completion to mid or late June, 1986. Here as at the first floor shop areas the work could be completed relatively soon if a concerted effort was made. The longer the area remains incomplete, however, the greater will be the difficulty in completing it due to the constant accumulation of trash and dirt along with the need to correct certain unresolved deficiencies in the finish work. These deficiencies are fairly well identified, and steps should be taken at an early date to correct them.

At the gym area, the lag has increased to 41 working days which brings completion of the gym with our present plan of work to mid-July, 1986. Apparently the gym floor will be started sometime in the near future and may not take as long as the amount of time allocated to it in our network model. In this model it was estimated that the floor would require about three weeks to install and cure to a point where work could proceed above on folding partitions and telescoping bleachers. However, the floor still will require great care in its placement and the other work still must be installed after the floor is laid. Thus, the lag is probably close to being

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correct although on the conservative side. Work on the folding partition track and its enclosure is substantially complete and the area is now being readied for floor installation.

Work remaining is fairly straightforward and as with other sections of the building it would be wise to consider methods by which the gym could be completed and closed to construction traffic especially since the trades now are very sensitive to the type of rough treatment that construction traffic imposes upon a building.

General Summary

Overall, the project, with minor exceptions, has lost additional time since the previous monitoring on April 11, 1986 (working day 582). I again suggest that a punching out schedule by the contractor be formulated by the contractor's on the job and then tied together with a punching out schedule by the owner and the architect/engineer. It is to be stressed that essential to successful turnover of the facility will be a complete inspection of the job by all contractors involved and a correction of the punch list that they prepare prior to the punching out process being initiated by the owner. Without such a punch out schedule, this job will drag on with punching coming as a surprise and in a hurry up position that it cannot afford.

There are several problems that undoubtedly will have to be corrected during the punching out process and time must be allowed for such a process. A schedule of punching out by the contractor first and then by the owner, architect/engineer is critical to getting out of this facility.

The present dislocation of the project from the current monitoring issues makes it desirable to make a minor update using the information available from the current network. I shall do this and then review the remaining work with the general contractors and others involved to see if it reflects a proper course of action from here on out. Once the routine updating is accomplished I shall arrange to meet with those involved to review the logic and durations prior to issuing the network to those concerned.

Ralph J. Stephenson, P.E.

To: Mr. Jerry Whiting
cc: Mr. Leo McGough
Mr. Ed Miller
Mr. Curtis Wilson
Mr. James Nugent
Mr. Rupert Davey
Mr. Walter Baraboli
Mr. Tom Davis

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

July 13, 1986

Subject: Monitoring Report #22
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities
State of Michigan
Account #110-47-2699-001

Project: 84:29A

Date of Monitoring: June 19, 1986 (working day 630)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)

Contract completion date: Information on this not available
at our planning meeting.

Actions taken:

- Inspected project
- Reviewed project progress with general contractor project manager
- Reviewed project progress with owner and architect site representatives
- Evaluated current job status

Building 100 - Monitored from Issue #9 dated January 2, 1986
(working day 511)

Target completion dates for 100 building:

- 1st floor building work - June 5, 1986 p.m. (working day 621)
- 1st floor security work - Aug. 1, 1986 p.m. (working day 661)
- 2nd floor building work - June 5, 1986 p.m. (working day 661)
- 2nd floor building security work - May 22, 1986 p.m. (working day 612)

The analysis below is based on the network model reflecting target dates as shown above.

The current status of the project indicates that the lag at the first floor is about 30 working days which brings completion of the main building work to about July 21, 1986. Security work will extend beyond this and in accordance with our current logic possibly extend out to mid or late October, 1986. No detailed information was available on the status of security work and therefore, it was not possible to project his date with any accuracy.

I recommend that the entire security installation sequencing be completely reviewed at a very early date to establish planned completion targets consistent with current job progress. I shall review all security progress at our next planning and monitoring session.

At the 2nd floor the current lag is about 49 working days bringing completion of main building work to mid-August, 1986. Security work at the 2nd floor is not so complex as at the first, in accordance with our current plan, and probably can be expected to finish somewhere in mid-September, 1986.

