Ralph J. Stephenson, P. E., P. C. Consulting Engineer November 18, 2000

<u>Monitoring</u>	<u>Report #01:</u>	City of Flint Department of Public Works Water Plant #2 Rehabilitation - Phase 1, Segment #2 Flint, Michigan
<u>To:</u>	Robert Carlyon - Flint Water Plant Supervisor David Jansen - Flint Water Assistant Plant Supervisor Mohamed Mohamed - Project Manager - Sorensen-Gross Construction Company	
From:	Ralph J. Stephenson, P.E Consulting Engineer	
Date of mee	ting:	Friday November 17, 2000 (wd 227)
Location of meeting:		Conference room at Sorensen-Gross office.
<u>Current con</u>	<u>tract dates:</u>	Yet to be totally defined.

Those attending:

Frank Jobe - Vice President and General Superintendent Mohamed Mohamed - Project Manager Ralph J. Stephenson - Consultant

Actions taken:

- Reviewed project characteristics and planning done to date by Sorensen-Gross.
- Evaluated current project status with project team.
- Prepared portion of a summary network model showing the conditions under which work on the project could proceed.

Current status of Phase 1, Segment #2 project by major components as of November 17, 2000 (wd 227)

Front end work

Most front end work discussed concerns issuance of a dated Notice to Proceed, of a signed contract, and release of the site for start of construction of Phase 1, Segment 2. To date the contractor has provided some early procurement item shop drawings to the design team, and has received some of these back from the architect/engineer. I recommend that the Water Department, Sorensen-Gross and the Design team confer on the conditions under which these shop drawings can be used with confidence to fabricate the items shown in the submittals.

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Ralph J. Stephenson, P. E., P. C. Consulting Engineer November 18, 2000

In addition attention should be given to setting the date of the contract execution and of the anticipated date for turnover of the site to Sorensen-Gross.

Primary Settling Tank (PST)

Field work on the settling tank has not been started. There are ongoing discussions about the date for release of the site.

Sanitary Pump Station (SPS)

Field work on the sanitary pump station has not been started. The boring permit to allow underground tunneling is being obtained by the Owner and is presently in work. Installation of portions of the pump station system could begin soon if the permit is obtained and early procurement items are brought to the site.

Building and Grounds Maintenance Building (BGM)

No field work has started on this facility. Probably work will not begin until the contract is executed.

Site Improvements and Landscaping (SIL)

No work has yet begun on the site. It is important to establish the contract requirements for site improvements and landscaping at the sanitary pump station since this work appears to require an early turnover.

General:

The phase 1, segment #2 contractor, Sorensen-Gross has currently moved their construction trailer on the site and are hoping to free up some field work before full winter weather arrives. However some front end items still must be resolved to allow work to begin on phase 1, segment #2.

At this first planning meeting we discussed the actions needed to start work and it was decided that Sorensen-Gross should discuss the current progress and status with the Owner and the Architect/Engineer next Wednesday, November 22, 2000.

This set of notes is being sent directly to Mr. Robert Carlyon, Mr. David Jansen and

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Ralph J. Stephenson, P. E., P. C. Consulting Engineer November 18, 2000

to Mr. Mohamed Mohamed at Sorensen-Gross. They will make further distribution of the notes as they feel appropriate. The network model partially prepared at this meeting was not distributed since it was not complete and needed further study and information input.

Our next planning and monitoring meeting is to be held in early to mid December, 2000. I shall be in touch with Mr. Mohamed shortly to set the time, place and date of this meeting.

. Stephenson, P.E. Ralph J

Consulting Engineer

Ralph J. Stephenson, P. E., P. C. Consulting Engineer December 4, 2000

Monitoring Report #02:	City of Flint Department of Public Works Water Plant #2
	Rehabilitation - Phase 1, Segment #2
	Flint, Michigan

<u>To:</u>	To: Robert Carlyon - Flint Water Plant Supervisor		
	David Jansen - Flint Water Assistant Plant Supervisor		
	Mohamed Mohamed - Project Manager - Sorensen-Gross Construction		
	Company		
<u>From:</u>	Ralph J. Stephenson, P.E Consulting Engineer		
Date of meet	ing: Monday December 4, 2000 (wd 237)		

Location of meeting: Conference room at Sorensen-Gross office.

<u>Current contract dates:</u> Yet to be totally defined.

Those attending:

Frank Jobe - Vice President and General Superintendent Mohamed Mohamed - Project Manager Rich Taylor - Project Superintendent Ralph J. Stephenson - Consultant

Actions taken:

1. Discussed how we will interact with the network models and tranlations - ongoing.

- 2. Reviewed current network models prepared by Rich Taylor.
 - 1. Check issue #'s & sheet #'s
- 3. Complete current network models for review and comments.
- 6. Monitor current status of project

page 1 of 4 date printed: February 2, 2001

Ralph J. Stephenson, P. E., P. C. Consulting Engineer December 4, 2000

- 1. Building permit has been obtained by Sorensen-Gross.
- 2. City is currently obtaining MDOT boring permit.
- 3. Early procurement item shop drawings have been submitted.
- 4. Site trailers have been moved on site
- 5. Temporary phone and power have been activated.

Current status of Phase 1, Segment #2 project by major components as of December 4, 2000 (wd 237)

Front end work

Most front end work discussed concerns issuance of a dated Notice to Proceed, of a signed contract, and release of the site for start of construction of Phase 1, Segment 2. To date the contractor has provided some early procurement item shop drawings to the design team, and has received some of these back from the architect/engineer. I recommend that the Water Department, Sorensen-Gross and the Design team confer on the conditions under which these shop drawings can be used with confidence to fabricate the items shown in the submittals.

In addition attention should be given to setting the date of the contract execution and of the anticipated date for turnover of the site to Sorensen-Gross.

Primary Settling Tank (PST)

Field work on the settling tank has not been started. There are ongoing discussions about the date for release of the site.

Sanitary Pump Station (SPS)

Field work on the sanitary pump station has not been started. The boring permit to

Ralph J. Stephenson, P. E., P. C. Consulting Engineer December 4, 2000

allow underground tunneling is being obtained by the Owner and is presently in work. Installation of portions of the pump station system could begin soon if the permit is obtained and early procurement items are brought to the site.

Building and Grounds Maintenance Building (BGM)

No field work has started on this facility. Probably work will not begin until the contract is executed.

Site Improvements and Landscaping (SIL)

No work has yet begun on the site. It is important to establish the contract requirements for site improvements and landscaping at the sanitary pump station since this work appears to require an early turnover.

General:

The phase 1, segment #2 contractor, Sorensen-Gross has currently moved their construction trailer on the site and are hoping to free up some field work before full winter weather arrives. However some front end items still must be resolved to allow work to begin on phase 1, segment #2.

At this first planning meeting we discussed the actions needed to start work and it was decided that Sorensen-Gross should discuss the current progress and status with the Owner and the Architect/Engineer next Wednesday, November 22, 2000.

This set of notes is being sent directly to Mr. Robert Carlyon, Mr. David Jansen and to Mr. Mohamed Mohamed at Sorensen-Gross. They will make further distribution of the notes as they feel appropriate. The network model partially prepared at this

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Ralph J. Stephenson, P. E., P. C. Consulting Engineer December 4, 2000

meeting was not distributed since it was not complete and needed further study and information input.

Our next planning and monitoring meeting is to be held in early to mid December, 2000. I shall be in touch with Mr. Mohamed shortly to set the time, place and date of this meeting.

Ralph J. Stephenson, P.E.

Consulting Engineer

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Ralph J. Stephenson, P. E., P. C. Consulting Engineer February 2, 2001

Monitoring Report #03: City of Flint Department of Public Works Water Plant #2 Rehabilitation - Phase 1, Segment #2 Flint, Michigan

To: Robert Carlyon - Flint Water Plant Supervisor David Jansen - Flint Water Assistant Plant Supervisor Mohamed Mohamed - Project Manager - Sorensen-Gross Construction Rich Taylor - Project Superintendent - Sorensen-Gross Construction Frank Jobe - Vice President - Sorensen-Gross Construction

From:	Ralph J. Stephenson, P.E Consulting Engineer	
Date of meeting:	Friday January 25, 2001 (wd 273)	
Location of meeting:	Conference room at Sorensen-Gross office.	
Current contract dates:	To be confirmed	

Those attending:

Frank Jobe - Vice President and General Superintendent Mohamed Mohamed - Project Manager Rich Taylor - Project Superintendent Ralph J. Stephenson - Consultant

Actions taken:

- Reviewed current network models prepared by Rich Taylor.
- Completed current network models for issue
- Monitor current status of project

Monitored from:

Issue 2, sheet 1 - Sanitary Pump Station - dated 01/25/2001 (wd 273) Issue 2, sheet 2 - Primary Clarifier Superstructure - dated 01/25/2001 (wd 273)

Overview of project planning

At this meeting we first reviewed the network models prepared to date by the

page 1 of 3

Ralph J. Stephenson, P. E., P. C. Consulting Engineer February 2, 2001

Sorensen-Gross project team. Mr. Taylor had diagramed the Sanitary Pump Station (sps) and portions of the Primary Clarifier Structure (pc). We made desired revisions to the sanitary pump station and put the network model into a monitoring format. We then worked on updating the primary clarifier plan of work, deciding on the coding of the activities and the sequence of the work.

In each of these network models it was decided to use the work that Mr. Taylor had done to date since he had done considerable planning of the logic and durations of each of the two work plans upon which we concentrated our efforts. It was decided that Mr. Taylor would cast the remaining work to be planned into the format used in our planning work at this session.

Our next planning session is set for Thursday February 8, 2001 (wd 283). At this meeting we will work toward completing all major elements of the work in Phase 2 and make them ready for printing and issue to the project team.

A brief summary of the work status as of January 25, 2000 (wd 273) is outlined below.

Front end work

Front end work is currently focussed on critical early procurement work needed for the sanitary pump station construction. This includes obtaining the needed permits, as well as materials and equipment for pump station components. Mr. Taylor presently plans to start mass excavation work for directional drilling from the sanitary pump station to the existing building on March 1, 2001 (wd 298). The plan presently is to bring as many of the early procurement items to the job so as to have them available as they are needed this spring.

Primary Clarifier (PC)

Field work on the primary clarifier is expected to begin in late January 2001 on installation of discharge piping from the the existing chemical building. This work will proceed concurrently with relocation of the existing 8" water main west of the primary clarifier, and mass excavation for the major components of the clarifier structure.

<u>General</u>

This set of notes is being sent directly to Mr. Robert Carlyon, Mr. David Jansen and

page 2 of 3

date printed: 2/2/1

Ralph J. Stephenson, P. E., P. C. Consulting Engineer February 2, 2001

to Rich Taylor, Frank Jobe and Mohamed Mohamed at Sorensen-Gross. They will make further distribution of the notes as they feel appropriate. The next planning and monitoring meeting is to be held with Mr. Taylor on Thursday February 8, 2001.

Ralph, J. Stephenson, P.E.

Consulting Engineer

City of Flint, Michigan Water Plant Rehabilitation Phase 1, Segment #2 Monitoring Report #04		Ralph J. Stephenson, P. E., P. C. Consulting Engineer February 15, 2001
<u>Monitoring Report #04:</u>	City of Flint Department of Public Works Water Plant #2 Rehabilitation - Phase 1, Segment #2 Flint, Michigan	
<u>To:</u>	Robert Carlyon - Flint Water Pla Rich Taylor - Sorensen Gross Fi	
From:	Ralph J. Stephenson, P.E Consulting Engineer	
Date of meeting:	Thursday February 8, 2001 (wd 283)	
Location of meeting:	RJS office - Mt. Pleasant, Michigan.	
Current contract dates:	Current contract dates: To be confirmed	

Those attending:

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Rich Taylor - Project Superintendent Ralph J. Stephenson - Consultant

Actions taken:

- Reviewed current network models prepared by Rich Taylor.
- Completed current network models for issue
- Monitored current status of project

Monitored from:

- Issue 3, sheet 1 Sanitary Pump Station dated 02/08/01 (wd 283)
- Issue 3, sheet 2 Primary Clarifier & Superstructure dated 02/08/01 (wd 283)
- Issue 3, sheet 3 Primary Clarifier Finish/Schedule dated 02/08/01 (wd 283)

Actions taken:

• Reviewed work prepared by Rich Taylor of Sorensen-Gross on network models - Issue 2 dated 01/25/2001(wd 273).

• Updated sheets 1, 2 and 3 to Issue 3 dated 02/08/2001 (wd 283)

Sanitary pump station (sps)

Major field work on the sanitary pump station is planned to begin on March 1, 2001 (wd 298). At this time mass excavation to allow directional drilling from the pump station to the existing building is expected to begin.

Ralph J. Stephenson, P. E., P. C. Consulting Engineer February 15, 2001

The full work plan for constructing the sanitary pump station is shown on the issue 3, sheet 1 sanitary pump station network model dated 02/08/01 (wd 283). This network model will be reviewed by Mr. Rich Taylor, SG field superintendent, and if found to be an accurate statement of his work plan will be printed and issued to the project team for construction use.

(Note: The sheet number shown in the issue record for the sanitary pump station network should be issue 3 sheet 1.

Primary Clarifier & Superstructure (pc)

Field work on the primary clarifier is currently planned to start on March 13, 2001 (wd 306) with relocation of the existing 8" water main followed by mass excavation for the primary clarifier foundation structure.

Mr. Taylor of SG will review the current network model for construction of the PC and if appropriate will print and issue the network model to the project team for construction use.

Primary Clarifier & Finishes (pcf)

Main finish work on the primary clarifier is planned to begin in late 2001, once the roof deck is poured out and stripped. This set of finish actions includes installation of piping, valves and other mechanical, electrical and control elements required for operation of the primary clarifier systems.

As with the other main components of the primary clarifier Mr. Taylor will review the current network model, issue #3 sheet #3 dated February 8, 2001 (wd 283), and if this network shows the plan of work as intended by him, it will be issued to the project team for construction use.

General:

These notes are being sent directly to Mr. Robert Carlyon, with a copy to Rich Taylor and Mohammed Mohammed at Sorensen-Gross. They will make further distribution of the notes as appropriate. I shall plan the near future schedule for early field monitoring with the Water Plant staff and Mr. Taylor shortly. Meanwhile I shall maintain my main communications regarding the project with Mr. Robert Carlyon and Mr. Taylor.

