

RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER

May 21, 1975

Mr. L. G. Shea, Vice President
Louis G. Redstone Associates, Inc.
10811 Puritan
Detroit, Michigan 48238

Re: Construction Planning and Control Program for ICL Truck Terminal

Dear Mr. Shea:

As you requested, I reviewed the preliminary site and architectural plans for the ICL Truck Terminal project. This is a large, complex facility and from my current understanding of the project, it appears it would be very desirable to institute at an early date a sensitive planning and control system. I have made some assumptions in the preparation of this proposal including:

- 1) that the planning and control system will be utilized throughout the project, perhaps also during the letting of contracts if on a phased basis.**
- 2) that the major elements of the project are**
 - site work (underground utilities, fencing, paving, fifth wheel strips, heater system, storage areas, landscaping and site identification)**
 - gate house**
 - truck scale**
 - two level office structure**

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- through dock building
- steel storage building
- fueling area
- garage area
- off-site utilities

The above may not be a complete list of all elements but as I understand it, these are the major components of the job.

- 3) that although some updating due to schedule and project disruptions may be needed, these will be kept to an absolute minimum.
- 4) that the life of the project will be from 18 to 22 months total time. (This may change as the project phasing evolves.)
- 5) that the control program utilized on the job will include monitoring averaging about once per month.

* * * * *

Work on projects of this type, as you know from our past association, is usually accomplished in four basic phases each of which may overlap with the other.

Phase 1 - Preparation of preliminary network models

During phase 1 preliminary networks with all major tasks to be accomplished are prepared for each of the interacting elements of the total job. In a project of this size it might be that the components of the entire development might be started at different points in the construction period. During this early period we may prepare a rough summary diagram giving the major milestones defining the owner's move-in needs and outlining the sequence in which the various facilities would be started and turned over.

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Phase 1 - Preparation of preliminary network models (continued)

The end result of phase 1 work is to have a rough set of reproducible network models for all elements of the project. These will have been manually computed and will be used as interim field and office guides while work is proceeding on the phase 2 elements.

During phase 1, we also identify all major long lead time delivery items and incorporate into the network plan information relative to the responsibilities of major parties on the project. Essentially the preliminary phase is devoted to producing a best plan of action utilizing all of the information currently available.

Phase 2 - Drafting and issue of final network documents

Concurrent with the preliminary work, phase 2 would begin. Phase 2 consists of translating preliminary network plans into final approved plans of action in which the networks are drafted into completed form and where appropriate, subjected to electronic data processing. It may be that certain portions of the job will not require computer processing. However, because of the large size and involved nature of this program, and what appears to be a wide variety of inter-related elements, I consider it would be desirable to utilize electronic data processing for the more involved parts of the program.

The end product of phase 2 is a drafted and issued network model showing early start/late start, early finish/late finish dates, along with the responsibilities and necessary translations to implement a full monitoring and control system. When the network control documents are in final form, they are issued formally with a full explanation for their use.

During and after phases 1 and 2, I shall begin inspecting the project periodically, probably each month, to observe field progress relative to the approved, established plan of action. This is the monitoring and control phase.

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Phase 3 - Monitoring and control

Monitoring and control of the project consists of periodic comparison, probably once per month or oftener depending upon project demands, with the approved network model to evaluate, isolate and identify deviations in expected performance. Generally a management by exception system is utilized that allows rapid pinpointing of problem areas and suggests solutions that might be most appropriate and economical.

The system essentially consists of project inspection on an ongoing basis with evaluations made against the material prepared in phases 1 and 2. Monitoring, as you well know, is a critical part of the work and I suggest that it be made an integral requirement of this project.

Phase 4 - Updating

Occasionally on large projects where a multitude of tasks and parties are involved, it is necessary to revise the original standard of performance or plan of action. This may be due to disruptive strikes, material delivery problems, unexpected weather conditions or other such events which generally are beyond the control of the parties involved. When a disruption does occur and a major dislocation of the plan of work results, an updating may be desirable.

My professional fee for providing services of the type needed in a program of this nature is \$30.00 per hour, plus reimbursement for out of pocket expenses incurred in the interests of the project. Such charges would be for printing, reproductions and computer costs. For technician time required to draft, calculate and prepare computer input, the charges range from \$9.00 to \$12.00 per hour depending upon the nature of the service provided. I estimate that for this program the total fee for services as outlined above should range somewhere between \$9,000 and \$10,000. This is based upon my current understanding of the project as outlined briefly above. If appropriate, I would like to review the project in more detail with you to assure that my understanding is correct.

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Naturally I would be delighted to work on this very interesting job with you and your client. I believe the network system is well suited to the project and of course, I would expect to devote my own personal attention to the job planning. Thank you again for your courtesy and interest.

Sincerely yours,

Ralph J. Stephenson, P.E.

RJS
m

July 10, 1975

Subject: Monitoring Report #1
Truck Terminal
S & L Development Company, Detroit, Michigan
Project: 75157

Date of Monitoring: July 9, 1975 (working day 133)

Monitored from Issue P1 dated July 9, 1975

Actions taken:

- Reviewed project sequencing with Redstone staff
- Prepared preliminary network plans for work up to utility and building field start
- Reviewed phasing

General Summary

On Wednesday, July 9, 1975 (working day 133) an initial planning conference was held at the Redstone office with Mr. Dick Gallagher, Mr. Al Malin and Mr. Don Smith to review the steps to be taken to get site and building work into the field. We prepared, as a result of our discussions, sheet P1, Issue P1 dated July 9, 1975 which shows a portion of the design and demolition actions required to reach these two points.

It was decided, for reference convenience, that project work would be broken into four major phases. These are:

- Phase 1** Demolition and rough fill by Cuyahoga according to original contract
- Phase 2** Extra stripping and placement of engineered fill and crushed concrete sub-base to the choke course

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Phase 3 On and off site utilities, choke course,
paving, curbs, walks, striping, bumper posts,
guard rails, imbedded items, fencing and
other items that relate to site work

Phase 4 Building work

Phase codes will be designated as P1 through P4

We divided the site into a 100 ft. grid for reference and
for cross correlation with the old Allied Chemical site plan.
This grid is numbered from west to east and lettered from
north to south.

Building designations were established as follows:

GH	Guard house
TS	Truck scale
O	Office building
D	Deck building
S	Steel storage building
F	Fuel area
G	Garage

These abbreviations will be used as location codes.

In our planning conference it was decided to issue phase 3
working drawings and specs on July 11, 1975 (working day 135).
Fourteen working days are to be allowed for submitting proposals
and five days for evaluating and awarding phase 3 contracts.
Thus, the phase 3 contract will be awarded on August 7, 1975
(working day 154) and then ten working days will be allocated
to mobilize and move onto the site. Thus, site utility work
could begin by August 21, 1975 (working day 164). At this
time phase 1 work should be completed between grid lines
1 - 6 / A - L (this area represents the western third of the
site.)

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Phase 4 working drawings and specs are expected to be issued on August 7, 1975 (working day 154). Proposals will be solicited and the contract awarded by September 12, 1975 (working day 179). The contractor should be able to begin site layout work and perhaps some excavation within ten working days or by September 26, 1975 (working day 189). To begin building work, phase 1 operations must be complete at the building (grid 4 - 14 / C - E). It is expected phase 1 work can be finished by September 5, 1975 (working day 174). Phase 1 work will then proceed southward on the site freeing up other building areas.

The above is a tight program but will be essential if we are to move phase 3 and phase 4 work a substantial way along before winter. There may be a problem of starting paving prior to shutdown of the asphalt plants since generally utility work will proceed with the off site line being done first and then on site utilities being built from south to north. Thus, it may not be possible to start any major final base course work until late in the fall or in early winter. It is questionable whether paving should proceed then or wait until spring.

A review of this matter should be made at an early date to determine whether utility work may be able to proceed in more than one location at a time. Overall, it does not appear presently that it will be possible to complete all site paving prior to the onset of cold weather.

We are planning to meet again on Friday afternoon, July 11, 1975, to review the preliminary findings in detail. At that time we shall also review current thinking regarding major building sequencing.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. S. B. Loderer (2 copies)
President, S & L Development Company
Mr. Al Malin (1 copy)
Louis G. Redstone Assoc., Inc.
Mr. Dick Gallagher (1 copy)
Louis G. Redstone Assoc., Inc.

2-YR WORKING-DAY CALENDAR STARTING JAN. 2, 1975

DATE W/D	DATE W/D	DATE W/D	DATE W/D	DATE W/D
JAN 1976	15 307	27 359	09 410	21 462
02 256	16 308	28 360	10 411	22 463
05 257	17 309	31 361	11 412	25 464
06 258	18 310	JUN	12 413	26 465
07 259	19 311	01 362	13 414	27 466
08 260	22 312	02 363	16 415	28 467
09 261	23 313	03 364	17 416	29 468
12 262	24 314	04 365	18 417	NOV
13 263	25 315	07 366	19 418	01 469
14 264	26 316	08 367	20 419	02 470
15 265	29 317	09 368	23 420	03 471
16 266	30 318	10 369	24 421	04 472
19 267	31 319	11 370	25 422	05 473
20 268	APR	14 371	26 423	08 474
21 269	01 320	15 372	27 424	09 475
22 270	02 321	16 373	30 425	10 476
23 271	05 322	17 374	31 426	11 477
26 272	06 323	18 375	SEP	12 478
27 273	07 324	21 376	01 427	15 479
28 274	08 325	22 377	02 428	16 480
29 275	09 326	23 378	03 429	17 481
30 276	12 327	24 379	07 430	18 482
FEB	13 328	25 380	08 431	19 483
02 277	14 329	28 381	09 432	22 484
03 278	15 330	29 382	10 433	23 485
04 279	16 331	30 383	13 434	24 486
05 280	19 332	JULY	14 435	26 487
06 281	20 333	01 384	15 436	29 488
09 282	21 334	02 385	16 437	30 489
10 283	22 335	06 386	17 438	DEC
11 284	23 336	07 387	20 439	01 490
12 285	26 337	08 388	21 440	02 491
13 286	27 338	09 389	22 441	03 492
16 287	28 339	12 390	23 442	06 493
17 288	29 340	13 391	24 443	07 494
18 289	30 341	14 392	27 444	08 495
19 290	MAY	15 393	28 445	09 496
20 291	03 342	16 394	29 446	10 497
23 292	04 343	19 395	30 447	13 498
24 293	05 344	20 396	OCT	14 499
25 294	06 345	21 397	01 448	15 500
26 295	07 346	22 398	04 449	16 501
27 296	10 347	23 399	05 450	17 502
MAR	11 348	26 400	06 451	20 503
01 297	12 349	27 401	07 452	21 504
02 298	13 350	28 402	08 453	22 505
03 299	14 351	29 403	11 454	23 506
04 300	17 352	30 404	12 455	27 507
05 301	18 353	AUG	13 456	28 508
08 302	19 354	02 405	14 457	29 509
09 303	20 355	03 406	15 458	30 510
10 304	21 356	04 407	18 459	31 511
11 305	25 357	05 408	19 460	
12 306	26 358	06 409	20 461	

July 16, 1975

Subject: Monitoring Report #2

Truck Terminal

S & L Development Company, Detroit, Michigan

Project: 75:57

Date of Monitoring: July 11, 1975 (working day 135)

Monitored from Issue P1 dated July 9, 1975

Actions taken:

- Reviewed demolition sequencing with Mr. Mardigan of Cuyahoga
- Discussed phasing of site work contract

General Summary

On Friday, July 11, 1975 (working day 135) a second planning conference was held at the Redstone office with Mr. Richard Gallagher, Mr. Don Smith and Mr. Hank Mardigan to review the phasing discussed at our meeting Wednesday, July 9, 1975.

