

December 31, 1985

**Subject:** Monitoring Report #1  
Genessee County Jail  
Flint, Michigan  
Grainger Construction Co. - general contractors

**Project:** 85:52

**Date of Monitoring:** December 23, 1985 (working day 250)  
(The working day calendar to be used on this project starts from January 2, 1985 at working day 1. The working day calendar removes all weekends and six holidays per year from the date calendar, giving a working year of about 255 working days. Each month is considered to be about 22 working days. This calendar has been issued to Mr. Holman for his use and should accompany all network models as issued).

Actions taken:

- Updated summary network model sheet S-1 to Issue #2 December 23, 1985 (working day 250)
- Continued preparation of random laundry list of activities for front end (FE), substructure (SB), and superstructure (SS) work on the project
- Prepared detailed working level network model logic for substructure and superstructure work
- Evaluated current job status

Monitored from sheet S-1, Issue #2 dated December 23, 1985 (working day 250)

General Summary

Our initial efforts at this second planning session were concentrated on updating the summary network model sheet S-1, Issue #1 dated October 16, 1985 (working day 203). The updated issue is Issue #2 dated December 23, 1985 (working day 250).

Reviewing the current status of the work, we find that driving and filling piles at the level #1 low area is in work. Pile driving started December 3, 1985 (working day 236) and has been progressing with some difficulty due to sub-soil conditions encountered. Work completed to date was reviewed carefully and notes made on the Issue #2 network model dated December 23, 1985 (working day 250) sheet S-1 of those activities that have been finished.

The contractor moved on the job site October 16, 1985 (working day 203), with groundbreaking held on October 23, 1985 (working day 208). Pile loading tests were complete and approvals obtained by November 13, 1985 (working day 243) and, as noted above, construction of the building substructure began actively on December 3, 1985 (working day 235).

The ITI computer cable link from the courthouse to the county office building was completed November 1, 1985 (working day 221). Boring and jacking the new sewer under Saginaw and tying into the city sewer should be complete by about December 31, 1985. Meanwhile, design revisions incorporating addenda #6 in the value engineering analysis are in work and expected to be completed by January 13, 1986 (working day 263).

Building construction is proceeding on the substructure but it is very desirable to complete the addenda in value engineering analysis revisions as soon as possible so a full construction contract can be executed. At some point in the near future, these changes and the execution of the contract will restrain construction progress. Present plans are to begin erection of the building superstructure (supported decks and structural frame) by April 1, 1986 (working day 319).

The summary network model sheet S-1, Issue #2 dated December 23, 1985 (working day 250) maintains substantially the same durations as used in the Issue #1 network model dated October 16, 1985 (working day 203) for construction activities. The completion date resulting from the updated network is October 15, 1987 (working day 712) for turnover of the facility. This projected end date is to be carefully reviewed by all parties to the contract, and a decision made as to what actual target end is to be used. The summary network model sheet S-1 was left on Mr. Holman's program disc, and he will print this diagram and have it duplicated for distribution to the appropriate parties.

We also prepared the detailed network model logic for the substructure and superstructure of the project. However, we have not as yet added durations to this, so Mr. Holman will print this detailed model and add the appropriate durations as required. In this network we also added an item that dealt with a decision by the owner on removal of contaminants. The appropriate action to be taken regarding contaminant removal will affect at some point construction of pile caps and pits at level #1 in the high area.

On our working logic plan we also showed the need to decide on design of the level #2 east slab on grade and the truck dock slab on grade. Once these decisions are made, revisions to the

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

Monitoring Report #1  
Genessee County Jail  
Page three

level #2 east slab on grade and truck dock slab on grade might be necessary in the contract documents. This would require preparation and submittal of cost estimates and issue of an authorization to proceed all of which is time consuming and thus, should be done just as quickly as possible. The issue of this authorization to proceed if revisions are to be made restrains driving and filling of pile at level #2 east and the truck dock. I shall stay in touch with Mr. Holman regarding this matter to see how it is to be integrated into the current sub and superstructure detailed diagrams.

Meanwhile, I shall also be in touch with Mr. Holman shortly to set the next planning session at which we should complete the network models for the superstructure and proceed on through building close in and into as much of the interior and systems work as possible.

Copies of all planning, scheduling and monitoring material including monitoring reports will be distributed through Mr. Holman who is the project manager for Granger Construction Company. I shall also maintain my principal contact and communications with Mr. Holman.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Chuck Holman

85:52

*M* • CRITICAL PATH PLANNING

- LAND PLANNING
- MANAGEMENT CONSULTING
- PLANT LOCATION

RALPH J. STEPHENSON, P. E.  
CONSULTING ENGINEER

15064 WARWICK ROAD  
DETROIT, MICHIGAN 48223  
PHONE 273-5026

December 31, 1985

Mr. Chuck Holman  
Project Manager  
Grainger Construction Company  
P.O. Box 22187  
6267 Aurelius Road  
Lansing, Michigan 48909

Dear Chuck:

Enclosed is a copy of the laundry list prepared from our session on December 23, 1985. I have run copies of the summary diagram sheet S-1 and the detailed diagram logic for the substructure and superstructure sheets #1, #2, #3, and #4 for me files. I am assuming you will run these detailed networks for yourself and paste them up to review, correct, and add your comments and durations. I'm also presuming from our discussions that you will run, duplicate, and distribute sheet S-1 to those concerned.

Meanwhile, I shall start putting these sheets into final form with title blocks, activity numbers, and detailed designations of the areas to which each apply. I shall also complete the network interrelationships that are necessary to make runs on the documents.

Once I have received your annotated sheets with the revisions and comments, I shall incorporate these into a final network for sheets #1, #2, #3, and #4, the entire sub and superstructure work and get a copy of the disc to you for your use. At that time we should also decide how to make the final run, paste it up, and get it duplicated. I tend to recommend having the final runs made by me, pasted up and printed on vellum for reproduction since it is a process my draftsman is familiar with and can probably complete rapidly.

However, I shall assume you are going to make the run and paste up on sheets #1, #2, #3, and #4 for sending to me with corrections. Undoubtedly, we will be talking to each other before this point is reached.

Again, I want to thank you for your courtesy in helping me with my equipment the other day and also for providing the convenience and comfort of such pleasant surroundings. It is

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

Mr. Chuck Holman  
Page two

always good to work with Grainger and their excellent staff,  
and I would like to wish you and the people there a very  
prosperous and happy New Year. Thanks again and I will be in  
touch with you shortly set our next planning and monitoring  
session.

Ralph J. Stephenson, P.E.

RJS:sps

Laundry list attachment

March 6, 1986

Subject: Monitoring Report #2  
Genessee County Jail  
Flint, Michigan  
Granger Construction Co. - general contractors

Project: 85:52

Dates of Monitoring: January 22, 1986 (working day 270)  
and February 27, 1986 (working day  
296)

Actions taken:

- Updated summary network model sheet S-1
- Updated network model for substructure and superstructure, sheets #1, #2, and #3
- Reviewed basic concerns on project and discussed methods of resolving these

General Summary

As of February 27, 1986 (working day 296) field work continues on filling piles at the level #1 low area and completing the pile caps at the low level #1 area. Piling at the level #1 high area is completed concurrently with the low area.

Meanwhile, there is a need to initiate field work on mechanical and electrical underground installation just as soon as the level #1 area pile caps have been completed. To do this, however, an authorization must be given to proceed with the use of non-corrosive underground materials, and to authorize proceeding with the anticipated changes to the mechanical underground work. Following this is procurement of materials to start underground mechanical work, and then installation of mechanical and electrical work at level #1 low area. It is the intent to closely overlap installation of underground work filling and fine grading for the slab on grade.

Part of our session today concentrated on how this work can be dovetailed as closely as possible since it is felt essential at present that slabs on grade must be completed at the level #1 low area, before columns and walls, and forming for decks proceeds. A good share of our work today focused on how we could maintain the earliest starting date available for start of superstructure work. This has been an ongoing concern and all are working very hard to achieve approvals and releases that will allow the work to continue uninterruptedly.

On March 4, 1986 (working day 299) the owner and the architect/engineer along with the contractors are to meet and review the cost of addenda #6 and resolution of the value engineering savings. This will hopefully result in a contract being executed for construction and thus, clear the way for work to proceed on other major elements of the building.

As noted above, there also is a need to authorize proceeding with the underground mechanical work and to procure these early materials.

So far as redesign of pile caps is concerned, the full authorization has not yet been provided but this work has been done on the site. Another item that is somewhat important deals with completion of pile cap redesign at the high area. This will ultimately affect completion of these pile caps in the field which, in turn, could restrain mechanical and electrical work at level #1 and completion of the floor slab on grade necessary to continue work on the level #2 supported deck.

Another decision to be made is on the design of the truck dock area structure. This matter apparently is being deferred to a later date but will ultimately have to be addressed so that there is a clear path of action designated for this construction area.

So far as site work is concerned, the new sewer has been bored and jacked under Saginaw to connect into the existing sewer. However, some field revisions to this work will be necessary and discussions are in progress about this.

At present, the network models being used for evaluation are sheets #1, #2, and #3 for the substructure and superstructure, Issue #3 dated February 27, 1986 (working day 296) and the summary network model sheet S-1, Issue #4, dated February 27, 1986 (working day 296). In these networks construction of the building superstructure which starts up with walls and columns to the level #2 supported deck will begin on May 19, 1986 (working day 353). This is somewhat later than had been desired and as set in earlier network models, when it was hoped to begin the supported decks and structural frame by April 1, 1986 (working day 319). However, every effort is being made to accommodate this later starting date for the superstructure relative to completion of the total building.

At present, according to the summary network model, sheet S-1, Issue #4 dated February 27, 1986 (working day 296) the completion date of the entire facility is November 20, 1987 (working day 738). The intent is to discuss this later date

Monitoring Report #2  
Genessee County Jail  
Page three

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

and to review the causes of it so as to reach a resolution as to the target date to be used for review in the March 4, 1986 (working day 299) meetings.

There should be an ongoing effort made by all parties to expedite the work to the greatest possible extent, and I strongly suggest that procedures be established now to maintain rapid turnaround on approvals, quick resolution of problems as they appear, and maintenance of improved communication relationships on the job between all parties both contractual and design. This project is very complex, involves a large number of agencies including the using organization and will have to be given strong attention both managerially and from an operational standpoint.

The network models produced at this session sheets #1, #2, and #3, Issue #3, dated February 27, 1986 (working day 296) and the summary network model sheet S-1, dated February 27, 1986 (working day 296) have been put on disks and given to Mr. Holman for his use. I suggest that the diagrams be printed and issued to those concerned so a clear picture is gained by all as to the construction sequence expected to be followed. This should be of great use to all parties to the project.

I shall discuss the procedure for issuing these network models with Mr. Holman and will work with him to insure proper distribution of the planning material. Meanwhile, this monitoring report, as per our initial monitoring, will be sent to Mr. Holman only and he shall send it on to whomever he feels is concerned with the information contained in it. I shall continue to maintain my prime contact with Mr. Holman of Granger and will be in touch with him shortly to set the next planning and monitoring session.

Ralph J. Stephenson, P.E.

RJS:sps  
To: Mr. Chuck Holman



- 1: Those attending
- 1.1: Chuck Holman
- 1.2: Chris Strugar-Fritsch
- 3: Ralph Stephenson
- 2: Agenda
- 2.1: Monitor current status
- 2.2: Update summary network
- 2.3: Update & complete detailed superstructure network
- 2.4: Do early work on close in of building
- 2.5: Prepare preliminary int finish network
- 3: Status of project
- 3.1: Were total of 477 piles to be installed
- 3.2: Piling installed except for
  - 3.2.1: 34 at level 1 high rise area
  - 3.2.2: About 78 (plus or minus 10) at level 2 low rise area
- 3.3: Encountered additional contaminated soil on 2/28/86  
 Current delay to completion of level 1 low area pile caps is about 16 working days. This results in a direct projected delay to start of supported decks of 16 working days.

The issue 3 network model dated February 27, 1986 shows a start of columns and walls to level 2 on May 19, 1986. The current projected starting date is June 11, 1986. This is primarily due to a projected late installation of utility work. The late installation is caused by a need to remove additional contaminants, and a lack of release of revised mechanical underground work.

- 3.3.1: Genesee County Health Department directed removal
- 3.3.2: Milgard was not stopped on pile driving until March 4, 1986  
 DNR and GPHD stopped Milgard on 3/4/86
- 3.3.3: DNR directing cleanup of contaminated soil
- 3.3.4: Must remove all contaminated soils from site
- 3.3.5: On Wednesday, March 26, 1986 expect first soil analysis  
 To determine if any contaminant left in north end of level 1 high area  
 As of 3/21/86 no samples taken in south end, level 1 high area  
 Due to continuing presence of contaminants  
 Must continue to excavate till all contaminated soil is removed  
 Backfill can begin when sampled areas are clear of contaminants
- 3.3.6: Lvl 1 hi area pilg cannot be compd till contaminatd area bkfl is compd
- 3.3.7: Start of lvl 1 hi area pile caps restrained by part bkfl @a contaminatd area
- 3.3.8: Low area pile cap cannot be completed until sufficient backfill is in place
- 4: Underground utilities can start as soon as  
 The underground delays are currently about 10 working days. The release to proceed was to have been given on 3/13/86. It was but was rescinded verbally on 3/14/86. No

further direction given. Current lag is 6 to 10 working days and increasing each day. No word on when release is to take place.

- 3.4.1: Authorization is given to proceed with changes to underground
- 3.4.2: Mechanical materials are ordered and delivered
- 3.5: Granger is informing all parties of the planning meetings
- 3.6: Will not issue updating from this session.
- 3.6.1: Still too many unresolved matters
- 3.6.2: Owner test results must be reviewed and approved by DNR
- 3.7: Will attempt to recapture loss of time in superstructure construction
  - 3.7.1: May be difficult to do
  - 3.7.2: Must all work together to improve decision making process

GENESEE JAIL - 85-52

MAR. 23 1986

1:59:15 PM 3/21/86 . . . . .	.1
Those attending . . . . .	.1
Agenda . . . . .	.1
Status of project . . . . .	.1
9:50:05 AM 2/27/86 . . . . .	.2
Those participating . . . . .	.2
Agenda . . . . .	.2
8:53:48 AM 10/16/85 . . . . .	.2
Those present . . . . .	.2
Those involved in the job . . . . .	.2
Items to work on Wednesday, October 16, 1985 . . . . .	.3
Time table . . . . .	.3
Monday December 23, 1985 - meeting with Chuck Holman . . . . .	.5

MAR. 23 1986

1: 1:59:15 PM 3/21/86

- 1.1: Those attending
  - 1.1.1: Chuck Holman
  - 1.1.2: Chris Strugar-Fritsch
  - 1.1.3: Ralph Stephenson
- 1.2: Agenda
  - 1.2.1: Monitor current status
  - 1.2.2: Update summary network
  - 1.2.3: Update & complete detailed superstructure network
  - 1.2.4: Do early work on close in of building
  - 1.2.5: Prepare preliminary int finish network
- 1.3: Status of project
  - 1.3.1: Were total of 477 piles to be installed
  - 1.3.2: Piling installed except for
    - 34 at level 1 high rise area
    - About 78 (plus or minus 10) at level 2 low rise area
  - 1.3.3: Encountered additional contaminated soil on 2/28/86
    - Current delay to completion of level 1 low area pile caps is about 16 working days. This results in a direct projected delay to start of supported decks of 16 working days.

The issue 3 network model dated February 27, 1986 shows a start of columns and walls to level 2 on May 19, 1986. The current projected starting date is June 11, 1986. This is primarily due to a projected late installation of utility work. The late installation is caused by a need to remove additional contaminants, and a lack of release of revised mechanical underground work.