It should be kept in mind that the lags noted above are measured from the target dates given earlier in this report.

Building 200 - Monitored from Issue #8 dated January 2, 1986
(working day 511)

Target completion dates for building 200:

- Clinic building work - June 20, 1986 p.m. (working day 632)
- Clinic security work - June 30, 1986 p.m. (working day 638)
- Segregated housing building and security - late finish
June 20, 1986 (working day 632)
- Minimum security security work - April 24, 1986 p.m.
(working day 592)
- Food service areas - building work and security - June 20,
1986 p.m. - late finish (working day 632)
- Warehouse and maintenance area - building and security -
late finish June 20, 1986 p.m. (working day 632)

Building 200 work continues to lag by more than desired amounts of time. The clinic area as of June 19, 1986 (working day 630) lags by about 36 working days in building work and probably more than that in security work. Adding these lags to network projected completion points indicates that building work may be completed sometime in mid-August, 1986 with security work following by about a month. The position of the security work, however, is not fully known since there is some installation that has begun. As with the other buildings in this group, I recommend we discuss the security installation in detail at our next session.

It should be kept in mind that the projections for completion of work in this report are based upon the logic available from Issue #8 dated January 2, 1986 (working day 511). There is a possibility that these dates can be improved upon. However, the evaluations made here are from the diagram as prepared with the various contractors involved.

At the second floor segregated housing area current lags are about 28 working days in building work, and as much as 50 working days in security installation. This lag brings projected completion to early August, 1986 for building work and early September, 1986 for security work. The constant slippage of the project against the target completion date makes improvement in full delivery of the building unlikely at this time.

At the minimum security area the present lag in building work is about 25 working days, bringing projected completion possibly to mid-August, 1986. Security work has a greater lag and probably will not finish until mid or late August, 1986. As with other areas, however, concentration on this section of building could result in an improvement to these completion dates particularly since work is well along at the minimum security area.

The lag at the food service area is still primarily unfinished and ranges up to as much as 40 to 44 working days. This brings projected completion to mid or late August, 1986. The area has considerable amount of cleaning up and miscellaneous finish work to accomplish and will have to be focused on intently to finish earlier than what is projected. Again, there is no authentic word on the current status of security installation. This could heavily influence when the entire food service area is actually completed.

At the warehouse and maintenance area the lag is about 30 working days which brings completion to late July or early August, 1986. There is so little work left to do at the warehouse and maintenance areas, however, that a concentration of effort there could improve this delivery date considerably.

The major problem faced in the 200 building is that most of the areas are now at a point where they are all about at the same stage of completion. This means that those remaining trades which include painting, ceiling work, mechanical and electrical trim, floor coverings and other such items usually installed late in the construction operation will all be going on concurrently at many areas. This will involve heavy concentrations of finishing manpower. There has been no evidence to date that such heavy concentrations are available, or will be put on the job. Therefore, the projections of completions above are somewhat conservative.

Building 300 - Monitored from Issue #8 dated January 2, 1986
(working day 511)

Completion targets for building 300:

- 1st floor shop and locker rooms - late finish p.m. May 27, 1986 (working day 614)
- 2nd floor classroom area - late finish p.m. May 27, 1986 (working day 614)
- Gym - p.m. May 27, 1986 (working day 614)

At the first floor shop area the only remaining work is trim items which should be able to be installed in five to ten working days. Allowing another five days for cleaning up and moving out, there could be required another 15 working days at the area. The lag over the desired target dates noted above is about 31 working days. This brings completion of the first floor to mid or late July, 1986. At the second floor work has progressed to a point where with some heavy attention to cleaning and miscellaneous patching and corrective action the area could be punched out. There are, however, several items that must be repaired and these should be given attention just as early as possible.

At the gym, bleacher work is well along; however, no work has started yet on folding partitions. This was set up as a three week operation with ten working days to follow to allow for clean up and moving out. It appears there could be as much as 25 additional working days at the gym to complete. Projected move out of the gym area on this basis is late July, 1986 or possibly early August, 1986.