Ralph J. Stephenson, P.E.

cc: Rich Taylor and Mohammed Mohammed

page 2 of 2

date printed: 2/15/1

City of Flint, Michigan Water Plant Rehabilitation Phase 1, Segment #2 Monitoring Report #05		Ralph J. Stephenson, P. E., P. C. Consulting Engineer March 10, 2001
Monitoring Report #05:	City of Flint Department of Public Works Water Plant #2 Rehabilitation - Phase 1, Segment #2 Flint, Michigan	
<u>To:</u>	Robert Carlyon - Flint Water Pl Mohamed Mohamed - Sorenser Rich Taylor - Sorensen Gross F.	n-Gross Project Manager
From:	Ralph J. Stephenson, P.E Consulting Engineer	
Date of meeting:	Thursday March 8, 2001 (wd 303)	
Location of meeting:	Flint Water Plant job site - Sorensen-Gross trailer	

Current contract dates: Start date - A. M. March 19, 2001 (wd 310) - Completion date - P. M. April 19, 2002 (wd 589) - To be validated.

Those attending:

Rich Taylor - Project Superintendent Ralph J. Stephenson - Consultant

Actions taken:

- Inspected project with Mr. Rich Taylor.
- Monitored and evaluated current job status.
- Briefly reported current job status to Mr. Carlyon by phone.

Monitored from:

- Issue 3, sheet 1 Sanitary Pump Station network (sps) dated 02/08/01 (wd 283)
- Issue 3, sheet 2 Primary Clarifier & Superstructure (pc) dated 02/08/01 (wd 283)
- Issue 3, sheet 3 Primary Clarifier Finish (pcf) dated 02/08/01 (wd 283)
- Issue 3, sheet 4 Building and Grounds Building (bg) dated 02/08/01 (wd 283)
- Issue 3 ,sheet 5 Flume/Stop/Sluice Gate Work (fssg) dated 02/08/01 (wd 283)

Sanitary pump station (sps)

The MDOT permit for directional drilling has been issued, and mass excavation to

page 1 of 3

date printed: 3/10/1

Ralph J. Stephenson, P. E., P. C. Consulting Engineer March 10, 2001

allow directional drilling from the sanitary pump station to the existing building is about 20% complete. This work is currently about three working days behind the early start, early finish dates. However Mr. Taylor plans to start excavating for the force main under Dort Highway on March 9, 2001(wd 304). This will help bring the field work lag down to two working days and Mr. Taylor feels the full lag will be regained over the next two or three weeks.

Directional drilling for the 12" sanitary sewer is planned to start on March 12, 2001 (wd 305), a lag of 2 working days over the early start, but well ahead of the late start of April 30, 2001 (wd 340).

Demolition of the the existing concrete and excavation for the new steel manhole is currently about 90% complete and is meeting targets between early and late starts.

Primary Clarifier & Superstructure (pc)

Mass excavation for the primary clarifier has started and is currently about 20% complete. This activity was due to begin on the A.M. of March 22, 2001 and is ahead of the current plan of work. The existing 8" water main removal activity was deleted and the line will be cut and capped. A bulletin for this change will be issued to Sorensen-Gross shortly. Work on the primary clarifier superstructure is currently meeting or bettering early and late starts and finishes.

Primary Clarifier & Finishes (pcf)

Finish work on the primary clarifier is planned to begin about November 6, 2001 (wd 473) once the roof deck is poured out and stripped. Finish actions include installation of piping, valves and other mechanical, electrical and control elements required for operation of the primary clarifier systems.

Flume/Stops/Sluice Gate Work (fssg)

Removal of existing stop logs has started along with early demolition work on wood baffles, and mechanical and electrical equipment. Mr. Taylor plans to start construction of the concrete stop log closures about March 19, 2001. This is several days earlier than the planned starting dated of the A.M. of April 3, 2001 (wd 321).

Work has also started on preparing and pouring the new 16" wall. This work was due to begin on May 18, 2001 (wd 354). Work at the fssg systems is currently meeting

Ralph J. Stephenson, P. E., P. C. Consulting Engineer March 10, 2001

target dates between early and late starts and finishes.

Building and Grounds Facility (bg)

Work is due to begin on this portion of the project on April 1, 2001 (wd 363).

<u>General</u>

These notes are being sent directly to Mr. Robert Carlyon, Mr. Rich Taylor at the job site and Mr. Mohamed Mohamed at the Sorensen-Gross office. They will make further distribution of the reports as appropriate. I shall plan to monitor the project again soon and will keep in touch with Mr. Carlyon and Mr. Taylor to set future monitoring and updating needs.

Mr. Carlyon has requested a bar chart of the project be provided to Mr. David Jansen. Mr. Taylor will have these schedules prepared and given to Mr. Jansen in the near future.

Ralph J. Stephenson, P. E.

City of Flint, Michigan Water Plant Rehabilitation Phase 1, Segment #2 Monitoring Report #06		Ralph J. Stephenson, P. E., P. C. Consulting Engineer April 20, 2001 phone 1-989-772-2537
Monitoring Report #06:	City of Flint Department of Publi Rehabilitation - Phase 1, Segment Flint, Michigan	c Works Water Plant #2 : #2
<u>To:</u>	Robert Carlyon - Flint Water Plant Supervisor Frank Jobe - Sorensen Gross Vice President of Operations Rich Taylor - Sorensen Gross Field Superintendent	
From:	Ralph J. Stephenson, P.E Consulting Engineer	
Date of meeting:	Wednesday April 18, 2001 (wd 332)	
Location of meeting:	Flint Water Plant job site - Sorensen-Gross trailer	
<u>Current contract dates:</u>	<u>Start date</u> - A. M. March 19, 2001 (<u>Completion date</u> - P. M. April 19, confirmed.	

Those attending:

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Rich Taylor - Project Superintendent Owner staff - as allowed from their ongoing meeting with the design team Ralph J. Stephenson - Consultant

Actions taken:

- Inspected project with Mr. Rich Taylor.
- Monitored and evaluated current job status.
- Briefly discussed current job status with Mr. Robert Carlyon and Mr. David Jansen

Monitored from:

- Issue 3, sheet 1 Sanitary Pump Station network (sps) dated 02/08/01 (wd 283)
- Issue 3, sheet 2 Primary Clarifier & Superstructure (pc) dated 02/08/01 (wd 283)
- Issue 3, sheet 3 Primary Clarifier Finish (pcf) dated 02/08/01 (wd 283)
- Issue 3, sheet 4 Building and Grounds Building (bg) dated 02/08/01 (wd 283)
- Issue 3 , sheet 5 Flume/Stop/Sluice Gate Work (fssg) dated 02/08/01 (wd 283)

Sanitary Pump Station (sps)

Active work on the sanitary pump station started in early March, 2001 and currently is

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Ralph J. Stephenson, P. E., P. C. Consulting Engineer April 20, 2001 phone 1-989-772-2537

in progress on installation and piping of the new SPS precast wet well. There is some concern that in boring and drilling at the lower level of the existing plant some damage may have been done to the drains in the lower level. Photos of the pipe interiors are to be taken and a course of action will be determined after the condition of the drain has been determined.

At present work on the sanitary pump station lags the plan of work by about 10 working days at the pump station proper. There have been some early difficulties with wet weather and in processing submittals. We shall discuss these impacts on job progress at our next planning and monitoring session.

Primary Clarifier & Superstructure (pc)

Mass excavation for the primary clarifier is about 90% complete and installation of footings, slabs and walls at the south and west galleries is moving well and meeting or bettering dates between early and late starts and finishes. No updating of the network model was felt to be needed at this meeting and inspection. Mr. Taylor and I will evaluate the need for updating at our next site visit. This is planned for mid May, 2001.

Primary Clarifier & Finishes (pcf)

Finish work on the primary clarifier is planned to begin about November 26, 2001 (wd 486). Finish actions include installation of piping, valves and other mechanical, electrical and control elements required for operation of the primary clarifier systems. Some of this work will proceed early when outside work is delayed or restrained by inclement weather or other restraints on outside activities.

Mr. Taylor, Mr. Carlyon, Mr. Jansen, and I will discuss the need to revisit the plan of work for finish work at the primary clarifier at our next site meeting in May, 2001.

Flume/Stops/Sluice Gate Work (fssg)

Early work on the fssg area is moving wells, and is currently meeting major early starts and finishes.

Building and Grounds Facility (bg)

Presently we are measuring work progress at the Building and Grounds Building against a target completion of the P.M. of August 21, 2001 (wd 420). However there have been some difficulties in bidding metal building procurement, and active work on foundations and superstructure work is now being planned for a start of mid May,

Ralph J. Stephenson, P. E., P. C. Consulting Engineer April 20, 2001 phone 1-989-772-2537

2001. Along, with other concurrent work, Mr. Taylor and I will review the advisability of updating the Building and Grounds Facility work plan at our next meeting in mid May, 2001. We should determine the status of the project relative to the desired completion date and the contract completion date at that time.

General

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Mr. Taylor was injured recently and has been on the job part time since. He is being assisted in his superintendent's position by another Sorensen Gross' superintendent, and field work has proceeded with fairly good continuity in this interim period.

These notes are being sent directly to Mr. Robert Carlyon, Mr. Rich Taylor, and Mr. Frank Jobe, Vice President for Operations at Sorensen Gross. They will make further distribution of the report as appropriate. Meanwhile I shall maintain contact with Mr. Carlyon, Mr. Taylor, and Mr. Jobe to determine the current needs and progress of the project work.

Sincere yours,

Ralph J. Stephenson, P. E.

City of Flint, Michigan Water Plant Rehabilitation Phase 1, Segment #2 Monitoring Report #07		Ralph J. Stephenson, P. E., P. C. Consulting Engineer June 2, 2001 phone 1-989-772-2537
<u>Monitoring Report #07:</u>	City of Flint Department of Public Works Water Plant #2 Rehabilitation - Phase 1, Segment #2 Flint, Michigan	
<u>To:</u>	Robert Carlyon - Flint Water Pla Frank Jobe - Sorensen Gross Vic Rich Taylor - Sorensen Gross Fi	e President of Operations
From:	Ralph J. Stephenson, P.E Consulting Engineer	
Date of meeting:	Wednesday May 30, 2001 (wd 361	1)
Location of meeting: Flint Water Plant job site - Sorensen-Gross trailer		nsen-Gross trailer
Current contract dates:	Start date - A. M. March 19, 2001 Completion date - P. M. April 19 All present completion targets ar next planning and scheduling m	, 2002 (wd 589) - e to be confirmed at our

Those attending:

- Robert Carlyon Flint Water Plant Supervisor
- Rich Taylor Project Superintendent Sorensen-Gross
- Ralph J. Stephenson, P.E. Consultant

Actions taken:

- Inspected project with Mr. Rich Taylor.
- Monitored and evaluated current job status.
- Reviewed current job status with Mr. Robert Carlyon, Flint Water Plant
- Supervisor and Mr. Rich Taylor, Project Superintendent Sorensen-Gross

Monitored from:

- Issue 3, sheet 1 Sanitary Pump Station network (sps) dated 02/08/01 (wd 283)
- Issue 3, sheet 2 Primary Clarifier & Superstructure (pc) dated 02/08/01 (wd 283)
- Issue 3, sheet 3 Primary Clarifier Finish (pcf) dated 02/08/01 (wd 283)
- Issue 3, sheet 4 Building and Grounds Building (bg) dated 02/08/01 (wd 283)
- Issue 3 ,sheet 5 Flume/Stop/Sluice Gate Work (fssg) dated 02/08/01 (wd 283)

Sanitary Pump Station (sps)

Currently, work at the Sanitary Pump Station (sps) lags the projected completion

Ralph J. Stephenson, P. E., P. C. Consulting Engineer June 2, 2001 phone 1-989-772-2537

date by about 17 working days. There has been considerable rain during the past few days that has delayed landscaping installation, start up, and training. Presently Mr. Taylor is planning to receive the O & M manuals in time to complete training at the Sanitary Pump Station along with landscaping by the pm of June 13, 2001 (wd 372).

There is still concern that while boring and drilling at the lower level of the existing plant some damage may have been done to the drains in the lower level. Photos of the pipe interiors are yet to be taken and a course of action will be determined after the condition of the drain has been determined.

Primary Clarifier & Superstructure (pc)

Pouring the primary clarifier base slab is complete and forming of the walls on the slabs is in work. Presently work at the primary clarifier is meeting major target dates between early and late starts and finishes. At this monitoring session it was not felt necessary to update the current network model. At our next monitoring session I will again review work progress with Rich Taylor to determine the need for a review of the the Primary Clarifier network model.

Primary Clarifier & Finishes (pcf)

Finish work on the primary clarifier is planned to begin about November 26, 2001 (wd 486). Finish actions include installation of piping, valves and other mechanical, electrical and control elements required for operation of the primary clarifier systems. Some of this work may proceed early when outside work is delayed or restrained by inclement weather.

Mr. Taylor and I will discuss the need to revisit the plan of work for finish work at the primary clarifier at our next site meeting.

Flume/Stops/Sluice Gate Work (fssg)

Early work on the fssg area is moving well, and currently meeting major early starts and finishes shown in the issue #3 network model dated February 8, 2001 (wd 283).

Building and Grounds Facility (bg)

Work is proceeding on the slab on grade work and the exterior masonry base course. The current plan of work is to begin erecting structural steel about June 4, 2001 (wd

Ralph J. Stephenson, P. E., P. C. Consulting Engineer June 2, 2001 phone 1-989-772-2537

364) followed by erection of face brick and installation of precast concrete plank.

The present target completion date for the Building and Grounds Facility is August 21, 2001 (wd 420). However some of the unit area target dates for the entire Phase 1, Segment 2 should be revisited and their validity checked with the current target dates.

<u>General</u>

Mr. Taylor is recovering from his recent injury and is spending almost full time on the project at present Field work has proceeded with good management continuity in this interim period.

These notes are being sent directly to Mr. Robert Carlyon, Mr. Rich Taylor, and Mr. Frank Jobe, Vice President for Operations at Sorensen-Gross. They will make further distribution of the report as appropriate. Meanwhile, I shall maintain direct contact with Mr. Carlyon, Mr. Taylor, and Mr. Jobe to determine the current needs and progress of the project work.

Ralph J. Stephenson, P. E.

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Ralph J. Stephenson, P. E., P. C. **Consulting Engineer** September 19, 2001 phone 1-989-772-2537

Monitoring Report #08: City of Flint Department of Public Works Water Plant #2 Rehabilitation - Phase 1, Segment #2, Flint, Michigan

<u>To:</u> Robert Carlyon - Flint Water Plant Supervisor Frank Jobe - Sorensen Gross Vice President of Operations Rich Taylor - Sorensen Gross Field Superintendent

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

Date of meeting: September 13, 2001 (wd 361)

Location of meeting: Flint Water Plant job site - Sorensen-Gross trailer

<u>Current contract dates:</u>

Start date - A. M. March 19, 2001 (wd 310) Completion date - P. M. April 19, 2002 (wd 589) - All current completion targets are to be confirmed

Those attending meeting:

- Rich Taylor Project Superintendent Sorensen-Gross
- Ralph J. Stephenson, P.E. Consultant

Actions taken:

- Inspected project with Mr. Rich Taylor.
- Monitored and evaluated current job status.
- Reviewed current job status with Mr. Rich Taylor.