Genesee County Health Department directed removal Milgard was not stopped on pile driving until March 4, 1986

- DNR and GPHD stopped Milgard on 3/4/86
- DNR directing cleanup of contaminated soil
- Must remove all contaminated soils from site
- On Wednesday, March 26, 1986 expect first soil analysis
- To determine if any contaminant left in north end of level 1 high area
- As of 3/21/86 no samples taken in south end, level 1 high area
  - Due to continuing presence of contaminants
  - Must continue to excavate till all contaminated soil is removed
  - Backfill can begin when sampled areas are clear of contaminants
- Lvl 1 hi area pilg cannot be compd till contaminatd area bkfl is compd
- Start of lvl 1 hi area pile caps restrained by part bkfl @a contaminatd area
- Low area pile cap cannot be completed until sufficient backfill is in place
- 1.3.4: Underground utilities can start as soon as

The underground delays are currently about 10 working days. The release to proceed was to have been given on 3/13/86. It was but was rescinded verbally on 3/14/86. No further direction given. Current lag is 6 to 10 working days and increasing each day. No word on when release is to take place.

Authorization is given to proceed with changes to underground

Mechanical materials are ordered and delivered

- 1.3.5: Granger is informing all parties of the planning meetings
- 1.3.6: Will not issue updating from this session.
  - Still too many unresolved matters
  - Owner test results must be reviewed and approved by DNR
- 1.3.7: Will attempt to recapture loss of time in superstructure construction
  - May be difficult to do
  - Must all work together to improve decision making process

**2: 9:50:05 AM 2/27/86**

- 2.1: Those participating
  - 2.1.1: Chris
  - 2.1.2: Chuck
  - 2.1.3: Bob Chase - part time
  - 2.1.4: Ralph J. Stephenson
- 2.2: Agenda
  - 2.2.1: Update substructure network
  - 2.2.2: Complete quantified pass through the superstructure
    - Identify superstructure milestones to permit planning installation of ext skin on the summary diagram. From that detail the end dates are reasonably easy to determine.
  - 2.2.3: Review & update the summary diagram
  - 2.2.4: Determine revised completion date
  - 2.2.5: Identify delay items contributing to extensions of the contract date
    - Original contract completion date was August 31, 1987.
  - 2.2.6: Identify reasons for any request for contract extension
  - 2.2.7: Dictate monitoring report
  - 2.2.8: Review problem potentials with appropriate parties

**3: 8:53:48 AM 10/16/85**

- 3.1: Those present
  - 3.1.1: Chuck Holman - project manager for Granger
  - 3.1.2: Chris Strugar-Fritsch - superintendent for Granger
  - 3.1.3: Dennis Anderson - VP operations for Granger
  - 3.1.4: Ralph J. Stephenson - consultant
- 3.2: Those involved in the job
  - 3.2.1: Owner - Genesee County Building Authority
  - 3.2.2: Owner's representative - Robert L. Chase PE - project coordinator
  - 3.2.3: Architects/engineers
    - HDR

Sidney S. Wall Jr - project manager  
Arthur Elkins AIA - security specialist  
Carl Erickson - electrical engineer  
Dan Darrrouzet PE AIA - construction administrator

CHMP

Dave Hanoute AIA - project principal  
Ronald J. Isaacson - project architect  
Harold Butler - field project representative

MKK

Felix J. Bessolo PE - project principal & structural  
engineer

DiClemente Siegel

Bernie DarrenKamp PE - mechanical engineer

3.2.4:

Granger

Chuck Holman - project manager  
Chris Strugar-Fritsch - superintendent  
Dennis Anderson - VP operations

3.2.5:

Mechanical - Goyette

Leon E. Jenni - project manager

3.2.6:

Electrical - Genesee/Hatzel Buehler

Harry Davis - project manager

3.2.7:

Security - SESCO

Charley Moore - project manager

3.2.8:

Pile driving - Millgard

Tom Candler

3.2.9:

Earthwork - C.J. Rogers

Bill Grasser - project manager

3.3:

Items to work on Wednesday, October 16, 1985

3.3.1:

02 - Prepare design activity model - 60 min

The changes to the project since the job was bid amount to nearly \$950,000. These changes have been described but not incorporated into the contract documents. Bob Chase is working on these with the Authority.

There is no word on how the changes are to be issued, nor when they will be incorporated into the documents. The changes were issued on Addenda 6 by the architect. It only generated half of the savings so Granger did a value engineering analysis resulting in additional savings to allow a letter of intent to be issued dated September 10, 1985.

3.3.2:

03 - Prepare master procurement model - 60 min

3.3.3:

05 - Prepare superstructure network model - 120 min

3.3.4:

07 - Prepare substructure network model - 90 min

3.3.5:

09 - Prepare summary network model - 120 min

3.3.6:

10 - Set agenda

3.4:

Time table

3.4.1:

9:15 to 9:45 - Set agenda

3.4.2:

9:45 to 11:15 - Prepare summary model

Building components

Front end work (FE)

Design, acquisition of permits and all other

support work that is needed to begin work on a project component in the contractor's office or in the field

Procurement (PR)

All activities needed to obtain all materials and equipment on the job. Includes award of contracts, submittals, approvals, fabrication and delivery.

Substructure work (SB)

All foundation construction upon which the superstructure bears directly or indirectly. The foundation transmits the loads directly to the subsoil. Also includes site preparation for start of field work.

Superstructure (SS)

All major structural load carrying components that bear on the substructure directly or indirectly.

Exterior skin (SK)

All elements of the project that close the building to weather. Includes exterior walls, roofing, sash, glass, doors, roof top units and all others that keep weather elements out.

Rough interior work (RI)

All interior building components that can be exposed totally or in part to weather. Includes such items as sheet metal ductwork, hard piping, masonry, metal studs, hollow metal, electrical rough in and other components and materials that are relatively unaffected by moisture and temperature.

Finish interior work (FI)

All building components that must be protected partially or totally from weather. Includes gyp board, finish hardware, fixtures, acoustic material and all other items that must be kept from moisture and excessive ranges of temperature.

Systems work (SY)

All project work that can be installed as a system somewhat isolated from other geographic elements of the building. Includes hydraulic elevators, electric elevators, escalators, hood fire protection systems, mechanical or electrical equipment rooms among others.

Site work (SI)

All work outside the building line and inside the property or hoarding (contract boundary) line. Site work outside the property or hoarding line is called off site work (OS).

Project components

Tunnel (TU)

Main building areas

Level 1 (basement)

Level 2 east (grade level) - under tower

Level 2 west (grade level) - low rise

Roof level at low rise

Tower

Level 3

Level 3 mezz

Level 4

Level 4 mezz

Level 5

Level 5 mezz

Main roof & penthouse floor

Penthouse roof

- 3.4.3: 11:15 to 12:00 - Prepare substructure model
- 3.4.4: 1:15 to 2:00 - Continue substructure model
- 3.4.5: 2:00 to 4:00 - Prepare superstructure model
- 3.4.6: 4:00 to 5:30 - Prepare master procurement model
- 3.4.7: 5:30 on - To be decided
- 3.5: Monday December 23, 1985 - meeting with Chuck Holman
- 3.5.1: General information re Genesee County Jail - Flint, Michigan
- 3.5.2: 1:03:51 PM 1/1/86
- 3.5.3: Abbreviations
  - T/R - Time restraint
  - EIB - Excavate, install & backfill
  - WD - Working days
  - CP - Component
  - FE - Front end component
  - SM - Submittal required
  - L1 - Level 1 - basement
  - L2E - Level 2 east - grade level under tower
  - L2W - Level 2 west - grade level under low rise
  - L3 - Level 3 - at tower
  - L3M - Level 3 mezzanine
  - L4 - Level 4 - at tower
  - L4M - Level 4 mezzanine
  - L5 - Level 5 - at tower
  - L5M - Level 5 mezzanine
  - PH - Penthouse
  - TU - Tunnel
  - SI - Site work
- 3.5.4: Responsibility codes - in numerical order
  - 001 - Genesee County Building Authority
  - 002 - HDR
  - 003 - CHMP
  - 004 - MKK
  - 005 - DSEI



006 - Granger Construction Company  
 007 - Cliff's United Development  
 008 - Millgard  
 009 - Flint Asphalt  
 010 - Landco - Landscaping  
 011 - Site concrete  
 012 - Granger - building concrete work  
 013 - Clawson - concrete supplier  
 014 - Ceco  
 015 - Superior - reinforcing steel  
 016 - Imprecon - building precast  
 017 - Price Brothers - tunnel precast  
 018 - Advanced - precast bunks  
 019 - Boettcher - masonry  
 020 - Flint Iron and Automation - misc metals  
 021 - Custom Enclosures - heating unit enclosures  
 022 - Westwood - carpentry  
 023 - MacArthur - roofing  
 024 - Consolidated - waterproofing, damproofing & calking  
 025 - Michigan Metal Door - hollow metal  
 026 - Ittener-Wiechmann - hardware supplier  
 027 - Crawford  
 028 - Koerts - glass and glazing  
 029 - Kane - security screens  
 030 - Courion - security windows  
 031 - Hard tile contractor  
 032 - New York Carpet - resilient tile and carpet  
 033 - Flint Ceiling & Partition  
 034 - Foster Flooring - resilient applied & access flooring  
 035 - Consolidated - painting  
 036 - Fontanesi & Kahn - louvers  
 037 - Republic - lockers & shelving  
 038 - Supersine - bronze plaque  
 039 - DelNorte - metal detection equipment  
 040 - Greensteel - chalk & tack boards  
 041 - Abbott Schlain - flag pole  
 042 - R.E. Wallace - fire ext cabinets & ext  
 043 - C & M Associates - basket ball backstops  
 044 - FBH Wholesale - toilet partitions, accessories & folding partns  
 045 - IBP - telephone enclosures, TV brackets & blinds  
 046 - Canton China - food service  
 047 - Universal - laundry equipment  
 048 - Refuse Equipment - compactor  
 049 - American Material Handling - loading dock equip  
 050 - SESCO - detention equip  
 051 - Machinex - garment conveyors  
 052 - Parnell - steel case work  
 053 - Otis - elevators  
 054 - Goyette - HVAC and plumbing  
 055 - Olympian - fire protection  
 056 - Genesee Electric - electrical

3.5.5: Responsibility codes - in alphabetical order

Abbott Schlain - flag pole - 041  
Advanced - precast bunks - 018  
American Material Handling - loading dock equip - 049  
Boettcher - masonry - 019  
C & M Associates - basket ball backstops - 043  
Canton China - food service - 046  
Ceco - 014  
CHMP - 003  
Clawson - concrete supplier - 013  
Cliff's United Development - 007  
Consolidated - painting - 035  
Consolidated - waterproofing, damproofing & caulking -  
024  
Courion - security windows - 030  
Crawford - 027  
Custom Enclosures - heating unit enclosures - 021  
DelNorte - metal detection equipment - 039  
DSEI - 005  
FBH Wholesale - toilet partitions, accessories & folding  
partns - 0 44  
Flint Asphalt - 009  
Flint Ceiling & Partition - 033  
Flint Iron and Automation - misc metals - 020  
Fontanesi & Kahn - louvers - 036  
Foster Flooring - resilient applied & access flooring -  
034  
Genesee County Building Authority - 001  
Genesee Electric - electrical - 056  
Goyette - HVAC and plumbing - 054  
Granger - building concrete work - 012  
Granger Construction Company - 006  
Greensteel - chalk & tack boards - 040  
Hard tile contractor - 031  
HDR - 002  
IBP - telephone enclosures, TV brackets & blinds - 045  
Imprecon - building precast - 016  
Ittener-Wiechmann - hardware supplier - 026  
Kane - security screens - 029  
Koerts - glass and glazing - 028  
Landco - Landscaping - 010  
Machinex - garment conveyors - 051  
McArthur - roofing - 023  
Michigan Metal Door - hollow metal - 025  
Millgard - 008  
MKK - 004  
New York Carpet - resilient tile and carpet - 032  
Olympian - fire protection - 055  
Otis - elevators - 053  
Parnell - steel case work - 052  
Price Brothers - tunnel precast - 017  
R.E. Wallace - fire ext cabinets & ext - 042  
Refuse Equipment - compactor - 048  
Republic - lockers & shelving - 037  
Sesco - detention equip - 050  
Site concrete - 011

Superior - reinforcing steel - 015  
Supersine - bronze plaque - 038  
Universal - laundry equipment - 047  
Westwood - carpentry - 022

March 30, 1986

Subject: Monitoring Report #3  
Genessee County Jail  
Flint, Michigan  
Granger Construction Co. - general contractors

Project: 85:52

Date of Monitoring: March 21, 1986 (working day 312)

Monitored from sheet S-1 summary network model Issue #4 dated February 27, 1986 (working day 296) and sheets #1, #2, and #3 full structural network model Issue #3 dated February 27, 1986 (working day 296)

Actions taken:

- Briefly inspected job site
- Discussed current status of project with Mr. Holman and Mr. Chris Strugar-Fritsch
- Simulated revisions to structural network sheets #1, #2 and #3 from current status of project
- Evaluated impact of current matters to be resolved, upon total network

General Summary

As of March 21, 1986 (working day 312) there remain about 34 piling to be installed at the level #1 high rise area, and about 70 to 80 at the level #2 low rise area. This is of a total of approximately 477 piles to be installed.

On February 28, 1986 (working day 297) additional soil that appeared to be contaminated was encountered, and the Genessee County Health Department directed removal of this contaminated soil. Pile driving was stopped March 4, 1986 (working day 299) and the contaminated soil removal is under way. The first soil analysis to determine what contaminants remain in the north end of level #1 high area are to be received Wednesday, March 26, 1986 (working day 315).

As of March 21, 1986 (working day 312) no samples have been taken at the south area of level #1 high area. Excavation must continue until all contaminant soil, if any, has been

removed; then backfilling can begin when sample areas are clear of contaminants. Apparently the level #1 high area piling cannot be completed until the contaminated area backfill is completed. Low area pile caps also cannot be completed until sufficient replacement backfill is in place.

Another item of potential delay is the release of underground utility work at the low area. It was hoped to start this work in the Issue #3 network model dated February 27, 1986 (working day 296) by April 3, 1986 (working day 321). If we directly update the network and say that in the next ten working days authorization will be provided to proceed with the mechanical underground work and then allow the same 15 working days for procurement of mechanical underground materials, the start of this work is now April 25, 1986 (working day 337), a difference of 16 working days over the Issue #3 network model dated February 27, 1986 (working day 296). If the authorization to proceed is given immediately it is possible that this lag could be reduced by about 10 working days.

I highly recommend that underground utility work be allowed to proceed just as quickly as possible at the level #1 low area.

At the contaminated area authorization for backfilling could come by March 26, 1986 (working day 315) after which backfilling could proceed in part followed by completion of the pile caps and pits at the level #1 low area by April 15, 1986 (working day 329). This is a lag of about 16 working days over the date projected in the Issue #3 network model dated February 27, 1986 (working day 296). The total impact of the delay is to move the start of columns and walls to level #2 supported decks to June 11, 1986 (working day 369), compared to the expected start in Issue #3 dated February 27, 1986 (working day 296) of May 19, 1986 (working day 353). It is still of the utmost importance that problems of work releases to impacted work be given just as quickly as possible. It is recognized that there are considerable numbers of people involved in making evaluations, and that the project is complex at best. However, the decision making process must be expedited wherever possible particularly during this early stage where the project is still trying to get up out of the ground.

Work has started on the sub-structure walls, and efforts are being made to work wherever possible. Since we are now into good spring weather and summer weather is just around the corner, every effort must be made to get up as high as possible prior to next fall and the problems of construction during colder weather.

Monitoring Report #3  
Genessee County Jail  
Page three

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

An evaluation of the network model at this session indicated that there are some possibilities of recapturing portions of this lost time. Therefore, it was decided not to make an official issue of the revised networks dated March 21, 1986 (working day 312) or the Issue #5 summary network model until the next meeting when a full update will be made.