The 300 building with some intensive attention could probably be finished much earlier than the projected dates discussed above. This building has been in such condition for some time now that careful attention to the 1st and second floor areas could bring them to a point where they could be easily cleaned and punched.

At the gym area the delays have been more serious and have resulted now in the far later than had been anticipated projected completion.

It should be noted that there were several leaks in the building roof that were allowing water to gather on the finish floor. This matter should be given special attention since the floor is the finish gymnasium surface, and is somewhat susceptible to moisture.

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RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

General

Overall, the project has continued to lose time over the previous monitoring on May 9, 1986 (working day 602) and is now projected for completion at varying points from mid-July, 1986 through to potentially early or mid-October, 1986. The problem seems to be that none of the areas are able to be completed and as a result trade demands are constantly building up on similar operations with little, if any, chance of being able to man the project to complete everything concurrently.

We shall continue to monitor the project from the current network and shall update the network model at our next planning and monitoring session.

During our monitoring I discussed the project briefly with the general contractor project manager and gave him a brief updating summary of the job based upon the monitoring diagrams in current use. I shall be in touch with Mr. Whiting and Mr. McGough shortly to set the next planning and monitoring session.

Ralph J. Stephenson, P.E.

RJS:sps
To: Mr. Jerry Whiting
cc: Mr. Leo McGough
Mr. Ed Miller
Mr. Curtis Wilson
Mr. James Nugent
Mr. Rupert Davey
Mr. Walter Baraboll
Mr. Tom Davis

RALPH J. STEPHENSON, P.E.

CONSULTING ENGINEER

July 23, 1986

Subject: Monitoring Report #23
Contract A, Northville, Michigan
Scott Regional Facility
Bureau of Facilities
State of Michigan
Account #110-47-2699-001

Project: 84:29A

Date of Monitoring: July 11, 1986 (working day 645)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)

Contract completion date: Information on this not available at this meeting.

Actions taken:

- Inspected project
- Reviewed project progress with owner and architect site representatives
- Evaluated current job status

Building 100 - Monitored from Issue #9 dated January 2, 1986 (working day 511)

Target completion dates for building 100 are:

- 1st floor building work - June 5, 1986 p.m. (working day 621)
- 1st floor security work - Aug. 1, 1986 p.m. (working day 661)
- 2nd floor building work - June 5, 1986 p.m. (working day 621)
- 2nd floor security work - May 22, 1986 p.m. (working day 612)

The analysis below is based on the network models reflecting the target dates as shown above.

As of July 11, 1986 (working day 645) it appears that about 10 to 15 working days of building installation remain at the 1st floor. Projecting this at 15 working days brings the expected

end date for building work to August 1, 1986 (working day 660), about 39 working days later than the current network monitoring date.

It should be pointed out that at all buildings in the A contract, 100, 200, and 300, the time to complete could change considerably depending on the manpower and concentration of construction effort. The projections given in these reports are merely an attempt to project based on earlier planning work done.

Insufficient information was available to make a projection as to the completion dates for security installation at either the first or the second floors. I recommend that the security contractor be requested to provide up to date schedule information so the owner can more accurately than at present plan for the completion of the facility.

At the 2nd floor it currently appears that it could require as much as 25 working days to complete building installation. This would bring finishing the second floor to mid-August, 1986. The projected lag is about 49 working days.

Progress on security installation was not evaluated.

Building 200 - Monitored from Issue #8 dated January 2, 1986 (working day 511)

Target completion dates for building 200 are:

- Clinic building work - June 20, 1986 p.m. (working day 632)
- Clinic security work - June 30, 1986 p.m. (working day 638)
- Segregated housing building and security - June 20, 1986 (working day 632)
- Minimum security security work - April 24, 1986 p.m. (working day 592)
- Minimum security building work - June 20, 1986 p.m. (working day 632)
- Food service building work and security work - late finish June 20, 1986 p.m. (working day 632)
- Warehouse and maintenance building and security work - late finish June 20, 1986 p.m. (working day 632)

Building 200 clinic work continues to lag with the area being behind the monitoring completion date by about 26 working days. This brings projected completion of the building work at the clinic to mid-August, 1986.