Monitored from:

- Issue 3 Sanitary Pump Station network (sps) dated 02/08/01 (wd 283)
- Issue 3 Primary Clarifier & Superstructure (pc) dated 02/08/01 (wd 283)
- Issue 3 Primary Clarifier Finish (pcf) dated 02/08/01 (wd 283)
- Issue 3 Building and Grounds Building (bg) dated 02/08/01 (wd 283)
- Issue 3 Flume/Stop/Sluice Gate Work (fssg) dated 02/08/01 (wd 283)

Sanitary Pump Station (sps)

According to Mr. Taylor the sanitary pump station (sps) was started up May 19, 2001 (wd 355). Most work at the SPS is now complete except for landscaping, acceptance of OM manuals, and completion of repair work on the drainage line that was damaged during installation of mechanical piping.

page 1 of 4

date printed: 9/19/1

Dustin Hennes Project

Ralph J. Stephenson, P. E., P. C. Consulting Engineer September 19, 2001 phone 1-989-772-2537

Landscaping was placed earlier. However the grass growth was not satisfactory and the area will be hydroseeded later as landscaping is installed at other areas of the project.

OM manuals have been resubmitted and the contractor is now waiting for acceptance by the project team. This acceptance is expected to be provided in the near future. Repair work at the drain line is currently awaiting delivery and installation of a sump pump

Primary Clarifier & Finishes (pcf)

Most major activities at the primary clarifier are proceeding well and meeting dates between early and late starts and finishes. Sequencing of manhole #1 and the installation of the 30" overflow piping has been relocated in sequence, and follows backfilling of wp #9. However some of the work originally restrained by this sequence has already been done and, depending on work progress on backfilling, may not adversely affect the installation.

Installation of storm sewers at the north and west side of the primary clarifier have not been done yet but are expected to start by the late start of September 24, 2001 (wd 442). Backfilling at the southwest corner of the primary clarifier will start about September 17, 2001 (wd 437).

Basin wall construction has proceeded well and currently is meeting targets ahead of anticipated early starts. Some backfilling has been restrained by the need for construction of intermediate supported slabs.

Bulletin #13 has triggered a change to installation of the sludge line at the west side of the primary clarifier. Also, some problems with older valves have caused delays to cutting and capping the 30" water main east of the water tower. Probably the connections will be hydrostopped by the City to help in cutting off the flow. At present the sequence of work in this area is meeting target dates between early and late starts and finishes.

Mr. Taylor plans to install site asphalt paving after the stone base is placed and prior to completing landscaping. This work sequence is being done late in the year, and an effort will be made to complete it as soon before full cold weather as is possible.

Mr. Taylor is currently planning to maintain a completion date of the P. M. of

Ralph J. Stephenson, P. E., P. C. Consulting Engineer September 19, 2001 phone 1-989-772-2537

December 26, 2001 (wd 508) for pouring out the structural roof deck at the primary clarifier.

Finish work on the primary clarifier is currently scheduled to begin in late November, 2001. Finish actions include installation of piping, valves and other mechanical, electrical and control elements required for operation of the entire primary clarifier systems. I will review the need to update this network with Mr. Taylor at our next monitoring session

Flume/Stops/Sluice Gate Work (fssg)

Most major work at the FSSG area is complete. However it has been necessary to rig a gantry support to help install the 1,400 pound sluice gates. After these have been installed and the job has been punched out, the contractor will power wash the area and turn it over to the Owner.

Building and Grounds Facility (bg)

The building is closed in and finish painting is in progress at the interior. A delay was experienced in delivery of doors but the problem has been resolved and doors are now expected to arrive in late September, 2001. Temporary doors are in place to provide some security for the facility.

There has been some difficulty in the alignment of the exterior masonry at the sill wall and Mr. Taylor said that he will take some remedial action in the near future to correct the problem

Asphalt paving at the exterior is being held until additional paved areas are available for the paving subcontractor. Landscaping is presently scheduled to be installed in late September, 2001.

General

Progress on the project has been good over the past three months although some of the desired intermediate dates have not been achieved. However the current total completion date of April 19, 2002 (wd 589) is being held and Mr. Taylor will attempt to improve on components of this completion schedule

These notes are being sent directly to Mr. Robert Carlyon, Mr. Rich Taylor, and Mr. Frank Jobe, Vice President for Operations at Sorensen-Gross. They will make further distribution of the report as appropriate. Meanwhile, I shall maintain direct contact with Mr. Carlyon, Mr. Taylor, and Mr. Jobe to determine the current

needs and progress of the project work.

Ralph J. Stephenson, P. E., P. C. Consulting Engineer September 19, 2001 phone 1-989-772-2537

Sincerel yours, Ralph J. Stephenson, P. E.

City of Flint, Michigan Water Plant Rehabilitation Phase 1, Segment #2 Monitoring Report #09	Ralph J. Stephenson, P. E., P. C. Consulting Engineer January 23, 2002 phone 1-989-772-2537	
<u>Monitoring Report #09:</u>	City of Flint Department of Public Works Water Plant #2 Rehabilitation - <u>Phase 1, Segment #2</u> , Flint, Michigan	
<u>To:</u>	Robert Carlyon - Flint Water Plant Supervisor Rich Taylor - Sorensen Gross Field Superintendent	
From:	Ralph J. Stephenson, P.E Consulting Engineer	
Date of meetings:	January 14, and 15, 2002 (wd 519 and 520)	
Location of meeting:	Flint Water Plant Conference Room - Flint, Michigan, and rjs office - Mt. Pleasant, Michigan	

Current contract dates:

<u>Start date</u> - A. M. March 19, 2001 (wd 310) <u>Completion date</u> - P. M. April 19, 2002 (wd 589) - All current completion targets are to be confirmed

Those attending meeting:

- Rich Taylor Project Superintendent Sorensen-Gross
- Dustin Hemmes Project Manager Sorensen-Gross
- Ralph J. Stephenson, P.E. Consultant

Actions taken:

- Inspected project with Mr. Rich Taylor.
- Monitored and evaluated current job status.
- Prepared network model for remaining work at the primary clarifier P1 S3.

Monitored from:

• Issue 4 - Primary Clarifier Finish (pcf) - new network model, Issue #4 dated January 15, 2002 (wd 524).

Primary Clarifier

The main work done in this monitoring was to update the remaining work at the primary clarifier, concentrating especially on the roof deck and close in of the primary clarifier.

Mr. Taylor revised the laundry list for the activities to be included in the updating and we used this laundry list to guide the sequencing of the revised logic for the primary clarifier. The updated network shows that the clarifier could be made operational by the pm of June 17, 2002 (wd 629), after which supplementary work including landscaping, remaining utility work, paving and landscaping would be

Ralph J. Stephenson, P. E., P. C. Consulting Engineer January 23, 2002 phone 1-989-772-2537

completed. According to Mr. Taylor, a major contributor to the delay in completing the clarifier has been the difficult weather encountered near the end of 2001 and in early 2002. However Mr. Taylor intends to move the work as quickly as possible to completion, with the hope that the 2002 winter will cooperate to a greater extent than was experienced earlier.

We inspected the project status and Mr. Taylor explained in detail his sequencing for completing the work remaining. We were able to incorporate this plan of work into the Issue #4 network model dated January 15, 2002 (wd 524). This plan of work was copied and given to Mr. Taylor. He is duplicating the network model and will issue it to the project team for their distribution later this month.

Work on contract P1 S3 has been awarded, and Mr. Taylor hopes to proceed with completion of contract P1 S3 concurrently with completion of contract P1 S3, and to overlap as much of the work as possible. We shall monitor the two projects at our job inspections to help insure that the work proceeds on the two together.

General

Progress on the project has slowed and some of the desired intermediate dates have not been achieved. The plan of clarifier work has been revised to reflect some of this loss in time, and Mr. Taylor will attempt to improve on the completion schedule.

These notes are being sent directly to Mr. Robert Carlyon and Mr. Rich Taylor. They will make further distribution of the report as appropriate. Meanwhile, I shall maintain direct contact with Mr. Carlyon and Mr. Taylor in setting near future project monitoring dates and continuing planning for P1 S3.

Sincerely yours,

Ralph J. Stephenson, P. E.

City of Flint, Michigan Water Plant Rehabilitation Phase 1, Segment #2 Monitoring Report #10	Cons Febr	oh J. Stephenson, P. E., P. C. Sulting Engineer uary 4, 2002 ne 1-989-772-2537
<u>Monitoring Report #10</u>	City of Flint Department of Public W Rehabilitation - <u>Phase 1, Segment #2</u>	
<u>To:</u>	Robert Carlyon - Flint Water Plant S Rich Taylor - Sorensen Gross Field S	upervisor Superintendent
From:	Ralph J. Stephenson, P.E Consultin	ig Engineer
Date of meeting:	January 29, 2002 (wd 530)	
Location of meeting:	rjs office - Mt. Pleasant, Michigan	

Current contract dates:

<u>Start date</u> - A. M. March 19, 2001 (wd 310) <u>Completion date</u> - P. M. April 19, 2002 (wd 589) - All current completion targets are to be confirmed

Those attending meeting:

- Rich Taylor Project Superintendent Sorensen-Gross
- Dustin Hemmes Project Manager Sorensen-Gross
- Ralph J. Stephenson, P.E. Consultant

Actions taken:

- Reviewed progress on primary clarifier
- Monitored and evaluated current job status.

Monitored from:

• Issue 4 - Primary Clarifier Finish (pcf) - new network model, Issue #4 dated January 15, 2002 (wd 524).

Primary Clarifier

The main work on the P1 S2 clarifier done during this monitoring was a review of the remaining work at the clarifier roof.

The updated network shows that the clarifier could be made operational by the pm of June 17, 2002 (wd 629), after which supplementary work including landscaping, remaining utility work, paving and landscaping would be completed. According to Mr. Taylor, a major factor in the delay to completing the clarifier has been the difficult weather encountered near the late in 2001 and in

Ralph J. Stephenson, P. E., P. C. Consulting Engineer February 4, 2002 phone 1-989-772-2537

early 2002. However Mr. Taylor intends to continue moving the work as quickly as possible to completion, with the hope that the 2002 winter weather will cooperate to a greater extent than was experienced earlier.

Work on contract P1 S3 has been awarded, and Mr. Taylor hopes to proceed with completion of contract P1 S3 concurrently with completion of contract P1 S2, and to overlap as much of the work as possible. We shall monitor the two projects together at our job inspections to help insure that the work proceeds on the two together.

General

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Progress on the project has slowed and some of the desired intermediate dates have not been achieved. The plan of clarifier work has been updated to reflect some of this loss in time. Mr. Taylor will attempt to improve on the completion schedule, and we will note improvements in subsequent monitorings.

These notes are being sent directly to Mr. Robert Carlyon and Mr. Rich Taylor. They will make further distribution of the report as appropriate. Meanwhile, I shall maintain contact with Mr. Carlyon and Mr. Taylor to set near future project monitoring and planning dates for the P1 S2 clarifier.

,

Ralph J. Stephenson, P. E., P. C. Consulting Engineer May 23, 2002 phone 1-989-772-2537

Monitoring Report #11:	City of Flint Department of Public Works Water Plant #2 Rehabilitation - <u>Phase 1, Segment #2</u> , Flint, Michigan
<u>To:</u>	Jeff Bryson - Flint Interim Water Plant Supervisor Rich Taylor - Sorensen Gross Field Superintendent
From:	Ralph J. Stephenson, P.E Consulting Engineer
Date of meeting:	May 23, 2002 (wd 612)
Location of meeting:	rjs office - Mt. Pleasant, Michigan

Current contract dates:

<u>Start date</u> - A. M. March 19, 2001 (wd 310) <u>Completion date</u> - P. M. April 19, 2002 (wd 589) - All current completion targets are to be confirmed

Those attending meeting:

- Rich Taylor Project Superintendent Sorensen-Gross
- Ralph J. Stephenson, P.E. Consultant

Actions taken:

- Reviewed work progress at primary clarifier
- Monitored and evaluated current job status of primary clarifier.
- Updated current network for Phase 1 Segment #2 of Water Plant Rehabilitation

Monitored from:

• Issue 4 - Primary Clarifier Finish (pcf) - Network model, Issue #4 dated January 15, 2002 (wd 524).

Primary Clarifier

The initial work on the Primary Clarifier during this monitoring was to evaluate progress on the project, and then to update the network model from the evaluation. The roof deck at the Primary Clarifier has been poured out, cured, and stripped. Perimeter parapet walls have been poured out and block and face brick is being erected on exterior walls. Plate settler columns and beams are being installed along with permanent railings at the basins.

The primary clarifier site is being prepared for start of landscaping, and work on the steam line sequence is currently being studied. It might not be necessary to remove the steam line according to Mr. Rich Taylor. The City will probably subcontract for

Ralph J. Stephenson, P. E., P. C. Consulting Engineer May 23, 2002 phone 1-989-772-2537

placing the engineered fill. The 24' water main extension may delay curb and gutter installation until a change order is issued according to Mr. Taylor.

General

Primary Clarifier work in progress at present is concentrated on completing activities up through making the clarifier operative and completing site work and paving. Mr. Taylor and I used the monitored network to update the Issue #4 network model to Issue #5 dated May 23, 2002 (wd 612). This network will be duplicated by Mr. Taylor and distributed as required by the work of the project team.

I shall be in touch with Mr. Taylor and Mr. Jeff Bryson, the Interim Water Plant Supervisor to set the next monitoring and updating of the P1 S2 project network model.

My work on the project from during the interim management project will be through Mr. Bryson and Mr. Taylor. They will make further distribution of monitoring reports as appropriated.

Meanwhile, I shall continue to submit invoices detailing my fees charged to the project to Mr. Bryson until a decision has been reached regarding Flint's financial arrangements needed to maintain their consultant contracts. I shall discuss this submittal process with Mr. Bryson during my next meeting at the Flint Water Plant.

Sincerely yours

Ralph J. Stephenson, P. E.