There are two field problems to be resolved prior to completion of phase one work (described in Monitoring Report #1). First, Mr. Mardigan would like to have decided a question regarding use of brick bats and sand fill. It appears there is a site sand fill deficit of approximately 30,000 yards and excess of brick bats in the amount of 20,000 yards. This is an educated guess by Mr. Mardigan and should be checked as work proceeds. The major difficulty, says Mr. Mardigan, is that there is little flexibility in the present specifications relative to the use of the two materials in relation to each other.

A second problem exists presently in that the crushed concrete contains what appears to be excessive fines. Mr. Mardigan feels it would be wise to re-examine the specification requirements relative to these fines to establish how much of them must be removed and how much can remain.

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July 16, 1975
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**RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER**

We discussed the sequencing of phase one demolition work and reviewed the durations allocated in the Issue P1 network dated July 9, 1975. It appears that from July 9, 1975 (working day 134) it will take about 30 working days to complete phase one work in grid area 1 - 6 / A - L except for the boiler house, the fallen stack area and the far west end of the dryer building. The intent is to clear area 1 - 6 / A - L so as to start underground utility work in that segment of the site.

For the building area, it is expected that phase one work will take about 10 working days and for the area directly south of the building it will take about 22 working days or one month. Mr. Mardigan, however, points out that a resolution of the sand fill and brick bat problem and mix must be made in the near future if this work is to proceed as we have scheduled.

If we can complete our phase one work as presently established, it further appears that when the site utility contract (phase three) is let on August 21, 1975 (working day 164) utility work could proceed both on and off site concurrently with the on site utilities being installed generally between grids 1 - 14 / A - F. This would get the major share of the utilities installed at the north half of the site and allow an adjustment in the fall rate between the outlet of this system at the north half of the site and the entrance into the off site sewer at grid line L - 3, if needed.

It is important if we are to follow this sequencing that we consider the off site utility work from L - 3 to the river to be done concurrently with north half site work. With this plan it might be possible to complete a good share of the utility work around the building in time so that that portion of the building site can be paved prior to the onset of winter weather. This is the entire intent of dovetailing utility work off and on site. It is presently the intent to hold a pre-bid conference to discuss the sequence with proposing contractors. Phase three working drawings dated July 7, 1975 were issued to the contractors with bids due back July 31, 1975 (working day 149).

Mr. Mardigan suggested that a meeting be held soon at the site to discuss the problem of sand fill and brick bats so that a clear understanding is had by all about the nature of the fill material.

Meanwhile, I shall be in touch with Mr. Gallagher and Mr. Shea regarding our next planning conference. This meeting should concern preliminary projections of site and building construction phasing for the coming one year period.

Ralph J. Stephenson, P. E.

RJS/m

To: Messrs. Lederer, Malin, Gallagher

August 19, 1975

Subject: Monitoring Report #3

Truck Terminal

S & L Development Company, Detroit, Michigan

Project: 75:57

Date of Monitoring: August 14, 1975 (working day 159)

Monitored from Issue P3 dated August 14, 1975

Actions taken:

- Conferred with Cuyahoga, J. Boyle, Rogers and Redstone re upcoming site work
- Prepared plan of work for next ten weeks on site utility and sub-base work
- Evaluated current job progress

General Summary

On Thursday, August 14, 1975 (working day 159) those people involved in the near future site work met to plan the work sequence up to start of paving. Most critical at the present time is the underground utility installation. C. J. Rogers intends to move on the site August 18, 1975 (working day 161). After two days of stake-out work will begin on excavation, installation and backfilling of the 36" storm line from manhole R8 to manhole R4. From there storm sewer work will generally proceed clockwise around the building with a second crew starting on the southerly storm sewers about August 27, 1975 (working day 168). Following installation of the north storm sewers and delivery of the 8" water main, installation of the water line will proceed generally in a clockwise direction starting at the east half of the site. Concurrently, sanitary sewers will be installed. Wherever space is available and as soon as possible, placing and compacting fill for the paving sub-base will proceed. This fill will generally follow or be somewhat concurrent with utility installation as field conditions permit. It should be noted that the problem of approvals on the base material gradation still exists and that no final resolution of this problem has been made. Mr. Mardigian and Mr. Malin will follow this matter immediately since it now is very critical to timely installation of fill for paving.

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Also, there have been some additional unpredictable problems at the site, including discovery of several brine and mineral water wells. These items are being handled on a day to day basis as they appear.

Once all utilities are in at the northern half of the site and all fill has been placed and compacted, Mr. Boyle, the paving contractor, said he will begin his paving operation. Presently, under optimum conditions, it is anticipated that the fill can be placed and compacted within grid lines A - G+ and 0 - 13 (generally the north half of site) by October 16, 1975 (working day 203). This may be somewhat optimistic since, as noted above, there are several problem areas that can appear as work proceeds. However we are presently using this for our target start of paving date. Mr. Boyle expects that paving should take about 10 working days for the northern half of the site. He also expects to pave the steel storage area as early as possible and since there are few, if any, utilities to be installed underground at this part of the site, Mr. Mardigian assured him he could move on that as soon as the area is properly filled.

Another element that was discussed at our meeting concerns the award of a site electrical contract to allow installation of underground electrical work to proceed at paved areas earlier than the building contract is expected to be let. Presently building working drawings including site electrical are to be issued for proposals on August 22, 1975 (working day 165). It is expected to award a building contract on September 29, 1975 (working day 190). The electrical contractor must move on the site so he can complete his underground electrical no later than October 13, 1975 (working day 200), if we are to meet our current target of having all areas compacted, ready for paving by October 16, 1975 (working day 203). In some cases there are multiple layers of utilities which will require sequential installation. This is particularly the case at the northwest entrance area.

There was considerable discussion as to whether an early site electrical contract should be let. This matter was not totally resolved and further discussion should be conducted within the time frame outlined above. If it is decided to let an early contract on site electrical, it merely would be necessary to request that such a proposal for that work be submitted earlier than presently anticipated for the building proposal. Building proposals will probably be due back on September 22, 1975 (working day 185).

In respect to utility installation on the easement from the southwest corner of the site to the river, it was tentatively decided that this work will now follow installation of major on-site utilities. It is expected it might start

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by October 6, 1975 (working day 195) and be complete within 30 working days by November 17, 1975 (working day 225).

Generally, the goal of Rogers is to be done with all their work, if possible, by December 1, 1975 (working day 234). This would be very desirable. How well this goal is adhered to will largely depend upon continuing access to sections of the site as demolition and filling proceed.

In summary, it is expected that the utility contractor will move on the site next week, August 18, 1975 (working day 161). Installation of storm lines, water lines and sanitary sewer work will generally proceed in a clockwise direction around the building with two crews being used for underground work. Upon substantial completion of underground work on the north half of the site, installation of utilities in the easement to the river will be completed.

Prior to paving it will be necessary to complete all placement and compaction of fill from grid line A - G+ / 0 - 13. This is essentially most of the northern half of the site. Also, electrical underground installation must be complete. In order to complete filling and compacting, a decision must be arrived at now in respect to approval of the base material gradation. This is a critical problem and will be considered by Mr. Mardigian, the testing engineer, and the Redstone representatives next week.

The paving contractor will begin his curb and landing strip work as soon as local filling and compacting permit. Once all fill has been placed and compacted at the north half of the site, a full paving operation expected to take two weeks at the optimum will begin and hopefully a major share of the site can be given a paved surface prior to the onset of winter weather.

I shall be in touch with Mr. Gallagher and Mr. Shea sometime in the near future to set our next planning session on site work. Meanwhile, copies of the site network plan, Issue #3 dated August 14, 1975, sheet 2, have been distributed to those at the meeting.

List of those attending the August 14, 1975 (working day 159) meeting:

Henry C. Mardigian, Cuyahoga
Jim Saunders, Cuyahoga
Roy Signorello, Cuyahoga
Bob Slifco, Cuyahoga
Tom Alderton, Mason L. Brown
Fred Roselle, C. J. Rogers

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CONSULTING ENGINEER

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Norm Pfaff, C. J. Rogers
Al Malin, L. G. Redstone
Richard Gallagher, L. G. Redstone
Joe Boyle, J. Boyle, Inc.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. S. B. Lederer (2 copies)
President S & L Development Company

Mr. Al Malin (1 copy)
Louis G. Redstone Assoc., Inc.

Mr. Dick Gallagher (1 copy)
Louis G. Redstone Assoc., Inc.

Mr. H. C. Mardigan (1 copy)
Cuyahoga Wrecking Co.

August 27, 1975

Subject: Monitoring Report #4

Truck Terminal

S & L Development Company, Detroit, Michigan

Project: 75:57

Date of Monitoring: August 25, 1975 (working day 166)

Monitored from Issue P3 dated August 14, 1975

Actions taken:

- **Conferred with Mr. Lederer and representatives of Redstone, Cuyahoga and consulting site and testing engineers**
- **Reviewed current job problem**

General Summary

This meeting was called specifically by Mr. Lederer, the owner, to discuss outstanding problems that have apparently been of concern to those involved on the project over the last few weeks. These problems specifically were:

- 1) Approval of the base material gradation**
- 2) Early award of an electrical contract for the site work**
- 3) Disposition of the one presently located well and consideration of how to handle future wells as they are located**

Considerable discussion ensued and is reviewed in broad terms below.

1) Approval of the base material gradation

This report is not intended to be a technical discussion of the problem. It has as its main purpose to record that an agreement apparently has been reached among those responsible parties concerned that the base material gradation will be

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CONSULTING ENGINEER

1) Approval of the base material gradation (continued)

that material retained on a 1/4" screen and having a size generally no larger than 3-1/2 . At the beginning of the meeting it was considered that 3/8" fines and smaller would be removed. However, this minimum size was revised as discussion proceeded on the method of placement and the quality desired.

Relative to grading of the materials, it was agreed that as the handling of the crushed concrete proceeded through the various stages that the partial grading accomplished by density fallout from the crusher would be carried through to reasonable completion in the various mixing, carrying and spreading processes. Thus, it is expected that uniform gradation can be maintained in the sub-base material as it is transported, dumped and spread on the job site. With proper screening size and spot testing for quality control, adequate gradation should be able to be achieved.

The role of the testing engineer on the site will be to test the material and report on its gradation. Decisions as to whether the material grading is proper and acceptable are to be made in conjunction with the architect/engineer and contractor.

As part of this discussion, there were also some questions about contouring the sub-base. Since most sub-base work is to be done on a unit price basis, generally most of this discussion revolved around the depth of the sub-base over the base elevations. It appeared that all responsible for this matter arrived at a mutually satisfactory answer and that the finished graded product upon which paving is to be placed would be to the proper grade and that the current specifications and drawings are adequate and clear on this point.

2) Early award of an electrical contract for the site work

The next item discussed revolved around the possibility of letting an early electrical contract as described in Monitoring Report #3 dated August 19, 1975, page two, paragraphs three and four. Presently building working drawings are to be issued on August 27, 1975 (working day 168) with proposals due back in three weeks on September 18, 1975 (working day 183). It is anticipated a contract will be let within three working days after receipt of proposals, or on September 23, 1975 (working day 186). Since our present goal is to complete all possible site work so paving can start October 16, 1975 (working day 203) it appears that the time between letting a contract on September 23, 1975 (working day 186) and the date by which this electrical work must be in on October 16, 1975 (working day 203) is probably adequate.

