

**MSL: MONTHLY PROGRESS REPORT NO. 5**

Design and Construction of The New Proposed Medical Stores  
Warehouse Hubs: Mansa - Zambia

**Submitted by: S. MAZAKAZA**

**Designation: PROJECT MANAGER**

**Report Period: 1<sup>st</sup> to 31<sup>st</sup> December, 2017**

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# Design and Construction of a New Medical Warehouse in Mansa, Zambia.

## 1.0 Project Data

Participants		
2.01	Employer:	United National Development Programmed (UNDP)
2.02	Beneficiary:	Medical Stores Limited (MSL)
2.03	Supervisors - Project Focal Person - Project Manager (External Consultant) Clerk of Works	D Kampamba S.H. Mazakaza (UNDP)  P. Phiri
2.04	Contractor:	Wah Kong Enterprises Limited
2.05	Design Consultants Architects - Quantity Surveyors - Mechanical Engineers - Electrical Engineers - Civil & Structural Engineers	Spectrum Architectural Consultants Mwila Kafula DH Engineering Consultants RM Consulting Engineers. Kiran and Musonda Associates
2.06	Insurers	Golden Lotus Insurance
2.07	Subcontractors:	Electrical Fittings-Planet Electrical Ltd Air conditioners Installation-Climate Control Chiller Installation-BJ Cooling. Data, CCTV- Clickasure

## 2.1 Time Management.

2.1.1	Letter of Award Date:	<b>17/07/2017</b>
2.1.1	Contract Signing Date:	<b>18/07/2017</b>
2.1.3	Site Handover Date:	<b>22/07/2017</b>

2.1.4	Possession of Site:	<b>22/07/2017</b>
2.1.5	Contract Commencement Date:	<b>18/07/2017</b>
2.1.6	Contract Period:	<b>Five (05) Months</b>
2.1.7	Contract Completion Date:	<b>15/12/2017</b>
2.1.8	Extension to Contract:	<b>Yet to be approved</b>
2.1.9	Revised Contract Completion:	<b>30/01/2018</b>

## 2.2 Defects Liability Period.

2.2.1	Start of the Defects Liability Period	TBA
2.2.2	End of the Defects Liability Period	TBA

## 2.3 Financials

2.3.1	Contract Amount (USD):	<b>US\$1,530,368.25</b>
2.3.2	Approved Variations to Date (USD):	<b>N/A</b>
2.3.3	Revised Contract Amount(USD) :	<b>N/A</b>
2.3.4	Payment Certified (USD):	<b>US\$1,322,238.17</b> (Cert 1-7)
2.3.5	Penalties per day (USD):	<b>US\$500.00</b>
2.3.6	Maximum Retention to be Held (USD):	<b>10% of contract sum</b>

## 2.4 Performance

2.4.1	Percentage of Contract Period Lapsed:	<b>100%</b>
2.4.2	Percentage of Contract Value Paid Out:	<b>90%</b>
2.4.3	Percentage of Project Completed:	<b>94%</b>
2.4.4	Days/Percentage of delay	<b>6%</b>

## 3.0 Attendance

3.1 During the period under review, the United Nation Development Programme, Medical Stores Limited and Wah Kong Enterprises Limited attended all site inspections and site meetings held during the month. The design consultants only attended half of the inspections and meetings.

## 4.0 Progress

4.1 The month under review covered works from paving of the surrounding areas, construction of manholes, installation of Dock levelers and Data/CCTV, electrical wiring, roofing to external areas, painting and plumbing, installation of Air conditioners, mounting of the ceiling board and fabrication of fire stair cases.

Stated below are the construction milestones and related time frames and accomplishments.

