

MSL: MONTHLY PROGRESS REPORT NO. 5

Design and Construction of The New Proposed Medical Stores Warehouse

Hubs: Mpika - Zambia

Submitted: S.H Mazakaza

Designation: Project Manager

Report Period: 1st - 31st December, 2017

Contents

1.0	Project Data	5
1.1	Project team	5
1.2	Time Management.	6
1.3	Defects Liability Period.	6
1.4	Financials	6
1.5	Performance	7
2.0	Attendance	7
3.0	Progress	7
	Table 1. Mobilization Activity	7
	Table 2. Site Establishment	8
	Table 3. Ware house Building	8
	Table 4. External Works	10
	Figure1: Completion of External Plaster and Wall Primer to the Ware House Building	12
	Figure2: Internal Wall Primer, 1 st Fix Plumbing & Electrical in ware house Building.	12
	Figure3: Front elevation, ground and mezzanine floor of ware House Building Front.	13
	Figure4: Completion of External Wall Plastering and wall finishing with 1 st Coat of paint.	13
	Figure5: Laying of Pavers and Kerbstones	14
	Figure 6: Concreting to the Driveway.	14
	Figure 7: Completion of Demolitions of reinforced concrete roof for Hazardous Store.	Error!
	Bookmark not defined.	
	Figure 8: Front View of Demolished Hazardous Store Roof	15
	Figure 9: Continued Laying of Pavers to Parking Area	16
	Figure 10: Office Finishes. Floor Tiling, Partition walls with Door Frames and Ceiling Installation	16
	Figure 11: Sewerage. Construction Septic Tank and Soakaway	17
	Figure 12: Construction of Lunch Shed Super-Structure	17
4.0	Progress by Milestone	17
5.0	Progress Analysis (Programmed and achieved Progress)	18

6.0	Delayed Activities	18
7.0	Quality Assessment (Works and Designs)	19
8.0	Health and Safety Plan	19
9.0	Waste Management	19
10.0	Documents Submission	20
	Table 5. Documents Submission and approvals	20
11.0	Financial Matters	20
12.0	Contractual/ Technical Matters	20
12.1	Subcontracting	20
12.2	Designs	21
12.3	Insurance	21
12.4	Communication	21
13.0	Other Information	21
13.1	Table 6. Visitors on Site	21
14.0	Resources	22
14.1	Labour/Personnel	22
	Table 7. Labour/Personnel	22
14.2	Plant and Equipment	23
	Table 8. Plant and Equipment on Site	23
15.0	Materials	24
	Table 9. Notable Materials	24
16.0	Construction Activity Progress Projection Plan (CAPPP)	25
	Table 10. Progress Projection Plan	25
17.0	Mitigation Measures	27
18.0	Conclusion/Recommendation	27

**Design and Construction of a New Medical Stores Warehouse
in Mpika, Zambia.**

1.0 Project Data

1.1 Project team

Participants		
1.1.1	Employer:	United National Development Programme (UNDP)
1.1.1	Beneficiary:	Medical Stores Limited (MSL)
1.1.2	Supervisors Project Focal Person Project Manager (External Consultant) Assistant Project Manager Clerk of Works	D. Kampamba (UNDP) S.H. Mazakaza (UNDP) D.K. Pfumbauta T.G. Chundu (UNDP)
1.1.3	Contractor:	Sun Share Construction Limited
1.1.4	Design Consultants Architects Quantity Surveyors Civil Engineering Consultants Mechanical Engineering Consultants Electrical Engineering Consultants	A+ Urban Technics M.L.N. Associates Civilink Engineering Designers Limited D.H. Consulting Engineers. R. M. Consulting Engineers
1.1.5	Insurer (works & Designs)	
1.1.6	Subcontractors:	Electrical Installation – Sun Share Construction Ltd Mechanical Installation – Ndykay CCTV & Data Comm. Installation – Sun Share Dock Leveller Installation – Sun Share

		Turnstiles – Sun Share Access Control – Sun Share Chiller Installation – Ndykay Generator – Sun Share
--	--	--

1.2 Time Management.

1.2.1	Letter of Award Date:	17/07/2017
1.2.2	Contract Signing Date:	18/07/2017
1.2.3	Site Handover Date:	23/07/2017
1.2.4	Possession of Site:	04/08/2017
1.2.5	Contract Commencement Date:	18/07/2017
1.2.6	Contract Period:	Five (5) Months
1.2.7	Contract Completion Date:	15/12/2017
1.2.8	Extension to Contract:	16/02/18
1.2.1	Revised Contract Completion:	16/02/18