Again, however, if there is any potential holdup to the start of paving that might be incurred by letting the electrical site work along with the building electrical work, then an early call on that electrical site bid should still be possible. Consideration of this early letting of an electrical contract will be on a continuing basis over the next five to ten working days. Assurance should be obtained from those electrical contractors proposing that the site work can be accomplished within the time frame required.

3) Disposition of the one presently located well and consideration of how to handle future wells as they are located

Presently there is one well that has been located and most of the discussion revolved around how to effectively immobilize this well with minimum water flow onto the site. It was decided that the problem of capping the well will be attacked immediately and in doing so, careful observation will be made to locate other similar water source problems. Mr. Lederer made the decision on

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CONSULTING ENGINEER**

3) Disposition of the one presently located well and consideration of how to handle future wells as they are located (continued)

this matter, and a review of his decision was fed back at the meeting, with all parties signifying an understanding. This work will start immediately.

In respect to what possible delays could be incurred to the job by encountering other wells at the southwest corner of the property, unexpected water problems there could seriously affect installation of utilities from the southwest corner to the river through the Allied easement.

In summary, the matter of sub-base material gradation and well locations and capping procedures have been currently resolved. The matter of letting an early electrical contract for the site work is still under study and will depend to a large extent upon the need for early electrical work and the length of time it will take to install.

List of those attending the August 25, 1975 (working day 166) meeting:

**Mr. S. B. Lederer, S & L Development Company
Mr. Henry C. Mardigian, Cuyahoga
Mr. Roy Signorello, Cuyahoga
Mr. Tom Alderton, M. L. Brown & Son
Mr. Marv Oosterbaan, Soil & Materials Engineers, Inc.
Mr. Al Malin, L. G. Redstone Assoc., Inc.
Mr. Jerry Shea, L. G. Redstone Assoc., Inc.**

Ralph J. Stephenson, P. E.

RJS/m

**To: Mr. S. B. Lederer (2 copies)
President S & L Development Company**

**Mr. Al Malin (1 copy)
Louis G. Redstone Assoc., Inc.**

**Mr. Dick Gallagher (1 copy)
Louis G. Redstone Assoc., Inc.**

**Mr. H. C. Mardigian (1 copy)
Cuyahoga Wrecking Co.**

October 3, 1975

Subject: Monitoring Report #5
Truck Terminal
S & L Development Company, Detroit, Michigan

Project: 75:57

Date of Monitoring: September 26, 1975 (working day 189)

**Monitored from Issue P3 (site work) dated August 14, 1975, sheet #2
and Issue P1 dated September 27, 1975, sheets 3 and 4**

Actions taken:

- Reviewed general status of current work
- Began preparation of summary building diagrams
- Evaluated work sequences

General Summary

At this session the site contractors and building contractors met together to discuss current status of the project and the overall procedures expected to be followed over the coming few weeks relative to getting building construction underway.

Presently site work is moving reasonably well with some expectations that utility installation will be far enough along by the current target of October 16, 1975 (working day 203) so that some paving can start. It is not yet certain that enough area will be available to the paving contractor for him to begin at that point but this is still the target to start paving.

Work in the easement to the river should begin soon and will probably take for from 6 to 8 weeks. It would be desirable to complete all easement work prior to the onset of cold weather from the owner's and the contractor's viewpoint. Every effort will be bent toward that end. At the present time, site work seems to be moving relatively

**Monitoring Report #5
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**RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER**

well in spite of the many disruptions and unexpected obstacles that are always a part of a project of this nature.

In mid-morning we began preparing a summary network model for building work proper. The summary model is used to establish major milestones and generally consists of major tasks including smaller activities. From the summary diagram as more information becomes available and critical deliveries are refined, the detailed construction diagram will be drawn.

The results of our work on September 26, 1975 are shown on sheets 3 and 4, Issue P1 dated September 26, 1975. These were prepared under conditions that made it desirable to recheck the arithmetic of the network and upon rechecking, several minor mathematical errors were corrected. The corrected set which was distributed to those concerned is shown in Issue P2 dated September 27, 1975. Also, in this release the nodes were numbered for ease in reference. Distribution of Issue P2, sheets 3 and 4, was as follows:

Mr. Lederer	-	one set
Mr. Shea	-	one set
Mr. Gallagher	-	one set
Mr. Hopps	-	four sets

In this network, we first worked toward establishing a starting date for field operations. Presently there are alternate structural designs being considered and the evaluation and re-estimating is expected to take approximately ten working days. Therefore, it was assumed that the contractor would mobilize and move on the site for construction starting October 13, 1975 (working day 200). An early critical item is structural steel and once the project has been released, it is expected structural steel can be on the job in from 40 to 60 working days. It would be desirable to consider the 40 days as our present target since the office building is the first area to require structural steel and to meet our current construction deadline, work there will have to be heavily expedited. Presently it is expected by the general contractor that 330 calendar days or approximately 231 working days will be required to total completion from the start of field construction.

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Since work is beginning at a time when the amount of good weather available for the remainder of the year is limited, as much as possible must be done in the field between now and the end of December.

The sequence of construction will move from the office building to the truck dock to the steel storage building to the garage with other facilities such as the guard structure, the tank farm and the scale being worked on concurrently. The most critical problem faced in the dock area is to schedule the foundations and installation of interior fill in such a manner that the slab on grade at the dock including the dock leveler pits can be constructed so as not to delay erection of the structure and close-in of the building. This is a sizable structure and its closing-in sequence is critical since we are building through a winter period.

We were able to complete summary diagrams for the office and dock areas but due to lack of information and time, were not able to complete the steel storage and garage structures. These will be considered at our next planning session. The completed networks were marked preliminary - for review and analysis and issued to Mr. Hopps of Darin & Armstrong. However, since there were some mathematical revisions to be made to sheets 3 and 4, these have been reissued as noted above.

Again, Issue P2 dated September 27, 1975 is the correct issue to be used in present planning for the construction work.

One other element that was a part of our discussion dealt with readying the garage area for start of work. Presently this portion of the site is not available for building construction. It probably will be necessary to have it available sometime within the next two months. Therefore, it would be desirable for this area to be given a high priority in making ready for start of foundation work.

I shall be in touch with Mr. Hopps and Mr. Gallagher to arrange our next planning meeting. Meanwhile we shall monitor the project in this early stage from the Issue P2 network dated September 27, 1975, sheets 3 and 4.

Ralph J. Stephenson, P.E.

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

**Tel. Mr. S. B. Lederer (2 copies)
President S & L Development Company**

**Mr. Al Malin (1 copy)
Louis G. Redstone Assoc., Inc.**

**Mr. Dick Gallagher (1 copy)
Louis G. Redstone Assoc., Inc.**

**Mr. H. C. Mardigian (1 copy)
Cuyahoga Wrecking Co.**

**Mr. Jerry Hepps
Darin & Armstrong**

January 27, 1976

Subject: Monitoring Report #6
Truck Terminal
S & L Development Company, Detroit, Michigan

Project: 75:57

Date of Monitoring: January 19, 1976 (working day 267)

Monitored from Issue #1 dated January 19, 1976

Actions taken:

- Briefly inspected project
- Began detailed planning of remaining construction work for project
- Evaluated job status

General Summary

At this diagramming session it was intended to complete as much network planning for the entire project as possible. Since the dock area is to be the first major component to be constructed, we focused our major diagramming efforts on it. Because of some difficult logic sequencing that was not possible to resolve totally, we will complete work on the dock and plan the remaining facilities at a subsequent meeting. However, we were able to prepare a resource tabulation sheet, R1, dated January 19, 1976 showing the durations expected for each major task in the five sectors of the project.

The entire job has been broken down into the dock area (D), the office area (O), steel storage building (S), garage (G), and fuel area (F). In addition it is expected that as additional information becomes available, we will complete diagramming site work (ST). At the dock area footings are substantially complete and foundation walls are presently being completed. It is anticipated that structural steel for the dock area (D) will be delivered on February 9, 1976 (working day 282). The present intended sequence is to receive and shake out the dock structural steel and then to erect steel from west to east (column line 5 through column line 32). Once steel has been erected and detailed (plumbed, bolted and trimmed out) to column line 18, main roof metal deck will begin, followed by nailers, vents, insulation, roofing and siding.

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As we evaluated the procedure necessary to construct the slab on grade (SOG) in the dock building, it was apparent that a good deal of care would be needed to plan installation of spray-on fireproofing to minimize disruption of interior work, particularly electrical work. There are considerable electrical control systems, conduit, receptacles and devices on many of the interior columns and a careful correlation of these installations with spray-on fireproofing will be essential to expediting construction of the facility. Because of the complexity of this particular problem, it was decided to defer detail planning of its installation until our next session at which time we will have additional information available.

We were able to complete the dock network diagram up through construction of the floor slab on grade and general close-in of the building. Presently it is anticipated that the floor slab on grade work will begin production on or about April 15, 1976 (working day 330) with installation of underground electrical duct and construction of the leveler pit base slabs. Concurrently close-in of the dock building will continue.

Structural steel for other sections of the project is in various stages of fabrication, detailing and approvals. Steel for the steel storage area is due on the job no later than March 11, 1976 (working day 305). Structural steel for the office area is due on the job by March 15, 1976 (working day 307) and structural steel for the garage area is due on the job by March 29, 1976 (working day 317). Erection of steel is planned to proceed continuously from the dock to the steel storage area to the office to the garage. With the present schedule of deliveries, it appears this can be accomplished provided foundation work for these various areas can be completed by delivery times.

We now have most mechanical and general contract data required for completion of our diagramming work. We will need some additional electrical information which will be available shortly. Therefore, at our next planning meeting, we will attempt to substantially complete most major facility diagramming in rough form.

Meanwhile, I have distributed sheets R1, 1 and 2 to Mr. Lederer, Mr. Malin, Mr. Gallagher and Mr. Hopps at D & A. It is requested that Mr. Hopps distribute prints as he deems necessary to his subcontractors. I shall be in touch with Mr. Malin regarding the next session soon.

CONSULTING ENGINEER
RALPH J. STEPHENSON, P.E.
RJS/ST

Ralph J. Stephenson, P.E.

To: Messrs. Lederer, Malin, Gallagher, Mardigian, Hopps

March 2, 1976

Subject: Monitoring Report #7
Truck Terminal
S & L Development Company, Detroit, Michigan

Project: (75:57)

Date of Monitoring: February 26, 1976 (working day 295)

Monitored from Issue #2 dated February 26, 1976

Actions taken:

- Inspected project
- Continued detailed planning of project construction
- Evaluated job status

General Summary

As of February 26, 1976, dock building structural steel is half erected and is presently being detailed and trimmed out. Currently structural steel is slightly ahead of the projected schedule of erection. Steel arrived on the job February 9, 1976 (working day 282).

Structural steel for the steel storage area is due to arrive on March 11, 1976 (working day 305) and for the office area on March 15, 1976 (working day 307). Steel shop drawings for the garage area are in for approval and will be back shortly. Delivery of structural steel for the garage is currently being held at March 29, 1976 (working day 317).

At our diagramming session we completed preliminary planning for the dock and for the steel storage areas. We were also able to complete close-in planning for the office building up to the point where finish trades are able to start. It was necessary to make a rather detailed evaluation of electrical work procedures since the project is heavily dependent upon complex communications and alarm systems. Therefore, this discipline was given a great deal of attention at these diagramming sessions.