City of Flint Water Treatment Facility Proposal for Phase 1 - Segment #3 renovation Ralph J. Stephenson, P. E., P. C. Consulting Engineer 323 Hiawatha Drive Mt. Pleasant, Michigan 48858 -9096 ph 1-989-772 2537 e mail - ralphjs@gte.net November 7, 2001

Robert Carlyon Water Plant Superintendent City of Flint Water Treatment Facility 4500 N. Dort Highway Flint, Michigan 48505

Dear Mr. Carlyon:

s

Re: <u>Proposal for Segment #3 professional planning and scheduling services for</u> <u>the City of Flint, Michigan, Water Treatment Plant Renovation</u>

In accordance with our recent discussions outlined below is a proposal for the provision of my professional services in helping to plan and and monitor Segment #3 construction and renovation of the City of Flint, Michigan, Water Treatment Plant. This phase of the total project includes the following elements of construction by the general contractor and his subcontractors.

Task 1. General site work (GS)

Task 2. Softening with lime feed (SO)

Task 3. Filter rehabilitation (FT)

Task 4. Stop log and butterfly valve installation (SB) - deleted from contract by post-bid addendum #2, and restored to contract by bulletin #1 and change order #1.

Task 5. Raw water intake screens in building PS4 (WS)

Task 6. Chemical feed with recarbonation (CF) - scope was reduced from the original in post bid addenda #2

Task 7. Laboratory facility (LF)

Activities to be accomplished during this period include:

a. Working with the general contractor, the owner and the design team to prepare a set of network models for the above components of the total project

City of Flint Water Treatment Facility Proposal for Phase 1 - Segment #3 renovation Ralph J. Stephenson, P. E., P. C. Consulting Engineer 323 Hiawatha Drive Mt. Pleasant, Michigan 48858 -9096 ph 1-989-772 2537 e mail - ralphjs@gte.net November 7, 2001

(Segment #3 of the current program).

b. Inspecting and monitoring the project at approximate monthly intervals, including preparing monitoring reports as needed.

c. Updating the network models, as might be required after each planning meeting.

d. Assisting the general contractor to develop a procurement sequence for the work, and monitoring procurement progress as the project proceeds.

e. Advising the project team about the progress of the work and helping to evaluate and set the sequence of activities in conjunction with the owner, the contractors, and others responsible for field execution of the program.

My fee for work on the Segment #3 of the Water Plant project is \$95 per hour. I shall bill monthly with payment due as invoices are received by you. Billings will be for hours spent in the interest of the project, and will be only for time spent on the job during the billing period.

The project team has estimated that the total duration of Segment #3 will be about 12 months. I estimate that provision of my professional services on the project will require about 236 hours over the estimated construction period.

Planning work on the Segment #3 portion of the project may proceed somewhat concurrent with the phased work of the contractor on the later portions of the construction for Segment #2.

I am looking forward to continuing my work on this very interesting and vital improvement to the utility systems of the City of Flint, Michigan.

Sincerely yours,

enclosure: personal and professional resume

Ralph J.⁴ Stephenson, P.E.

page 2 of 2

date printed: Nov 7, 2001

City of Flint Water Treatment Plant Rehabilitation - Phase 1, Segment 2^{3}

Project City of Flint Water Treatment Plant Rehabilitation - Phase 1 - Segment 3 -DWRF 7019-03

- I. General notes to be updated as project proceeds
 - A. Those involved
 - 1. Sorensen-Gross Construction
 - a) Rich Taylor SG Superintendent
 - b) Ralph J.Stephenson, P.E. Consultant
 - B. Contract dates
 - 1. Tentative date of notice of award pm August 8, 2001 (wd 411)
 - 2. Execution of contract by city pm November 9, 2001 (wd 477) (not returned as of November 1, 2001.
 - 3. Completion of work pm November 22, 2002 (wd 741)
 - 4. No other contract dates are specified.
 - C. Laundry Lists
 - 1. Task #1 SO Softening with lime feed
 - a) PREPARE & SUBMIT STRUCTURAL SHORING, DEMOLITION & RECONSTRUCTION SHOP DWGS FOR TEMPORARY SUPPORT OF ROOF RING BEAM
 - b) REVIEW & APPROVE STRUCTURAL SHORING, DEMOLITION & RECONSTRUCTION SHOP DWGS FOR TEMPORARY SUPPORT OF ROOF RING BEAM
 - c) FAB & DELIVER MATERIALS FOR STRUCTURAL SHORING, DEMOLITION & RECONSTRUCTION OF TEMPORARY SUPPORT OF ROOF RING BEAM
 - d) INSTALL SHORING AT TEMP CONSTR ENTRANCE AT WEST WALL, NORTH SIDE OF WEST CLARIFIER
 - e) REMOVE EXT WEST WALL AT TEMP CONSTR ENTRANCE AT NORTH SIDE OF WEST CLARIFIER
 - f) DEMOLISH AND STORE EXISTING STRUCT STEEL AT WEST CLARIFIER
 - g) DEMOLISH CONCRETE CENTER SUPPORT PIER & FLOOR SECTIONS AT WEST CLARIFIER
 - h) TAKE FIELD MEASUREMENTS AND DESIGN NEW WEST CLARIFIER CENTER SUPPORT PIER & CLARIFIER MECHANISM
 - i) CITY & MECH CONTRACTOR SELECT WEST CLARIFIER MECHANISM & MACHINERY SUPPLIER FOR WEST CLARIFIER
 - j) MECH CONTRACTOR AWARD CONTRACT FOR WEST CLARIFIER MECHANISM CONSTRUCTION
 - k) PREPARE & SUBMIT SHOP DRAWINGS FOR WEST CLARIFIER MECHANISM CONSTRUCTION
 - 1) REVIEW & APPROVE SHOP DRAWINGS FOR WEST CLARIFIER MECHANISM CONSTRUCTION
 - m) FAB & DELIVER WEST CLARIFIER MECHANISM
 - n) CONSTRUCT & ERECT WEST CLARIFIER CENTER SUPPORT & CLARIFIER MECHANISM

City of Flint Water Treatment Plant Rehabilitation - Phase 1, Segment 2

Ralph J. Stephenson, P.E. Consulting Engineer

- o) REMOVE EXISTING STEEL WIERS
- p) DEMOLISH LIME FEED PUMPS, CONCRETE BASES & RELATED PIPING
- q) STEAM & CONDENSATE LINES AT WEST CLARIFIER TO BE PUT IN SERVICE FOR WINTER HEAT
- r) REMOVE & REPLACE ALL SAFETY RAILINGS AT WEST CLARIFIER
- s) INSTALL NEW WEST CLARIFIER LIME PUMPS WITH VALVES, FLOW METERS & CONTROLS, & SLUDGE PUMPS & RELATED PIPING
- t) CLEAN THE EXISTING RECARBONIZATION BASIN
- u) REMOVE & REPLACE PORTIONS OF THE EXISTING LIME FEED DELIVERY SYSTEM
- v) INSTALL NEW UNIT HEATERS IN WEST CLARIFIER
- w) COMPLETE INSTALL POTABLE & PROCESS WATER SYSTEMS IN WEST CLARIFIER
- x) RENOVATE EXISTING POWER PANEL # 3 AT WEST CLARIFIER
- y) INSTALL NEW POWER PANEL #3 AT WEST CLARIFIER
- z) INSTALL WEST CLARIFIER CONDUIT AT MAIN LEVEL
- aa) INSTALL ALL ELECTRICAL CONDUIT & WIRE AT BASEMENT LEVEL FOR SLUDGE PUMPS 1, 2, & 3.
- ab) INSTALL ALL ELECTRICAL CONDUIT & WIRE AT LEVEL 1, 2, & 5
- ac) INSTALL NEW MCC'S & RENOVATE EXISTING MCC'S AT WEST CLARIFIER AREA
- 2. Task #2 FT Filter rehabilitation
 - a) PRO/FILT REHAB/
 - (1) PREPARE & SUBMIT WASH WATER SUPPLY PIPING SHOP DRAWINGS
 - (2) REVIEW & APPROVE WASH WATER SUPPLY PIPING SHOP DRAWINGS
 - (3) FAB & DELIVER WASH WATER SUPPLY PIPING
 - b) PRO/FILT REHAB/
 - (1) PREPARE & SUBMIT EFFLUENT PIPING SHOP DRAWINGS
 - (2) REVIEW & APPROVE EFFLUENT WATER PIPING SHOP DRAWINGS
 - (3) FAB & DELIVER EFFLUENT WATER SUPPLY PIPING
 - c) PRO/FILT REHAB/
 - (1) PREPARE & SUBMIT VALVE & ACCESSORIES SHOP DRAWINGS
 - (2) REVIEW & APPROVE EFFLUENT WATER PIPING SHOP DRAWINGS
 - (3) FAB & DELIVER EFFLUENT WATER PIPING SHOP DRAWINGS
 - d) PRO/FILT REHAB/
 - (1) PREPARE & SUBMIT FILTER REHAB PAINTING SPEC
 - (2) REVIEW & APPROVE FILTER REHAB PAINTING SPEC
 - (3) FAB & DELIVER EFFLUENT FILTER REHAB MATERIALS

date printed: 01/21/02

City of Flint Water Treatment Plant 3 Rehabilitation - Phase 1, Segment 2 Ralph J. Stephenson, P.E. Consulting Engineer

II. Date of planning meeting #1 with SG - November 1, 2001 (wd 470)

- A. Location of meeting Sorensen-Gross office conference room
 - B. Project characteristics
 - 1. Contract dates
 - a) Tentative date of notice of award pm August 8, 2001 (wd 411)
 - b) Execution of contract by city pm November 9, 2001 (wd 477) (not returned as of November 1, 2001.
 - c) Completion of work pm November 22, 2002 (wd 741)
 - d) No other contract dates are specified.
 - 2. Those involved
 - a) City of Flint Water Plant
 - (1) Robert Carlyon -
 - b) DLZ Team Engineers, Architects, Scientists, Planners and Surveyors
 - c) Sorensen Gross Construction Company, Inc.
 - (1) Rich Taylor SG Superintendent
 - 3. Liquidated damages \$700 per calendar day starting with ?
 - 4. Working day calendar starting day 1 is January 3, 2000.
 - a) Non working days include:
 - (1) New Year's Day
 - (2) Memorial Day
 - (3) Independence Day
 - (4) Labor Day
 - (5) Thanksgiving
 - (6) Christmas Day
 - (7) Saturdays
 - (8) Sundays
 - b) Note that some affected days such as hunting season, the Friday after Thanksgiving, Christmas Eve Day, Good Friday, and other similar related days are not included in the non working day list. The durations of tasks spanning these related days are adjusted to accomodate time off.

Laundry lists

- 1. Task 1 SO Softening with lime feed
 - 1. PREPARE & SUBMIT STRUCTURAL SHORING, DEMOLITION & RECONSTRUCTION SHOP DWGS FOR TEMPORARY SUPPORT OF ROOF RING BEAM
 - 2. REVIEW & APPROVE STRUCTURAL SHORING, DEMOLITION & RECONSTRUCTION SHOP DWGS FOR TEMPORARY SUPPORT OF ROOF RING BEAM
 - 3. FAB & DELIVER MATERIALS FOR STRUCTURAL SHORING, DEMOLITION & RECONSTRUCTION OF TEMPORARY SUPPORT OF ROOF RING BEAM
 - 4. INSTALL SHORING AT TEMP CONSTR ENTRANCE AT WEST WALL, NORTH SIDE OF WEST CLARIFIER

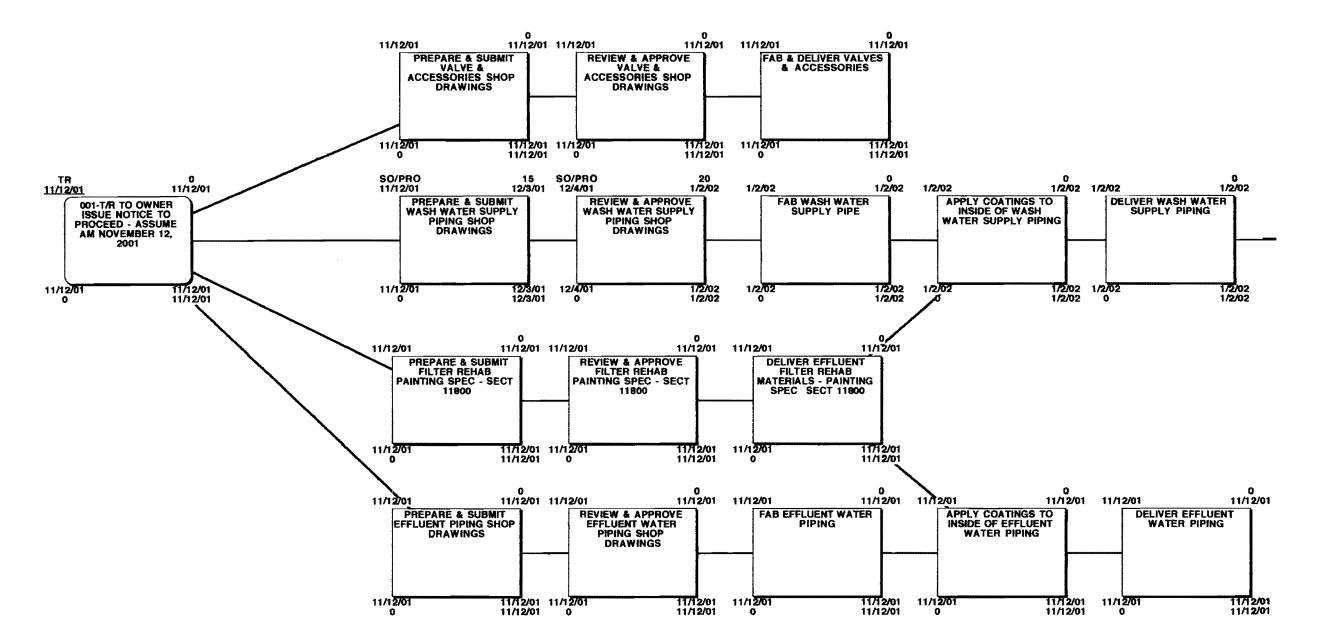
City of Flint Water Treatment Plant 3 Rehabilitation - Phase 1, Segment 2 Ralph J. Stephenson, P.E. Consulting Engineer