I recommend the owner, if possible, and the architects and engineers participate in the latter portion of our next planning and monitoring session. It is now becoming quite critical that all involved in the program be brought up to date fully with what the construction plans are and how they will be impacted upon by the activities of others. This is a critical period of the job and I shall discuss our next session and the agenda for it with Mr. Chuck Holman, who is my direct contact on the project.

At each of our sessions we update to some extent the ongoing notes made in respect to the project. These are kept by me and are available through Mr. Holman who distributes material prepared at the sessions. We shall continue to keep these notes on an ongoing basis to provide accurate tracking of job progress.

Again, I recommend that the owner and the architect/engineer be involved in future sessions at least in part to provide input that is not possible to obtain without their participation. Our next session has been planned tentatively for a full day on April 25, 1986 (working day 337). I shall be in touch with Mr. Holman to confirm this and to set details of the session. It probably will be held in the lower level of the Genessee County courthouse where our meetings are now being conducted regularly. Mr. Holman will contact the appropriate parties for their input.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Chuck Holman

May 15, 1986

Subject: Monitoring Report #4  
Genessee County Jail  
Flint, Michigan  
Granger Construction Company - general contractors

Project: 85:52

Date of Monitoring: April 25, 1986 (working day 337)

Monitored from Issue #3 dated February 27, 1986 (working day 296) sheets #1, #2, and #3

Actions taken:

- Reviewed current status of project with Mr. Holman and Mr. Chris Strugar-Fritsch
- Updated network models to Issue #4 dated April 25, 1986 (working day 82)
- Made complete review of current status of project

General Summary

Piling had been stopped by contamination removal and completion of backfilling. Piling work was to resume on April 29, 1986 (working day 339) at the level #1 high area. It was noted that at the level #1 high area piles seem to have drifted slightly and considerations of this are presently being made by the architect/engineer and owner. Contaminated soil removal was completed on March 28, 1986 (working day 317) and the owner authorized backfilling on April 4, 1986 (working day 322). Backfilling began on April 7, 1986 (working day 323) and was complete by April 24, 1986 (working day 336) to a point where piling could be restarted.

Underground utility work was authorized to start on April 2, 1986 (working day 320). Miscellaneous sleeves have been installed and the authorization allowed materials to be ordered. Mechanical sumps will be on the job in late April, 1986.

Concrete substructure work has proceeded and at the level #1 low area all pile caps are poured out except two. At the level #1 high area ten pile caps are poured out with some to be

completed by the end of the day April 25, 1986 (working day 337). Pile caps for the supposed drifted piles were redesigned per verbal instructions given the contractor April 25, 1986 (working day 337).

Costs have been submitted for revisions to pile caps at the level #1 high area. To date, no authorization for this work has been provided but the field work has been completed on the redesigned pile caps.

Costs have also been submitted for revisions to the tunnel and this work is now complete. However, no authorization for the work has yet been issued.

All level #1 low area basement walls are poured except at the links to the high area. The first lift of retaining walls at the cooling tower are complete and the elevator pit for elevator #1 and #2 is complete. The separation wall between level #1 high and low areas was poured out April 25, 1986 (working day 337). Remaining concrete work include all level #1 high area walls. This is to be completed after pile caps and grade beams are complete.

Reinstallation of the storm sewer at the northeast corner of the site has not yet been completed; however, a permit has been issued by the city and the state. Work is expected to resume on April 30, 1986 (working day 340) and to be complete in 20 to 30 working days. There is some discussion as to whether the existing line will be abandoned or reused as a bypass or overflow. This decision will be made shortly.

Procurement work is moving fairly well with hollow metal approved and generally available as needed. There is a possibility that major changes will have to be made to the sprinkler layouts. The fire marshall may not approve the system and it could possibly result in the lines having to be relocated from the present position. Apparently the state fire marshall has a large permit backlog at his office presently and his decision may not be made as promptly as would be desired. It should be followed carefully.

Another potentially difficult matter deals with securing appropriate aggregate for columns and integral walls. This matter is presently being resolved by the contractor with the suppliers.

As part of our work today, we updated the network model, attempting to the greatest degree possible to maintain starting dates desired for erection of the superstructure. The contractor is making every effort, by exploring several



Monitoring Report #4  
Genessee County Jail  
Page three

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

simulations of sequence, to bring the project into conformance with the desired target dates as adjusted for extensions of time. It is extremely critical that work on supported decks be started as soon as possible to take advantage of good weather. The contractor is fully aware of this and is making every effort to get these decks into work at an early date.

The network model prepared as a result of our work today indicates that we may be able to begin work on columns and walls to the level #2 supported deck by early June, 1986. This date is a target that was set in previous sessions. Everyone is anxious to maintain this starting point since it will allow a good amount of work to be done prior to fall and early winter weather this year.

At our session today we replanned the supported floor pours and this updated network model will be reviewed by the contractor in the very near future. We shall make every effort to maintain the integrity of the desired target dates on the project in our subsequent planning.

Meanwhile, I have been in touch with Mr. Holman of Granger to set the next planning session in late May, 1986. At this meeting we will plan to continue our work on the superstructure plan and also to initiate network modeling for some of the interior rough work. I suggest the owner and the architect/engineer be involved in these sessions to the extent they feel appropriate. It is important that the entire project team be aware of the construction sequence plans and it would be of help for the owner and the architect/engineer to attend, at least in part, these planning and monitoring sessions.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Chuck Holman

August 5, 1986

Subject: Monitoring Report #5  
Genessee County Jail  
Flint, Michigan  
Granger Construction Company - general contractors

Project: 85:52

Dates of Monitoring: May 28, 1986 (working day 359) and  
July 14, 1986 (working day 391)

Monitored from sheet #1, Issue #6 dated May 28, 1986 (working day 359), and sheets #2 and #3, Issue #5 dated April 25, 1986 (working day 337) and sheet T-1, Issue #6 dated May 28, 1986 (working day 359)

Actions taken:

- Inspected project
- Reviewed current status of project with Mr. Chuck Holman and Mr. Chris Strugar-Fritsch
- Continued preparation of network models for substructure, superstructure, exterior skin and tunnel work
- Updated network models as required
- Evaluated current status of project

As of July 14, 1986 (working day 391) most substructure work is complete except for stair tower #1 walls, pile caps and grade beams at level #2 west, and pile caps at level #2 east under the canopy. The columns supporting level #2 were nearly complete by July 14, 1986 (working day 391) and the first level #2 deck pour was being made on July 14, 1986 (working day 391). This first pour was at the area bounded by column lines A to D.5 and 5 to 10.

At present the intent is to break the various levels into more pours than had been originally intended. However, it is still expected to maintain adherence to the same general pour out schedule as shown in the various superstructure network models prepared earlier. Mr. Strugar-Fritsch said that the levels would be broken into the following number of pours with the present thinking.

Monitoring Report #5  
Genessee County Jail  
Page two

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

2nd level - 6 sections

3rd level - 8 sections

3M level - 6 pours

4th level - 6 pours

4M level - 6 pours

5th level - 6 pours

5M level - 6 pours

Roof - 6 pours

The present network model being used, sheets #2 and #3 Issue #7 dated July 14, 1986 (working day 391), shows a completion target for the last roof pour of December 31, 1986 (working day 510). This is later than had been hoped for but the delays to floor pours to date have forced this date back to a later point than previously planned. However, it is still a date somewhat in conformance with the summary network plan of the total project shown on sheet S-1, Issue #4 dated February 27, 1986 (working day 296). This summary plan was updated in mid-March, 1986 but is being used as an informal guide to the project since there are still some unresolved matters that suggested the diagram not be issued formally.

In this Issue #5 network model dated March 21, 1986 (working day 312) which is a summary of the entire project, completion of the building superstructure was shown at mid-January, 1987 and total completion of the project was held at mid-December, 1987.

There will still be every effort made to complete the project within the desired time constraints. Now that floor pours have been started on a production cycle, we will be better able to project expected completion dates and at our next planning and monitoring session will carefully evaluate and update, if appropriate, the summary network model sheet S-1, Issue #4 dated February 27, 1986 (working day 296) and Issue #5 dated March 21, 1986 (working day 312), along with sheets #2 and #3 for the building frame and close in.

At our meeting on May 28, 1986 (working day 359) we prepared a network model for the precast tunnel tie into the courthouse. As of July 14, 1986 (working day 391) the tunnel had been completed across the street but was being delayed at the

Monitoring Report #5  
Genessee County Jail  
Page three

courthouse parking lot by uncharted electrical duct work. Meanwhile, work on the courthouse area tunnel entrance proceeded while waiting for instructions to be issued relative to support of the duct. The work has been directly delayed since June 25, 1986 (working day 379) when the excavator completed pile driving at the courthouse and excavation could have resumed for the tunnel under the parking lot.

The tunnel network model is shown on sheet T-1 with the initial issue #6 dated May 28, 1986 (working day 359). Issue #7 is the latest issue of this plan and is dated July 14, 1986 (working day 391).

It is hoped to be able to complete the tunnel work and restore the bituminous paving in the parking lot at the tunnel to the courthouse entry by late September, 1986. Doing this depends upon immediate receipt of information about how to support the uncharted electrical duct encountered.

There have been several problems encountered which are being resolved just as quickly as possible through close cooperation between the owner, the design team, and the contractor. Those noted at our monitoring sessions on May 28, 1986 (working day 359) and July 14, 1986 (working day 391) include the following:

- a. Pile cap redesign at column T has been issued and is being quoted. The work has been completed in the field.
- b. There were some requested plumbing revisions which were priced and quoted. This work proceeded ahead of official authorization to minimize delays to low areas slabs on grade. A change order has been issued to do the inspector requested work.
- c. There has been some ongoing loss in time due to rainy weather encountered over the past two months. A tracking of the lost days is being maintained in the daily reports.
- d. When building the tunnel under 5th Street there were problems encountered in utility interferences. One of these was with the water main in 5th Street. This was an old cast iron main and the city felt the line should be removed rather than supported temporarily during construction.

The city cut and capped the line May 21, 1986 (working day 355) and the excavator then worked with the City of Flint to remove the old line that had been capped. A new line was installed, tested, and reconnected by the city. However, the city has not yet turned the water on to the jail construction site. This matter as of July 14, 1986 (working day 391) had not been resolved.

- e. A similar problem to that described for the water main was encountered with a Consumers gas line. This line was cut and capped and after the tunnel was completed, Consumers replaced the line and it put back into service.
- f. There have been some conflicts at building level #2 in-slab work. These matters are being resolved on a day to day basis by cooperation between the design team and the contractors.
- g. Boring and jacking of the replacement storm sewer was completed about June 1, 1986.
- h. All contaminated soil work is now complete.

At present a full concentration of effort is directed toward supported floor pours and the following close in work since it is essential that the optimum amount of work be done prior to cold weather. In the updated network model for superstructure installation, we showed erection of the exterior back up masonry. This masonry is expected to follow closely behind floor pours and is expected to be started once the deck to which the masonry is to be erected has been cured, stripped, and reshored. This will require careful placement of reshores so as not to interfere with the masonry installation.

Under the present plan of work, it is expected that the building can be sufficiently closed to weather by mid or late January, 1987 to allow interior finishes to start. This is in general conformance to the summary network plan which had anticipated starting interior finish work in early February, 1987.

We shall review these dates in more detail at our next monitoring session to insure that they retain their validity. Meanwhile, I have provided Mr. Holman of Granger the updated material from our site meeting on July 14, 1986 (working day 391). He will print and distribute the networks as it appears necessary.

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

Monitoring Report #5  
Genessee County Jail  
Page five

I shall be in touch with Mr. Holman shortly to set the next date of our next planning and monitoring session.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Chuck Holman

Sept. 4, 1986

Subject: Monitoring Report #6  
Genessee County Jail  
Flint, Michigan  
Granger Construction Co. - general contractors

Project: 85:52

Date of Monitoring: August 11, 1986 (working day 411)

Monitored from structure and close in network sheets #2 and #3, Issue #7 dated July 14, 1986 (working day 391); tunnel network sheet T-1, Issue #7 dated July 14, 1986 (working day 391); and summary network sheet S-1, Issue #5 dated March 21, 1986 (working day 312)

Actions taken:

- Inspected project
- Reviewed current status of project with Mr. Chuck Holman and Mr. Chris Strugar-Fritsch
- Updated networks as appropriate
- Evaluated current status of project
- Began interior work planning for typical floor

General Summary

As of August 11, 1986 (working day 411) floor pour work is moving well with the second level having been poured out by July 31, 1986 (working day 404), and third level pours in progress. The first third floor pour A-1 was made on August 8, 1986 (working day 410). At the second level mezzanine columns have started and forming of the deck was to begin August 12, 1986 (working day 412).

At present, it appears that the current network model for floor pours, Issue #7 dated July 14, 1986 (working day 391) is being bettered in the field. At our next monitoring and planning session we shall update the current diagram if appropriate.

Monitoring Report #6  
Genessee County Jail  
Page two

Tunnel connection work has moved fairly well and it is presently planned that the full tunnel will be completed just after Labor Day. At that point work remaining at the surface will be completed and the bituminous paving and other work at the parking lot completed.

At our planning session we prepared a typical interior network model for both rough and finish work at the building upper floors. Typical floors to which this logic will be applied include:

Third Mezzanine - 3rd

Fourth Mezzanine - 4th

Fifth Mezzanine - 5th

Special logic applies to level 1, level 2, and the level 2 mezzanine area.

At subsequent sessions of our planning we shall tie these networks together into the superstructure diagram.

The present intent is to use a 20 working day turnover cycle on the floors. This is the amount of time required from the point where one floor has been completed and the following floor is completed. Thus, if four floors are to be built using a turnover cycle of 20 working days, the 4th floor will be completed,  $3 \times 20 = 60$  working days after the first is completed.

It is hoped to be able to close the building substantially to weather by early or mid January, 1987. This date must be rechecked. At that point it will be possible to begin installation of finishes at the various floors. Early finish operations are plastering and dry wall. If we can start our 20 day cycling in January, 1987, we can then project a tentative end date with some accuracy.

At our meetings on our 2 days we also reviewed in detail the various matters that still require resolution.

The following items were noted:

- a. The City of Flint still has not turned on the water to the site. This is presently being followed by the architect/engineer who is discussing the matter with the county. There is no word on when it will be settled. The problems caused by lack of water



Monitoring Report #6  
Genessee County Jail  
Page three

include affecting erection of masonry due to the need for mixing water. It also prevents the mechanical contractor from completing testing and chlorinating of the building water service from the main.

- b. At the tunnel the support of the uncharted electrical duct has been resolved and work was authorized on July 14, 1986 (working day 391).
- c. Conflicts on floor work at the second level pour deck were resolved in the field.
- d. Questionable concrete wall sections have been cored and apparently came up to acceptable strengths. For detention door in and through slab conduit, SESCO does not believe that more than 2 doors per home run can be serviced with the present conduit. This conduit is shown servicing four doors per home run. The matter should be resolved quickly since it does affect slab pours. A request for information was submitted on August 18, 1986 (working day 410).
- f. Utility chases at cell areas contain considerable mechanical piping, duct work, sprinkler work, and some electrical conduit work. This crowded condition makes it difficult to provide adequate access. Thus, access doors may have to be increased to provide the needed maintenance room. A request for information has been submitted by Granger.
- g. Permits. No word was available on issuance of a building permit.
- h. Underground utility work. All work on the northeast storm line is complete and the city hall lawn is restored.
- i. Window embeds have been determined and the contractor is installing these according to the number set by the architect/engineer.
- j. A substitute durrress system has been submitted for review by the owner. There is no word on this as yet.

Overall the project is moving relatively well and a major effort is being made to get as much of the structure poured our and enclosing masonry walls erected before cold weather. This is critical to insuring the job will be able to move well throughout winter.