Work today resulted in network diagram sheets 1, 2, 3, 4 and 5, Issue #2 dated February 26, 1976 (working day 295). Sheets 1, 2 and 3 are for the dock area (D), sheet 4 is for the steel storage building (S) and sheet 5 shows the close-in work at the office area (O). With preliminary projections the completion date for the dock area came out to October 21, 1976 (working day 462). For the steel storage area the early finish came to September 27,

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RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

1976 (working day 444) and for the office building it is anticipated this building could be closed in about 12 working days after resolution of a current problem with an underground storm line interference at the southeast corner.

In the office area, work has gone about as far as it can on wall and column footings. Before footings can be completed, a field interference between an underground storm line that was found must be resolved. This matter is presently in work and an early decision is expected. This item is critical to office building construction and should be given top priority attention. Once the matter is resolved, it appears there will be about 15 to 20 additional working days to complete all foundations ready for erection of structural steel.

One of the major long task items in the project concerns installation of electrical systems. During our meetings we made every effort to compress schedules on this work where possible. We wound up our meeting by urging that these preliminary diagrams be reviewed in detail by all contractors to see where time compressions are possible.

I have distributed prints of the network to the architect/engineer, Mr. Leferer and to the general contractor. The general contractor has also been furnished a set of reverse copies for further printing and distribution. All major subcontractors should receive prints of sheets 1 through 5.

I shall be in touch with Mr. Lalin in the near future to set our next planning meeting at which we will complete remaining work on the project buildings and review the already completed preliminary networks to see that time compression is possible.

During the intervening period it would be appreciated if all contractors would carefully review the networks to see where durations can be reduced on individual tasks.

Ralph J. Stephenson, P.E.

RJS/

To: Mr. S. B. Leferer
Mr. Al Lalin
Mr. Dick Gallagher
Mr. A. G. Haddigan
Mr. Jerry Hoppe

M

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

March 29, 1976

Subject: Monitoring Report #8

Truck Terminal

S & L Development Company, Detroit, Michigan

Project: 75:57

Date of Monitoring: March 23, 1976 (working day 313)

Monitored from Issue #2 dated February 26, 1976

Actions taken:

- Reviewed project progress
- Completed office area network plan
- Began preparation of garage network
- Evaluated job status

General Summary

As of March 23, 1976 (working day 313) structural steel is erected and substantially detailed out in the dock area and the steel storage area. Metal deck is being placed at the main roof of the dock area. Currently the dock and steel storage buildings are from 5 to 10 working days ahead of projected early start/early finish dates.

At the office area the problem at the storm line interference has been resolved and work is proceeding on installation of remaining foundation walls. It is intended to start erection of structural steel at the office area about April 12, 1976 (working day 327).

Poor soil has been found at the garage area and currently this matter is being reviewed. It is expected to stabilize soil at the garage by March 29, 1976 (working day 317) and garage footings will begin then.

Preliminary projections were made at the meeting for completion dates on each of the major building elements. At present these are being used as tentative targets pending further review of the logic and manual computations.

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

Tentative completion dates are as follows:

- Dock area (D) - October 21, 1976 (working day 462)**
- Steel storage area - September 27, 1976 (working day 444)**
- Office area (O) - November 10, 1976 (working day 476)**
- Garage (G) - Tentatively it appears the garage will be completed about early November. This date will be reviewed at our next diagramming session and a firm target set.**

Presently work on the building group is moving relatively well and from observations it appears that field operations are slightly ahead of the projected network plan. Obviously it would be very desirable to maintain this ahead position.

Of some concern is start of active site work since if building work durations can be compressed it will be essential to have site improvements complete concurrently.

Considerable discussion was held during the latter part of the meeting regarding site work characteristics. These included such items as the source of suitable building backfill, starting date of underground utility work and completion date of demolition on the remainder of the site. Also, there have been business and administrative problems with some site work subcontractors. These are being reviewed and resolved. It was agreed that site work underground electrical will begin on April 1, 1976 (working day 320). A detail program of the site work procedures will be prepared at our next diagramming session.

At the March 23 meeting we updated sheets 1, 2, 3, 4, 5 to Issue #3 dated March 23, 1976 and added sheet 6 for the office area. These have been distributed to those on the distribution list.

Our next diagramming session is presently set for 2:30 P. M. Monday, April 5, 1976 at the site. This meeting will be solely for the purpose of planning site work from here on out to occupancy of the building group and site. It will be a very critical meeting and I recommend that those concerned prepare themselves with adequate information regarding deliveries, durations and sequencing so we can tie these together in an accurate plan of work. If time permits, we also will address ourselves to completion of diagramming for the garage.

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RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

People who should attend this meeting are the decision-makers on the site work and in addition, it would be helpful if the building group general contractor would have a representative present at the meeting. This will allow any interface questions between building work and site work to be answered promptly at the meeting.

Ralph J. Stephenson, P.E.

RJS
m

To: Mr. S. B. Lederer
Mr. Al Malin
Mr. Dick Gallagher
Mr. H. C. Mardigian
Mr. Jerry Hopps

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER
April 7, 1976

Subject: Monitoring Report #9
Truck Terminal
S & L Development Company, Detroit, Michigan

Project: 75:57

Date of Monitoring: April 5, 1976 (working day 322)

Monitored from Issue #4 dated April 5, 1976 (new sheet #8)

Actions taken:

- Began preparing site work plan of action

General Summary

On April 5, 1976 (working day 322) key personnel on the project met to review and initiate site work planning for the coming spring and summer months. Attending the meeting were:

Mike Stabnick
Joe Boyle
Henry Mardigian
Gordon Wheaton
Al Malin

Bill Asbury
Norm Ciciano
Tom Alderton
Vidas Bagdonas
Jerry Hopps

The major thrust at this meeting was to bring planning of site work to a point where asphalt paving will begin. We were able to accomplish this for the section of the site north and west of the office, dock and steel storage building (O.D. and S). The network shown on sheet 8, Issue #4 dated April 5, 1976 makes use of the site grid to identify various areas in which work will be done.

It is presently anticipated that work will proceed in several sections of the site concurrently. A brief narrative description of the work to be accomplished to the point where paving will start on the north section of the site is reviewed below with the points given at random.

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- Beginning on April 8, 1976 (working day 325) filling and grading will begin specifically for landing strips along grid lines B and F, extending generally from lines 13.3 to 4. Once the outside steel storage area slab on grade is completed, the landing strips at B and F will be constructed.
- Underground utility work at the north side of the office, deck and steel storage buildings (O.D. and S) will begin on April 13, 1976 (working day 328). For this work to start, two items must be resolved: manhole connection details and the deck and steel storage building landing strip configuration.
- After installation of underground utilities at the north side of the D and S buildings, the trench drain can be constructed and then the landing strip. Following landing strip construction, filling and grading will proceed up to paving sub-base so as to make the area ready for installation of asphalt paving. This area is expected to be brought up to grade, ready for paving by June 1, 1976 (working day 362).
- It is expected that the change order for light base work will be issued by April 13, 1976 (working day 328). Following this light pole bases and underground electrical service can be installed, followed by filling, grading and laying the base course in the area generally at the employee's parking lot and along the north side where light pole bases are to be installed. This work is expected to be completed by June 1, 1976 (working day 362).
- Starting April 15, 1976 (working day 330) work on the scale pit and the concrete slab on grade surrounding it will begin. Construction is anticipated to take approximately one month, (22 working days), and to be completed so installation of the base course in that area can be installed. The scale pit probably will be finished by May 17, 1976 (working day 352).
- Fence lines and grades will be laid out by Mason L. Brown within the next three days after which fence posts will be installed. It was felt that the fence posts should be put in prior to major work starting on the steel storage area slab on grade. Enough fence posts will be installed by April 20, 1976 (working day 333) so that work on the slab on grade at the outside steel storage area can begin.

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

- Starting now and being completed within two weeks - by April 20, 1976 (working day 353), it is intended to fill and grade the outside steel storage area. Concrete slab work is expected to take 20 working days (four weeks) and be completed by May 18, 1976 (working day 353).
- Most importantly, while all the above work is being carried out, grid area 13, 13 to 4.0 and A to C will be brought up to grade and the base course laid and compacted, ready for paving. The time allocated for this is 39 working days, slightly less than eight weeks. This is a very tight schedule; however, a detailed re-evaluation was made once the initial plan of work was set, and all present agreed it would be desirable to work to this target.
- Upon completion of most of the work described above, paving of area 13, 13 to 0 and generally A to D will begin. This start date is presently projected to be June 1, 1976 (working day 362). Mr. Boyle anticipates he can pave this section in about 10 working days bringing completion of the north and employee's lot paving to June 15, 1976 (working day 372).

When the above is completed, the employee's lot will be paved, the drive into the site will be paved down to and close by the office, and the north side of the office dock and steel storage building will be paved - ready to receive traffic. This should be of immense help in servicing the building since at this point it will be possible to use the entire north area at the buildings to bring in materials and supplies.

It is recognized by all concerned that the above schedule is extremely tight and optimistic. However, again, a detailed review of the plan of action once it was prepared, indicates that everyone at the meeting is willing to try to accomplish it.

I have distributed prints of sheet 8, Issue #4 dated April 5, 1976 to Mr. Lederer, Mr. Malin, Mr. Bagdonas, Mr. Hoppe and Mr. Mardigian for their use. I will send a copia of the sheet to Mr. Mike Stabnick at Darin & Armstrong for his further distribution if desirable.

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

Our next meeting is set for Friday, April 16, 1976, 9 A.M. at the job site. At that meeting we plan to complete diagramming the garage building and to continue working on site work to the greatest extent possible. The meeting will be from 9 A.M. to 12 Noon.

Ralph J. Stephenson, P.E.

**RJS
m**

**To: Mr. S. B. Lederer
Mr. Al Mallin
Mr. Vidas Bagdonas
Mr. H. C. Mardigian
Mr. Jerry Hoppe**

April 20, 1976

Subject: Monitoring Report #10

Truck Terminal

S & L Development Company, Detroit, Michigan

Project: 75:57

Date of Monitoring: April 16, 1976 (working day 331)

Monitored from latest issue for each network

Actions taken:

- Inspected project
- Reviewed progress at each major area
- Completed diagramming garage work (G)
- Continued diagramming site work (S)

General Summary

As of April 16, 1976 (working day 331) building work is moving very well and currently most areas are either meeting or slightly ahead of scheduled dates. However, site work is showing difficulty keeping up the projected plan of work as outlined in Monitoring Report #9. It should be understood there are many variables to be encountered in site work but it will be necessary to continue establishing as predictable targets as possible for this very difficult area of construction.

A brief review of the status of each building and site element is given below.

Deck Area (D)

Target completion: October 21, 1976 (working day 462)

Most metal deck is complete and roofing is well along on the high roof. Leveler pit bottoms are being constructed and should be complete shortly. Work at the dock is currently from 12 to 17 working days ahead of the projected schedule.

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

There will be a considerable flow of material and equipment to the dock area over the next few weeks. Therefore, it is critical that uninterrupted access be maintained at either the north or south side of the dock at all times. In light of this, it is planned presently to pave the area north of the dock, while keeping the south side free for deliveries and access. Once the north side is paved and the area can be used for dock access, work at the south area will begin.

It is hoped to be paved out at the north of the building by June 30, 1976 (working day 383). All attending this meeting agreed this would be a feasible target to maintain.

Steel Storage Building

Target completion: September 27, 1976 (working day 444)

Structural steel and metal deck have been erected at the steel storage building and roofing is about to start. Currently work is about 11 working days ahead of our target dates in Issue #3 dated March 23, 1976.

Office Area (O)

Target completion: November 10, 1976 (working day 476)

Structural steel has just started at the office area and is currently meeting early start/early finish targets.