**(A) Mobilization Activity**

No	Activity	State Date	Finish Date	Progress	Comments
1	Contract Award	17/07/17	17/07/17	100%	Completed
2	Compile & Submit Safety Plan	18/07/17	18/07/17	100%	Submitted
3	Method Statement	18/07/16	18/07/17	100%	Submitted
4	Detailed Set of Drawings	08/08/17	10/09/17	100%	Completed

**B. Site Establishment**

No	Activity	State Date	Finish Date	Progress	Comments
5	Receive Access to Site	18/07/17	18/07/17	100%	Completed
6	Erect Hoarding	19/07/17	26/07/17	95%	Resorted to wall fence which is at 95%
7	Clear Site & Bulk Excavation	19/07/17	04/08/17	100%	Completed
8	Erect Offices & Store	19/07/17	05/08/17	100%	Completed
9	Subcontractor engagement	19/07/17	22/08/17	100%	Completed
10	Installation & Connection of Temporary Services- Water and Temporary Power	03/08/17	10/08/17	100%	Completed

**(C) Dispatch Warehouse Building and Offices**

No	Activity	State Date	Finish Date	Progress	Comments
11	Setting Out	04/08/17	08/08/17	100%	Completed
12	Foundation Excavations	08/08/17	14/08/17	100%	Completed
13	Blinding in excavations	14/08/17	17/08/17	100%	Completed
14	Pouring of concrete in foundation footings	17/08/17	30/08/17	100%	Completed
15	Formwork to stub columns	17/08/17	30/08/17	100%	Completed
16	Pouring of Concrete in stub columns	17/08/17	30/08/17	100%	Completed
17	Foundation block work	30/08/17	09/09/17	100%	Completed
18	Backfilling and compaction to main Hub at +1.35m height	11/09/17	19/09/17	100%	Completed
19	Erection of Structural Steel Columns	05/09/17	04/10/17	100%	Completed
20	Backfilling of foundations to Pump House, Guard House and Recreation Area.	14/09/17	17/09/17	100%	Completed
21	Reinforcement of floor slab at +1.35m	18/09/17	21/09/17	100%	Completed
22	Block work to superstructure	14/09/17	27/09/17	100%	Completed
23	shuttering to ring beam to Main Hub	19/09/17	21/09/17	100%	Completed
24	Casting of ring beam to Main Hub	22/09/17	25/09/17	100%	Completed
25	Shuttering of the Mezzanine floor	24/09/17	24/09/17	100%	Completed
26	Shuttering of the office slab at +1.35m	24/09/17	24/09/17	100%	Completed
27	Block work to the Warehouse	24/09/17	01/10/17	100%	Completed

No	Activity	State Date	Finish Date	Progress	Comments
28	Block work to the office ground floor	24/09/17	01/10/17	100%	Completed
29	Casting of the Mezzanine floor	26/09/17	26/09/17	100%	Completed
30	Shuttering of lintels to doors and windows to the office	30/09/17	30/09/17	100%	Completed
31	Casting of lintels to doors and windows	01/10/17	01/10/17	100%	Completed
32	Shuttering for the first floor of the office	04/10/17	04/10/17	100%	Completed
33	Plastering of the external wall to main hub	04/10/17	08/10/17	100%	Completed
34	Excavation of foundation trenches for the wall fence	04/10/17	08/10/17	100%	Completed
35	Casting of foundation footing for the wall fence	08/10/17	08/10/17	100%	Completed
36	Block work to the first floor of office	09/10/17	15 /10/17	100%	Completed
37	Shuttering of the ramp to the left side of the hub	10/10/17	10/10/17	100%	Completed
38	Casting of the ramp to the left side of the hub	11/10/17	11/10/17	100%	Completed
39	Block work to the wall fence	14/10/17	26 /10/17	100%	Completed
40	Casting of the slab to the first floor of the office	18/10/17	18 /10/17	100%	Completed
41	Block work to office	14/10/17	15 /10/17	100%	completed
42	Plastering of walls to main hub and office	22/10/17	29 /10/17	100%	Completed
43	Foundation excavation for septic tank	16/10/17	17/10/17	100%	Completed