1.3 Defects Liability Period.

1.3.1	Start of the Defects Liability Period	16/12/2017
1.3.2	End of the Defects Liability Period	16/12/2018

1.4 Financials

2.3.1	Contract Amount (USD):	1,530,368.25
2.3.2	Approved Variations to Date (USD):	N/A
2.3.3	Revised Contract Amount(USD) :	N/A
2.3.4	Payment Certified No. (USD):	IPC 1-7 (fully Paid-up)

2.3.5	Penalties per day (USD):	500.00
2.3.6	Maximum Retention to be Held (USD):	10% of Contract Sum

1.5 Performance

2.4.1	Percentage of Contract Period Lapsed:	100%
2.4.2	Percentage of Contract Value Paid Out:	90% (Certified)
2.4.3	Percentage of Project Completed:	91%

2.0 Attendance

2.1 During the period under review, the United Nations Development Programme and Sun Share Construction Limited attended all site inspections and site meetings held during the month. The Design Consultants generally attended site meetings.

3.0 Progress

3.1 The month under review is for construction of Warehouse building Super-Structure, Hazardous Store Super-Structure, Guard House Super-Structure, Lunch Shed Sub-structure and Super-Structure and External Works involving driveways, Parkades and services.

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

Table 1. Mobilization Activity

No.	Activity	State Date	Finish Date	Progress	Comments
i	Contract Award	14/07/17	14/07/17	100%	Completed
ii	Compile & Submit Safety Plan	17/07/17	17/07/17	100%	Submitted to the PM
iii	Method Statement	17/07/17	17/07/17	100%	Submitted to the PM

iv	Preliminary Drawings	17/07/17	19/07/17	100%	Completed
v	Detailed Set of Drawings	15/07/17	01/08/17	100%	Completed

Table 2. Site Establishment

No.	Activity	State Date	Finish Date	Progress	Comments
i	Receive Access to Site	23/07/17	23/07/17	100%	Completed
ii	Erect Hoarding	18/07/17	25/07/17	100%	Substituted with permanent wall fence.
iii	Clear Site & Bulk Excavation	18/07/17	02/07/17	100%	Completed
iv	Erect Offices & Store	19/07/17	03/07/17	70%	Only Site Storage completed. Site offices still under construction. Behind schedule. To have been completed by 08/10/17
v	Installation & Connection of Services	18/07/17	21/07/17	75%	Site offices services not commenced. Provisional services are available.
vi	Appointment of Subcontractors	15/07/17	17/07/17	100%	Appointments have been made but all have been submitted to the PM

Table 3. Ware house Building

No.	Activity	State Date	Finish Date	Progress	Comments
-----	----------	------------	-------------	----------	----------

i	Setting out	02/08/17	04/08/17	100%	Completed
ii	Excavations for Foundations	18/07/17	25/07/17	100%	Completed
iii	Blinding in Foundation Strip Footing	10/08/17	12/08/17	100%	Completed
iv	Fixing Steel Reinforcement in Foundation	12/08/17	19/08/17	100%	Completed
v	Casting of Reinforced Foundation Concrete	19/08/17	25/08/17	100%	Completed
vi	Solid Filled Blocks Walling in Foundation	25/08/17	08/09/17	100%	Completed
vii	Floor Slab Reinforcement, formwork and concreting	16/09/17	26/09/17	100%	Completed
viii	Structural Steel Fabrication and Erection	26/09/17	07/10/17	100%	Completed
ix	Steel roofing, "Sisalation" and covering	09/10/17	19/10/17	100%	Completed
x	Bond Decking for the Office (Mezzanine)	13/10/17	18/10/17	100%	Completed
xi	Block Work and Walling	23/10/17	14/11/17	100%	Completed
xii	Plumbing, Electrical, Data and Air-conditioning 1st fix	08/09/17	07/12/17	15%	1 st fixes are complete for plumbing & Electrical. Air-con 1 st fixes awaiting materials.
xiii	Air-conditioning works (Fittings Installation)	04/09/17	14/12/17	0%	Should have commenced despite error in scheduling. Behind schedule.
xiv	Electrical installations works (Fittings Installation)	19/10/17	14/12/17	0%	Awaiting fittings to be delivered to site

xv	Plastering (Internally & Externally)	15/11/17	04/12/17	90%	Work in progress. Behind schedule.
----	--------------------------------------	----------	----------	-----	------------------------------------