Garage (G)

Target completion: October 4, 1976 (working day 449)

At this meeting we prepared a detailed diagram of the garage area and it appears that generally the building can be completed by early fall.

Structural steel is to start at the garage area on April 21, 1976 (working day 334).

Floater Heater Area (FH)

Target completion: August 3, 1976 (working day 406)

Work at the FH area will begin about June 11, 1976 (working day 370) and will proceed as the equipment for the floater heater system is installed.

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

Site Work (S)

Site work presently lags at the north side of the dock, office and steel storage buildings by approximately 6 working days. The lag is in installation of underground utilities at the north side of the buildings. This work is now expected to get underway April 21, 1976 (working day 334). Mr. Mardigian feels that it will take about ten working days to install underground utilities which increases the total lag in site work to about 11 working days. Thus, paving of the north area is now expected to be complete by June 30, 1976 (working day 383).

Work on the slab on grade at the outside steel storage area probably will be delayed due to lags in filling and grading. Concrete work there was originally due to begin April 20, 1976 (working day 333). There is no present projection on when it will be able to start. However, the lag there is not yet critical.

As part of our work we projected a plan for paving the south side of the building between site grid lines 13, 13 and 2, and D to F. Presently it is expected this paving can begin by August 13, 1976 (working day 414) and be complete by August 27, 1976 (working day 424).

Evaluating overall site work progress, it is beginning to be a matter of concern that this work can be completed concurrently with building work. This is particularly so since building construction is presently proceeding very well and in some cases is slightly ahead of schedule. I strongly recommend that the greatest attention be given to maintaining progress on site work from here out since it will be necessary for site work and building work to proceed at a mutually comparable pace.

It should be pointed out also that work on the tank farm must be well along for paving at grid 13, 13 to 2, and D to F to start. Presently it is expected that fuel tank installation will start by June 17, 1976 so as to complete all underground piping, concrete islands and concrete paving by the time site paving is to start. I recommend that as early a start as possible be made on installation of the tank farm and related piping.

General Summary

Overall, building work is moving well. Site work is currently lagging and must be continually expedited.

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

All major elements of the project except for the far south site work have been diagrammed and final drafting is in work. When completed, the networks will be issued for field use and full monitoring.

Ralph J. Stephenson, P.E.

**RJS
m**

**To: Mr. S. B. Lederer
Mr. Al Malin
Mr. Vitas Bagdonas
Mr. H. C. Mardigian
Mr. Bill Gruebnaue**

May 19, 1976

Subject: Monitoring Report #11

Truck Terminal

S & L Development Company, Detroit, Michigan

Project: 75:57

Date of Monitoring: May 17, 1976 (working day 352)

Monitored from Issue #6 dated April 24, 1976

Target Completion Date: As noted below for each major area

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Bill Asbury
- Reviewed job progress with Mr. Vitas Bagdonas, Mr. Mike Stahnick and Mr. Asbury
- Evaluated job status
- Distributed Issue #6 network diagram and computer printouts to those at meeting

Notes: Copies will be sent separately to Mr. Lederer and Mr. Mardigian

- Prepared project status report as of May 17, 1976 (working day 352) for period from May 17, 1976 to June 21, 1976 (working day 376)

General

As of May 17, 1976 (working day 352) building work continues to move well except for a slight lag at the office building which has been caused in main by the wet weather of the last few days. The lag at the office, however, is fairly small and should not be difficult to regain.

Work at the deck, steel storage and garage areas is in good shape and in some cases considerably ahead of projected dates because of working trades in two or more areas.

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May 19, 1976
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**RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER**

Site work is continuing to show signs of distress and several site tasks that were intended to be done by now have not yet started. Again, I wish to call attention to the need to closely coordinate building and site work so that maximum access is provided to all parts of the site during the construction process. This will call for exceptionally close coordination.

At this meeting I distributed Issue #6 of the network diagram, final draft, dated April 24, 1976 along with the computer printouts to Mr. Stabnick and Mr. Bagdonas. I shall mail Mr. Lederer and Mr. Mardigian their copies directly.

We reviewed the use of this monitoring system at the meeting and I explained the method I shall use in monitoring the job particularly from the late start/late finish computer sequence.

A brief review of the status of each building and site element is given below.

Dock Area (D)

Target completion: October 21, 1976 (working day 462)

Dock area work is presently moving very well with structural steel complete, all main building siding erected and most roofing on the main building complete. Slab on grade is complete from column lines 5 through 13.5 with most underground work from 13.5 out to the steel storage building complete. Slab on grade is presently just meeting target early finish dates. Mr. Asbury reports that construction of the slab on grade probably will maintain pace or slightly lag our target dates but should not materially affect installation of work that follows.

It should be noted that the overhead doors will not require door wiring. In our network we had included this door wiring and it is still a part of the diagram but now will not have to be done since the majority of the doors in the dock are manually operated.

Mr. Stabnick reports that doors will be delivered to the job about June 21, 1976 (working day 376). Installation was due to start June 7, 1976 (working day 366).

Roof mounted exhaust fans at the dock area may be set a little later than had originally been planned since the mechanical contractor has not yet moved on the job in full force. This should cause no major problems with weather since the opening could be temporarily protected if necessary.

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

Over the next 4 to 6 week period the following tasks at the dock area area expected to start, continue or be completed:

- Complete all roofing and insulation**
- Continue constructing floor slabs on grade**
- Start installing electrical equipment, wiring and conduit**

Note: As electrical equipment is installed in the job, it may be necessary to make the building secure by warning signs on electrical equipment or by lockup techniques. This is a local problem to be handled by the contractor's field management.

Steel Storage Building

Target completion: September 27, 1976 (working day 444)

Roofing and insulation is complete at the steel storage building and presently the job is well ahead of target early start/early finish dates.

Backfilling has begun at the interior of the structure but cannot be completed and underground work installed until after the slab on grade in the dock area has been completed.

Office Area (O)

Target completion: November 10, 1976 (working day 476)

This area shows a slight lag in completion of filling the interior area for installation of under floor duct. The rainy weather of the last week has delayed this work and is directly responsible for the lag. Generally work at the office can be considered to be on schedule with exterior masonry slightly ahead.

Looking ahead over the next 4 to 6 weeks at work in the office, we find the following:

- Masonry erection should continue**
- Considerable work on under floor duct and in-floor work should be completed**

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

- Perhaps the floor slab on grade at the electrical equipment room can be constructed to allow a working surface for the electrical contractor.

Garage (G)

**Target completion: On Issue #6 network - September 13, 1976
(working day 434)**

At the garage all foundations are in, structural steel is erected and metal deck is almost complete. Roofing will start soon. Garage work is presently well ahead of target early start/early finish dates.

Work on interior masonry at the garage will proceed straight on through rather than waiting for slabs on grade to be constructed. This was decided upon to maintain continuity in the masonry crew work on the project. Thus, work at the garage presently is in excellent shape relative to the target end date.

Fleeter Heater Area (FH)

Target completion: August 27, 1976 (working day 424)

No work has begun at the fleeter heater area as yet. Construction there will probably start in early or mid-July on pouring of exterior sidewalks and slabs.

Site Work (S)

Site work shows increasing signs of being a major problem. Underground utilities at the north side of the dock and steel storage buildings were just completed last week and Mr. Asbury expects to construct his north trench drain starting sometime late this week. This work is presently about 5 to 10 working days behind.

It was hoped to have the north area of the dock and steel storage building paved out by June 21, 1976. Presently, taking into account the current and projected lags, it might be possible to have this paved out by mid-July 1976. In any event, it is strongly recommended that as much early paving as possible be done on the site since most of the building facilities will probably be completed in the period between late September and mid-November. Thus, if any part of the project is to be used by the owner, it will be necessary to have exterior paving adjoining each of the facilities by that date.

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CONSULTING ENGINEER**

With the present trending on the job it appears that much of this work might tend to bunch up at a critical point when a great deal of other activity relative to building construction is going on. Essentially once the buildings are up and closed in, access will have to be maintained to them on a continuing basis to install interior work. Therefore, it will be necessary for paving to be placed so it does not interfere with access.

There has been some difficulty with light pole bases and these are to be reviewed to determine what design might be used for the poor soil conditions found. A resolution of this matter is expected quickly. Once light pole bases are installed and the trench drains are complete, the north and south sides will be ready to fill, grade and place landing strips and concrete aprons. When this work is completed, paving can proceed.

Tank farm work is to start May 19, 1976 (working day 354). After fuel tanks are installed and the piping is in, concrete islands and paving will follow.

Summary

Overall, building work continues to move fairly well with a slight lag at the office. Most other work is meeting major targets between early and late starts and finishes. Site work is of concern since a close correlation of building completion and paving must be maintained if the project is to be turned over on schedule. Since this time of the year tends to be a good period for installing exterior work, it would be wise to take as much advantage of the weather coming up as is possible and not to delay paving too far into the fall when it may be difficult to install blacktop work with complete assurance it can be placed well.

One other point - the outside steel storage slab on grade at the southeast corner was intended to be installed at an early date. Work there has not yet begun. This is not an overly critical item but again it is part of site work that must be done and it would be wise to space this work out so it does not all bunch together in late summer and early fall.

As a result of this monitoring, I shall prepare and issue a project status report which will identify the current status of work by responsibility code and will list tasks to be started in the next month and a half period.

Ralph J. Stephenson, P.E.

RJS/m

To: Messrs. Lederer, Malin, Bagdonas, Mardigian, Grubman

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

July 1, 1976

Subject: Monitoring Report #12

Truck Terminal

D & L Development Company, Detroit, Michigan

Project: 75-57

Date of Monitoring: June 21, 1976 (working day 376)

Monitored from Issue #5 dated April 24, 1976

Target Completion Dates: As noted below for each major area

Actions taken:

- Inspected project
- Discussed job briefly with Mr. N. Hordigian
- Evaluated job status based upon visual inspection

General

As of June 21, 1976 (working day 376) building work continues to move well with only minor local lags observable. Site work continues still to show signs of difficulty and I strongly recommend particular attention be given to the needs of the project relative to site preparation and paving at our next monitoring session. The warm weather is now well along and advantage must be taken of favorable outside conditions to concentrate on paving.

A brief review of the status of each building element as observed is given below.

Deck Area (D)

Target completion: October 21, 1976 (working day 462)

Close-in of the building is proceeding well with a sizable number of overhead doors already installed. Siding is substantially complete, roof ventilators are installed and floor slab on grade is now moving into the last pour section at the east end.

Electrical work appears to be moving quite well although it would be appropriate at our next monitoring to make a detailed evaluation of the current status of electrical work since it is one of the most critical elements in the deck construction.

Overall, work appears presently to be moving well with no apparent problems that would cause not meeting target completion.

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Steel Storage Building

Target completion: September 27, 1976 (working day 444)

Work at the steel storage building is presently well ahead of early start/early finish dates. Installation of underground electrical and mechanical is being completed, making the building soon ready for filling, fine grading and construction of floor slabs on grade.

Office Area (B)

Target completion: November 10, 1976 (working day 476)

Masonry is substantially complete and fill for floor slab on grade has been brought to finish elevation. Installation of underfloor electrical duct is presently in work with an estimated 10 to 15 working days remaining on installation. This is an estimated amount and if improvements can be made, it would be desirable. Presently work on the slab on grade lags by approximately 5 working days. This slab was due to have been poured out on July 7, 1976 (working day 387). There is presently some doubt as to whether that date can be met.