- 5. REMOVE EXT WEST WALL AT TEMP CONSTR ENTRANCE AT NORTH SIDE OF WEST CLARIFIER
- 6. DEMOLISH AND STORE EXISTING STRUCT STEEL AT WEST CLARIFIER
- 7. DEMOLISH CONCRETE CENTER SUPPORT PIER & FLOOR SECTIONS AT WEST CLARIFIER
- 8. TAKE FIELD MEASUREMENTS AND DESIGN NEW WEST CLARIFIER CENTER SUPPORT PIER & CLARIFIER MECHANISM
- 9. CITY & MECH CONTRACTOR SELECT WEST CLARIFIER MECHANISM & MACHINERY SUPPLIER FOR WEST CLARIFIER
- 10. MECH CONTRACTOR AWARD CONTRACT FOR WEST CLARIFIER MECHANISM CONSTRUCTION
- 11. PREPARE & SUBMIT SHOP DRAWINGS FOR WEST CLARIFIER MECHANISM CONSTRUCTION
- 12. REVIEW & APPROVE SHOP DRAWINGS FOR WEST CLARIFIER MECHANISM CONSTRUCTION
- 13. FAB & DELIVER WEST CLARIFIER MECHANISM
- 14. CONSTRUCT & ERECT WEST CLARIFIER CENTER SUPPORT & CLARIFIER MECHANISM
- 15. REMOVE EXISTING STEEL WIERS
- 16. DEMOLISH LIME FEED PUMPS, CONCRETE BASES & RELATED PIPING
- 17. STEAM & CONDENSATE LINES AT WEST CLARIFIER TO BE PUT IN SERVICE FOR WINTER HEAT
- 18. REMOVE & REPLACE ALL SAFETY RAILINGS AT WEST CLARIFIER
- 19. INSTALL NEW WEST CLARIFIER LIME PUMPS WITH VALVES, FLOW METERS & CONTROLS, & SLUDGE PUMPS & RELATED PIPING
- 20. CLEAN THE EXISTING RECARBONIZATION BASIN
- 21. REMOVE & REPLACE PORTIONS OF THE EXISTING LIME FEED DELIVERY SYSTEM
- 22. INSTALL NEW UNIT HEATERS IN WEST CLARIFIER
- 23. COMPLETE INSTALL POTABLE & PROCESS WATER SYSTEMS IN WEST CLARIFIER
- 24. RENOVATE EXISTING POWER PANEL # 3 AT WEST CLARIFIER
- 25. INSTALL NEW POWER PANEL #3 AT WEST CLARIFIER
- 26. INSTALL WEST CLARIFIER CONDUIT AT MAIN LEVEL
- 27. INSTALL ALL ELECTRICAL CONDUIT & WIRE AT BASEMENT LEVEL FOR SLUDGE PUMPS 1, 2, & 3.
- 28. INSTALL ALL ELECTRICAL CONDUIT & WIRE AT LEVEL 1, 2, & 5
- 29. INSTALL NEW MCC'S & RENOVATE EXISTING MCC'S AT WEST CLARIFIER AREA

City of Flint Water Treatment Plant Rehabilitation - Phase 1, Segmen $(2)^{\zeta}$

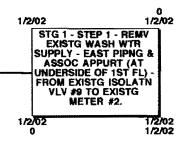
Ralph J. Stephenson, P.E. Consulting Engineer

- 2. Task 2 FT Filter rehabilitation
- 3. Task 3 FB (deleted) Stop logs and butterfly valve installation deleted from contract by post-bid addendum #2 - restored to contract by bulletin #1 and change order #1
- 4. Task 4 WS Raw water intake screens in bldg ps 4.
- 5. Task 5 CF Chemical feed with recarbonation (scope was reduced from original in a post bid addenda #2)
- 6. Task 6 LF Laboratory facility
- C. Meeting notes these notes are to be updated as the project proceeds
 - 1. November 1, 2001 (wd 470) Meeting #1
 - 2. Those attending
 - a) Rich Taylor SG Superintendent
 - b) Ralph J.Stephenson, P.E. Consultant
- III. Date of planning meeting #2 with SG January 15, 2002 (wd)
 - A. Location of meeting rjs office, Mt. Pleasant, Michigan
 - B. Those attending
 - 1. Rich Taylor SG Superintendent
 - 2. Dustin Hemmes SG Project Manager
 - 3. Ralph J.Stephenson, P.E. Consul
 - C. Contract dates as of Janurary 15, 2002 (wd 521)
 - 1. Tentative date of notice of award pm August 8, 2001 (wd 411)
 - 2. Execution of contract by city pm November 9, 2001 (wd 477)
 - 3. Completion of work pm November 22, 2002 (wd 741)
 - 4. No other contract dates are specified.
 - D. Agenda
 - 1. Prepare laundry lists for
 - a) Task #2 Filter rehabilitation
 - b) Task #3 Stop logs & butterfly valves
 - c) Task #4 Raw water intake screens
 - d) Task #5 Chemical feed systems
 - e) Task #6 Laboratory



• STAGE 1 - STEP 1 - REMOVE EXISTING WASH WATER SUPPLY - EAST PIPING & ASSOCIATED APPURTENANCES (AT UNDERSIDE OF 1ST FLOOR) - FROM EXISTING ISOLATION VALVE #9 TO EXISTING METER #2.

• STAGE 1 - STEP 2 - INSTALL NEW WASH WATER SUPPLY - EAST PIPING & ASSOCIATED APPURTENANCES (AT UNDERSIDE OF 1ST FLOOR) - FROM EXISTING ISOLATION VALVE #9 TO EXISTING METER #2.



• STAGE 2 - STEP 1 - REMOVE WASH WATER SUPPLY - GALLERY PIPING FROM EXISTING METER #2 WEST TO THE EAST FLANGE OF THE OUTLET TEE AT FILTER #6.

• STAGE 2 - STEP 2 - REMOVE 14" EFFLUENT LINE INCLUDING VALVE #2 & METER #1 FOR FILTERS #1 THROUGH #4.

• STAGE 2 - STEP 3 - REMOVE 6" REWASH LINE FOR FILTERS #1 THROUGH #4. PLACE WATER TIGHT REMOVABLE PLUG IN THE 6" REWASH LINE AT THE FILTER WASH WATER DRAIN ENCASEMENTS.

• STAGE 2 - STEP 4 - INSTALL NEW WASH WATER HEADER FROM VALVE #2 WEST TO OUTLET TEE AT FILTER #6.

• STAGE 2 - STEP 5 - INSTALL TEMPORARY BLIND FLANGE AT THE NORTH LIMIT OF THE INFLUENT CHANNEL FOR FUTURE STAGE #3 FILTER #1 AND FILTER #3 WATER SUPPLY.

STAGE 3 - STEP 1 - REMOVE WASH WATER PUMP, PIPING AND ASSOCIATED APPURTENANCES

• STAGE 3 - STEP 2 - REMOVE NORTH EFFLUENT PIPING FROM EASTMOST BELL AND SPIGOT JOINT AT FILTER **#6** EAST TO WIER CHAMBER CONNECTIONS. PLACE TEMPORARY PLUG AT THE EAST LIMIT OF EXISTING 30" NORTH EFFLUENT LINE.

 STAGE 3 - STEP 3 - CONSTRUCT TEMPORARY FIELD FABRICATED TRANSITION PIECE TO CONNECT EXISTING EFFLUENT LINE TO NEW EFFLUENT LINE.

• STAGE 3 - STEP 4 - REMOVE 30" WASH WATER DRAIN PIPING ASSEMBLY FOR FILTERS 2 AND 4.

• STAGE 3 - STEP 5 - INSTALL NEW 30" WASH WATER DRAIN PIPING ASSEMBLY AND FILTER TO WASTE PIPING ASSEMBLY FOR FILTERS 2 AND 4.

• STAGE 3 - STEP 6 - INSTALL NEW 36" NORTH EFFLUENT PIPING FROM TEMPORARY BLIND FLANGE EAST TO 36" TEMPORARY FABRICATED ELBOW AT WIER CHAMBER WALL. INSTALL VALVE 103, FILTERS 2 & 4.

• STAGE 3 - STEP 7 - INSTALL NEW 24" ELBOW WITH 16" SIDE OUTLET AND NEW 16" EFFLUENT PIPING FOR FILTERS 2 AND 4.

Reserved Activity Numbers

041	046	091	096
042	047	092	097
043	048	093	098
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a) PRO/FILT REHAB/

 $\sqrt{(1)}$ PREPARE & SUBMIT WASH WATER SUPPLY PIPING SHOP DRAWINGS

√(2) REVIEW & APPROVE WASH WATER SUPPLY PIPING SHOP DRAWINGS

√(3) FAB & DELIVER WASH WATER SUPPLY PIPING

b) PRO/FILT REHAB/

√(1) PREPARE & SUBMIT EFFLUENT PIPING SHOP DRAWINGS

J(2) REVIEW & APPROVE EFFLUENT WATER PIPING SHOP DRAWINGS

√(3) FAB & DELIVER EFFLUENT WATER SUPPLY PIPING

c) PRO/FILT REHAB/

 $\sqrt{(1)}$ PREPARE & SUBMIT VALVE & ACCESSORIES SHOP DRAWINGS

√(2) REVIEW & APPROVE VALVE & ACCESSORIES SHOP DRAWINGS

√(3) FAB & DELIVER VALVES & ACCESSORIES

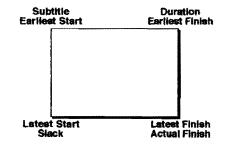
d) PRO/FILT REHAB/

√(1) PREPARE & SUBMIT FILTER REHAB PAINTING SPEC SECT 11800

√(2) REVIEW & APPROVE FILTER REHAB PAINTING SPEC SECT 11800

V(3) FAB & DELIVER EFFLUENT FILTER REHAB MATERIALS - PAINTING SPEC

11800



ACTIVITY LEGEND

• STAGE 4 - STEP 1 - REMOVE SOUTH EFFLUENT PIPING FROM EASTMOST BELL AND SPIGUT JUINT AT FILTER #6 EAST TO WIER CHAMBER CONNECTIONS. PLACE TEMPORARY PLUG AT THE EAST LIMIT OF EXISTING 30" SOUTH EFFLUENT LINE.

• STAGE 4 - STEP 2 - CONSTRUCT TEMPORARY FIELD FABRICATED TRANSITION PIECE TO CONNECT EXISTING EFFLUENT LINE TO NEW EFFLUENT LINE.

• STAGE 4 - STEP 3 - REMOVE 30" WASH WATER DRAIN PIPING ASSEMBLY FOR FILTERS 1 AND 3.

• STAGE 4 - STEP 4 - INSTALL NEW 30" WASH WATER DRAIN PIPING ASSEMBLY AND FILTER TO WASTE PIPING ASSEMBLY FOR FILTERS 1 AND 3.

• STAGE 4 - STEP 5 - INSTALL NEW 36" SOUTH EFFLUENT PIPING FROM TEMPORARY BLIND FLANGE EAST TO 36" TEMPORARY FABRICATED ELBOW AT WIER CHAMBER WALL. INSTALL VALVE 103, FILTERS 1 & 3.

• STAGE 4 - STEP 6 - INSTALL NEW 24" ELBOW WITH 16" SIDE OUTLET AND NEW 16" EFFLUENT PIPING FOR FILTERS 1 AND 3.

• STAGE 5 - STEP 1 - INSTALL WASH AIR SUPPY HEADER EAST OF WATER PLANT CENTER LINE.

• STAGE 5 - STEP 2 - REMOVE SPOOL PIECE ON 6" SURFACE WASH AND PLANT WATER LINE. INSTALL BACK FLOW PREVENTER ASSEMBLY AND ASSOCIATED APPURTENANCES.

• STAGE 5 - STEP 3 - INSTALL AND PLACE IN SERVICE INSTRUMENTATION AND EQUIPMENT ASSOCIATED WITH FILTER MONITORING AND OPERATION. - INSTALL COMPLETE FILTER MONITORING PANEL ASSEMBLY FOR FILTERS 1 - 4. - INSTALL FILTER CONSOLETTE PANELS FOR FILTERS 1 - 4.

- INSTALL WASH WATER SUPPLY SELECTION PANEL 102.
- INSTALL WASH WATER VALVE INDICATION PANEL 103.
- INSTALL WASH AIR SUPPY CONTROL PANEL104.