No	Activity	State Date	Finish Date	Progress	Comments
45	Marking and excavation of road	26/10/17	29/10/17	100%	Completed
46	Roofing to the main Hub	24/09/17	01/10/17	100%	Completed
47	Foundation excavation for septic tank	16/10/17	17/10/17	100%	Completed
48	Block work for septic tank	16/10/17	22/10/17	100%	Completed
49	Plastering of internal walls to the office	30/10/17	03/11/17	100%	Completed
50	Block work for refuse area	01/11/17	01/11/17	100%	Completed
51	Excavation of manhole and pipe work	04/11/17	05/11/17	100%	Completed
52	Leveling and compaction of the road	06/11/17	12/12/17	100%	Completed
53	Shuttering of the road	06/11/17	06/12/17	100%	Completed
54	Casting of concrete road	20/11/17	22/12/17	100%	Completed
55	Roofing the office	27/11/17	01/12/17	100%	Completed
56	Paving	27/11/17	20/12/17	99%	To be completed by 08/01/18
57	Tiling	27/11/17	02/12/17	100%	Completed
58	Stair cases	27/11/17	29/11/17	100%	Completed
59	Painting	27/11/17	02/12/17	96%	To be completed by 25/01/18
60	Plumbing	02/12/17	02/12/17	70%	To be completed by 15/01/18
61	Ceiling	17/12/17	21/12/17	50%	To be completed by 15/01/18
61	Landscaping	27/12/18	31/12/18	50%	To be completed by 15/01/18

No	Activity	State Date	Finish Date	Progress	Comments
62	External water drainage	01/12/17	31/12/18	80%	To be completed by 20/01/18
63	Hazardous store room	01/12/17	31/12/18	75%	To be completed by 15/01/18
64	Sun blinds			0%	Samples to be approved first
65	Car port finishes	17/12/17	31/12/18	80%	To be completed by 15/01/18
66	Clear view fence	01/11/17	31/12/18	85%	Awaiting materials. To be completed by 25/01/18

### 3.1 Progress in Pictures

The pictures below show the latest progress of the works on site as at 31/12/17.



*Figure 1: shows the extent to which works have reached at the Main Hub. Front view.*



*Figure 2: shows the right hand side view of the Hub*



*Figure 3 shows the left side view of the Hub*



*Fig 4 shows the paving, lunch area and pump house at the far end*



*Figure 5: shows the position of the Guard house*



*Fig 6 is the hazardous store-room*

#### **4.0 Progress by Milestone**

Progress attained by Milestone is as follows:

Progress attained for the Site Mobilization and Establishment is at 100%. On the overall, the progress on all the construction works is at 94% against the 100% planned for. It therefore means that the project is 6% delayed or at least 16 days beyond completion date as at 31/12/2017.