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

Monitoring Report #6  
Genessee County Jail  
Page four

Our next planning and monitoring session is set for Sept. 24, 1986 (working day 442). I shall be in touch with Mr. Holman shortly to confirm this meeting. At this planning and monitoring review we should update the current structural and close in diagram and prepare as many of the interior floor network model as possible.

Ralph J. Stephenson, P.E.

RJS:gmj  
To: Mr. Chuck Holman

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

October 9, 1986

Subject: Monitoring Report #7

Genessee County Jail

Flint, Michigan

Granger Construction Company - gneral contractors

Project: 85:52

Date of Monitoring: September 24, 1986 (working day 442)

Monitored from structure and close in network sheets #2 and #3, Issue #7 dated July 14, 1986 (working day 391); tunnel network sheet T-1, Issue #7 dated July 14, 1986 (working day 391); and summary network sheet S-1, Issue #5 dated March 21, 1986 (working day 312)

Actions taken:

- Inspected project
- Reviewed current status of project with Mr. Chuck Holman and Mr. Chris Strugar-Fritsch
- Continued work on interior area networks
- Evaluated current status of project

General Summary

As of September 24, 1986 (working day 442) floor pours on the main building continue to move well and are presently 9 to 10 working days ahead of intended dates in the network model. The third level mezzanine was planned to be poured out by October 14, 1986 (working day 456) and probably will be poured out by September 29, 1986 (working day 445). The fourth level is about 30% formed. No resteel has been set at the fourth floor as yet but it will be delivered over the next few working days. Mechanical trades are installing in-floor work at level four. The present target is to make the first pour there by October 7, 1986 (working day 451).

The erection sequence for the precast roof deck at level 2 west is presently being re-evaluated by Granger. Early erection of the precast deck could interfere with placing concrete from the west side of the building on upper floors. Granger is also investigating alternative concrete placing systems for these upper floors.

Monitoring Report #7  
Genessee County Jail  
Page two

The exterior skin of the building is also moving fairly well with block back up in work at the second level where it is about 50% complete. Block back up is presently from 2 to 5 working days behind the projected schedule. However, it is expected this time can be picked up and that there should be no major delays from masonry aside from possible weather impacts.

Weather has been a serious problem over the past two months and since September, 1986, the project has lost 3 working days due to rain. This along with Labor Day has tended to disrupt continuity of slab forming. Three of the slab pours were delayed by rain. These were at 3d, and at 3mb. However, some of this time lost was picked up by combining floor pours. Thus, the project has been moving well on floor pour work despite adverse weather problems.

We discussed several other problem areas and these are reviewed briefly below.

- 18" water main at tunnel under Fifth Street - As of September 24, 1986 (working day 442) the City of Flint still has not turned on water to the site. However, the city is now chlorinating and testing the tie in and water should be available within a week.
- Detention door conduit - This matter has been cleared and SESCO says it is no longer a problem. Apparently there was some confusion about the need for this conduit.
- Utility chases in cell areas - It was found upon further examination that access doors as shown were adequate. Flint's plumbing inspector and the architect/engineer are satisfied with the resolution.
- Sprinkler contractor - Olympian has withdrawn from the project for financial reasons. This withdrawal was affected about two weeks ago. It, of course, causes problems but Granger is presently negotiating a contract with potential replacement organizations. A contract should be in place by early October, 1986.

Meanwhile, Granger is laying out and installing sleeves for fire protection at decks, walls, and other areas affected by fire protection piping. This work is being meshed with other mechanical and electrical trades at areas where they exist. Interior rough work is also in progress at present.

Monitoring Report #7  
Genessee County Jail  
Page three

Sheet metal duct work and plumbing is being installed at the level 1 mechanical room. Some laterals are also being installed at the level 1 equipment. Meanwhile, mechanical equipment is also being installed at level 1. This work is moving relatively well.

Electrical equipment is being set and installed at the level 1 electrical equipment room and distribution is being put in place at the level 1 ceiling.

Interior masonry at levels 1 and 2 has been completed up to a point where it can no longer proceed without hollow metal frames. These should be available shortly. Level 1 masonry is about 40% complete. At level 2 about 10% of the interior masonry has been erected.

At the tunnel all precast sections have been installed. There were some alignment difficulties but these have been resolved. Backfilling at the parking lot is substantially complete. Those tunnel construction items that still remain include the following:

- Apply waterproofing and complete backfill at tie in to court house.
- Remove temporary underpinning at court house tunnel entry.
- Restore curbs, sidewalks, and approaches at court house parking lot.
- Restore bituminous paving at parking lot.
- Relocate steam line at court house (will be complete about November 4, 1986 (working day 471)).
- Complete stairway to court house elevator lobby. (This will be done during the winter.)

Site underground utility work is in reasonably good condition. As noted above, the city is in the process of testing and chlorinating the water line and this water service should be available shortly. Primary electrical service is expected to be installed in October, 1986. Granger has submitted a voluntary alternate on routing the primary entrance and this is now being checked by the owner and the architect/engineer. Approximately 80% of on site storm sewer has been installed.

Monitoring Report #7  
Genessee County Jail  
Page four

We next reviewed procurement work. Comments on this are given below:

- Standard hollow metal. Delivery expected September 26, 1986 (working day 444)
- Security and custom hollow metal. Early delivery expected September 26, 1986 (working day 444).
- Food service. Submittals were returned approved as noted to Granger August 19, 1986 (working day 417). Brochures were received from Canton on September 24, 1986 (working day 442) for submittal. Equipment is to be delivered next summer or fall, 1987.
- Laundry equipment. Layout drawings have not yet been returned from the architect/engineer.
- Colors and samples. No current information.
- Exterior brick. There have been some problems manufacturing the brick and it currently is to be available in 6 to 10 weeks. It was noted that some exterior brick must be cast in place with the architectural spandrels starting at level 4. Due to the lack of brick now the architectural beam will be bypassed and cast later. A detail for this work will be submitted shortly to the architect/engineer.
- Duress system. A substitute duress system has been submitted to the owner and may be accepted. However, there is no certainty of this at present. Conduit starting at level 4, however, will probably be installed suitable for the new system.

At our session we prepared and updated the typical interior floor model for installation of rough and finish work items. These were labeled Issue #8 dated September 24, 1986 (working day 442). Mr. Strugar-Fritsch will duplicate the models and discuss the plan of work with his subcontractors, getting approval on the logic and establishing durations for each activity. He will also check interconnecting dates from the structural network. Once these diagrams have been reviewed by Mr. Strugar-Fritsch and the subcontractors, he will send them to me. I will then prepare network models for our next meeting on October 24, 1986 (working day 464). This template along with the other current material was transferred to Mr. Holman's carrying disk.

The assumptions on start of rough interior work were identified in this meeting and set down in the Genessee Jail notes of September 24, 1986. Interior rough work will begin when

Monitoring Report #7  
Genessee County Jail  
Page five

the various areas are cleared of reshoring. Interior finish work will begin when the building is substantially dried in. The first weather sensitive work is plastering and dry wall.

We have tentatively decided to use a preliminary turnover cycle for analysis of 20 working days per floor. The turnover cycle is the time in working days between when one floor is complete and when the next floor in the sequence is complete.

The present target end date for the entire project is mid-December, 1986. If at all possible to finish earlier, this will be set as the objective.

I shall be in touch with Mr. Holman shortly to confirm the date of our next meeting. Meanwhile, he has the full data for all of our work to date on his permanent and transfer disks.

Ralph J. Stephenson, P.E.

RJS:gmj  
TO: Mr. Chuck Holman

October 29, 1986

Subject: Monitoring Report #8

Genessee County Jail

Flint, Michigan

Granger Construction Company - General Contractors

Project: 85:52

Date of Monitoring: October 24, 1986 (working day 464)

Monitored from structure and close in network sheets #2 and #3, Issue #7 dated July 14, 1986 (working day 391); tunnel network sheet T-1, Issue #7 dated July 14, 1986 (working day 391); and summary network sheet S-1, Issue #5 dated March 21, 1986 (working day 312)

Actions taken:

- Inspected project
- Reviewed current status of project with Mr. Chuck Holman and Mr. Chris Strugar-Fritsch
- Continued preparation of interior area diagrams
- Evaluated current status of project

General Summary

As of October 24, 1986 (working day 464) floor pours at the main building are moving relatively well and are presently about 3 working days ahead of planned dates in the network model from which the project was monitored. This is a reduction in ahead position from the previous monitoring. It has been caused in part by weather conditions in late September and early October, 1986; as well as problems in placing electrical conduit at the main floor levels.

Mr. Strugar-Fritsch estimated they have probably lost an additional 3 working days in the field due to rain since September 24, 1986 (working day 442). However, the project still appears to be moving relatively well and target completion dates are being maintained to the greatest extent possible. There is a strong drive on presently to insure the building is sufficiently closed in by cold weather of 1986, so interior rough and perhaps some finish work can proceed as early or possibly earlier than presently projected.



Monitoring Report #8  
Genessee County Jail  
Page two

So far as decks are concerned levels 1, 2, 3, 3rd mezzanine, and 4 are poured out. The 4th level concrete deck was poured out October 22, 1986 (working day 462). It was to have been poured out no later than October 27, 1986 (working day 465). The first pour at the 4th level mezzanine is projected presently for October 27, 1986 (working day 468). Thus the 3 working days ahead position is probably accurate.

Form stripping is proceeding, and at level 1 all reshores have been removed. At level 2 reshores will be removed as the level 4 mezzanine is poured out. At level 3 reshores will be removed as level 5 is poured out. This is an important sequence since reshoring restrains production interior work. Reshores at the exterior spandrels have been selectively placed so as to permit work to proceed on exterior block backup.

Exterior block backup at the 2nd level is approximately 75% complete and at the 3rd level is approximately 80% complete. The masonry contractor had to stop work for a short time but will be back on the job October 27, 1986 (working day 465) to resume exterior and interior work.

It has been decided by Granger to hold erecting precast roof deck at level 2 west until after all the superstructure frame has been poured out. Probably the frame will be complete in January or February, 1987, weather permitting.

At the interior of the building mechanical work has moved relatively well at level 1. Sheet metal duct installation there is about 50% complete. No sheet metal duct work has started at other levels. Material, however, is on the site to start work at level 2 whenever the area is available.

Above floor plumbing work at level 1 is about 50% complete and is in progress at level 2. Level 2 plumbing work under the slab on grade is being roughed in. Preparation is being made to start above floor plumbing work at level 3. Mechanical equipment at level 1 is about 30% complete at the equipment room. Probably this equipment will not be used for any temporary heat this winter.

Electrical switch gear installation at level 1 is continuing at the electrical room. Also at level 1 electrical distribution is about 10% complete at ceilings. No electrical work is in progress at other floors other than in-slab work as decks are poured.

Monitoring Report #8  
Genessee County Jail  
Page three

No major work has been done on interior masonry at level 1 or 2 since the previous monitoring. In this monitoring the level 1 percentage was estimated at about 40% complete. This was somewhat optimistic and the total amount done there is not yet to that level. We will reevaluate masonry progress at our next monitoring session. At level 2 about 10% of the interior masonry has been erected.

At the tunnel the temporary underpinning at the court house entry has been completed and the steam line at the court house has been relocated.

Those tunnel construction operations yet to be completed include:

- apply waterproofing and complete backfill at tie in to court house
- restore curbs, sidewalks, and approaches at court house parking lot
- restore bituminous paving at parking lot (to be complete by December 1, 1986 (working day 489))
- complete stairway to court house elevator lobby (this will be winter work and fill in. It does not impact upon other major work on the project).

The city has tested and chlorinated the water main, and on-site water line testing and chlorination is also complete. No additional major work has been done on site storm sewer installation over the past few weeks. However, primary electrical service conduit is installed and encased in concrete.

The Granger alternate on routing the primary entrance has been accepted. Cable has been approved and has been ordered.

We next reviewed procurement on the project. A brief summary is given below.

- Standard hollow metal frames - are on site for levels 1 and 2
- Security and custom hollow metal - expected to be delivered to site Monday, October 27, 1986 (working day 465)
- Food service submittals - brochures have been submitted; approval has not yet been given. Food service equipment is to be delivered in the summer or fall, 1987. The delivery dates will be set more accurately as network models are completed for interior areas.

Monitoring Report #8  
Genessee County Jail  
Page four

- Laundry equipment - Granger does not yet have layout drawings from the architect
- Colors and samples - Granger has received colors and samples
- Exterior brick - some spandrel face brick will be on the job in late November, 1986. The balance of face brick is planned for a later delivery. Probably this delivery will be deferred until after floor decks have been poured out, probably in early January, 1987. This will provide storage for brick laydown.
- Duress system - shop drawings have been received disapproved from the architect/engineer as of October 23, 1986 (working day 463). The current explanation is that the manufacturer was not an approved supplier prior to bid time. Discussions probably will continue on this matter and it is expected to be resolved shortly.

For this session Mr. Strugar-Fritsch has obtained information and shown the logic and durations for each interior networks at level 1, 2, 3, and for typical levels 3M, 4M, and 5 M. We reviewed these in detail, particularly the electrical work, along with interior dry wall and plastering. Dry wall and plastering work scope must be clarified to a greater extent than was possible at this session. Therefore, I shall revise the typical logic plans as we discussed at our meetings. I shall also complete for preliminary review, the logic plan detail for level 1, 2, and 3.

In the networks, it appears that it might be desirable to break longer interior work activities into sections to allow more overlapping. I shall review this and update the interior diagrams and then return them to Mr. Strugar-Fritsch for further study and review with his contractors.

Present indications are that the first and second levels, particularly the second level, will be the longest areas in work. Therefore, the plan now is to do the interior work at these two sections of the building concurrently. At the same time, the typical floor sequences, starting up from the third floor or third mezzanine will proceed. Present desires are to use a 20 working day turnover cycle (the amount of time between when a floor is completed and the next floor is completed). However, it may be necessary to reduce this turnover cycle to make our final completion targets. Again this will be studied as network model preparation proceeds.

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

Monitoring Report #8  
Genessee County Jail  
Page five

Overall, at present it appears that the target end date being held in December, 1987 is feasible and we shall make every effort to bring our plan of work in alignment with this desired target.

I shall be touch with Mr. Holman and Mr. Strugar-Fritsch shortly to set the next planning and monitoring session. Meanwhile, as noted above, I shall forward to Mr. Strugar-Fritsch for his use, the diagrams for the first, second, and third levels, along with copies of the typical levels for his review and completion to put into final form for issuing.

Ralph J. Stephenson, P.E.

TO: Mr. Chuck Holman  
RJS:gmj

December 12, 1986

Subject: Monitoring Report #9

Genesee County Jail

Flint, Michigan

Granger Construction Co. - general contractors

Project: 85:52

Date of Monitoring: December 3, 1986 (working day 491)

Monitored from structure and close in network sheets #2 and #3, issue #7 dated July 14, 1986 (working day 391), tunnel network sheet T-1, issue #7 dated July 14, 1986 (working day 391), and various interior network models as designated below.

Actions taken:

- Inspected project
- Reviewed current status of project with Mr. Chris Strugar-Fritsch
- Completed preparation of interior network models for levels 1 through 5-M
- Evaluated current status of project

General Summary

As of December 3, 1986 (working day 491) all supported floor pours have been made through the fifth floor level. The initial floor pour on level 5-M will be made December 5, 1986 (working day 493). It was due to have been poured out, according to the issue #7 network model dated July 14, 1986 (working day 391), on December 4, 1986 (working day 492). Thus, there currently is projected a possible lag of one working day in the floor pours.

In our issue #7 network model dated July 14, 1986 (working day 391) it was planned to make the last pour at the roof level on December 29, 1986 (working day 508). Depending upon the weather during December, 1986, it presently appears possible to meet this date, although the general feeling is that the last pour may be made slightly later. However, every effort is to be made to complete the structure by that date.