At the second floor the segregated housing area building work lags by about 23 working days which puts completion of building work there at late July, 1986.

In the minimum security area of building 200, the current lag in building work is about 27 working days, bringing the projected completion date to early August, 1986 or possibly if concentrated attention is given the area, to late July, 1986.

The lag at the food service area is about 36 working days bringing completion to mid-August, 1986. There still remains considerable clean up and miscellaneous patching to do at the area, and I suggest a concerted effort be made toward the punch out process by the contractors.

At the warehouse area work is at a point where with very little effort the building work could be completed ready for final cleaning and punching out. Probably another 10 to 15 working days or less would be required to complete all work there. The lag at the warehouse and maintenance building areas is about 21 working days.

There has been some progress made at building 200 although completion of building work still appears to trend toward mid or late August, 1986 completion.

Security installation at 200 was not evaluated at this session since not enough information was available to monitor accurately. I recommend the owner and the security contractor review remaining installation of security equipment in detail at an early date to establish a tentative completion point.

Building 300 - Monitored from Issue #8 dated January 2, 1986
(working day 511)

Completion targets for building ³~~2~~00 are:

1st floor shop and locker rooms - late finish May 27, 1986
p.m. (working day 614)

2nd floor classroom area - late finish May 27, 1986 p.m.
(working day 614)

Gym - May 27, 1986 p.m. (working day 614)

Overall work at most areas of building 300 is now at a point where with five to ten days of effort the building could be completed. At the gym the folding partition is nearly complete and other work is being brought to completion.

No evaluation was made of security installation due to lack of information at the monitoring.

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Contract A, Scott Regional Facility
Page four

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

General

It is possible with a heavy effort that most building work in contract A could be completed within the next month. However, it is doubtful that adequate manpower could be brought to the job to complete the undone work and to correct items on present and future punch lists. Therefore, I anticipate that the completion date for the contract A building work could extend out to mid or late September, 1986.

I shall be in touch with Mr. Whiting shortly to set the next monitoring session.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Jerry Whiting
cc: Mr. Leo McGough
Mr. Ed Miller
Mr. Curtis Wilson
Mr. James Nugent
Mr. Rupert Davey
Mr. Walter Baraboll
Mr. Tom Davis

August 29, 1986

Subject: Monitoring Report #24
 Contract A, Northville, Michigan
 Scott Regional Facility
 Bureau of Facilities
 State of Michigan
 Account #110-47-2699-001

Project: 84:29A

Date of Monitoring: August 4, 1986 (working day 661)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)

Contract completion date: Information not available at this
 meeting.

Actions taken:

- Reviewed project progress with owner and architect site
representatives
- Evaluated current job status

Building 100 - Monitored from Issue #9 dated January 2, 1986
(working day 511)

Target completion dates for building 100 are:

1st floor building work - June 5, 1986 p.m. (working day
621)

1st floor security work - Aug. 1, 1986 p.m. (working day
661)

2nd floor building work - June 5, 1986 p.m. (working day
621)

2nd floor security work - May 22, 1986 p.m. (working day
612)

The analysis below is based on network models reflecting
target dates as shown above.

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Contract A, Scott Regional Facility
Page two

As of August 4, 1986 (working day 661) it appears there still remains from 10 to 18 working days to complete work at building 100 first floor not taking into account security installation work needed. Security work is still being evaluated on a day to day basis by the owner in conjunction with the security work contractor. This would bring completion of the first floor of building 100 to about August 25, 1986.

At the 2nd floor, it currently appears there could be as much as 10 to 20 working days required to complete which would bring the end date of floor work to early September, 1986. This does not include security work.

Another item that must be considered in evaluating end dates on all projects is that the estimate of work done, cannot by virtue of its unpredictability, take into account full completion of work including punching out the project and taking corrective action on items on the punch list.