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Issue #1 - 11/01/01

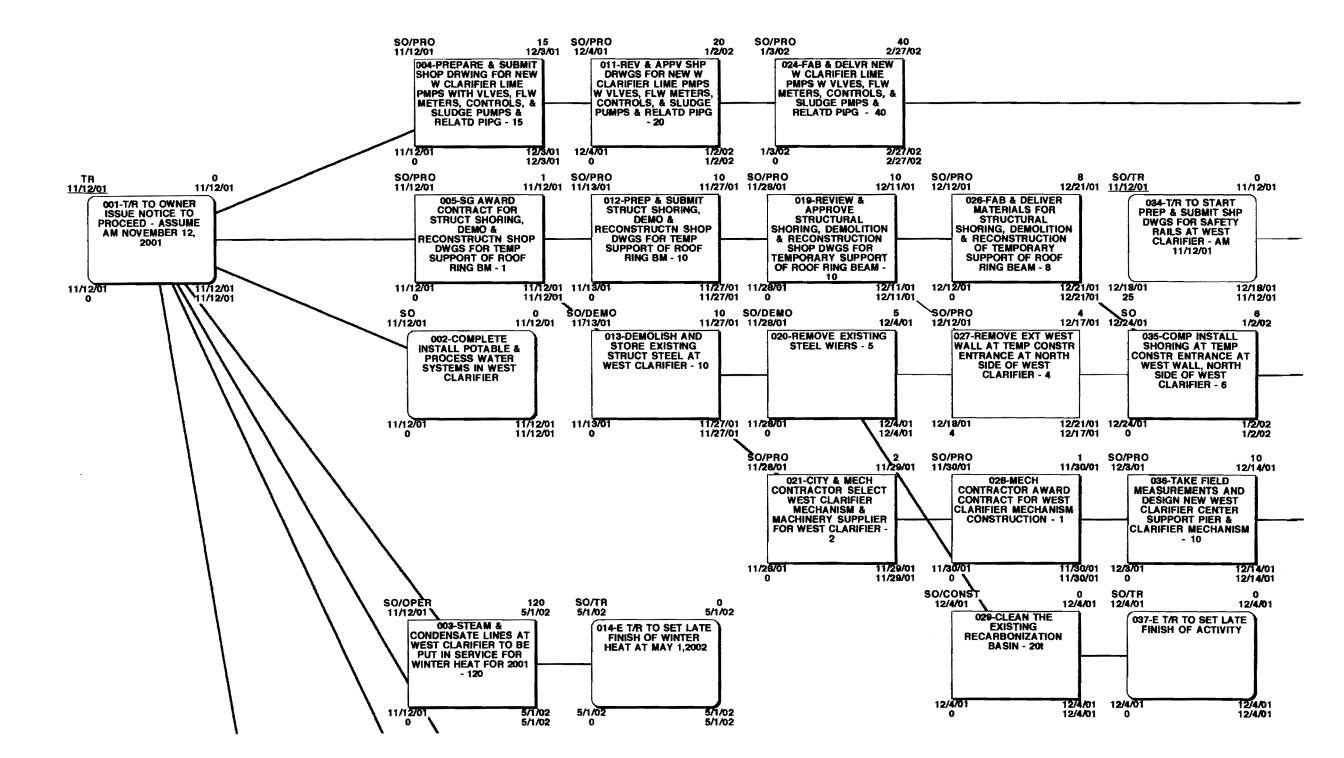
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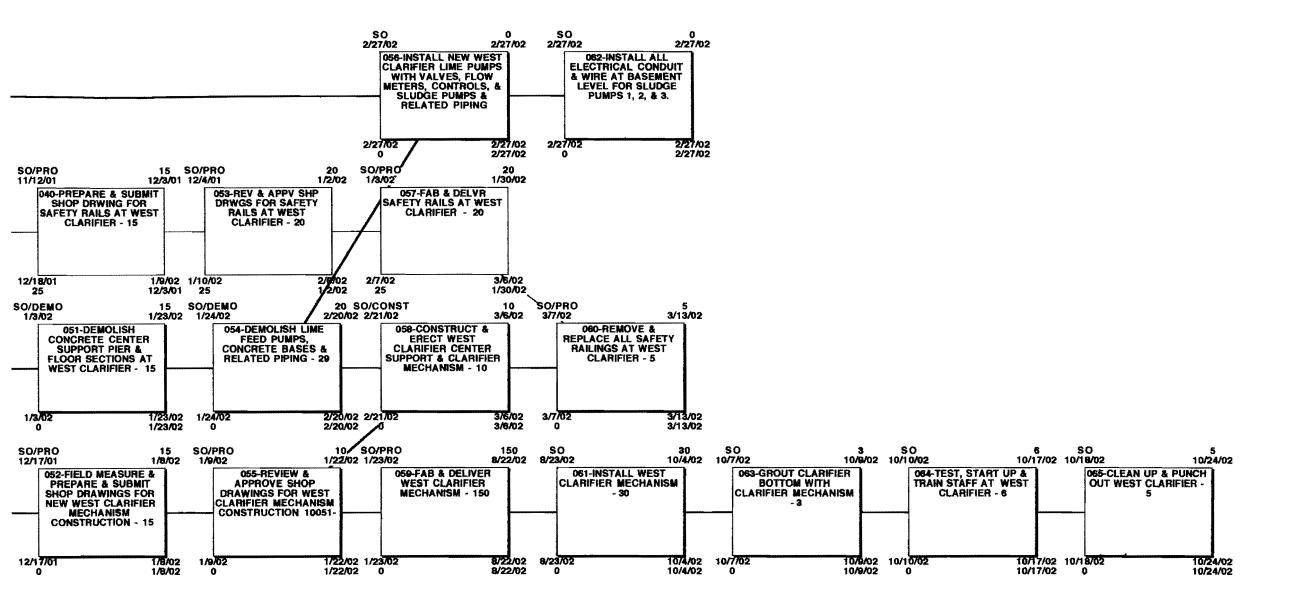
Task 2 - Filter Rehabilitation

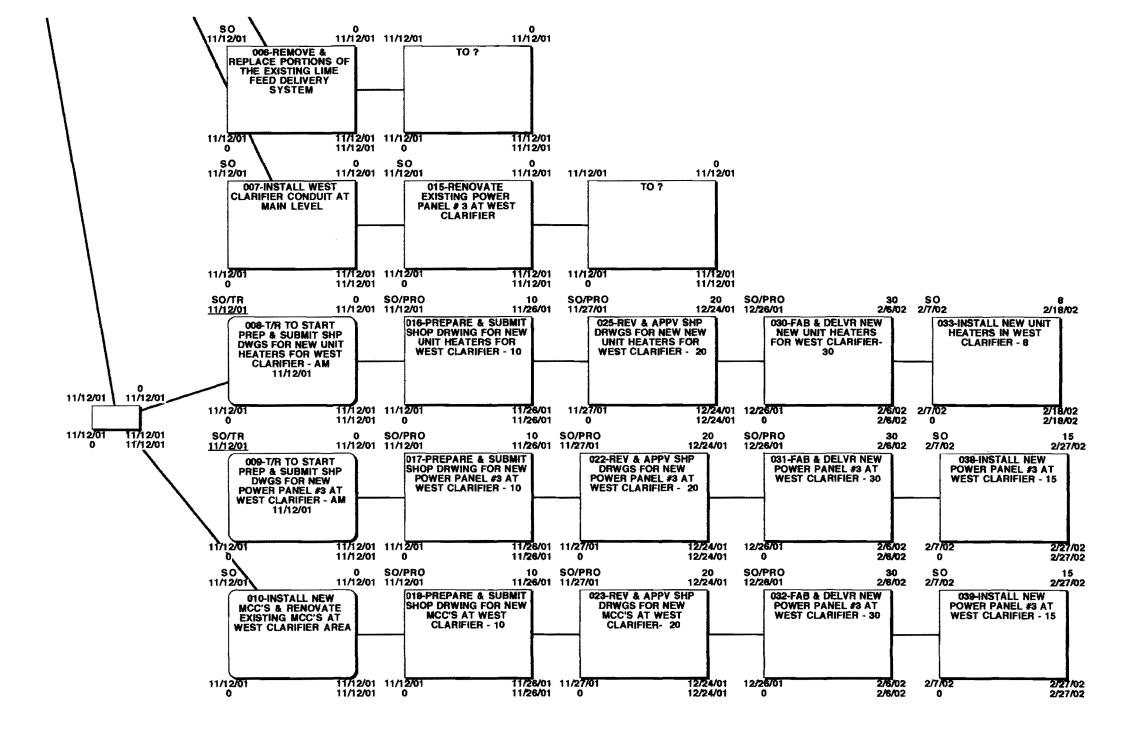
Network Model for City of Flint Water Treatment Plant Rehabilitation Phase 1 - Segment 3 - DWRF 7019-03

Sorensen Gross Construction Company, Inc. 3407 N. Torrey Road, P.O. Box 7718 Flint, Michigan, 48507 Phone 810-767 4821

> Ralph J Stephenson, P.E. Consulting Engineer 323 Hiawatha Drive Mt. Pleasant, Michigan 48858-9096 Phone 989-772 2537





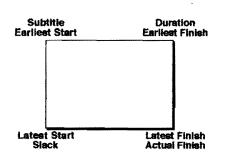


1. VPREPARE & SUBMIT STRUCTURAL SHORING, DEMOLITION & RECONSTRUCTION SHOP DWGS FOR TEMPORARY SUPPORT OF ROOF RING BEAM 2. VREVIEW & APPROVE STRUCTURAL SHORING, DEMOLITION & RECONSTRUCTION SHOP DWGS FOR TEMPORARY SUPPORT OF ROOF RING BEAM 3. VFAB & DELIVER MATERIALS FOR STRUCTURAL SHORING, DEMOLITION & RECONSTRUCTION OF TEMPORARY SUPPORT OF ROOF RING BEAM 4. VINSTALL SHORING AT TEMP CONSTR ENTRANCE AT WEST WALL, NORTH SIDE OF WEST CLARIFIER 5. VREMOVE EXT WEST WALL AT TEMP CONSTR ENTRANCE AT NORTH SIDE OF WEST CLARIFIER 6. VDEMOLISH AND STORE EXISTING STRUCT STEEL AT WEST CLARIFIER 7. VDEMOLISH CONCRETE CENTER SUPPORT PIER & FLOOR SECTIONS AT WEST CLARIFIER 8. VTAKE FIELD MEASUREMENTS AND DESIGN NEW WEST CLARIFIER CENTER SUPPORT PIER & CLARIFIER MECHANISM 9. VCITY & MECH CONTRACTOR SELECT WEST CLARIFIER MECHANISM & MACHINERY SUPPLIER FOR WEST CLARIFIER 10. VMECH CONTRACTOR AWARD CONTRACT FOR WEST CLARIFIER MECHANISM CONSTRUCTION 11. JPREPARE & SUBMIT SHOP DRAWINGS FOR WEST CLARIFIER MECHANISM CONSTRUCTION 12. √REVIEW & APPROVE SHOP DRAWINGS FOR WEST CLARIFIER MECHANISM CONSTRUCTION 13. VFAB & DELIVER WEST CLARIFIER MECHANISM 14. VCONSTRUCT & ERECT WEST CLARIFIER CENTER SUPPORT & CLARIFIER MECHANISM 15. √REMOVE EXISTING STEEL WIERS 16. VDEMOLISH LIME FEED PUMPS, CONCRETE BASES & RELATED PIPING 17. √STEAM & CONDENSATE LINES AT WEST CLARIFIER TO BE PUT IN SERVICE FOR WINTER HEAT 18. √REMOVE & REPLACE ALL SAFETY RAILINGS AT WEST CLARIFIER 19. √INSTALL NEW WEST CLARIFIER LIME PUMPS WITH VALVES, FLOW METERS & CONTROLS, & SLUDGE PUMPS & RELATED PIPING 20. VCLEAN THE EXISTING RECARBONIZATION BASIN 21. √ REMOVE & REPLACE PORTIONS OF THE EXISTING LIME FEED DELIVERY SYSTEM 22. VINSTALL NEW UNIT HEATERS IN WEST CLARIFIER 23. VCOMPLETE INSTALL POTABLE & PROCESS WATER SYSTEMS IN WEST CLARIFIER 24. VRENOVATE EXISTING POWER PANEL # 3 AT WEST CLARIFIER 25. √INSTALL NEW POWER PANEL #3 AT WEST CLARIFIER 26. JINSTALL WEST CLARIFIER CONDUIT AT MAIN LEVEL

- 27. JINSTALL ALL ELECTRICAL CONDUIT & WIRE AT BASEMENT LEVEL FOR SLUDGE PUMPS 1, 2, & 3.
- 28. VINSTALL ALL ELECTRICAL CONDUIT & WIRE AT LEVEL 1, 2, & 5
- 29. JINSTALL NEW MCC'S & RENOVATE EXISTING MCC'S AT WEST CLARIFIER AREA

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ACTIVITY LEGEND

Issue #1 - 11/01/01

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Task 1 - Softening with Lime Feed

Network Model for City of Flint Water Treatment Plant Rehabilitation Phase 1 - Segment 3 - DWRF 7019-03

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> Ralph J Stephenson, P.E. Consulting Engineer 323 Hiawatha Drive Mt. Pleasant, Michigan 48858-9096 Phone 989-772 2537

> > Sheet SO1

Network Model for City of Flint Water Treatment Plant - Rehabilitation Phase 1 - Segment 3

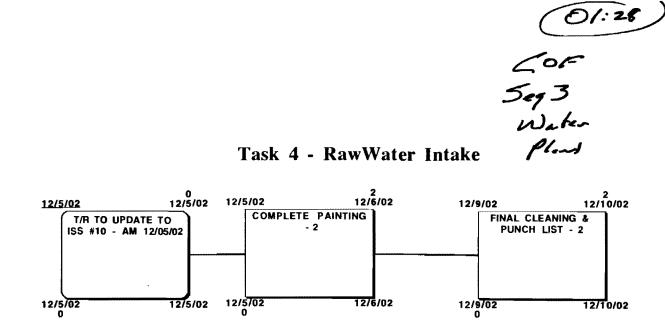
Richard Sly - President Project Manager Richard Taylor - Field Superintendent