In an informal discussion Mr. Marigian mentioned that there may be an additional plumbing line to be installed. I would like to urge that changes such as this be kept to a minimum since any revisions to the work, particularly in sensitive areas such as at the slab on grade, do cause delays. Installation of this underground line should be done as quickly as possible to avoid interfering with installation of underfloor electrical duct. Overall, the office area is just keeping up the schedule but there should be no major difficulty hitting the end target date if work can continue as well as it has over the past few weeks.

Garage (C)

Target completion: On Issue #6 network - August 27, 1976 (working day 424)

As of June 21, 1976 (working day 376) it appears that most major work at the garage is generally in line with the current Issue #6 network. There may be a slight lag in installation of underground mechanical work but masonry has moved well ahead of schedule and should allow recapturing of any current lags shortly.

The upper slab on grade was due to be poured out no later than the evening of July 6, 1976 (working day 387) with the lower slab to be poured out no later than the evening of July 7, 1976 (working day 388).

Siding is well along with work now proceeding on the insulation and exterior panels.

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RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

Floster Hester Area (FH)

Target completion: August 27, 1976 (working day 424)

This area was not inspected. I shall make an evaluation of it at our next monitoring session.

Site Work (S)

The trench drain at the north side of the dock has been installed and work is now moving on the south trench drain. Construction of the outside steel storage area is also in work with backfill presently proceeding.

It is critical that heavy attention be given work on the site paving from here out since even though we are still sometime away from building completion, there is a great amount of site work to complete and it is a critical part of the facility turnover for owner use. As suggested above, we should make a careful evaluation of the current status of site work at our next monitoring session.

Ralph J. Stephenson, P.E.

RJS
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To: Mr. W. B. Lederer
Mr. Al Malin
Mr. Y. Bagdasarian
Mr. B. Grubman
Mr. H. C. Harvigion
Mr. E. Klemsowski
Mr. S. Thompson

July 9, 1976

Subject: Monitoring Report #13

S & L Development Company, Detroit, Michigan

Project: 75:57

Date of Monitoring: July 7, 1976 (working day 387)

Monitored from Issue #6 dated April 24, 1976

Target Completion Dates: As noted below for each major area

Actions taken:

- Inspected project
- Reviewed job progress with Mr. Stabnick and Mr. Asbury
- Evaluated job status
- Prepared project status report for period from July 7, 1976 (working day 387) to August 9, 1976 (working day 410)

General

As of July 7, 1976 (working day 387), building work at the dock, steel storage and garage continues to move fairly well, with some minor local lags. The office is beginning to lag, particularly in construction of the floor slab and closing in of the building. This lag should be corrected since it could become serious.

Site work is still in difficulty and at a point where it would be wise to make a careful and complete review of all work to be done. It should be pointed out here that completion of the project is presently set at October 21, 1976 (working day 462) for the truck dock and November 10, 1976 (working day 476) for the office. Measuring the time remaining for completion of the truck dock, there remains only 75 working days until October 21, 1976. This is a very short time for the amount of site work to be completed. It is particularly critical since enormous difficulties have been encountered in the past in preparing areas for filling and fine grading.

A brief review of the status of each building element is given below.

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Dock Area (D)

Target completion: October 21, 1976 (working day 462)

Architectural work has moved well with the floor slab being complete and the building essentially closed in except for overhead doors at the east end. Most architectural operations are meeting key early and late starts and finishes. However, there is a problem developing in respect to electrical work. Some electrical installation is now being held in the field pending release of owner furnished sound system, intercom system and closed circuit TV shop drawings and data. This information is required to complete installing conduit and pulling wire at the dock, office and steel storage. I recommend the matter be given immediate attention since there already have been several requests for the information but apparently it has not yet been forthcoming.

Generally electrical work at the dock area can be considered to be just meeting late starts and late finishes. It should be noted that in the project status report some isolated electrical items such as panels, transformers and feeders will show up as being slightly behind. However, they are part of a total sequence of work installation electrically and some of the items that were originally to follow have already been completed ahead of sequence. Electrical work presently is in fair shape but could be endangered very quickly by lack of adequate information to finish off the installation of conduit and pulling of wire.

It should be noted that at present two strikes affect the project - iron workers and overhead door carpenters. The remaining overhead doors at the dock area cannot be installed until these specialty trade carpenters return to work. There is no present word on when this might be.

Mr. Stabnick and Mr. Asbury both feel they can still meet their target completion date at the dock provided the owner furnished electrical equipment shop drawings are released immediately.

Steel Storage Building

Target completion: September 27, 1976 (working day 444)

Work at the steel storage building is meeting or slightly ahead of late starts and late finishes. The need for owner's information on the

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various electrical systems is also a necessity here for completing electrical installation.

The iron workers strike is delaying installation of girts at the exterior of the building which, in turn restrains installation of siding. However, if this strike is resolved shortly then it is felt that the September 27, 1976 target date can be maintained.

Office Area (O)

Target completion: November 10, 1976 (working day 476)

Installation of underfloor duct is still in work at the office building with the floor slab expected to be started within a week and a half. Mr. Asbury expects to be able to pour out one half of the slab by July 16, 1976 (working day 395) and to have it completely poured out by July 26, 1976 (working day 400). The slab was originally due to be poured out by July 2, 1976 (working day 385) so presently the projected lag at the office is about 15 working days.

The iron workers strike may affect installation of roof mounted mechanical equipment since there are some miscellaneous structural members to be erected to carry the equipment.

In addition, the need for owner's shop drawings on owner furnished electrical equipment does affect office electrical work particularly the above floor electrical work.

Another item that should be given attention is prompt processing of bulletin #13. In this bulletin wood paneling is added at the executive offices which does change the scope of work at this area. We will further evaluate the impact upon the plan when this work is approved. Occasionally special millwork does have long lead times prior to delivery and may require field dimension checks. This could be a potential source of delay to the job.

Garage (G)

Target completion: September 13, 1976 (working day 434)

As of July 7, 1976 (working day 387) work at the garage is beginning to drop behind, primarily on construction of interior slabs on grade.

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Apparently there has been some difficulty maintaining continuity of work in sub-base fill. The slab on grade work at the garage was due to be completed no later than July 7, 1976 (working day 388).

This behind status is slightly counterbalanced by the fact that interior masonry has been substantially completed along with mechanical/electrical rough-in at the office.

Nevertheless the garage area is lagging slightly.

In addition, there are some possible changes that have been mentioned for the garage including deletion of the washer units and the 15" base for the equipment. Also, there has been some consideration of adding a hoist and possibly deleting the intercom system. These items should be resolved promptly since the amount of time left to complete work to the target goals is short.

Fleeter Heater Area (FM)

Target completion: August 27, 1976 (working day 424)

No work at this area has begun as yet. It will be necessary to construct the foundation walls and the sidewalk on top of the foundation walls before installation of the heater support posts can proceed. This work has an early finish relative to the total project but it was maintained essentially at that early date to allow spacing out of the various elements of work on the project.

Presently the delay is not serious.

Site Work (S)

As of July 7, 1976 (working day 387) site work is in such condition that I recommend a very careful overall review be made of it in the very near future.

Currently the area directly to the north of the dock, office and steel storage building is being filled and fine graded preparatory to installation of the base course upon which paving is to be laid. This work has been in process for some time and is still moving slowly.

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The trench drain at the north side has been completed and the dock area is being made ready for construction of the 55' concrete apron out from the building. There is some discussion about whether the apron should be installed prior to the paving but it is generally the consensus that the two can proceed independent of each other.

Work on filling and fine grading at the employees' parking lot has proceeded off and on over the last several weeks but there is still considerable work to be done before the paving sub-base can be installed.

At the south side of the dock, office and steel storage building, the trench drain is about 60% complete. However, the condition of the site there has made it next to impossible to complete underground mechanical and electrical work. This area is in serious difficulty relative to getting paving complete prior to completion of the building group.

Thus, all three major areas, the employees' parking, the area to the north of the office, dock and steel storage, and the area to the south of the office, dock and steel storage building shows serious distress and should be cause for concern.

It was pointed out by Mr. Asbury that in addition to the problem of physically accomplishing the paving work, the matter of maintaining access at the west end of the site is one of continuing concern. Once paving begins at the employee parking lot, there may be difficulty in maintaining access to the site through the present routes. Therefore, alternate entrances must be found.

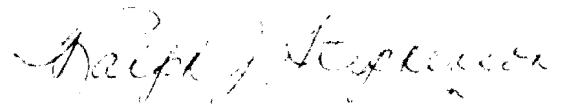
Another item that is of concern as building work proceeds into finish trades is the need for site security. It was originally intended that the site fence would be installed no later than June 15, 1976 (working day 373). The site fence is critical now because security at the job is at a low level. In fact, there has been some minor thievery. If contractors are expected to bring finish material particularly electrical items on the job, it must be reasonably secured so that the level of attrition can be kept low. I suggest that the matter of fence installation be given a high priority of attention by all concerned.

RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER

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There still remain two light pole bases at the east of the garage that must be redesigned due to poor soil conditions. This redesign is presently in work and once it is released, resteel will be fabricated and the footing installed. All light poles are presently on the job.

In summary, at the site, immediate steps should be taken to firm up commitments to completion dates if it is expected to have the site fully available for truck operations this fall.


Ralph J. Stephenson, P. E.

RJS
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To: Mr. S. B. Lederer ✓
Mr. Al Malin
Mr. V. Bagdonas
Mr. B. Gruebnau
Mr. H. C. Mardigian
Mr. E. Kleusowski
Mr. S. Thompson

August 9, 1976

Subject: Monitoring Report #14

B & L Development Company, Detroit, Michigan

Project: 75457

Date of Monitoring: August 5, 1976 (working day 408)

Monitored from Issue #6 dated April 24, 1976

Target Completion Dates: As noted below for each major area

Note: The target completion date for an operable project is November 10, 1976 (working day 476).

Number of days remaining to November 10, 1976 (working day 476): 68

Actions taken:

- Inspected project
- Reviewed project status with Mr. Asbury
- Rediagrammed site work for employee lot, main entry area, north site and south site to dally strip #3 (just north of grid C)
- Evaluated job status
- Prepared project status report for period from August 5, 1976 (working day 408) to September 7, 1976 (working day 430)

General

The major thrust of this session was to prepare a network plan for site work bringing it to a defined point where the facility was operable. It was decided this definition required that the office (O), dock (D), steel storage (S), garage (G), fuel area (F) and truck scale would be available and operative. Site work required includes having the entire north area paved including building apron and employee parking, and to have dally strips 2 and 3 installed along with all black top and concrete paving at the south. Paving would extend at least to the south boundary of the garage by November 10, 1976 (working day 476).

Our diagramming session which resulted in a network model for site work, Issue #1 dated August 5, 1976, sheet 11, concentrated on identifying everything necessary on the site for a full truck terminal operation. This sheet

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RALPH J. STEPHENSON, P. E.
CONSULTING ENGINEER

has been printed and issued to the regular distribution list with additional copies being sent to Mr. William Janlik at Ajax Paving Industries. Also, Mr. Walter Lange will receive a copy sent through the Redstone office.

In general it appears that site paving can be completed at the employee lot (EL) by August 25, 1976 (working day 422), at the north lot by August 31, 1976 (working day 426), at the south lot by October 5, 1976 (working day 490) and at the main entry area by October 14, 1976 (working day 457). This is a very tight schedule and promises that careful control will be exerted at all stages of the work by the contractors involved.

With the present program of work it may also be possible to rough grade the far south portion of the lot from grid line G to L for parking purposes over the winter. It is not certain at this point whether enough good weather will remain to allow paving this southernmost site area before the onset of cold weather. Everyone at the meeting generally agreed with the network logic and it will be expected that this network will serve as the yardstick by which we will measure site work progress from here on to completion.