Monitoring Report #9  
Genesee County Jail  
Page two

In the summary network model sheet S-1, issue #5 dated March 21, 1986 (working day 312), the target date for pouring out the building superstructure was set at January 12, 1987 (working day 517). Thus, it appears that presently there is a chance that this date will be bettered. For the most part, the structure of the building has now proceeded to a point where it no longer is a major barrier to following interior work except for removal of reshores. These reshores must stay in place at lower levels until certain of the decks above have been poured out. However, rough interior work, as well as exterior skin work, is now proceeding reasonably well since enough of the floors below have been freed up that some of the floors are accessible to following trades.

There has been some difficulty in maintaining progress on exterior backup masonry primarily due to interferences of shores, particularly at exterior spandrels of the building. At present masonry at the second level is about 75% complete; at the third level about 90% complete; and at the third level mezzanine about 40% complete. The lag in block backup erection is presently about 16 working days over the issue #7 network model dated July 14, 1986 (working day 391). The lag, however, is not currently serious in that the interior of the building, where needed, can be temporarily protected from weather. In addition, it is anticipated that block backup will soon move at a more rapid pace that had been originally planned.

Interior rough above floor work, which is that work that can be installed in the building prior to close in, is moving reasonably well at levels 1 and 2. Above floor sheet metal ductwork at level 1 is about 80% complete and at level 2 about 30% complete at the second level according to Mr. Strugar-Fritsch.

At the level 1 equipment room most mechanical and electrical equipment is set and hookup is proceeding. At level 1 the interior masonry is about 75% complete and at level 2 about 15% complete. Temporary heat is to be activated at level 1 in the reasonably near future. The delay is currently being caused by somewhat later than desired completion of piping.

The present plan for heating is to work toward a position where the building is dried in and the interior work can begin at the lower levels near the middle or end of January, 1987. This will set the interior finish cycling pattern for floors above.

A major share of our work today was concentrated on preparing interior network models for levels 1, 2, 3, 3M, 4, 4M, 5, and 5-M. The present target dates to complete each of these levels

Monitoring Report #9  
Genesee County Jail  
Page five

review is complete these diagrams will be once again checked and final copies made, printed, and issued for field guidance over the next several months.

I shall be in touch with Mr. Holman and Mr. Strugar-Fritsch shortly to determine when they will have the final corrected copies available.

General

Overall, the project is still moving relatively well, although there is a slight lag in erection of exterior masonry which can be presently compensated for. Concrete decks are currently meeting targets between early and late starts and finishes. There has been some loss of ahead time in this work, however, most of it has been due to the weather conditions encountered over the past 2 or 3 months.

It does appear presently that interior finish work can begin sometime in mid or late January, 1987 and the current set of end dates is predicated upon being able to begin interior finish work at about that point in time. The present completion target being maintained is in mid to late December, 1987 and it presently still appears feasible to meet.

May I wish those reading this report a very happy holiday and a very prosperous new year.

Ralph J. Stephenson, P.E.

RJS:gmj  
TO: Mr. Chuck Holman

January 26, 1987

Subject: Monitoring Report #10

Genesee County Jail

Flint, Michigan

Granger Construction Company - General Contractor

Project: 85,52

Date of Monitoring: January 14, 1987 (working day 519)

Monitored from structure and close in network sheets #2 and #3, issue #7 dated July 14, 1986 (working day 391), tunnel network sheet T-1, issue #7 dated July 14, 1986 (working day 391), and various interior network models as designated below.

Actions taken:

- Inspected project
- Reviewed current status of project with Mr. Chris Strugar-Fritsch and Mr. Charles Holman
- Discussed status of project briefly with Mr. Robert Chase and Mr. Harold Butler, along with Mr. Strugar-Fritsch, Mr. Holman, and Mr. Greyerbiehl
- Evaluated current status of project

General Summary

As of January 14, 1987 (working day 519) the last roof pour was being made and layout for the penthouse masonry was in work. The target date for the final roof pour in our network model for the close in diagram, issue #7 dated July 14, 1986 (working day 391) was December 31, 1986 (working day 510). The actual pour was made on January 14, 1987 (working day 519) which reflects a lag of 9 working days.

Meanwhile, work is proceeding on closing in the building with block masonry at the lower levels and interior rough work is in progress at levels 1, 2, 3, and 3M. Exterior skin work is of vital importance presently so as to get the building closed to weather just as quickly as possible. Block backup at levels 2, 3, 3M is 95% complete; at levels 4 and 4M is about 80% complete. At levels 5 and 5M no block is started although it is stock piled for the north half. No exterior sash, roofing, entries, veneer, or doors have yet been started or installed.



Monitoring Report #10  
Genesee County Jail  
Page two

At level 1, sheet metal, mechanical piping and electrical work is moving well, however, sprinkler piping has just started and could be a delay to start of work following it. Relative to target early starts and early finishes the projected lag is about 23 working days. Probably ceiling suspension at the lower level will start about mid February, 1987. It was due to start in mid January, 1987. There have been several problems that are presently being resolved and I urge that every effort be made to clear away all potential obstacles to full continuity of work in the field just as quickly as possible.

At level 2, above floor sheet metal work is about 65% complete; mechanical piping about 65% complete; and electrical rough in just starting. Sprinkler piping has not yet begun. Interior masonry is about 30% complete and some cell bunks have been set. Sprinkler piping lags about 30 working days over desired dates. It will probably now start in early February, 1987. The desired target dates are presently set so as to space out finishing of each floor in a definite turnover cycle. By our next session we will have a better feel of what work progress can be expected as interferences and other field problems are cleared away.

At level 3, above floor sheet metal ductwork is just getting underway. No piping or electrical is in place except for some mechanical risers. Layout for cell areas and masonry has started and some bunks have been set.

At level 3M, sheet metal ductwork at the mechanical room is about 80% complete, however, no lateral ductwork piping, electrical conduit, or fire protection is started on the floor.

At level 4, 4M, 5, and 5M, no measurable amount of rough interior work has yet begun.

No major interior finish work has yet started in any portion of the building since the facility is not yet adequately closed to weather to start this work. However, over the next month, strong efforts are to be made to close in the building to the greatest extent possible so that finish trades can begin, particularly at the lower levels of the building.

There have been several problems that have been encountered over the past few weeks and these were discussed in some detail. The major of these deal with sheet metal ductwork interferences, difficulties in getting the sprinkler contractor underway, resolution of the duress system, and final clearing away of problems on plumbing fixtures and on steel barrier grills. In addition, there is a need to fully clear the CPR 17 dealing with incorporation of needed changes into the project to conform to barrier

Monitoring Report #10  
Genesee County Jail  
Page three

free codes.

An element that should be watched carefully is the potential delay in obtaining detention hollow metal for masonry walls at the central control room. Hollow metal frames are long lead items and installation of the control room security system will be an important item to tie into the installation of door frames. It is hoped to begin installation of the control room security system sometime in late June, 1987. This is only about 5 months from now and since lead times required on hollow metal are considerable, this item should be put into work at the earliest, possible date. It appears presently that the matters restraining this can be taken care of in the immediate future.

The interferences that have been encountered due to sheet metal ductwork are considerable but work is proceeding on resolving these.

A meeting was held on January 6, 1987 (working day 513) to discuss the matter and some decisions were made including a lowering of soffit heights at walkways in proposal request #62 and some revisions to the air distribution system including:

1. Revising sizes of ductwork at various areas.
2. Revising the submittal process for distribution system submittals.
3. Timing of shop drawing submittals.
4. Consideration of waiving performance guarantee conditions on the air distribution system.

In our discussion of these with the parties to the project, it did not appear there was a clear understanding about the conditions surrounding the matter. Therefore, I strongly recommend that ongoing discussion be held until this problem is fully understood by all parties and decisions made are clearly agreed to by all parties. Without such understanding it is possible that serious delays to the job could be encountered.

It is not the purpose of this monitoring to judge the reasons why or why not something has or has not been done. However, it is the responsibility of the monitoring process to identify any delay that can seriously affect end dates of the project and cause further delays. I highly recommend a very open line of communications be established and maintained between all parties to the job to the greatest extent possible.

Monitoring Report #10  
Genesee County Jail  
Page four

Sprinkler work started on January 12, 1987 (working day 517) at the level 1 mechanical room. Their work is proceeding on the test headers, fire pump, and standpipes.

The duress system problems are still apparently not resolved and there is no current word on the status of this matter. It was not possible to go into the subject in great detail at our session, however, the parties to the problem apparently understand what the difficulties are and it is recommended that they resolve these just as quickly as can be done. The duress system affects ceiling work which is due to begin in the near future at the lower levels.

Resolution of problems with the plumbing fixtures has been apparently made, a bulletin issued and priced, and a change order issued but not yet executed.

Clarification of steel barrier grill characteristics has been made and a proposal request is to be issued by the architect/engineer in the near future to cover the revised work.

Overall, field progress has been good to date. However, it is beginning to slow as problems are encountered and are being considered and cleared. In order for this project to maintain adherence to the current network models being used, it will be essential that all parties, to the contract, communicate decisions properly and in a clear manner.

We were able to meet together with the contractor, owner, and architect/engineer representative for a brief time at this session to discuss resolution of some of the outstanding difficult areas. It will require close cooperation among these 3 parties to insure that the project does proceed on schedule.

At present I shall do no updating of the network models currently in effect. However, at our next session we should review in depth the interior diagrams, and where necessary to update these to reflect current conditions on the project.

I shall be in touch with Mr. Holman shortly to discuss this with him.

Ralph J. Stephenson, P.E.

RJS:gmj  
TO: Mr. Charles Holman

April 14, 1987

Subject: Monitoring Report #11

Genesee County Jail

Flint, Michigan

Granger Construction Company - General Contractor

Project: 85:52

Date of Monitoring: April 6, 1987 (working day 577)

Monitored from: structure and close in network sheets #2 and #3,  
issue #7, dated July 14, 1986 (working day 391)  
and various interior network models as designated  
below.

Actions taken:

- Inspected project
- Reviewed current status of project with Mr. Chris Strugar-Fritsch and Mr. Dennis Anderson
- Evaluated current status of job
- Updated network model for close in work
- Updated network models for levels 1, 2, 3, 3M, 4, and 4M.

General Summary

It should be noted that Mr. Holman, the previous project manager on the job for the contractor has left the company and Mr. Anderson is currently serving as the project manager for the facility.

At this meeting we made a thorough review and evaluation of the current status of the work and updated network models for the close in, as well as for selected critical interior areas.

Currently the project is being closed in. There is considerable water coming into the building at the edges of the roof. Mr. Strugar-Fritsch feels he would have the high roof, single ply roof installed by April 20, 1987 (working day 587). This should close in the building to casual water presently finding its way through all levels.

Brick veneer work is just getting into production on the west elevation and will move from the sally port area counterclockwise around the building. Directly in back of brick veneer work cleaning of the face brick will follow and then installation of exterior sash and glass will start on the west elevation and move in back of brick

Monitoring Report #11  
Genesee Jail  
Page two

sealing. Present plans are to start erecting sash as early as April 23, 1987 (working day 590).

Concurrently with masonry and other close in operations, precast tees at the sally port will be installed starting April 13, 1987 (working day 582). This will be followed by construction of close in elements and the sally port slab of grade, so that by early June, 1987, sally port areas should be closed to weather with the slab on grade in place.

The roof at the mezzanine level 3 east, which will complete general roofing close in, will probably be finished sometime in late June or early July, 1987.

Our updating of the network models was based upon the new close in diagram prepared on sheet I-1, issue #10, dated April 6, 1987 (working day 577). A copy of this, along with all other diagrams, was left with Mr. Strugar-Fritsch for his evaluation and use.

We spent considerable time evaluating the current status of work and evaluating the impact of current progress upon the project as a whole. A brief review of interior work plans at present is given below.

Level 1 - Masonry is nearly complete. Most above floor rough work is complete or nearly complete. There is considerable electrical installation remaining but it does not appear to pose a major difficulty. Dry wall ceiling suspension is substantially complete, as is installation of coolers, hoods, and the fire suppressent system. The mechanical room is about 80% complete and there should be no difficulty in completing this work as required.

It is now necessary to get the building closed in so that board installation can proceed.

Level 2 and 2M - At level 2 interior masonry is about 80% complete. Above floor rough interior work is from 90% to 100% complete, except for electrical which is about 60% complete.

Again, to continue with interior finish trades requires closing in the building to weather. Hopefully, this matter, as noted previously, will be solved by completion of the high roof roofing within the next 2 weeks.

Levels 3 and 3M - Interior masonry is presently 70% to 80% complete. Sheet metal ductwork is about 80% installed, mechanical piping and electrical work is about 60% complete and fire protection is about 50% complete.

Monitoring Report #11  
Genesee County Jail  
Page three

Levels 4 and 4M - Interior masonry is about 50% complete, above floor rough work, including sheet metal piping is about 40% to 50% complete. No fire protection work has begun as yet.

Levels 5 and 5M - Interior masonry is about 10% complete and rough mechanical and electrical above floor is about 15% complete. Fire protection work has not yet started at the fifth and 5M levels.

Overall, interior rough and finish work is generally behind what had been anticipated relative to its planned progress in the issue #9 network models, dated December 3, 1986 (working day 491). Therefore, a complete evaluation was made of all levels and the interior work was re-diagrammed to reflect the current status in a new issue #10, dated April 6, 1987 (working day 577). In this network plan an attempt was made to space out the completion dates to arrive at a reasonable sequence of work that would give proper cycling time to starting and completion operations. Taking into account the current position of the work, it appears that the following dates are possible targets to achieve.

Level #	Approx. Early Finish Dates	Approx. Late finish Dates
1	July 20, 1987 (working day 650)	July 20, 1987 (working day 650)
2	December 28, 1987 (working day 762)	December 28, 1987 (working day 762)
3	September 10, 1987 (working day 687)	September 10, 1987 (working day 687)
3M	August 24, 1987 (working day 675)	September 24, 1987 (working day 697)
4	August 14, 1987 (working day 669)	October 8, 1987 (working day 707)
4M	August 26, 1987 (working day 677)	October 22, 1987 (working day 717)
5	September 29, 1987 (working day 700)	November 5, 1987 (working day 727)
5M	October 27, 1987 (working day 720)	November 19, 1987 (working day 737)

Note that the dates used for the early finishes of 5 and 5M remain the same as shown in Issue #9, dated December 3, 1986 (working day 491).

Monitoring Report #11  
Genesee County Jail  
Page four

When general approval is given to these targets by the contractor we will bring the networks into final form and issue them as an issue #10 network model, dated April 6, 1987 (working day 577).

These networks generally indicated that the project can be completed by late December, 1987. This has been the overall target completion in our summary diagrams since early 1986. However, to finish this project in that period of time will require a considerable amount of cooperative team work by all parties concerned. At present, it appears that many of the problems that have been encountered on the job are being resolved one by one and if close in of the building can proceed, as presently planned, the completion dates appear to be capable of being reached.

One major item that still is a potential difficulty is the security systems. There is no current information available on the progress of this work and I highly recommend that at a near future meeting we focus intently upon procurement of the security systems, as well as their installation. I shall discuss this with Mr. Anderson and Mr. Strugar-Fritsch at our next planning and monitoring session.

Meanwhile, I shall be in touch with Mr. Anderson in the near future to set our next planning and monitoring date.

Ralph J. Stephenson, P.E.

RJS:gmy

TO: Mr. Dennis Anderson

May 13, 1987

Subject: Monitoring Report #12

Genesee County Jail

Flint, Michigan

Granger Construction Co. - general contractor

Project: 85:52

Date of Monitoring: May 11, 1987 (working day 602)

Monitored from preliminary networks, issue #10, dated April 6, 1987 (working day 577) for close in and interior work at levels 1 through 5M.

NOTE: These networks were prepared at our April 6, 1987 (working day 577) meeting for review and comment. They were revised and updated at this session and will be issued in the near future as issue #11, dated May 11, 1987 (working day 602).