In any event, it is evident in building 100 that there is still considerable work at both levels #1 and #2 to bring the building to full completion.

Building 200 - Monitored from Issue #8 dated January 2, 1986 p.m. (working day 511)

Target completion dates for building 200 are:

- Clinic building work - June 20, 1986 p.m. (working day 632)
- Clinic security work - June 30, 1986 p.m. (working day 638)
- Segregated housing building and security - June 20, 1986 (working day 632)
- Minimum security security work - April 24, 1986 p.m. (working day 592)
- Minimum security building work - June 20, 1986 p.m. (working day 632)
- Food service building work and security work - late finish June 20, 1986 p.m. (working day 632)
- Warehouse and maintenance building and security work - late finish June 20, 1986 p.m. (working day 632)

As of August 4, 1986 there appears to remain at the clinic from 15 to 20 working days to complete work, exclusive of security, which was not evaluated for building 200 at this session. This also is independent of any punching out and correcting to be done to bring the floors to completion. Using a lag of about 17 working days it appears that work

Monitoring Report #24
Contract A, Scott Regional Facility
Page three

here could be completely ready for final evaluation by mid or late August, 1986.

At the segregation housing area, the amount of work remaining to finish the project ready for final evaluation and turnover appears to be 8 to 10 working days which would bring the project completion to mid or late August, 1986. Again, it should be remembered that this is for building work only.

At the minimum security area of building 200, the current lag in the work appears to require another 10 more working days to complete. This brings completion of the area to mid or late August, 1986 exclusive of security work and final punching out and checking.

At food service, as of August 4, 1986 (working day 661), an evaluation shows about 10 or more working days to complete based upon our current network model. This, as with most of the other areas, puts completion in mid to late August, 1986 exclusive of security and punch out work.

At the warehouse and maintenance area at building 200, there is relatively little remaining to do and it should not require, on a continuing basis, any more than 5 to 10 working days. There is some storage of material and equipment at this area by the DOC presently. However, with the small amount of work this should cause little, if any difficulty, in finishing.

Building 300 - Monitored from Issue #8 dated January 2, 1986 p.m. (working day 511)

Completion targets for building 300 are:

- 1st floor shop and locker rooms - late finish May 27, 1986 p.m. (working day 614)
- 2nd floor classroom area - late finish May 27, 1986 p.m. (working day 614)
- Gym - May 27, 1986 p.m. (working day 614)

(Note: In Monitoring Report #23 on page 3 the completion target for 300 was noted as being for building 700. Please correct your copy.)

As of August 4, 1986 there should be no more than 2 to 4 working days required to complete the first floor shop and locker room area, provided corrective action required

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Contract A, Scott Regional Facility
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is taken promptly. The area apparently has been punched out and corrections are being made. Thus, projected completion there would be mid-August, 1986. At the 2nd floor, the amount of work remaining is even less than at the 1st floor and completion of this area up to final acceptance, if moved well and rapidly, could be by early August, 1986. The floor has been punched out and corrective action is being taken.

The gymnasium might require as much as 10 working days to complete. Backstops are being installed and the area needs a good cleaning. It has been punched out and corrective action is being taken. This brings projected completion of the gymnasium area to mid or late August, 1986.

General

From the above analysis, it appears for the entire contract A work, that if a continuous and heavy effort was made to complete the work by the contractors, that most area A building work exclusive of security installation could be completed within 3 to 4 weeks. This would bring full completion exclusive of final corrections to early September, 1986.

No evaluation was made at this session of the amount of security work remaining. This is presently being reviewed on an ongoing basis by the owner with the security contractor.

Ralph J. Stephenson, P.E.