Table 4. External Works Progress

No.	Activity	State Date	Finish Date	Progress	Comments
i	External Electrical, & Storm Water Drainage (External)	24/07/17	06/10/17	70%	External Lights changed to solar powered Storm water drainage works in progress
ii	Sewer Reticulation	24/07/17	31/10/17	80%	Delayed due to late commencement and inclement weather. Behind Schedule. Septic & Soakaway work in progress
iii	Road Works (Paving, Driveways and Drainage)	01/09/17	04/12/17	90%	Delayed due to late commencement and inclement weather. Behind Schedule. Concreting to driveways completed Paving works in progress
iv	Guard House	31/10/17	30/11/17	70%	Delayed due to late commencement. Behind Schedule. Roofing & finishes in progress
v	Hazardous Store	15/10/17	12/01/18	70%-	Behind Schedule Concrete Roof demolished & new one under fabrication

vi	Bin Yard	TBA	TBA	0%	Project team to advise position.
----	----------	-----	-----	----	----------------------------------

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



Figure1: Completion of External Plaster and Wall Primer to the Ware House Building



Figure2: Internal Wall Primer, 1st Fix Plumbing & Electrical in ware house Building.



Figure3: Front elevation, ground and mezzanine floor of ware House Building Front.



Figure4: Completion of External Wall Plastering and wall finishing with 1st Coat of paint.



Figure5: Laying of Pavers and Kerbstones



Figure 6: Concreting to the Driveway.



Figure 7: Front View of Demolished Hazardous Store Roof



Figure 8: Continued Laying of Pavers to Parking Area



Figure 9: Office Finishes. Floor Tiling, Partition walls with Door Frames and Ceiling Installation



Figure 10: Sewerage. Construction Septic Tank and Soakaway



Figure 11: Construction of Lunch Shed Super-Structure

4.0 Progress by Milestone

Progress attained by Milestone is as follows:

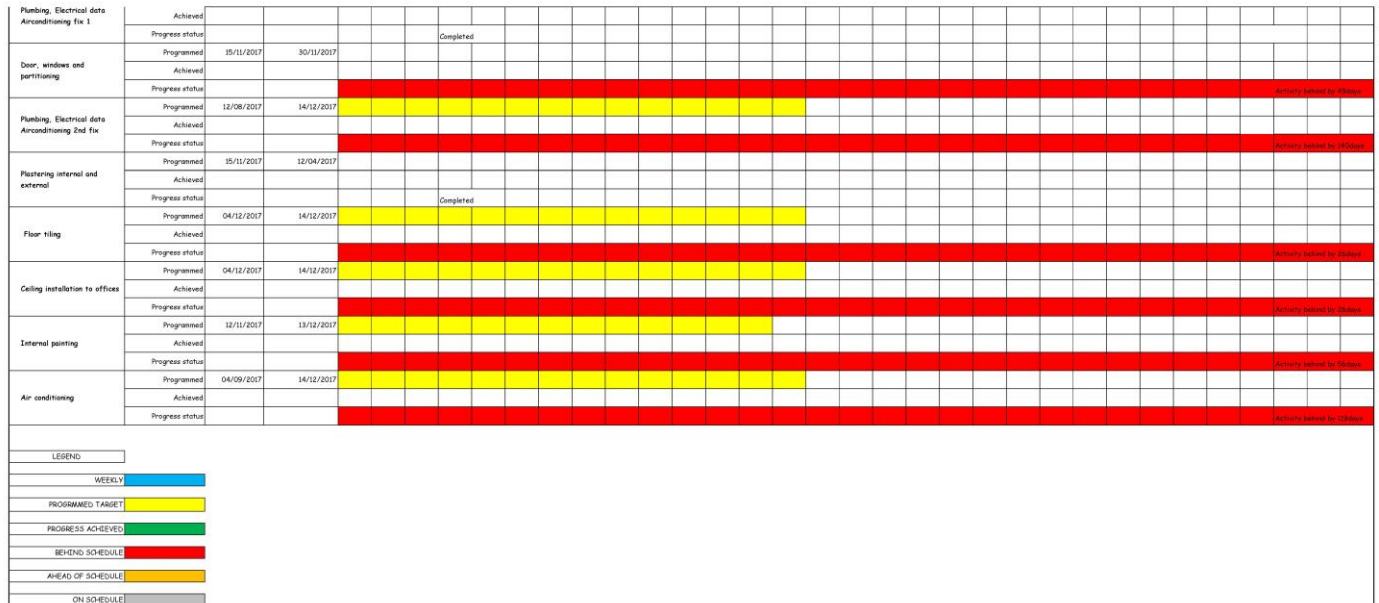
4.1 Site Mobilization is estimated at 100%, Site Establishment still at 95%, Ware House Building at 88%, External Works; i.e. Boundary Fence at 85%, Hazardous Store at 60%, the Lunch Shed at 45%, Guard House at 80% and Civil works are estimated at 85%. This excludes the additional buildings; i.e. Bin Yard which is yet to be sited and set out.