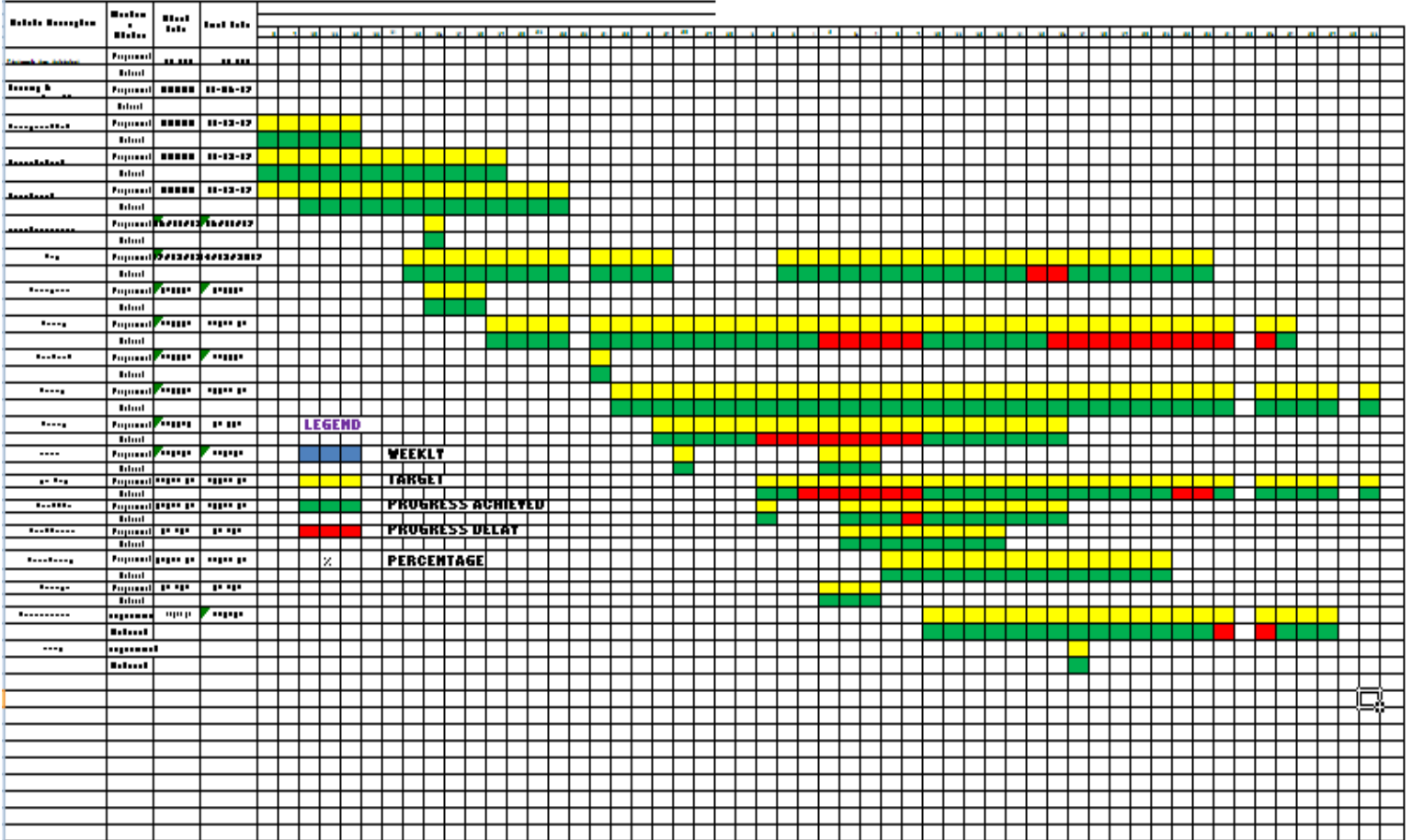
4.1 Site Mobilization is estimated at 100%, Site Establishment still at 100%, Ware House Building at 94%, External Works; i.e. Boundary Fence at 85%, clearvu fencing still outstanding as material not yet delivered to site, Hazardous Store at 75%, the Lunch Shed at 95%, Guard House at 98% and Civil works are estimated at 85%.

4.2 Overall Progress of the project is 94% against 100% planned. The project is behind schedule. The contract period has elapsed and works should have been concluded by December 15, 2017.

The contractor has not managed to complete the project in the stipulated time and an application for extension of time had been applied for and recommendation was made on 16/12/17 by the Project manager to the client for project completion of 30/01/2018.

## 5.0 Planned Progress and Achieved Progress

APPENDIX I - PLANNED PROGRESS AND ACHIEVED PROGRESS (Week ending 5/12/17)



### 5.1 Delayed Activities

- (i) Electrical wiring and fittings
- (ii) Data/CCTV installations
- (iii) Ceiling
- (iv) Plumbing
- (v) Air conditioners installation (To Be Advised)
- (vi) Ceiling
- (vii) Clear view fence
- (viii) Installation of the main gate
- (ix) Land scarping (General leveling and grassing)
- (x) Completion of the hazardous store room

- (xi) Painting
- (xii) External storm drainage
- (xiii) Car port finishes
- (xiv) Hazardous store room
- (xv) Sun blinds
- (xvi) Fire escape door
- (xvii) Electric fence

- Electrical wiring, Data/CCTV and Air conditioners installations have delayed because the subcontractors are on Industrial break.
- The ceiling had to be changed because the contractor had installed plaster board ceilings on the Offices and the stair way. The contractor was therefore instructed to immediately remove the plaster boards and grids and install the correctly designed suspended acoustic tiles on metal grids as per architect's drawings. This lapse in adherence to drawings issued may have a bearing on the progress attained to date as contractor has to now remove wrongly installed materials and correct the anomaly urgently.
- Late delivery of materials has affected the completion of the clear view fence. All outstanding materials are expected on site by 20/01/2018.
- Clerk of works to take lead in snagging using standard template.