RJS:sps/gmy

TO: Mr. Jerry Whiting

CC: Mr. Leo McGough

Mr. Ed Miller

Mr. Curtis Wilson

Mr. James Nugent

Mr. Rupert Davey

Mr. Walter Baraboll

Mr. Tom Davis

October 12, 1986

Subject: Monitoring Report #25

Contract A, Northville, Michigan

Scott Regional Facility

Bureau of Facilities

State of Michigan

Account #110-47-2699-001

Project: 84:29A

Date of Monitoring: September 2, 1986 (working day 681)

Monitored from issues as noted below

Date of notice to proceed: June 5, 1984 (working day 110)

Contract completion date: Information not available at this meeting

Actions taken:

- Reviewed project progress with owner and architect site representative
- Evaluated current job status

Building 100 - Monitored from Issue #3 dated January 2, 1986 (working day 511)

Target completion dates for Building 100 are:

1st floor building work - June 5, 1986 p.m. (working day 621)

1st floor security work - August 1, 1986 p.m. (working day 661)

2nd floor building work - June 5, 1986 p.m. (working day 621)

2nd floor security work - May 22, 1986 (working day 612)

The analysis below is based on network models reflecting target dates above.

As of September 2, 1986 (working day 681) there appear to be still about 10 to 20 working days required to complete work at Building 100 1st floor. Progress has been slow over the past month and there still remains considerable amount of finish

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Contract A, Scott Regional Facility
Page two

installation to be completed. If a heavy concentration of effort or exerted in each of the areas in the building, it is possible that the estimated amount of time to complete could be reduced. However, at present, it appears there are from 2 to 4 weeks of time still required.

At the 2nd floor, work could probably be completed in about 5 working days. There is still some glazing to be done and missellaneous trim work. Again, as with the 1st floor, a heavy concentration of effort here, could probably bring completion of the work in less than the 5 working days noted.

Building 200 - Monitored from Issue #8 dated January 2, 1986
p.m. (working day 512)

Target completion dates for Building 200 are:

Clinic building work - June 20, 1986 p.m. (working day 632)

Clinic security work - June 30, 1986 p.m. (working day 638)

Segregated housing building and security - June 20, 1986
p.m. (working day 632)

Minimum security security work - April 24, 1986 p.m.
(working day 632)

Food service building work and security work - late finish
June 20, 1986 p.m. (working day 632)

Warehouse and maintenance building and security work -
late finish June 20, 1986 p.m. (working day 632)

As of September 2, 1986 (working day 681) work at the clinic area could probably be completed on a well focused effort in about 2 to 4 working days.

At the segregated housing area work there is close enough to completion so that within the next 5 to 10 working days it should be possible to complete interior finish work. At minimum security most of the interior work is complete except for basic clean up and probably within 3 working days all remaining work could be done.

At the food service areas, there probably remains about 5 working days to complete. There is a fair amount of work that may have to be reviewed so far as quality is concerned at the food service area. However, this matter is being handled on a day to day basis among the field forces.

At the warehouse and maintenance areas, most work there is done

Monitoring Report #25
Contract A, Scott Regional Facility
Page three

and probably within 5 working days all remaining work there could be completed.

Building 300 - Monitored from Issue #8 dated January 2, 1986
p.m. (working day 511)

Completion target dates for Building 300 are:

1st floor shop and locker rooms - late finish May 27,
1986 p.m. (working day 614)

2nd floor classroom area - late finish May 27, 1986 p.m.
(working day 614)

Gym - May 27, 1986 p.m. (working day 614)

As of September 2, 1986 (working day 681) the 1st floor areas could probably be completed within 2 to 4 working days from September 2, 1986 (working day 681). 2nd floor work will probably require 1 to 2 more working days to complete. Work at the gym is at a point where the only remaining items are clean up and corrective action. The amount of work there is nominal, and probably could be finished in 3 to 5 working days.

General

All contract A work is now at a point where completion will depend totally upon a day to day working together between the owner and the architect/engineer and the contractor. Therefore, no further monitorings will be carried out unless there is a specific need.

I want to thank all members of the contractual forces as well as the owner and architect/engineer for their help in planning and monitoring of the project.

I shall not be in touch with Mr. Whiting or the owner's staff further unless there is a need expressed.

Ralph J. Stephenson, P.E.

RJS:gmj
TO: Mr. Gerald Whiting
CC: Mr. Leo McGough
Mr. Ed Miller
Mr. Curtis Wilson
Mr. James Nugent