Actions taken:

- Inspected project
- Reviewed current status of project with Mr. Chris Strugar-Fritsch
- Evaluated current project status
- Revised and updated network model for close in work
- Revised and updated network models for levels 1, 2, 3, 3M, 4 and 4M

General Summary

The network models issue #10, dated April 6, 1987 (working day 577) were printed at our previous meeting for review and comment. In these network models there were several elements that were to be inserted but only upon evaluation of the projected end dates on the project. These end dates were as listed in Monitoring Report #11, dated April 14, 1987, page 3. Note that in some cases the late finish dates, shown in the monitoring report, were different than those shown on the network models. The reason for this was that the networks were primarily to evaluate logic~~X~~ and durations remaining on some of the current activities.



Monitoring Report #12  
Genesee County Jail  
Page two

Therefore, at our session today, Mr. Strugar-Fritsch and I revised the diagrams and are presently putting them into final form for issue as the plan to guide the work over the next few months. We shall incorporate in these, some of the conditions that have impacted upon the job since our previous session.

So far as the current status of the work is concerned, a brief review of each major area is given below.

### Close In

Brick veneer is 20% to 25% complete and lags the issue #10 network model, dated April 6, 1987 (working day 577), by 5 to 10 working days. Cleaning brick is in work on the west side and is about 5% complete of the total.

A problem has developed in delivery of sash and a new supplier is now on the project. It is expected that sash will be delivered in 25 to 30 working days. The projected lag on sash over the issue #10 network model, dated April 6, 1987 (working day 577), will be from 20 to 25 working days. This will prove somewhat inconvenient to total close in but should not necessarily delay interior work to any great extent.

The main high roofing is complete. However, roofing at other levels is not yet installed. I urge this be done at each area as quickly as possible so as to maintain as complete a horizontal protection to weather as possible.

### Elevator Work

Rails have been installed for all elevators. The platforms are complete and machine rooms for elevators 1 and 2 are complete. Elevators 3 and 4 machine rooms are about 75% complete with the machine room floors in work. Cab installation is in progress at elevators 1 and 2. It has not started at elevators 3 and 4. Door fronts are complete on elevators 1 and 2, and in work on 3 and 4. Controls and inspections are due to be started and completed within the next 10 to 25 working days. It is expected that elevator 1 will be available for use within 22 to 25 working days.

### Level 1

Issue #10 late finish target, July 20, 1987 (working day 650). Level 1 first floor work lags the issue #10 network model by 4 to 9 working days. Basically, rough above floor work is substantially complete except for electrical installation and for encapsulation of the hood exhaust ductwork to the second floor. This encapsulation will take from 10 to 15 working days and probably will not begin for another week. A work order must be issued to release the

released Wed  
7/22/87 (\*)

Monitoring Report #12  
Genesee County Jail  
Page three

work, which was required by the fire marshall. Ultimately the projected lag over issue #10 will be 20 to 25 working days in ceiling work. It is expected with the revised late finish target that this full lag will be reduced in some measure. It should be noted here that the electrical work in the ceiling at the corridor adjoining the control room will be completed over a period of time as remaining portions of the building are completed. Therefore, that ceiling will probably be left out until very late, near project completion.

At level 1, painting is in work and the area is nearly ready to receive additional finish trades as quickly as hood ductwork encapsulation can be completed.

#### Levels 2 and 2M

Issue #10, late finish target, December 28, 1987 (working day 762). The current lag over the target late finish is primarily on in wall work which lags about 6 working days. This in wall work could start immediately and it is intended to begin within the next day or so. There has been some additional wall work added that will require a work order. However, the work order is expected to be provided by the owner on May 12, 1987 (working day 603). Rough above floor work is currently in progress and there is no current lag over the late starts and late finishes.

It is important that a release of CPR 68 be provided as soon as the requote has been given to the owner by the contractor. The requote will be available May 18, 1987 (working day 607). Slab on grade at the rally port is to be held until interior building masonry has been complete. Meanwhile, painting on a limited basis, has been started at level 2. ✕

#### Levels 3 and 3M

Issue #10 late finish for 3, September 10, 1987 (working day 687).  
Issue #10 late finish for 3M, September 24, 1987 (working day 697).

Late finishes will be adjusted as required in issue #11 network models, depending upon the updating of durations and logic. Probably the late finish of the third level will be somewhere in mid to late September, 1987 with the late finish of the third level mezzanine in late September or early October, 1987. Currently, the lag at the areas is from 2 to 15 working days primarily on above floor rough work. It should be noted here that design of the nurse call station system had to be revised and this delayed masonry erection at the third level about 10 working days.

A point also to be noted here is that with ceiling suspension and grid just about ready to start for both hard ceilings and acoustic ceilings, it is critical that a good working sequence be agreed

Monitoring Report #12  
Genesee County Jail  
Page four

upon by the ceiling contractor, the electrical contractor, and the mechanical contractor. I urge that these contractors meet with the general contractor and work out a mutually acceptable plan that will allow ceiling installation to proceed without delay. There is a considerable amount of ceiling work to be done and it is tied so closely to other contractual work that it must be carefully sequenced in the field.

#### Levels 4 and 4M

The current lag over the late finishes desired at level 4 and 4M range from 0 to 5 working days. A further analysis of this lag will be made when the issue #11 network is processed and ready for issue.

At level 4 and 4M, rough above floor work is currently in progress at each of these areas and it appears that the desired completion late finishes of October 8, 1987 (working day 707) for 4 and October 22, 1987 (working day 717) for 4M can be maintained. This will be checked out on the issue #11 network model being prepared presently.

#### Levels 5 and 5M

At present there appear to be little if any lag over the desired late finishes of November 5, 1987 (working day 727) for level 5. At the mezzanine of the fifth floor, the desired late finish is November 19, 1987 (working day 737). Here too, there does not appear to be any major lag. At present, above floor rough work is being installed at 5 and 5M.

#### General

Overall, the intent is still to hold a desired completion date of December 28, 1987 (working day 762). This will be used, if at all possible, as the target date at the second level.

As noted above, the network models will be revised and updated and issued as issue #11 network model, dated May 11, 1987 (working day 602). I shall complete these and forward them to Mr. Dennis Anderson of Granger and Mr. Strugar-Fritsch as quickly as possible.

Meanwhile, I shall be in touch with Mr. Anderson and Mr. Strugar-Fritsch in the near future to set the next planning and monitoring session. At this session we should evaluate the status of the project and prepare a network model for the remaining site work to be done this summer and fall.

Ralph J. Stephenson, P.E.

RJS:gy  
TO: Mr. Dennis Anderson

August 9, 1987

Subject: Monitoring Report #13  
Genesee County Jail - Flint, Michigan  
Granger Construction Company - general contractor

Project: 85152

Date of Monitoring: July 27, 1987 (working day 655)

Monitored from: network models CL-1, L-1, L-2, L-3M, L-4M, L-5,  
and L-5M, issue #11, dated May 11, 1987 (working day 602)

Actions taken:

- Inspected project
- Reviewed current status of project with Mr. Dennis Anderson and Mr. Chris Strugar-Fritsch
- Updated network models for first, second, fourth, and fifth levels of interior work. (Because of pending revisions at the third floor, this level was not updated at this session.)

General Summary

Currently the building is substantially closed to weather and most activities in the close in diagrams have been completed, with the exception of glazing exterior sash. This sash is within 10 days of completion after which glazing will begin. It currently is not delaying any major interior finish trades.

Exterior brick veneer was completed about June 26, 1987 and for the most part brick surfaces have been cleaned. Sealing will be done as the exterior caulking proceeds. Aluminum store front installation at level 2 has been completed.

No updating was done on the close in diagram.

A brief review of the status of each major level is given below. Please note that main floor and mezzanine floor work has now been merged since at most of the levels each of the two areas is approximately at the same position and, therefore, the floor can be evaluated as a unit.

Level 1

Major problems continue to delay work on fireproofing the hood exhaust ductwork above the ceiling. This work was released Wednesday, July 22, 1987 (working day 652) and is just now getting

Monitoring Report #13  
Genesee County Jail  
Page two

underway. Activities needed to complete this revision are to remove the existing ceiling suspension and utilities at level 1, to install the metal framing and board at the exhaust duct, and to reinstall above ceiling utilities and ceiling suspension, and then to hang, tape, and sand drywall at the ceilings.

Because of the extensive nature of this work, estimates presently indicate it may require as much as 8 weeks to complete, according to the present information of the contractor and his subcontractors. However, a complete re-evaluation of the sequencing will be done in the very near future by all concerned.

This revised ceiling work is one of the major difficulties being encountered at level 1 and has now moved the projected completion of level 1 out to about December 15, 1987 as compared to an issue #11 completion date of August 21, 1987 (working day 674). It is well recognized that a very careful evaluation of this revised sequence must be made and we will discuss the impact and attempt to evaluate it further at our next planning and monitoring session.

The mechanical equipment room is nearing activation in selected function. Present plans for the equipment rooms at all floors are to activate ventilating systems by early August, 1987, air conditioning systems by early September, 1987, and heating systems by mid October, 1987. This should provide adequate controlled environment within the building to maintain progress on interior finish work.

## Level 2

At level 2, work on the hood ductwork encapsulation is also an important part of revisions that must be made. The portion of the existing ceiling affected must be removed and the encapsulation of the ductwork installed, after which the ceiling can be re-installed, taped, and sanded. This work also is to be revised very carefully over the next few days to insure the plan of work set down is an accurate evaluation of the encapsulation process and its impact upon its finish work.

Another element that affects the time of completion of the project deals with security work to be installed, tested, and activated once wiring and devices have been installed. I strongly recommend that a careful evaluation of each security impacts are possible. I have discussed this with the Granger project team and they are presently evaluating the schedule needs of the security systems.

Projecting completion dates at the second floor from our updating to issue #12, dated July 27, 1987 (working day 655), the revised completion appears to be February 26, 1988 (working day 805) for

Monitoring Report #13  
Genesee County Jail  
Page three

building work, and for completion of the final security check, March 10, 1988 (working day 814). This can be compared to a floor completion in issue #11, dated May 11, 1987 (working day 602) of January 6, 1988 (working day 768), and January 5, 1988 (working day 767) for security systems. It should be noted that an additional 10 days has been added for the final check of the total security system. With this 10 days additional, the issue #11 date would have been January 19, 1988 (working day 777).

As with the first floor, it is the intent of the contractor to carefully evaluate this preliminary issue #12, dated July 27, 1987 to determine the accuracy of the logic and durations assigned.

Presently, at the second level, work is in progress on plaster ceiling suspension and installation of wall board. Most studs are complete. Board work was started about July 23, 1987.

Level 3

At level 3, rough above floor work is substantially complete. Dry wall ceiling suspension and framing is substantially complete and light fixtures are partially installed. Prime painting is about 30% complete and some acoustic ceiling suspension has been installed.

Work at the third floor will be affected by a substantial revision to masonry at the center core area. The core layout is being revised and some of the masonry must be removed and relocated. This work revision is to be covered in CPR 102. The quotation for this CPR is being held presently by the need for additional information as requested in RFI 265. Also security information is needed for work at the floor console and wiring to the control room. There is no current word on when this work will be released.

There also have been delays to release of some hollow metal frames throughout the building. Every effort is presently being made to work around this. The current lag over the issue #11 network model, dated May 11, 1987 (working day 602) at the third level is about 30 working days. Because no information was available re revisions at the core, the level 3 network model was not updated.

Level 4

Rough above floor work is substantially complete, dry wall ceiling framing is substantially complete, and gyp board is just starting at levels 4 and 4M. Some painting has been done and some acoustic ceiling suspension has been installed.

Monitoring Report #13  
Genesee County Jail  
Page four

The projected target date for the late finish of this floor in issue #11, dated May 11, 1987 (working day 602) was October 8, 1987 (working day 707). The revised target as shown in the updated issue #12, dated July 27, 1987 (working day 655) is November 30, 1987 (working day 743).

Again, efforts will be made to further evaluate these new end dates to determine their full feasibility.

Level 5

At level 5, rough above floor work is substantially complete and plaster ceiling suspension has begun; however, no plastering has yet started. Dry wall ceiling framing is substantially complete and about 60% of the dry wall has been hung. Skim coat has not yet begun. Painting is about 40% complete and some acoustic ceiling suspension has been installed.

The target completion date for this floor in the issue #11 network model, dated May 11, 1987 (working day 602) was November 5, 1987 (working day 727). The issue #12 updated network model completion shows a current target completion date for this floor at November 17, 1987 (working day 735).

General

Overall, the prime dislocation, at present, from the desired target of completing by early January, 1988 is in level 2 work. This level 2 must be thoroughly evaluated to determine the full impact of the present problems on field work.

In addition, we were not able to evaluate level 3, which had a completion in the issue #11 network model, dated May 11, 1987 (working day 602) of October 9, 1987 (working day 708). This will be done at a later date when more information is available about the impact of changes.

The major difficulty in the current problems being experienced on the job, is that it has narrowed down the turnover cycle to a point where it might be difficult to man the project adequately to meet these turnover cycle requirements.

There are still a considerable number of problems that tend to delay the project. These have been outlined in the note file of the job, prepared at each of our planning sessions. These note files are available for review by the contractor and, if desired, by the owner. The files have been stored on the contractor's data disks and are contained as a part of his records. A copy of the notes of July 27, 1987 are attached to this report for

Monitoring Report #13  
Genesee County Jail  
Page five

reference purposes. Copies of this were furnished to the contractor at the planning and monitoring session.

Elevator work in the building is in relatively good shape. One of the elevators is now a working elevator and another is inspected and ready to run. Final adjustments are being completed to the other two. Inspection of the remaining two elevators will be completed in the next 10 to 20 working days.

As noted earlier in the report, the intent presently is to have the mechanical equipment rooms at all floors available for ventilation, air conditioning, and heating at staggered times over the next two and half to three months. I strongly urge that all members of the project team focus intently on the current problems that exist relative to design and procurement of key items.

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

Ralph J. Stephenson, P.E.

RJS:gmj

TO: Mr. Dennis Anderson



November 1, 1987

Subject: Monitoring Report #14

Genesee County Jail - Flint, Michigan

Granger Construction Company - General Contractor

Project: 85:52

Date of Monitoring: October 20, 1987 (working day 715)

Monitored from: Issue 11, dated May 11, 1987 (working day 602), sheet CL-1, L-1, L-2, L-3, L-3M, L-4, L-4M, L-5, and L-5M. Also monitored from Issue 12, dated July 27, 1987 (working day 655), sheets L-1, L-2, L-4, and L-5.

Actions taken:

- Inspected project
- Reviewed current status of project with Mr. Chris Strugar-Fritsch and Mr. Tom Greyerbiehl of Granger
- Updated network models for 1st and 2nd levels interior work

General Summary

The completion date of the project is expected to be revised by change order 32 to the evening of March 10, 1988 (working day 815). Thus, it is somewhat difficult to make an accurate direct comparison of project status with the current diagrams. However, through analysis and limited updating we were able to make projections of current job status measured against the expected revised completion date of March 10, 1988 (working day 815).

A brief review of the work status at each major area of the building is given below.

Site work

Site work is moving relatively well and most paving is installed with landscaping to start in the very near future. Probably most of the exterior work on the project will be completed within the next few weeks since it will be essential to have this work done by the onset of colder weather.

Close in

Cleaning of face brick is substantially complete and exterior man doors and hardware, with the exception of the aluminum storefront entry, are installed. Overhead doors are generally complete as is most roofing. Exterior glazing is in work and will require about 15 working days to complete. Exterior louvers are being installed. It should be noted here that there still is a need for the barrier grills, however, installation of the louvers is to be completed about December 1, 1987.

Monitoring Report #14  
Genesee County Jail  
Page two

Exterior painting and caulking is in work and ongoing. It will be completed by cold weather. Some exterior sandblasting has been finished. The remainder will be completed in about 10 working days.