A brief review of the current status of each building element is given below.

Dock Area (D)

Target completion: October 21, 1976 (working day 462)

Most exterior building work at the dock is complete and a heavy effort is now being focused on inside work, particularly electrical and mechanical installation. Apparently the electrical work noted in Monitoring Report #13 as being held pending release of owner furnished information, is still not totally received. There is to be a meeting on August 6, 1976 (working day 409) to clarify this matter. Again the time is drawing near at which we have projected completion of this facility and I strongly recommend that all pending matters be resolved now.

Most major dock work is meeting targets between early and late starts and finishes with the exception of some isolated electrical items. These are not presently a source of major holdup. All strikes that were in work at the last monitoring have been ended and are no longer a delay to the job. Spray-on fireproofing should be able to start shortly.

Overall, if the electrical decisions can be received immediately, this area should be able to meet its target completion.

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CONSULTING ENGINEER

Steel Storage Building

Target completion: September 27, 1976 (working day 444)

As of August 5, 1976 (working day 408) all major work at the steel storage building is meeting or slightly ahead of target early and late starts and finishes. It is still critical that owner's information on various electrical systems be provided to complete the work.

Installation of siding is expected to begin Friday, August 6, 1976 (working day 409).

Office Area (G)

Target completion: November 10, 1976 (working day 476)

The floor slab at the office has been poured and overhead work is moving well. Installation of steel studs was to have begun no later than July 27, 1976 (working day 401). Thus, the lag there currently is 7 working days. This lag should be watched carefully since the office is a critical element in turning the entire project over by November 10, 1976 (working day 496).

As noted previously, there is a need to provide all electrical information required for installation of overhead electrical work. This matter has been discussed previously.

Overall, the office is moving reasonably well but currently lags by about 7 working days.

Garage (G)

Target completion: September 13, 1976 (working day 434)

As of August 5, 1976 (working day 408) garage work lags by about 22 working days in slab on grade work. This lag could be picked up in part if work there was able to proceed immediately. However, there is some delay due to long lead time deliveries required on a special type of water pipe. If substitutions are able to be made, the slab on grade work could proceed almost immediately. This matter is presently being investigated.

Generally, it should be considered that the garage area does lag by about one month and that the completion of the area will now be sometime in mid-October. It would be wise to give some special attention to the garage to assure that no further slippage occurs since the lag there has been increasing over the past few weeks.

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CONSULTING ENGINEER

Floater Heater Area (78)

Target completion: August 27, 1976 (working day 424)

No work has begun at this area as yet. The floater heater area is a desirable operation for the November 10th completion target and in any event, will be needed for winter operations in late November. Thus, the earlier this work can be done, the better.

Floater heater paving work will have to be installed prior to blacktopping work south of the garage area. If it is hoped to get this paving in by early fall, then work on the floater heater sidewalk must begin shortly.

Site Work (8)

Target completion: October 21, 1976 (working day 462) for all work except paving at far south site areas

A review of the projected plan of site work was discussed above and is shown on sheet 11, Issue #1, dated August 5, 1976 (working day 408).

Presently trench drains are complete at the north and south sides of the building and grading is underway to install the apron slab at the north side of the building. It is anticipated that work will generally move from area to area with present plans calling for the employees' parking lot to be paved first, followed almost immediately by the north lot and then by the south lot and the main entry area. This sequence is subject to evaluation but I do suggest strongly that heavy attention be given to paving sequences because any time lost now will reflect in a delay to completion of the work.

The network diagram prepared as a result of our meeting today was reviewed by all present. It provides a plan of work by which we can accomplish paving installation by a desirable date of mid-October. Any slippage in this site network will reflect itself in a delay to paving which moves it into weather not conducive to high quality work. Thus, the earlier the site can be prepared for paving, the better will be the work.

As mentioned previously, the need for site security continues to increase and since there will always be reluctance by contractors to bring valuable items on the job until lockup areas are available, it would be desirable to install the fence and make other security provisions as needed to accomplish this.

Installation of site lighting standards was discussed in detail and work on this is expected to begin shortly.

Ralph J. Stephenson, P.E.

RJS/n

TO: Messrs. Lederer, Malin, Bagdonas, Grubbs, Hartigan,
Klonsowski and Thompson

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER

September 1, 1976

Subject: Monitoring Report #15

S & L Development Company, Detroit, Michigan

Project: 75157

Date of Monitoring: August 25, 1976 (working day 422)

Building work monitored from Issue #6 dated April 24, 1976

Site work monitored from Issue #1 dated August 5, 1976

Target Completion Dates: As noted below for each major area

**Note: The target completion date for an operable project is
November 10, 1976 (working day 476)**

Number of days remaining to November 10, 1976 (working day 476): 54

Actions taken:

- Inspected project
- Reviewed project status with Mr. Asbury and Mr. Stabnick
- Evaluated project status
- Prepared project status report for period from August 25, 1976 (working day 422) to September 24, 1976 (working day 188)

General

As of August 25, 1976 (working day 422) the project is moving into the home stretch toward having an operable project on November 10, 1976 (working day 476). However, there are some problems. Slow progress in installation of site work is one of the most serious. Also an increase in the lag at the office is beginning to indicate serious difficulty there. In addition, there is ongoing concern that revisions to the work, along with late furnishing of information regarding communication systems may delay work in respect to our present desired completion.

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I have conveyed my concern in this latter matter to those managers involved and have recommended that an intensive effort be made on the part of all concerned to resolve any outstanding difficulties, revisions, additions or information void that presently exist. There are only 54 more working days until this project is to be turned over for operation. This is an extremely short period of time for the amount of work remaining to be done and it will be only by continuous effort of all concerned to the details of completing the job that we are going to keep that date.

A brief review of the status of each element of the project is given below.

Site Work (S)

(Monitored from Issue #1 dated August 5, 1976)

Site work progress was monitored from the network prepared at our previous meeting where all present agreed it would be the accepted plan of work from that point on. Daily strips 1 and 2 have been poured out. The apron at the north side of the dock and steel storage building is complete and work on the apron at the south side of the dock and storage building is in progress.

Light poles at the north area have been erected and work on preparing the sub-base at the north is proceeding. Little, if any, progress has been made on paving of the employees' parking lot. It had been agreed in the previous diagramming session that this work would proceed immediately since there was an excellent chance it would be done prior to or slightly overlapping the work at the north lot of the dock and storage building.

Paving at the employee lot was due to be completed no later than August 25, 1976 (working day 422). Paving at the north lot was due to begin no later than August 25, 1976 (working day 422). Apparently paving at the north lot is presently scheduled to begin on August 26, 1976 (working day 423). Paving has dropped behind primarily because now the employees' lot will have to be paved along with the south lot, thus increasing the critical nature of the paving work. At the south lot little progress has been made in preparing the paving sub-base and this work lags by 3 to 5 working days. The lag, of course, will increase for every day that work is not initiated at the south lot. It should be pointed out that paving

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

was due to be completed at the south lot no later than October 5, 1976 (working day 450). The field crews will now have a difficult time meeting this current schedule. In addition, of course, paving remains to be done at the main entry of the site and this, too, is showing serious potential for being late. Overall, installation of paving presently lags by from 5 to 10 working days with the lag increasing each day. This is a serious delay and it is my recommendation that steps be taken to expedite installation of all site work. (Note: The site work diagram on sheet 11 has not been computerized and therefore, tasks in that network will not be contained in the project status report mailed out concurrently with this monitoring.)

Dock Area (D)

Target completion: October 21, 1976 (working day 462)

Work continues on the interior of the dock with the main thrust being on installation of electrical wiring and preparation for spray-on fireproofing at columns. Generally work at the dock is maintaining fairly good adherence to the anticipated plan of action.

Apparently the matter of sound, intercom and TV surveillance equipment has been received and this equipment and material are to be provided to Motor City Electric by the owner selected suppliers. However, there is no current word on delivery and it will take from 4 to 6 weeks once material is on the job to set it and wire it. Therefore, these items are becoming quite important. I recommend a joint effort by those concerned be exerted now to more closely determine and establish suitable delivery dates for the equipment.

I want to again emphasize that any changes to this project which affect field progress at the present time are liable to cause serious delays to the anticipated occupancy date. Therefore, revisions must be kept to an absolute minimum.

Generally, it appears that the dock area can be completed by our present target occupancy date of November 10, 1976 (working day 476). There is still a chance it might be completed earlier but problems in finishing up the sound and surveillance systems could prevent this.

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

Steel Storage Building

Target completion: September 27, 1976 (working day 444)

As of August 25, 1976 (working day 422) the project is meeting major targets between late starts and finishes. Here, if the matter of sound and surveillance systems can be resolved, the project could be completed by our present target schedule.

Office Area (O)

Target completion: November 10, 1976 (working day 476)

The lag at the office is currently 21 working days primarily in start of erection of steel studs for interior partitions. This work was due to have begun no later than July 27, 1976 (working day 401) so the current lag is the 21 days noted. The lag, of course, will increase one day for each day studs are not started. This is a serious delay because erection of interior partitions unlocks most of the finish work which remains to be done at the office area.

I reviewed this in detail with Mr. Asbury and Mr. Stabnick and they are going to take immediate steps to see if the work can be expedited.

The office and site work are critical determinants relative to the occupancy date for the entire facility. Thus, this lag at the office now becomes critical and steps should be taken immediately to regain the lost time. The general contractor is well aware of the problem and will probably give it a high priority of attention over the next few days.

Garage (G)

Target completion: September 13, 1976 (working day 434)

The present lag at the garage is about 24 working days, primarily in installation of above floor mechanical and electrical work. Projecting this 24 days beyond the current target completion date of September 13, 1976 (working day 434) gives a revised potential completion date of about October 15, 1976 (working day 458). This will not necessarily affect the total occupancy of the project although it is a slippage from the desired completion point.

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CONSULTING ENGINEER

Presently it also, as with the other building facilities, indicates that any revisions or changes to the work should be avoided since the garage area is rapidly approaching a critical point.

Floor Heater Area (FH)

Target completion: August 27, 1976 (working day 424)

No work has begun at this area as yet. There has been some conversation about deleting it from the present scope of work. I was not able to determine whether this is the case or not at this session.

Summary

Overall, the project continues to move well in some areas but in those portions of the project critical to occupancy by November 10, 1976 (working day 476), there are some serious lags. Of most concern is site work where the continued slow progress does not indicate that lags already incurred will be picked up and further, increased behind time situations can be expected. We are now fighting the onset of cold weather and it should be repeated that if paving is not placed by the current occupancy target of early November, there is some doubt it will be possible to install prior to next year.

Of course, it is always possible that the plants will remain open later than usual. However, this is a low probability gamble and one I do not recommend we take. It should also be remembered that the later paving is shoved back in the fall, the greater the demand for blacktop is among other projects. Thus, this job which may have to be scheduled in at a later date might be given a low priority and consequently experience difficulty in obtaining paving materials.

The other area that is of concern is the office where stud work lags by about 21 working days. I conveyed to the general contractor the seriousness of this matter and apparently efforts will be made to pick up this lag in total or part.

As part of the session I prepared a project status report which will be issued concurrently with Monitoring Report #15.

Ralph J. Stephenson, P.E.