## **5.2 Mitigation Measures**

The above stated delays have led the project not to complete as scheduled on the 15<sup>th</sup> of December, 2017. Having recommended an extension of contract up to 30<sup>th</sup> January, 2018 and in a bid to mitigate the loss of time, the contractor should:

1. Make a follow up and increase on timely delivery of materials to site.
2. Increase on manpower in the affected work disciplines.
3. The Project Manager through the Clerk of Works to closely monitor the implementation of mitigation measures.

## 6.0 Resources

### 6.1 Labour/Personnel

The contractor has had adequate personnel during the period under review. These comprised both local and foreign personnel. Table 4.1 indicates the labour data as at 31<sup>st</sup> December, 2017

**Table 4.1- Personnel Data**

Description	Number	Males	Females	Disabled	Foreign	Local
Contracts Manager	1	1			1	
Site Engineer	1	1			1	
Surveyor						
Foreman	4	4			4	
Operators	2	2				2
Skilled Labour	8	8				8
Semi-skilled Labour	3	3				3
Unskilled Labour	15	13	2			15
<b>Total Employees on Site</b>	<b>33</b>	<b>31</b>	<b>2</b>		<b>5</b>	<b>28</b>

**6.1.1** The Design Team is maintaining the key personnel stated in the contractor's technical proposal. The workforce had been adequate for the month's scheduled activities.



## 6.2 Plant and Equipment

The plant and equipment deployed on site is indicated in **Table 4.2**

**Table 4.2 Equipment on Site**

No.	Description	Plant No.	Date on Site	Qty
1	Concrete Mixer		30/07/2017	1
2	Dumper		25/07/2017	2
3	Pick Up	AJD 1229	25/07/2017	1
4	Generator		25/07/2017	1
5	Poker Vibrator		25/07/2017	1

The equipment and plant had been adequate for the month's scheduled activities.

**Table 4.3 Materials on site as at 31/12/2017**

No	Description	Unit	Qty
1	Superset cement	pocket	100
2	Building sand	t	50
3	8 inch block	pcs	100
4	6 inch block	pcs	0
5	4 inch block	pcs	400
6	Quarry dust	t	20
7	19-22mm stone	t	40

The materials deployed during the month had been adequate.

### **6.3 Quality Assessment (Works and Designs)**

Generally, the quality of works so far is satisfactory and meets the minimum required standards. The contractor has however, been instructed to follow laid down Quality Assurance Procedures and conform to instructions from the consultants when they are issued and to properly study and understand in full detail the drawings before executing any works to avoid compromising required quality standards and wastage of materials once rejected as wrong materials as the case was with the ceiling boards.

The quality of drawing and associated detailing are of acceptable standard.

### **7.0 Health and Safety Plan**

- (i) Sanitary Fittings provided on Site for Staff and general workforce use are satisfactory and the wash hand basin installed as required by the Project

Manager. The Soil waste pit behind the site office had been fully covered and the contractor to continue disinfecting it. The pit was just half way covered. Clerk of Works to ensure compliance.

- (ii) First Aid Box is adequately stocked and is stored in an accessible and visible place on site.
- (iii) Training of First Aid administrators on site by officers from Ministry of Health had been completed. Three workers were trained to administer first Aid on site and certificates had been issued.
- (iv) The site has not incurred any accident during the period under review.

## 8.0 Waste Management

1. The Waste Management Plan is generally being followed but contractor should improve on access road to the site. The muddy clay soil should not be dumped onto the access road instead gravel should be used.