### Level 1

The lag at this level measured against issue 12, dated July 27, 1987 (working day 655) is projected at about 9 working days in hard tile. It was felt appropriate to update this level plan of action to evaluate other impacts that may be currently placed upon the full job. This also permitted revision of minor logic and durations to reflect current conditions on the job.

The updated network issue 13, dated October 20, 1987 (working day 715), sheet L-1, shows a completion date of January 18, 1988 (working day 776) for general trades.

Security systems for the full job are expected to require time on out to the anticipated new completion date of March 10, 1988 (working day 815).

At the first floor, encapsulation of the ductwork at the food service area was approved September 24, 1987 (working day 697). Encapsulation has been completed and the ceiling is installed with the area now ready for hard tile. Hard tile materials are on the job and installation will probably begin about October 23, 1987. Food service equipment is available as needed.

Ceiling at the corridor and laundry are to be held until after most security and fire alarm systems have been installed overhead.

The design of the fire alarm system is not yet complete and the security system will be impacted on by GPR #102, yet to be executed by the owner. It should be pointed out that this GPR may have been approved. However, there is no current authentic information available on the approval.

All prime coat painting, except at ceilings, has been completed. Miscellaneous iron is about 40% complete and light fixtures are being installed. Work remaining, that has not yet been started, includes interior glazing, toilet room fixtures, partitions and accessories, and doors and trim.

### Level 2

In general level 2 area work is in conformance with the plan of action shown in issue 12, dated July 27, 1987 (working day 655). However, it was decided to update this diagram to reflect the current conditions of the project based upon information presently available. The revised completion date for general trades is March 1, 1988 (working day 807). Security work extends on through to the morning of March 14, 1988 (working day 816). This is slightly beyond the anticipated revised contract date but possibly could be compressed to conform with the expected completion target.

Monitoring Report #14  
Genesee County Jail  
Page three

At level 2, hollow metal work is complete except for bulletin work, some of which has not yet been quoted. There also have been variance requests that will impact slightly on hollow metal.

Grease duct encapsulation is complete, as is plastering, except for some holding cells. Dry wall has been hung and about 75% of the gyp board is taped and sanded.

Installation of acoustic ceiling suspension is in work and all masonry has been treated with block filler. Other finish trades have yet to start.

As noted above, because of the current condition of the project and the need to free up some of the pending revisions, it was felt appropriate to prepare an updated network model for level 2 to issue 13, dated October 20, 1987 (working day 715).

### Level 3

Work at the level 3 core area is currently on hold until bulletin #102 is released by the county. The current lag there, measured against issue 11, dated May 11, 1987 (working day 602) is about 50 working days. It should be pointed out that bulletin #102 will require extensive work at the core. This could increase the lag substantially. Mr. Strugar-Fritsch will update the network model once he has received authorization to proceed with the work and he has the necessary information to replan the work at the 3rd floor.

In other areas of the 3rd floor, dry wall is well along with some miscellaneous board and skim coat work still to be done. Acoustical ceilings are in work. Most cell areas have been painted except in the infirmary area, and plumbing fixtures are being installed in the cells and toilet rooms. Light fixtures are installed at the north cell areas, and are being installed at the south cell areas. However, architectural door hanging has not yet started. Fin tube piping is complete; as it is at most of the other areas of the building.

No further analysis of area 3 is possible until Mr. Strugar-Fritsch receives the information to proceed with core revisions.

### Level 4

Measuring this floor against the plan of action, issue 12, dated July 27, 1987 (working day 655), it did not appear that there was any need to update at this time. Dry wall is well along with some miscellaneous board and skim coat work yet to complete. Acoustical ceilings suspension is substantially complete; as is much of the painting at the cell areas and core.

Plumbing fixtures were substantially completed on October 19, 1987 (working day 714). They still must be trimmed out. Light fixtures are substantially complete and security doors are installed in most areas. Architectural door installation is in work. Fin tube piping is complete.

Monitoring Report #14  
Genesee County Jail  
Page four

It can be seen that work at this level is in reasonably good shape. The projected early finish date of level 4 in the issue 12 network model, dated July 27, 1987 (working day 655) was shown at November 30, 1987 (working day 743).

Level 5

After evaluating level 5, it was not found necessary to update the issue 12 network model, dated July 27, 1987 (working day 655) since work is moving relatively well in accordance with that network. The completion date in issue 12 was shown at November 17, 1987 (working day 743).

Dry wall work is substantially complete. Suspension for acoustical ceilings is complete and panels are now being installed. Most painting at cell areas and the central core is well along and plumbing fixtures are complete but not yet trimmed out.

Light fixtures are substantially complete and security doors are installed at cell areas and nearly complete at the central core area. Architectural doors are being hung and hardware is being installed. Fin tube piping is complete. Acoustical baffles are in work.

\* \* \* \* \*

Overall, the project appears to be in relatively good condition, measured against the March 10, 1988 (working day 815) target completion for general trades. However, because of need for additional information on security installation, it was not possible to accurately measure security progress at our session today.

I recommend that at our next planning and monitoring meeting, we devote the meeting to a full and intense review of security installation. Meanwhile, we have requested the electrical contractor to prepare a laundry list and whatever plans or schedules he might be able to assemble of the security installation as it is proposed to complete. He has said he would do this and it will be available to us by our next planning session.

At the meeting we also reviewed current status of construction related items that might have an impact upon the project. These included OPR status and the variances being requested. It appears presently that the major OPR yet to be released is #102 which concerns revisions to the level 3 central core, as initiated by the transition team. This is a very important OPR and it would be desirable to put this into field work just as soon as possible.

The variances under consideration have been requested by the architect/engineer and documentation and requests are now being assembled for formal presentation.

To review, we have updated the network models for levels 1 and 2 interior work to issue 13, dated October 20, 1987 (working day 715). Level 3 interior work is to be evaluated once the changes to the core are release and Mr. Strugar-Fritsch will prepare an updated network model for level 3.

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

Monitoring Report #14  
Genesee County Jail  
Page five

At levels 4 and 5, work is at such a stage that the network models, issue 12, dated July 27, 1987 (working day 655) can be utilized to measure job progress.

Attached to this report is a copy of the meeting minutes prepared during the planning and monitoring session. I shall do no further work on the project plan until I review what remains to be done with Mr. Strugar-Fritsch. Meanwhile, I shall establish the next planning and monitoring session as requested and be in touch with the project team to confirm this meeting.

Ralph J. Stephenson, P.E.

RJS:gy  
To: Mr. Dennis Anderson

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

January 29, 1988

Subject: Monitoring Report #15

Genesee County Jail - Flint, Michigan

Granger Construction Company - general contractor

Project: 85:52

Date of Monitoring: January 22, 1988 (working day 780)

Actions taken:

- Reviewed current status of security equipment procurement and installation
- Prepared laundry list for installation of security equipment
- Prepared preliminary network model for installation of security work

General Summary

Those attending:

Denny Anderson - Granger

Chris Strugar-Fritsch - Granger

Tom Greyerbiehl - Granger (in meeting part time)

Denny Seigel - Keasey Electric (in meeting part time)

Ralph J. Stephenson, P.E. - Consultant

This monitoring session was primarily to review and plan design, procurement and installation of security equipment. There have been serious problems relative to security equipment. The firms involved have encountered business difficulties, and a new electrical contractor, Keasey Electric, of Fenton, Michigan has taken over the project from the previous electrical contractor, Hatzel & Buehler.

In addition, a new security equipment supplier, Metro Systems Service, Inc. (MSSI) has taken over from the previous security supplier, Metro Systems Inc. (MSI). This has caused some difficulties since the equipment previously thought to be well along in design, fabrication, and shipment is found now to not be totally available. Many detailed analysis have been made of the problem and there is now a clearer picture than previously, emerging from the difficulties.

Some security equipment has been delivered to the job site and other equipment has been obtained and made available from the previous supplier. The security components that still are to be assembled and shipped to the job include the following:

- Three floor control consoles (fcc)

Monitoring Report #15  
Genesee County Jail  
Page two

- Eleven main control consoles (mcc)
- Four fire alarm termination panels (fat)
- Four duress alarm termination panels (dat)
- One fire fighter's control panel (facp)
- Two XL 3 data gathering panels (dgp)
- Fire fighter's telephone cabinet (fftc)

This equipment is presently being fabricated and is expected to be delivered to the job site at varying dates in accordance with information shown on the network model prepared at this planning and monitoring.

The information available at our meeting today was tentative for some of the items and is to be confirmed.

Mr. Anderson and Mr. Strugar-Fritsch, along with Mr. Tom Greyerbiehl and Mr. Denny Seigel were able to provide enough information today so that we could prepare a preliminary security installation diagram, issue 1, dated January 22, 1988 (working day 780).

In this diagram, the sequence generally indicates that the items necessary to install the duress heads, cable hardware, and intercom audio monitor speakers (iam) should be available by February 12, 1988 (working day 795). Once on the job, this equipment will be installed from the fifth floor to the fourth, to the third, to the second, to the first. There still is some checking to be done on delivery of the balance of the intercom audio monitor speakers.

The other items of equipment and their delivery dates are generally as follows:

- Duress radios - no word
- Closed circuit - no word
- Fire alarm termination panels (fat) - January 27, 1988 (working day 783)
- Duress alarm termination panel (dat) - January 25, 1988 (working day 781)
- Fire fighter's alarm control panels (facp) - April 1, 1988 (working day 830)
- Fire fighter's telephone cabinet (fftc) - April 1, 1988 (working day 830)
- XL 3 data gathering panels (dgp) - April 1, 1988 (working day 830)
- Eleven main control consoles (mcc) - April 15, 1988 (working day 840)
- Floor control consoles (fcc) - February 15, 1988 (working day 796)

Monitoring Report #15  
Genesee County Jail  
Page three

The most critical of these appears to be delivery of the eleven main control consoles (mcc). Once these are on the job on April 15, 1988 (working day 840), installation is expected to take about 5 working days, with terminations to require another 5 days, and then a total check in debugging the security system and devices to require about another 15 working days. This brings completion of the entire security system, checked and debugged, to mid or late May, 1988. The time frame appears to be somewhat tight and I suggest that deliveries to the job site to be expedited to the greatest extent possible as they are presently being done by the project team.

I also suggest a very careful review be made of the installation times to insure that the work can be accomplished within the resources and manpower available at the job.

In reviewing the current time frame of the project, the present contract completion date is March 10, 1988 (working day 814). Granger is going to apply for a time extension based upon the results of our monitoring session on January 22, 1988 (working day 780).

The county's court order date to complete the facility was originally January 11, 1988 (working day 771). The county, according to the newspapers, has applied for extension and it has been granted. The county is to now substantially complete the project by May 31, 1988 (working day 871). Occupancy of the facility is to be by August 31, 1988 (working day 936), according to the newspaper article. These dates should be checked carefully.

As part of our monitoring, we reviewed the current status of security installation on the project with Mr. Denny Seigel of Keasey Electric. Mr. Seigel said that back boxes for the fire alarm termination panels, the fire fighter's control panel, the data gathering panels, and the fire fighter's telephone cabinet are presently installed. Conduit installation is also well along and branch wiring to the field devices for the fire alarms is pulled.

Branch wiring to field devices for the duress and antenna alarm systems is about 60% complete. It will take about 3 working days for each to pull wire after the box internals are in. Field devices that are on the job site have, for the most part, been installed. However, there are many field devices yet to be brought to the job site.

One additional piece of equipment, a WPA1 door operating panel is to be supplied by another contractor. The back box for this has been installed and the face plate is on the job. However, approval is needed on the additional intercom switches by the owner.

In summary, difficulties have been encountered in the delivery of security equipment and it's installation by the electrical contractor. Steps have been taken by Granger to moderate the impact of this diffi-



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

Monitoring Report #15  
Genesee County Jail  
Page four

culty on the job. Mr. Anderson said he felt the change over of the electrical contractor from the original to the new contractor resulted in about a 3 working day stoppage of work. However, the problem with the security equipment has caused considerable additional difficulties that are now being reviewed and resolved.

The delivery date for the entire facility, which was March 10, 1988 (working day 814), has now been moved to mid or late May, 1988. To meet this, it will be imperative that the procurement and installation of the security equipment be followed extremely closely on a day to day basis. The entire project team is aware of this and will be giving the matter their very careful attention.

Meanwhile, Mr. Anderson, Mr. Chris Strugar-Fritsch, and Mr. Greyerbiehl will review the network model with Mr. Denny Siegel for confirmation and revisions as required. He will then send me the revised copy for preparation and issue for official job use. I shall wait until I receive this annotated copy before doing any additional work on the project.

*Ralph J. Stephenson, gmy*  
Ralph J. Stephenson, P.E.

RJS:gmy

To: Mr. Dennis Anderson

- 1: **Genesee Jail meeting on Monday, July 27, 1987 (655) - Flint, Mich**
- 2: **Those attending**
  - 2.1: **Denny Anderson**
  - 2.2: **Chris Strugar-Fritsch**
  - 2.3: **Ralph J. Stephenson**
- 3: **Agenda**
  - 3.1: **Inspect project**
  - 3.2: **Update network models - issue 11**
  - 3.3: **Evaluate progress**
- 4: **Project status**
  - 4.1: **Monitored from Issue #11 dated May 11, 1987 (602)**
    - 4.1.1: **Late finish completion dates from Issue #11**
      - 4.1.1.1: 8/21/87 (674) - 1st level - current lag = 48 wd (proj 10/29/87)
      - 4.1.1.2: 1/6/88 (768) - 2nd level - current lag = 38 wd (proj 2/29/88)
      - 4.1.1.3: 10/9/87 (708) - 3rd level - current lag = 30 wd (proj 11/20/87)
      - 4.1.1.4: 10/22/87 (717) - 4th level - current lag = 27 wd (proj 12/1/87)
      - 4.1.1.5: 11/19/87 (737) - 5th level - current lag = 15 wd (proj 12/11/87)
    - 4.2: **Lags noted measured from late starts & late finishes**
  - 4.3: **Close in**
    - 4.3.1: **Brick veneer complete except for calking & sealing**
      - 4.3.1.1: Was completed in late June, 1987
      - 4.3.1.2: Finished about 3 weeks ahead of issue #11 network dates
      - 4.3.1.3: Sealing will be done with calking
    - 4.3.2: **Sash**
      - 4.3.2.1: All installed except as noted below
      - 4.3.2.2: Not installed on north elevation of northeast pod
      - 4.3.2.3: Not installed on east elevation of southeast pod
      - 4.3.2.4: Installing sash on north elevation of southeast pod
      - 4.3.2.5: No glass installation started as yet  
Will start in from 10 to 20 working days
  - 4.4: **Elevator work**
    - 4.4.1: **Elevator #1? is a working elevator**
    - 4.4.2: **Elevator #2 inspected and ok to run**
    - 4.4.3: **Elevators #3 & 4 - completing final adjustments for final inspection**
    - 4.4.4: **Probably inspection of #3 & 4 to be done in next 10 to 20 wd**
  - 4.5: **1st level**
    - 4.5.1: **Lag on floor 7/27/87 (655) - 5/18/87 (607) = 48 wd**
    - 4.5.2: **Mechanical equipment room**
      - 4.5.2.1: Available for ventilation - 8/3/87 (660)
      - 4.5.2.2: Available for air conditioning - 9/1/87 (681)
      - 4.5.2.3: Available for heating - 10/15/87 (712)
    - 4.5.3: **Hood ductwork encapsulation**
      - 4.5.3.1: Was to have been released 5/18/87 (607)
      - 4.5.3.2: Was released by CCA 26 on 7/22/87 (652)