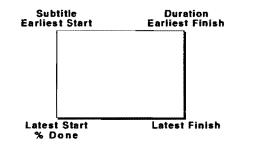


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ACTIVITY

Reserved Activity

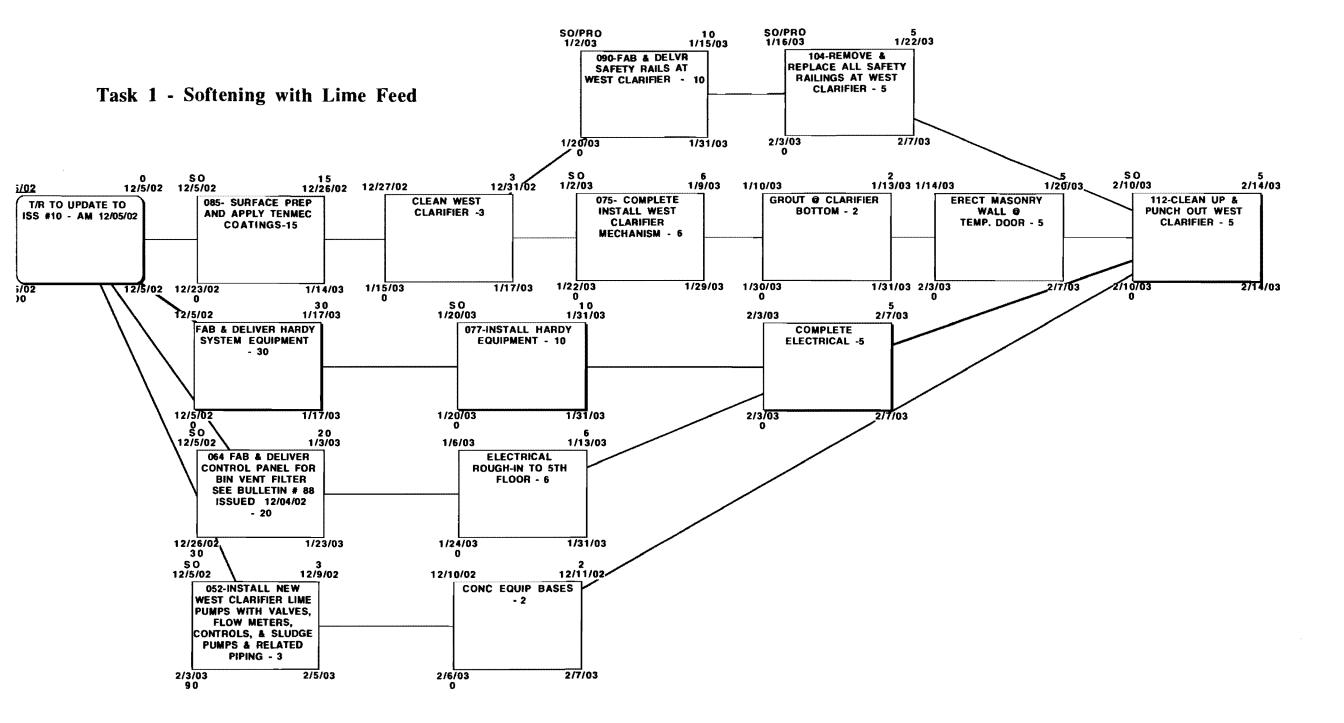
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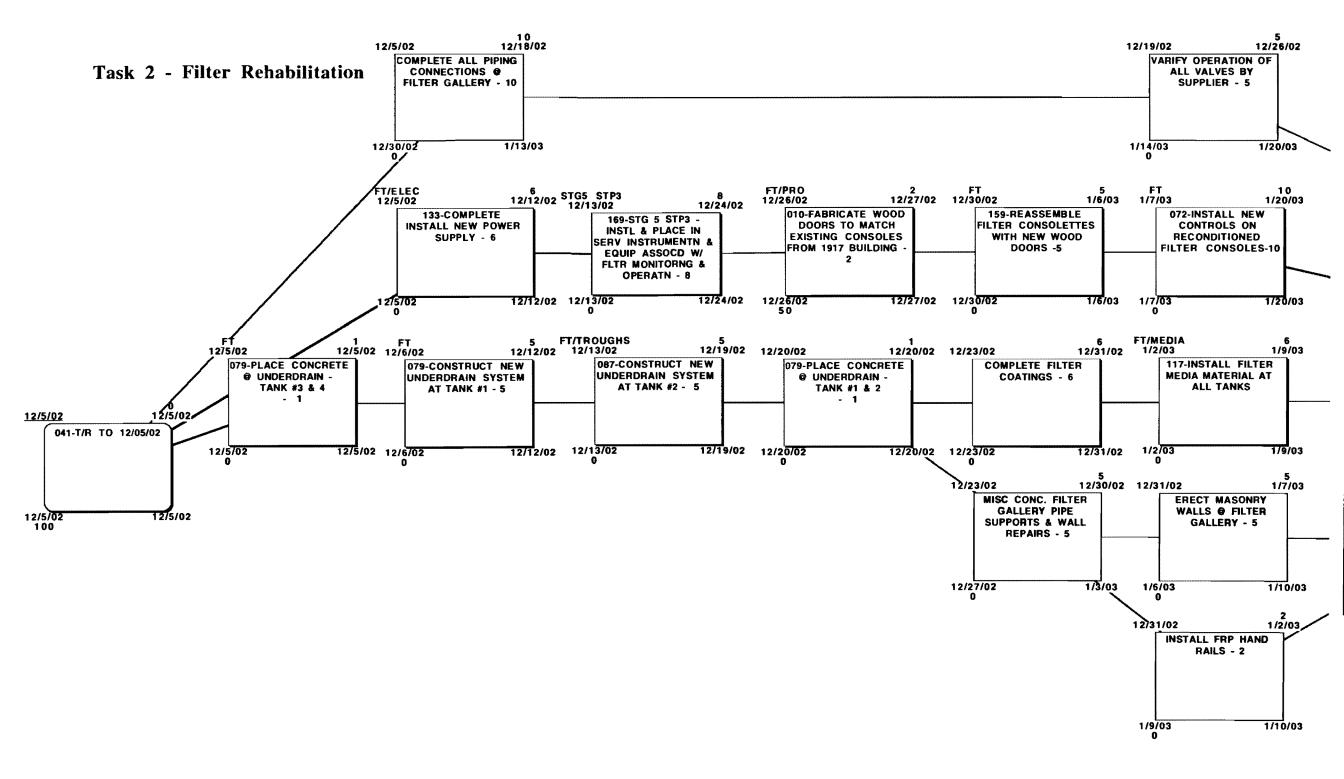
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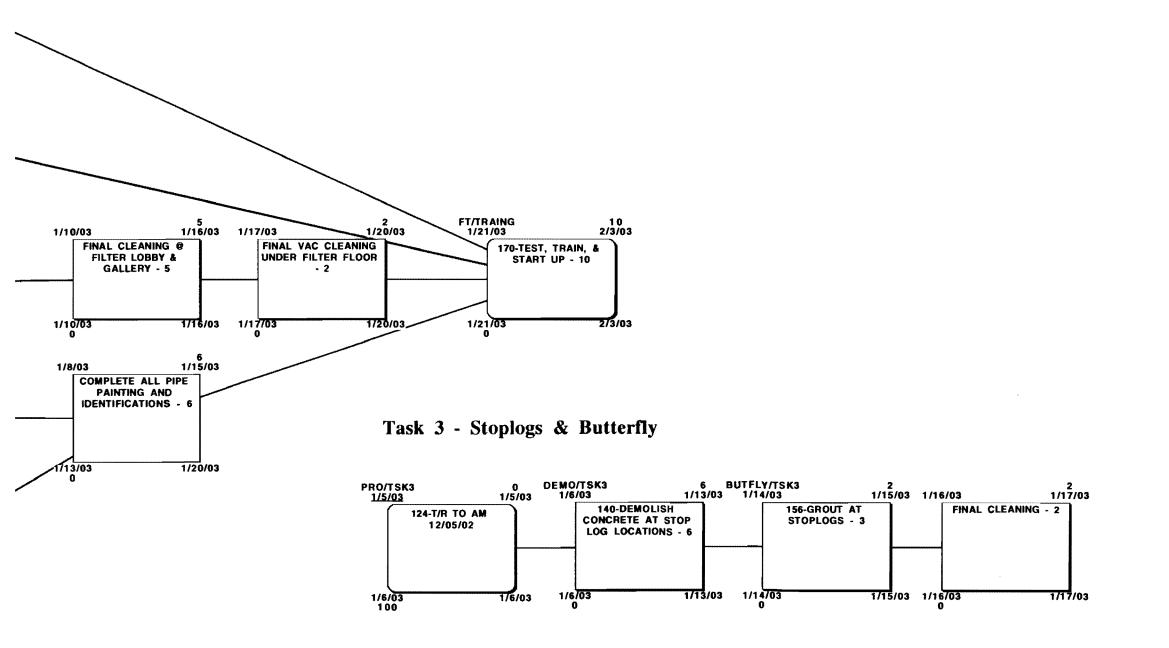
Issue

issue #1, 2, 3, 4 and 5 - not used Issue #6 - 03/11/02 Issue #7 - 04/04/02 Issue #7 - 05/23/02 mtrg Issue #7 - 06/13/02 mtrg Issue #8 - 06/13/02 update Issue #8 - 06/28/02 mtrg Issue #8 - 08/16/02 mtrg Issue #9 - Sheet #1 - 09/24/02 RT

Issue # 10 Sheet #1 - 12/05/02 RT







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Network Model for City of Flint Water Treatment Plant

Richard Sly - President Richard Taylor - Field Superintendent Dustin Hemmes - Project Manager



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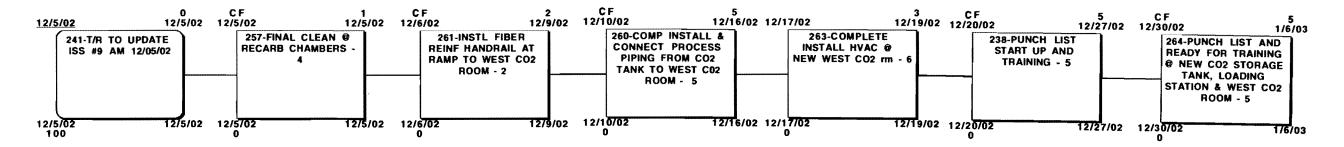
ACTIVITY

Issue	Reserved Activity	Subtitle Duration Earliest Start Earliest Fini
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Iss #10 - Sheet #2 - 12/05/02	han 310	% Done

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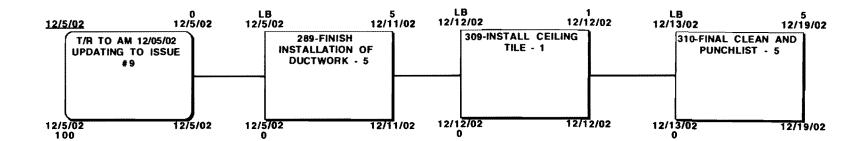
WORK TASK # 5

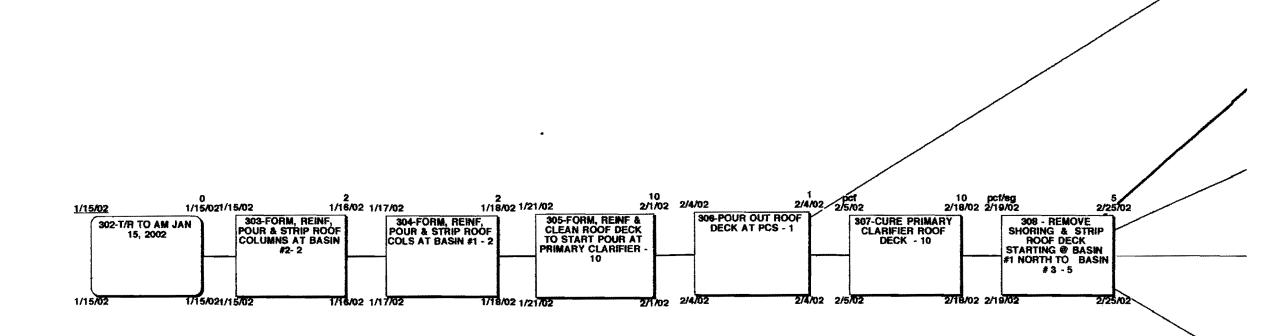
CHEMICAL FEED WITH RECARBONATION (CF)



WORK TASK #6

LABORATORY FACILITY (LB)



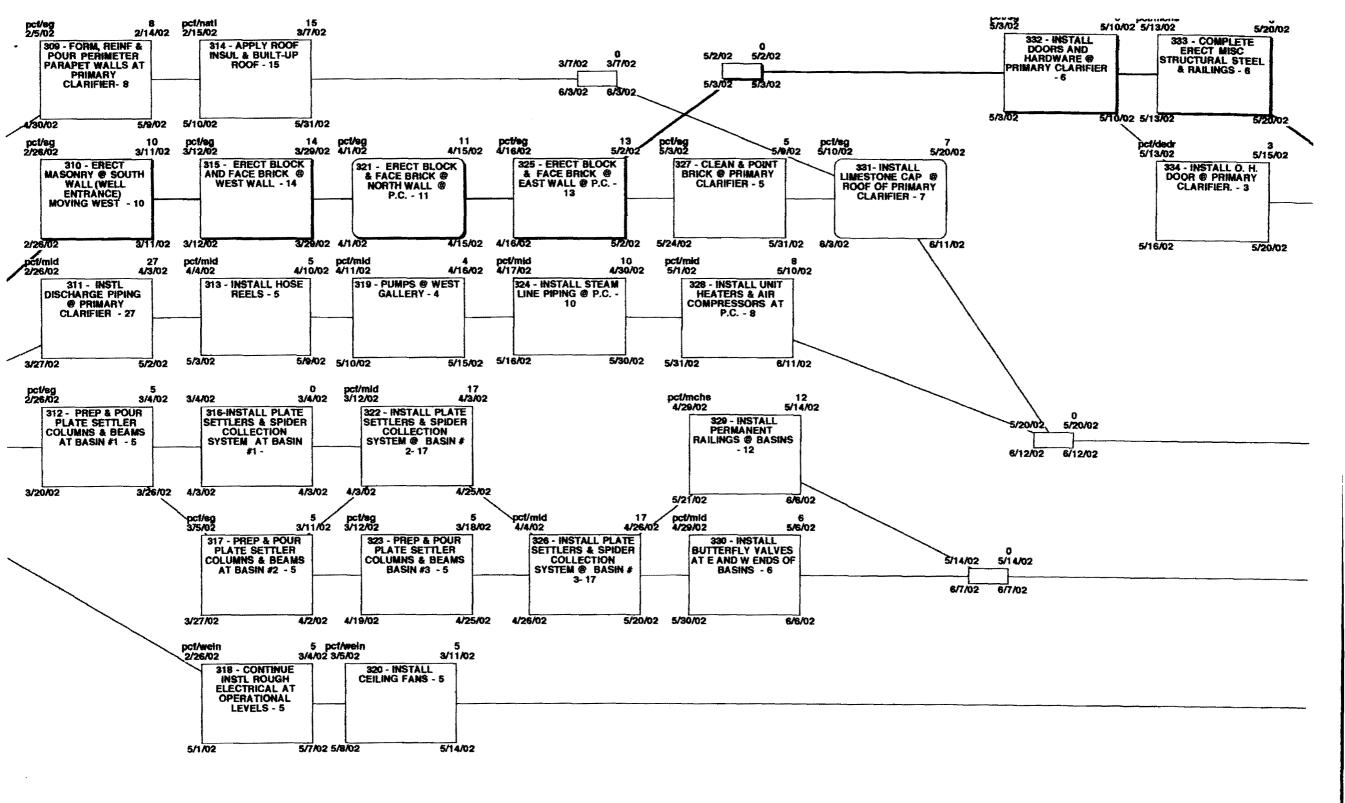


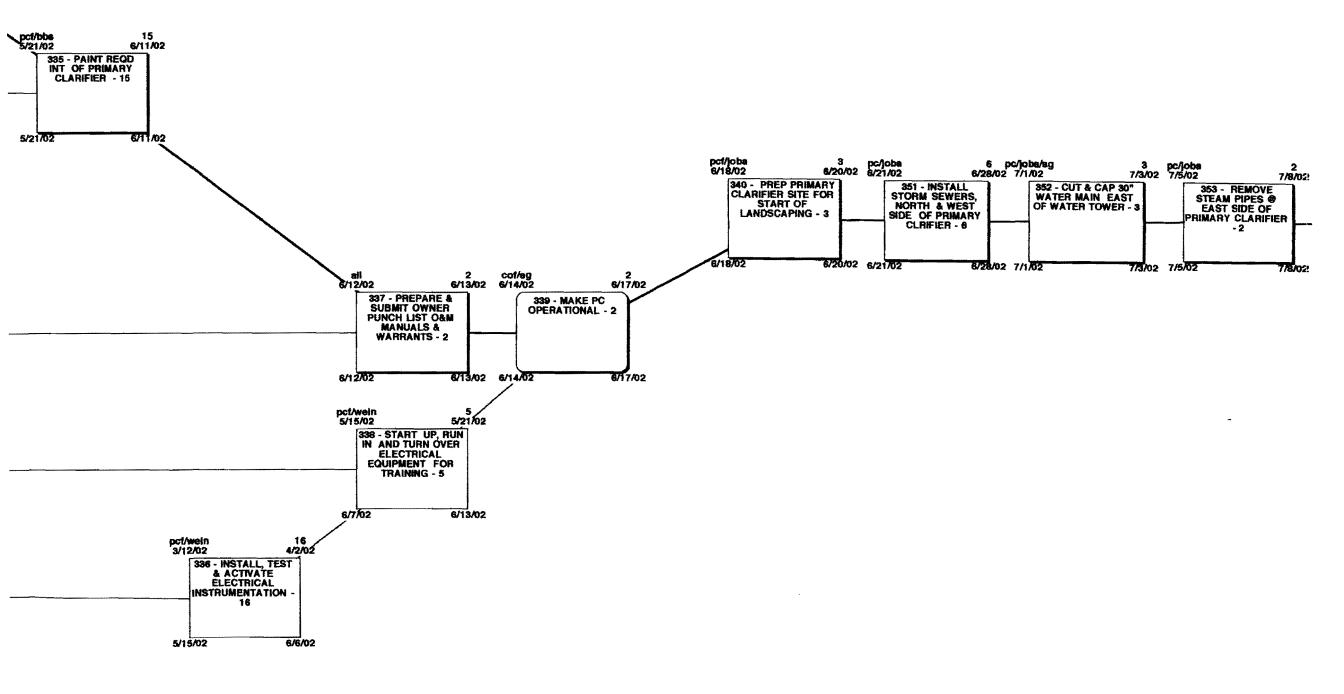
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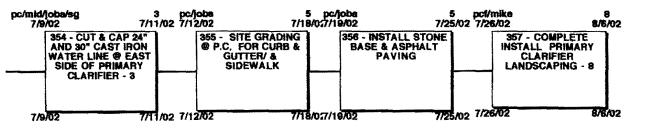
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THIS NETWORK MODEL IS BASED ON 40 HOURS, 5 DAYS PER WEEK,