2. The bulk soil which was excavated has no pollutants and is being dumped off site. The disposal does not require Environmental Council of Zambia Approval by virtue of the “Normal” status of the soil constituents.

## 9.0 Documents Submission

The following documents were submitted as stipulated in the contract:

No.	Document Reference	Approved		Comments
		Yes	No	
i	Advance Payment Guarantee	✓		
ii	Performance Guarantee	✓		
iii	Contractor's – All-Rick-Policy	✓		
iv	Construction working method submitted by the Contractor	✓		

v	Environmental Management Plan submitted by the contractor	✓		
vi	Quality Assurance Management Plan submitted by the Contractor	✓		
Vii	Site Health & Safety Plan submitted by the Contractor	✓		
viii	Bill Board Design submitted by the Contractor	✓		
ix	Purchase Order.	✓		
x	Site Office Layout Plan submitted by the Contractor	✓		

## 10.0 Financial Matters

The contractor has submitted a total of seven invoices summing up to **US\$1,322,238.17 and are fully paid-up by the client.**

## 11.0 Contractual/Technical Matters

### 11.1 Subcontracting

The following subcontractors have been appointed by the main contractor:

- i. Electrical installation: Planet Electrical Limited
- ii. Chiller installation: Multi-vent Limited
- iii. Air Conditioning Installation- Climate Control Limited.
- iv. Dock leveler: Suppliers (S.A.)
- v. Security installations: Clickasure ltd
- vi. Fire protection systems: Planet Electrical Limited
- vii. Communication systems installation: Clickasure ltd
- viii. Generator installation: outstanding

## **11.2 Designs**

The Design Team is working on the various disciplines with the following anticipated milestone to be achieved on the specified dates thus;

- (i) Drawings had been submitted for the council for approval and await feedback. MSL furnished the design team with Certificate of Incorporation, Title Deed or Offer Letter indicating ownership of the Land. The temporal building permit had been issued by the council and regular inspections by the council's inspectorate had been done.
- (ii) Applications for Permanent Power supply to the site had been done and quotation received from ZESCO and submitted to Medical Stores Limited for further action.
- (iii) Working Drawings have been issued to the Project Manager and have been approved pending finalization of technical details and have also been issued to the contractor for works to continue.

## **11.3 Insurance**

The contractor provided the Contractor's-All-Risk Insurance Policy, Advance Payment, and the Performance Guarantees.

## **11.4 Communication**

**11.4.1.** All communication to be managed effectively, between the client, the contractor, and the design team and vice versa, should be channeled through the Project Manager. The contractor and their design team have been advised to fully read the entire contract to avoid unnecessary assumptions, which might have a negative impact on the project.

## 12.0 Construction Activity Progress Projection Plan (CAPPP)

### Work planned for next one month

Item No.	Description/Activity	Planned program
I	Plastering	100%
ii	External works (sewer, drainage, paving, landscape)	100%
iii	Plumbing	100%
iv	Electrical fittings	100%
v	Air-conditioning	100%
vi	Fire Extinguisher	100%
vii	Concrete works	100%
viii	Landscaping	100%
ix	Data/ CCTV	100%
x	Clear view fence	100%
xi	Ceiling	100%
xii	External storm water drain	100%
xiii	Hazardous store room	100%
xiv	Sun blinds	100%

xv	Paving	100%
xvi	Car port finishes	100%
xvii	Electric fence	100%

### **13.0 Conclusion/Recommendation**

The project is behind schedule and is estimated at 94% complete on the overall against 100% planned. An application for extension of time had been lodged by the contractor for project completion by 15/01/2018 and external recommendation made by the Project Manager to UNDP for final approval.

The contractor is to provide a revised work program for all outstanding works which must be completed by 15/01/2018.

Mitigation measures over potential delays are being instituted by timely delivery of materials to site and both increased personnel and working hours for outstanding works. The Project Manager through the Clerk of works will closely monitor the delayed activities and ensure that potential delays do not occur or become critical over other subsequent activities. The works on the project meets the quality of standards stated in the contract.