RJS/m

To: Messrs. Lederer, Malin, Bagdenas, Grubnas,
Mardigian, Kleusowski and Thompson

October 4, 1976

Subject: Monitoring Report #16

S & L Development Company, Detroit, Michigan

Project: 75:57

Date of Monitoring: September 28, 1976 (working day 445)

Building work monitored from Issue #6 dated April 24, 1976

Site work monitored from Issue #1 dated August 5, 1976

Target Completion Dates: As noted below for each major area

Note: The target completion date for an operable project is
November 10, 1976 (working day 476)

Number of days remaining to November 10, 1976 (working day 476): 31

Actions taken:

- Inspected project
- Reviewed project status with Mr. Asbury and Mr. Malin
- Evaluated project status

Note: A project status report was not prepared at this meeting
since the project is now nearing its close.

General

As of September 28, 1976 (working day 445) building work continues to move reasonably well although interior finishes still lag at the office building. Overall, it appears that the dock, steel storage and garage buildings will be substantially completed by mid-October, probably October 19, 1976 (working day 460). The office area lag has been reduced to between 9 and 12 working days. This probably will extend completion to November 23, 1976 (working day 485) instead of the present November 10, 1976 (working day 476) desired date. Some additional time might be picked up in the office area although it seems unlikely at present.

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

Site work continues to move very slowly and the danger of not completing paving before cooler weather is very real. Projections presently from our Issue #1 network, sheet 11, for site installation indicate that we will be hard pressed to complete all paving at the building area, the main entry and the employees' lot by mid-November.

Again, it should be pointed out that asphalt plants conceivably could be closed down earlier than usual this year because of cooler weather, unreasonable rain or other reasons presently unpredictable. Therefore, it is urgent that preparation of sub-base work and paving be expedited at a continuing heavy pace.

A brief review of the status of each element of the project is given below.

Site Work (B)

Monitored from Issue #1 dated August 5, 1976

Presently grading and installation of sub-base is proceeding in the area directly south of the office and dock and out to dolly strip #3. Dolly strips 2 and 3, along with the parking apron at the building, have been poured out and present activities deal with placement and compaction of sub-base. Using the time data on Issue #1, sheet 11, of the site work dated August 5, 1976, it appears we can now expect paving at the south area to be complete by October 15, 1976 (working day 458). At the employees' lot, no work has been done except to vacate the area for installation of sub-base. Remaining to be done there are the rest of the sidewalks, to prepare and proof the sub-base, to lay the base course and to pave and stripe. This work probably will take about 10 to 15 working days to do once the field operation is initiated. It should be cautioned, however, that if the area is not worked on concurrently with the south area, that completion of the employees' lot could be pushed into mid-November.

The third area to be completed is the main entry. At the main entry work has been held by the need to revise electrical work at the gate. This work will be authorized on a field order as soon as all costs are available, after which underground work and concrete bases will be installed. This will be followed by curbs, sidewalks, sub-grade and paving. Present projections are that the work at the main entry could be completed by November 4, 1976 (working day 472) if it is done concurrently with work at the south of the building.

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CONSULTING ENGINEER

Thus, it can be seen that the site work presently is very important and must be given ongoing and continuous high level expediting. The time frame can be easily seen if we realize that from today, September 28, 1976 (working day 445) only 35 working days remain to November 16, 1976 (working day 480) which is about the point when the asphalt operators begin thinking of closing down the plants.

Dock Area (D)

Target completion: October 21, 1976 (working day 462)

Work is continuing on out in the dock area and present indications are that it will meet or improve on its target completion date. Most spray-on fireproofing has been installed, wire pulling continues and painting of dock doors will be initiated shortly.

Apparently all information is now in the contractor's hands regarding sound system, intercom and closed circuit TV wiring. This work is now proceeding.

Steel Storage Building

Target completion: September 27, 1976 (working day 444)

Work at the steel storage building lags slightly and present projections are that it will be finished out along with the dock area with a likely completion point of October 21, 1976 (working day 462).

The rolling steel doors are in transit and probably will be on the job this week. Major work remaining is in the alarm system, sound system and installation of finishes at the office.

Office Area (O)

Target completion: November 10, 1976 (working day 476)

The current lag at the office is 9 to 12 working days. This is a considerable reduction over the lag noted at the previous monitoring on August 25, 1976 (working day 422). However it will be increasingly difficult to pick up any more time at the office as the job nears its close. Projecting the current lag over the target date indicates that the office area will be completed by November 23, 1976 (working day 485). It

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CONSULTING ENGINEER

should be noted that some earlier partial occupancy might be possible although this is not the desirable way to occupy the building. This will be a matter for field discussion.

Garage (G)

Target completion: September 11, 1976 (working day 434)

The lag at the garage continues although it is not a critical delay but rather represents a delay over what was a desired performance. Presently the completion date for the garage is being held at October 21, 1976 (working day 462). It should be pointed out that adjoining the garage at the fuel area some difficulty has been encountered in completing grading for the tank farm. It will be essential that this grading be complete and the concrete work placed to finish paving the area around the garage. The area will be needed for access to the garage.

Fleeter Heater Area (FH)

This work was deleted by field order #21 issued on September 7, 1976 (working day 430).

Summary

Overall, the project continues to encounter site work difficulties and a high level of expediting will have to be given the job continuously to insure that all present paving around the buildings is complete by mid-November. It does not appear that much paving can be accomplished this year on south dolly strip #3 although efforts continue to be made to clear the area and ready it for installation of sub-base.

Construction of the steel storage slab at the southeast corner of the site is in work although moving very slowly.

At the buildings, the dock, garage and steel storage will probably all be completed about October 21, 1976 (working day 462). The office will be completed slightly later than hoped for, with the finish date now being at November 23, 1976 (working day 485). This was basically due to a delay in starting interior wall work. There is a possibility of a partial occupancy if such a need for the space exists. This matter of occupancy should be discussed at an early date.

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

Areas to be watched from here on out include the main entry area, employees' parking area, paving at the garage, steel storage slab installation and the completion of interior finish work at the office. Most other building sectors are in relatively good condition.

Ralph J. Stephenson, P.E.

**RJS
m**

**To: Mr. S. B. Lederer
Mr. Al Malin
Mr. V. Bagdonas
Mr. B. Gruebnau
Mr. H. C. Mardigian
Mr. E. Kleusowski
Mr. S. Thompson**

mt. M

RALPH J. STEPHENSON, P.E.
CONSULTING ENGINEER
October 19, 1976

Subject: Monitoring Report #17

S & L Development Company, Detroit, Michigan

Project: 75:57

Date of Monitoring: October 12, 1976 (working day 455)

Building work monitored from Issue #6 dated April 24, 1976

Site work monitored from Issue #1, sheet 11, dated August 5, 1976

Target Completion Dates: As noted below for each major area

**Note: Target completion date from the above monitoring issues
for an operable project is November 10, 1976 (working day 476)**

Number of days remaining to November 10, 1976 (working day 476): 21

Actions taken:

- Inspected project
- Reviewed project status with Mr. Asbury and with Mr. Mardigian briefly
- Evaluated project status

Note: No project status report was prepared at this meeting due to the nearness of the project to completion

General

As of October 12, 1976 (working day 455) building work at the dock, steel storage and garage is within days of being generally complete. Only trimming out and minor work should remain to be done after October 21, 1976 (working day 462). This is not a critical matter presently since the intent is to put the entire facility into work concurrently in late November.

At the office, the lag is still in the range of 9 to 12 working days although there are a few finish items that some time could be picked up on. However, it would be best to consider that the office will be complete as noted in Monitoring Report #16 by November 23, 1976 (working day 485).

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CONSULTING ENGINEER

Site work remains a problem and special attention is going to have to be given to expediting every aspect of site sub-base preparation, construction of concrete curbs, installation of the outside slab for steel storage and the remaining blacktop paving. Presently it appears that if all areas were worked concurrently, based upon information in our Issue #1 site network dated August 5, 1976, sheet 11, that site work could conceivably be finished by mid-November. However, with present progress and past history, it is doubtful whether concurrent activities will occur. Therefore, we are now considering, even with an accelerated program from here out, completion of site work in late November which, of course, increases concern about being able to pave by virtue of the nature of the asphalt business. This matter should be investigated and checked repeatedly to insure that the project is not cut off from paving material because of its extension into cold weather.

A brief review of the status of each element of the project is given below.

Site Work (S)

(Monitored from Issue #1 dated August 5, 1976)

As of October 12, 1976 (working day 455) the sub-base for the outside steel storage area has been laid, reinforcing steel is being placed and it is expected to be able to pour this slab in the near future.

Sub-base preparation continues at the south half of the site and demolition and rubble removal are ongoing processes there. Mr. Mardigian explained that he hopes to pave all of the south site this fall. It remains to be seen whether this work can be accomplished. There are serious problems and it will take excellent management and expediting to do.

Grading of the area around the garage is proceeding, with construction of curbs now in work. Sub-base preparation is well along at the south half of the site to a line running approximately west from the garage. The intent presently is to pave from the steel storage slab on back to the garage around the end of the steel storage building and concurrently to move from east to west on the near building areas.

I strongly recommend that a careful review of the paving sequence be made to see if it would be advisable to get paving down for the truck and garage areas as quickly as possible so in the event that paving materials became difficult to procure, at least these areas would be paved for the opening.

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CONSULTING ENGINEER

The employees' lot and the entry areas are still pretty much as they were at our previous monitoring on September 28, 1976 (working day 445). There has been some minor trimming but substantially, the work remaining is stable.

As mentioned above, there probably remain as many as 50 total working days on the three basic areas - south, employees' lot and entry. If this work can all go concurrently, there is a chance that by the end of November it will be paved out. However, past experience indicates that such concurrent work activity is not to be expected. Therefore, I again emphasize the need for continuing attention by the owner and the site contractor to getting into the field, site work in those areas that are going to be needed for facility operation this coming winter.

Dock Area (D)

Target completion: October 21, 1976 (working day 462)

Work remaining at the dock consists primarily of painting, trimming out and minor finishing. There are some problems with heaters and other such items but presently we are expecting that the major work will be completed by October 21, 1976 (working day 462). There will be, up to the time of opening, some trimming out but this should pose no serious problem.

Steel Storage Building

Target completion: September 27, 1976 (working day 444)

Currently the completion target for work at the steel storage is being held at October 21, 1976 (working day 462). The building is substantially complete and installation of steel overhead doors and finishes at the toilet room and office is in work. By October 21, 1976 (working day 462) the area should be generally complete. Some miscellaneous finish work will remain but for all intents and purposes, the building will be done.

Office Area (O)

Target completion: November 10, 1976 (working day 476)

Studs and drywall are substantially completed at the office and major work there is now on ceilings, painting, floor finishes and other such interior

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Items. The lag at the office is about 11 working days or slightly less, primarily in ceiling work and start of following finish work. There appears to be no major difficulty in completing the office by the revised target of November 23, 1976 (working day 485). However, it will take the ongoing attention that is presently being given to it to insure that this date is met.

As I understand it, present plans are to hold the opening of the facility sometime the first week in December. This should give adequate time for completing the office, ready for the celebration.

Garage (C)

Target completion: September 11, 1976 (working day 434)

Finishing up at the garage is now in work with mechanical piping, miscellaneous electrical work and finishes at the offices presently being accomplished. Mr. Asbury suggests that we keep the general completion target as October 21, 1976 (working day 462) at the garage, although as with the other areas, there will be some minor trim work and finishes to be completed after this date.

Summary

Overall site work continues to be the major concern on the job since it is such a critical item to full operation of the entire facility. Building work is generally in good shape and should be able to be completed with little, if any, difficulty providing no major surprises or changes are encountered. In conversations with Mr. Asbury, it was decided to maintain a general target date for the office at November 23, 1976 (working day 485) with the other buildings to be completed sometime prior to that but being brought to total completion by that same date.

Ralph J. Stephenson, P.E.

RJS/m

To: Mr. S. B. Lederer
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