- 4.5.3.3: Work is just starting on encapsulation
- 4.5.3.4: Lag is about 45 working days
- 4.5.4: **Have considerable dry wall suspension installed**
- 4.5.5: **Some light fixtures installed at mech & storage rooms**
- 4.5.6: **Revisions**
- 4.5.6.1: Ceiling board has been held due to requirements of fire marshall
  - Fire marshall wants entire smoke zone to inspect
  - Security systems work at elev sally port will hold clg installation there
- 4.5.6.2: CPR 95 placed hold on five hollow metal frames
  - No word on when to be released
- 4.6: **2 & 2H**
- 4.6.1: Lag on floor work is about 7/27/87 (655) - 6/2/87 (617) = 38 wd
- 4.6.2: Stud walls generally complete
- 4.6.3: In wall work nearly complete
- 4.6.4: Rough above floor work substantially complete except for CCA 26 work
- 4.6.5: Some acoustic ceiling grid installed
- 4.6.6: Some dry wall hanging started about 7/23/87
- 4.6.7: Slab on grade at sally port complete
- 4.6.8: **Revisions**
- 4.6.8.1: Additional wall work - CCA 26 issued July 22, 1987 (652)
  - Must add 2 hr enclosure between dishwasher & grease duct
  - Must add fire damper at level 2 floor penetration in dishwasher duct
  - Work is just starting on 7/27/87 (655)
- 4.6.8.2: CPR 62 released by Granger on June 1, 1987 (616)
- 4.6.8.3: CPR 68 released June 1, 1987 (616) by CCA 25
- 4.6.8.4: CPR 95 placed hold on four hollow metal frames
  - No word on when to be released
- 4.6.8.5: CPR 102 involves revisions to security risers from 3rd level
- 4.7: **3 & 3H**
- 4.7.1: Lag on floor 7/27/87 (655) - 6/12/87 (625) = 30 wd
- 4.7.2: Rough above floor work substantially complete
- 4.7.3: Dry wall ceiling suspension & framing substant complete
- 4.7.4: Light fixtures installed in day room area
- 4.7.5: Prime painting about 30% complete
- 4.7.6: Some acoustic ceiling susp installed
- 4.7.7: **Mechanical equipment room**
- 4.7.7.1: Available for ventilation - 8/3/87 (660)
- 4.7.7.2: Available for air conditioning - 9/1/87 (681)
- 4.7.7.3: Available for heating - 10/15/87 (712)
- 4.7.8: **Revisions**
- 4.7.8.1: Masonry at center core area to be removed and layout revised
  - To be covered in CPR 102

Quote being held for receipt of additional info - RFI  
265

Security systems info needed for work at floor  
console & to control room

No word on when work will be released

- 4.7.8.2: CPR 88 revised door types  
Quoted 7/7/87 (641)  
May not be released until late August, 1987  
Will delay procurement
- 4.7.8.3: CPR 95 placed hold on two? hollow metal frames  
No word on when to be released

4.8: **4 & 4H**

- 4.8.1: Lag on floor 7/27/87 (655) - 6/17/87 (628) = 27 wd
- 4.8.2: Rough above floor work substantially complete
- 4.8.3: Dry wall ceiling framing substantially complete
- 4.8.4: Hanging gyp board just starting
- 4.8.5: Some painting started
- 4.8.6: Some acoustic ceiling susp installed
- 4.8.7: Mechanical equipment room
- 4.8.7.1: Available for ventilation - 8/3/87 (660)
- 4.8.7.2: Available for air conditioning - 9/1/87 (681)
- 4.8.7.3: Available for heating - 10/15/87 (712)
- 4.8.8: Revisions
- 4.8.8.1: CPR 95 placed hold on two? hollow metal frames  
No word on when to be released

4.9: **5 & 5H**

- 4.9.1: Lag at floor 7/27/87 (655) - 7/6/87 (640) = 15 wd
- 4.9.2: Rough above floor work substantially complete
- 4.9.3: Plaster ceiling susp complete
- 4.9.4: No plastering started
- 4.9.5: Dry wall ceiling framing substantially complete
- 4.9.6: About 60% dry wall hung
- 4.9.7: No skim coat started yet
- 4.9.8: Painting about 40% complete
- 4.9.9: Some acoustic ceiling susp installed
- 4.9.10: Mechanical equipment room
- 4.9.10.1: Available for ventilation - 8/3/87 (660)
- 4.9.10.2: Available for air conditioning - 9/1/87 (681)
- 4.9.10.3: Available for heating - 10/15/87 (712)
- 4.9.11: Revisions
- 4.9.11.1: CPR 95 placed hold on two? hollow metal frames  
No word on when to be released
- 4.9.11.2: ASI 50R released in change order 28 - has been approved?  
Affects fab & del Kruger barrier grills
- 4.9.11.3: CPR 91 revised steel plates in hm frames to glass
- 4.10: CPR's that have not been released as of 7/27/87 (655)
- 4.10.1: 82 - elect intercoms
- 4.10.2: 88 - detention doors
- 4.10.3: 91 - additional detention hollow metal & glazing
- 4.10.4: 95 - fire rated detention doors & frames
- 4.10.5: 96 - addition of glazing in hollow metal frames
- 4.10.6: 97 - electrical elevator control panel relocation

- 4.10.7: 102 - level 3 room revisions
- 4.10.8: 105 - dry fire protection at basketball courts &  
elect closets
- 4.10.8.1: Was this work a part of the original contract cost -  
must be resolved

- 1: **Genesee Jail meeting on Tuesday, October 20, 1987 (715)**  
**- Flint, Michigan**
- 2: **Monitoring documents**
- 2.1: **Monitoring from issue 11, dated May 11, 1987 (602)**
- 2.1.1: Sheets CL-1, L-1, L-2, L-3, L-3M, L-4, L-4M, L-5 & L-5M
- 2.1.2: Completion dates shown on issue 11, dated May 11, 1987 (602)
  - L-1
    - General trades - 8/21/87 (674)
    - Security - 1/5/88 (767) - same date throughout the building
  - L-2
    - General trades - 1/6/88 (768)
    - Security - 1/5/88 (767) - same date throughout the building
  - L-3
    - General trades - 10/9/87 (708)
    - Security - 1/5/88 (767) - same date throughout the building
  - L-4
    - General trades - 10/22/87 (717)
    - Security - 1/5/88 (767) - same date throughout the building
  - L-5
    - General trades - 11/19/87 (737)
    - Security - 1/5/88 (767) - same date throughout the building
- 2.2: **Also monitored from issue 12, dated July 27, 1987 (655)**
- 2.2.1: Sheets L-1, L-2, L4 and L-5
- 2.2.2: These shts were distributed in early Aug, 87 to sub contractors by Granger
- 2.2.3: Completion dates shown on issue 12, dated July 27, 1987 (715)
  - L-1
    - General trades - 12/15/87 (754)
    - Security - 3/10/88 (814) - same date throughout the building
  - L-2
    - General trades - 2/26/88 (805)
    - Security - 3/10/88 (814) - same date throughout the building
  - L-3
    - Not updated
  - L-4
    - General trades - 11/30/87 (743)
    - Security - 3/10/88 (814) - same date throughout the building
  - L-5
    - General trades - 11/17/88 (735)
    - Security - 3/10/88 - same date throughout the building

- 3: **Those attending**
- 3.1: **Chris Strugar-Fritsch**
- 3.2: **Tom Greyerbiehl - in meeting part time**
- 3.3: **Ralph J. Stephenson**
- 4: **Agenda**
- 4.1: **Inspect project**
- 4.2: **Evaluate current status of job**
- 4.3: **Review CPR's \* & impact on job progress**
- 4.3.1: 090R
- 4.3.2: 102
- 4.3.3: 068
- 5: **Contract completion date history**  
In the contract extensions below the additional cost of extended general requirements has not been included according to the Granger field project team.
- 5.1: **Original contract completion date - evening of August 31, 1987 (681)**
- 5.1.1: As of letter of intent of September 10, 1985 (177)
- 5.2: **Contract date revision A - evening of November 20, 1987 (739)**
- 5.2.1: Incorporated into the actual contract document  
Contract signed by county March 11, 1986 (304)  
Contract signed by Granger March 27, 1986 (316)  
Based on starting date of September 10, 1985 (177)
- 5.3: **Contract date revision B - evening of December 31, 1987 (766)**
- 5.3.1: Extended by change order #6 executed 5/13/86 (349)
- 5.4: **Contract date revision C - evening of January 17, 1988 (776)**
- 5.4.1: Extended by change order #25 executed 4/20/87 (587)
- 5.5: **Contract date revision D - evening of March 10, 1988 (815)**
- 5.5.1: To be extended by change order #32
- 6: **Current revision review**
- 6.1: **\* bulletins (CPR's - change proposal requests) - 115**
- 6.2: **\* architectural supplementary instructions (ASI) - 65**
- 6.3: **\* change orders - 33**
- 6.4: **CPR's \* & impact on job progress**  
Denny Anderson & Tom Greyerbiehl met October 14, 1987 (711) with Sid Wall of HDR, Bob Case of HDR (new construction administrator), Harold Butler of CHMP, Jim Gable of HDR and Bob Chase of Genesee County. Purpose of meeting according to Chris SF and Tom G was to address contract time extensions and related general condition costs for these time extensions.

The upshot of the meeting was that the County gave Granger a time extension of 52 calendar days to the previous contract date of January 17, 1988 (776). The new completion date is the evening of March 10, 1988

(815).

Notes were taken of the meeting and will be published by HDR and Granger for mutual review and comments.

- 6.4.1: Major CPR revisions discussed at meeting
  - Released
    - #068 - Revisions to level 2 east & west initiated by transition team
    - #071 - Revisions to nurse call system from audio to audio-visual
    - #090R - Grease duct encapsulation
  - Not released
    - #102 - Revisions to level 3 central core area initiated by transition team
- 6.5: **VariANCES**
  - Have been requested by HDR. Fire marshall has outlined what must be done. HDR now assembling documentation and submitting required information.
- 6.5.1: CPR related variANCES being sought from State fire marshall's office by HDR
  - #095 - Revise door & hardware assemblies to labelled systems
- 6.5.2: Non CPR related variANCES being sought from State fire marshall
  - Glazing and door frame rating revisions
  - Add sprinkler heads at basketball courts
- 7: **Current status of project**
- 7.1: **Security**
- 7.1.1: Must
- 7.2: **From Chris SF & Tom G comments & field inspection**
- 7.2.1: Close in
  - Face brick
    - Cleaning substantially complete - county deleted sealing
  - Exterior man doors & hardware
    - Substantially complete except for aluminum storefront entry
      - Aluminum entry to be installed later to protect against damage
  - Overhead doors
    - Substantially complete
  - Roofing
    - Substantially complete - working on flashings and copings
  - Exterior glazing
    - Will require about 15 wkg days to complete
    - Late glass delivery has delayed completion
  - Exterior louvers
    - Starting 10/20/87 (715)
    - Still need barrier grills



Installation to be complete about December 1, 1987  
 Exterior painting and caulking  
 Ongoing - to be completed by cold weather  
 Exterior sandblasting  
 Some completed - will be complete in about 10 wkg  
 days

- 7.2.2: Level 1 - Update this session  
 Status - measured against issue 12, dated 7/27/87 (655)  
 Completion date in issue 12 = 12/15/87 (754)  
 Lag = ± 9 wkg days projected, in hard tile  
 Was due to begin 10/12/87 (709)  
 Will start about 10/23/87 (718)  
 Encapsulation of ductwork approved 9/24/87 (697)  
 Was due to be done 9/3/87 (683) to release  
 ceiling work  
 Ceiling now installed and area ready for hard tile  
 Food service equip available
- Hard tile  
 Material on job  
 Being held until ceiling overhead are painted  
 Will probably start about 10/23/87
- Ceilings  
 Kitchen complete  
 Corridor & laundry held for instlg security & fire  
 alarm system  
 Design of fire alarm system yet to be completed  
 Security system impacted by CPR #102 - yet to be  
 executed by owner  
 May have been signed - no info available
- Painting  
 All prime coat complete except at ceilings  
 Total about 30% complete
- Miscellaneous iron  
 About 40% complete
- Light fixtures  
 Complete at exposed ceilings  
 Working on fixtures at suspended ceilings
- Interior glazing  
 Not started
- Toilet rooms  
 Fixtures, partitions and accessories yet to be  
 completed
- Doors and trim  
 Not started
- 7.2.3: Level 2 - Update this session  
 Status - measured against issue 12, dated 7/27/87 (655)  
 Completion date in issue 12 = 2/26/88 (805)  
 Generally in conformance - between es & lf dates on  
 major activities
- Hollow metal  
 Complete except for bulletin work - CPR #91 & #95  
 #91 - not quoted as yet

- #95 - variance request in work
  - Grease duct from 1st level
    - Encapsulation complete
  - Plastering
    - Complete except for some holding cells
    - Exterior canopy to be completed by 10/23/87
  - Dry wall
    - Hanging substant complete
    - About 75% taped and sanded
  - Acoustical ceilings
    - Suspension in work
  - Hard tile
    - Not started
  - Painting
    - All masonry filled
    - Masonry finish coat to start 10/21/87 (716)
    - Will start priming dry wall 10/21/87 (715)
  - Plumbing fixtures
    - Will start about 11/2/87 (target date on issue 12)
  - Security doors
    - Started in cell areas
  - Architectural doors
    - Interior not started
  - Fin tube piping
    - Complete
  - Convactor covers
    - Not started

7.2.4: Level 3 - Chris SF will prepare diagram  
Work at the level 3 core area is currently on hold  
until bulletin #102 is released by the county.

Status - measured against issue 11, dated 5/11/87 (602)  
Completion date in issue 11 = 10/9/87 (708)  
Int glazing not started - was due to start 8/10/87  
(665)  
Current lag = 715 - 665 = 50 wkg days  
Projected completion = 708 + 50 = 758 (12/21/87)  
However bulletin #102 will require extensive work at  
core  
Lag will exceed current lag at glazing

- Dry wall
  - Still some misc board & skim coat work to complete
- Acoustical ceilings
  - Suspension in work
- Painting
  - Most cell areas complete
  - Infirmary area yet to be completed
- Plumbing fixtures
  - Started in cells & toilet rooms 10/19/87 (714)
  - Being installed at faster rate than anticipated
- Light fixtures
  - Complete in north cell areas

- Working in south cell areas
- Not started at northeast area & infirmary
- Security doors
  - Generally installed at cell areas
- Architectural doors
  - Not started
- Fin tube piping
  - Complete
- Convactor covers
  - Not started

- 7.2.5: Level 4 - No need to update
  - Status measured against issue 12, dated 7/27/87 (655)
  - Completion date in issue 12 = 11/30/87 (743)
  - Lag in glazing & doors = about 715 - 10/12/87 (709) = 6 wd
  - New projected completion = 12/8/87 (749)
  - Dry wall
    - Still some misc board & skim coat work to complete
  - Acoustical ceilings
    - Suspension substant complete
  - Painting
    - Most cell areas complete
    - Central core priming complete
  - Plumbing fixtures
    - Completed 10/19/87 (714)
    - Still to be caulked in
  - Light fixtures
    - Substantially complete
  - Security doors
    - Installed at cell areas
    - Substantially complete at central core
  - Architectural doors
    - In work
  - Fin tube piping
    - Complete
  - Convactor covers
    - Not started
- 7.2.6: Level 5 - No need to update
  - Status measured against issue 12, dated 7/27/87 (655)
  - Completion date in issue 12 = 11/17/87 (735)
  - Currently meeting late finish dates
  - Dry wall
    - Substantially complete
  - Acoustical ceilings
    - Suspension complete
    - Installing acoustic panels
  - Painting
    - Most cell areas complete
    - Central core priming complete
  - Plumbing fixtures
    - Complete
    - Still to be caulked in

Light fixtures  
    Substantially complete  
Security doors  
    Installed at cell areas  
    Substantially complete at central core  
Architectural doors  
    Doors hung  
    Hardware being installed  
Fin tube piping  
    Complete  
Convactor covers  
    Not started  
Acoustical baffles  
    Complete