PRIMARY CLARIFIER AND SUPER STRUCTURE



SHEET

#2

PREPARED FOR

CITY OF FLINT, MICHIGAN DEPARTMENT OF PUBLIC WORKS AND UTILITIES

NETWORK MODEL FOR WATER TREATMENT PLANT (WTP) REHABILITATION PHASE I- SEGMENT 2 DWRF 7019-02

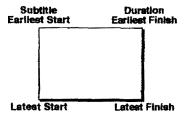
PREPARED BY

SORENSEN GROSS CONSTRUCTION CO. 3407 N. TORREY RD./ P.O. BOX 7718 FLINT MICHIGAN 48507 PHONE 810-767-4821 S/G JOB "00033"

Reserved Activity Numbers

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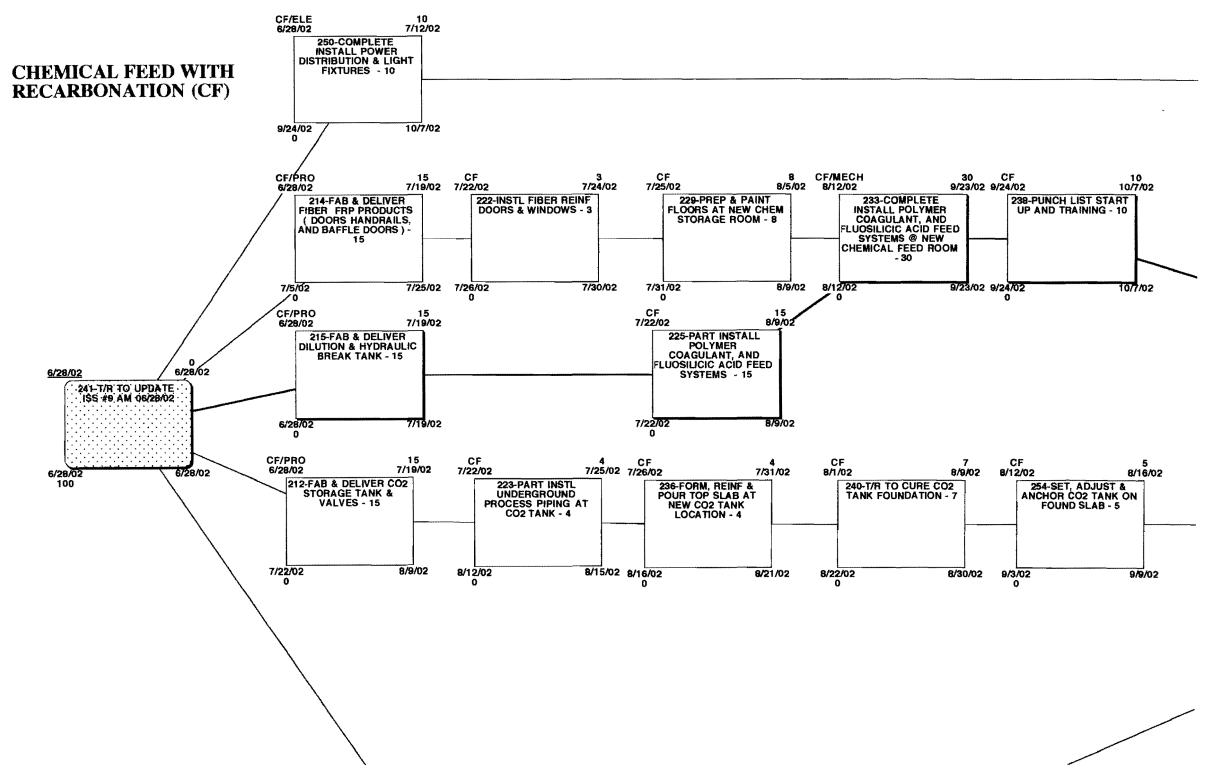
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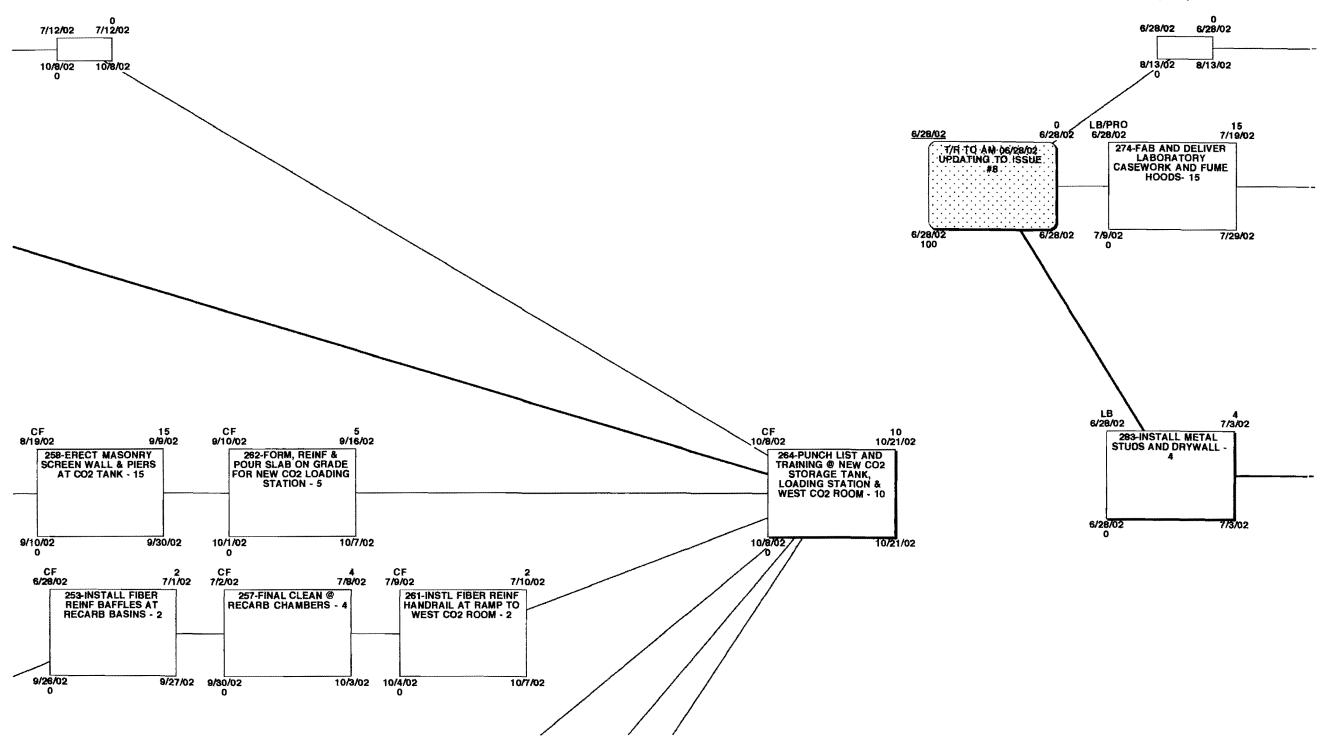
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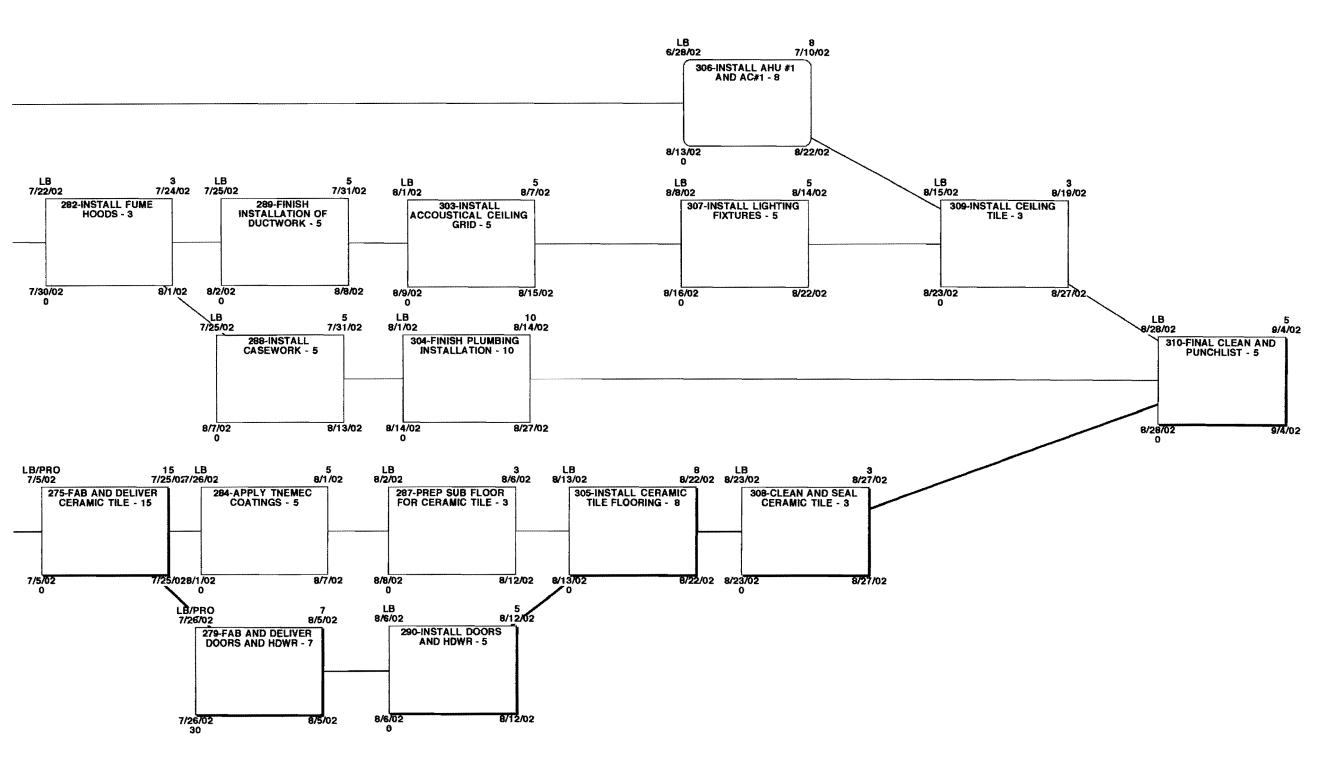
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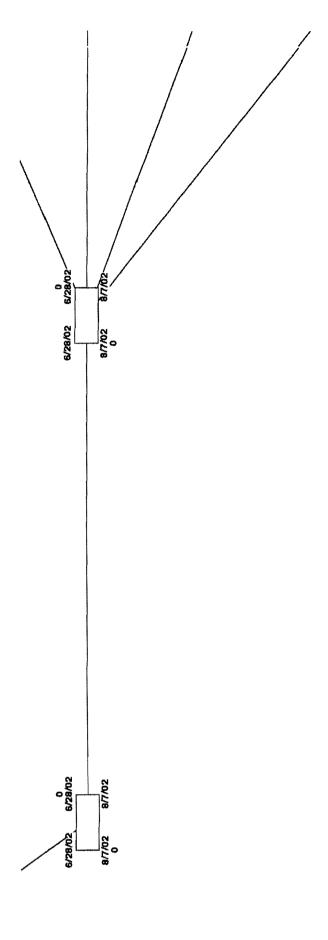
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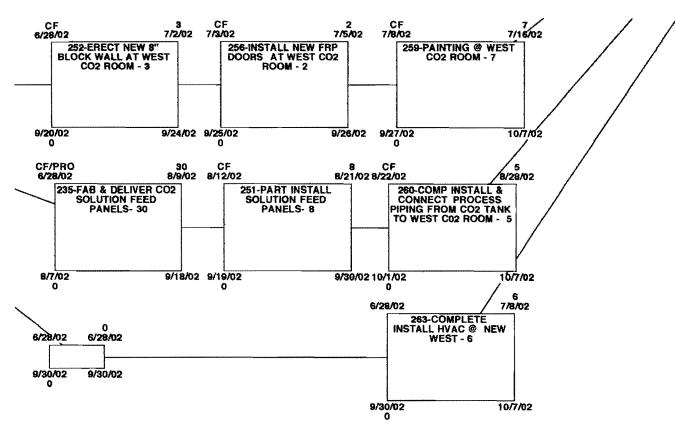


LABORATORY FACILITY (LB)









Network Model for City of Flint Water Treatment Plant Rehabilitation Phase 1 - Segment 3 - DWRF 7019-03

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Issue Record

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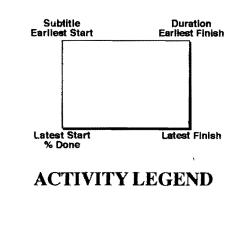
Iss #9 • Sheet #2 • 06/28/02 updte

Richard Sly - President Richard Taylor - Field Superintendent Dustin Hemmes - Project Manager



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Sheet #2