4.2 Overall Progress of the project is 91% 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 by the Project manager to the client for project completion on 16/02/18

5.0 Progress Analysis (Programmed and achieved Progress)

Construction of New Medical Stores Warehouse, in Mpika - Zambia (December 2017)



6.0 Delayed Activities

Overall, the project is behind by 9% and the contract period has elapsed. The following activities have not been completed and are still behind schedule:

6.1 Issuance of final full set of detailed drawings.

The contractor and the design team did not coordinate effectively during the time preliminary drawings were issued.

From inception it was vital that almost all relevant drawings are finalised and issued for construction. This caused a lot of misinformation and/or lack of information at times when urgently required, leading to late delivery and eventually late execution of works because drawings were produced in time by the design team.

6.2 Late Mobilization.

The contractor took three weeks to mobilize to site after contract signing and did not fully mobilize by providing all the necessary plant, equipment nor machinery to the site until works started delaying due to slow production.

7.0 Quality Assessment (Works and Designs)

The quality of the workmanship has improved. Strict attention to detail and quality of materials is always imperative due to the nature of the construction works required.

Designs constantly needed to be checked for practicality and specifications needed to be counter checked at all times because there wasn't adequate appreciation of the existing terrain by the Civil/Structural Engineer and all factors affecting the layout of the site.

All relevant tests are done and closely monitored on site to avoid compromise by the clerk of works.

The plant and equipment deployed or hired on site are in good working condition and are immediately replaced when wear and tear affects their performance.

8.0 Health and Safety Plan

8.1 Site health and safety sensitization has increased especially considering the period of the rainy season when a lot of water borne diseases become epidemics in such areas due to poor sanitation and general health. Health facilities are not easily accessible so the need for prevention is of high priority as opposed to treatment.

The health and safety officer continues to collaborate with the Ministry of Health and the Local Council Health Inspectors through the Clerk of Works to help sensitize workers on standard measures of prevention periodically or when requested.

8.2 Dust emissions are no longer an issue due to the onset of the rains.

9.0 Waste Management

9.1 The Local Council still awaits the contractor to start collecting and piling all waste on the site. The contractor has indicated that they will start the process immediately. The Clerk of Works has informed the local council that at that time most of the wet works and waste should have been piled to a central point in readiness for disposal.

10.0 Documents Submission

The following key documents have been submitted as stipulated in the contract:

Table 5. Documents Submission and approvals

No.	Document Reference	Date of Submission	Approved		Comments
			Yes	No	
i	Advance Payment Guarantee		√		Submitted
ii	Performance Guarantee		√		Submitted
iii	Quality Assurance Plan		√		Submitted
iv	Method Statement		√		Submitted
v	Drawings approval by Local Authority			√	Submitted. Awaiting Approval
vi	Contractor's – All-Risk Policy		√		Submitted
vii	Application for Extension of Time		√		Submitted

The only outstanding submittals are for the approval of Drawings by the Local Authority

11.0 Financial Matters

The contractor has been paid fully for certificates 1 - 7.

12.0 Contractual/ Technical Matters

12.1 Subcontracting

The following works have been subcontracted:

Electrical Installation - Sunshare Construction Ltd

Fire Protection Systems - Sunshare Construction Ltd

Air Conditioning Installation - Ndykay

Chiller Installation - Ndykay

Security Installation/ Access Control - Outstanding

Dock- leveller Equipment Installation - Sunshare Construction Ltd

Communication Systems Installation - Outstanding

Genset installation – Outstanding TBA by PM

The contractor has still not finalised all engagements and has been advised to do so immediately for some of these items have been outstanding for some time.

12.2 Designs

The Design Team has completed most of the designs. Some additions or adjustments will have to be agreed on site to ensure uniformity. It is important that actual site layouts are used to help produce as built drawings after completion. All changes made are to be incorporated in as built drawings.

12.3 Insurance

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

The total insurable cover for project is equivalent to the total contract value.

12.4 Communication

12.4.1 For all communication to be managed effectively, between the client, the contractor, and the design team and vice versa, it should be channelled 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 negative impact on the project in terms of expected deliverables.

13.0 Other Information

13.1 Table 6. Visitors on Site in the Month of December 2017

ID	Full Name	Organization	Purpose
1	Moses Katebe	District Commissioner	General Visit
2	Martin Malama	Member Parliament. Mpika Central	General Visit
3	Rino Meyers	Medical Stores Limited (Pharmaceutical Specialist)	Inspection
4	Timothy Sakala	Medical Stores Limited (Project Specialist)	Inspection
5	Chipupa Kazuma	Medical Stores Limited (Project Director)	Inspection
1	Moses Katebe	District Commissioner	General Visit
7	Martin Mulenga	Local Magistrates Court	Labour office summon
8	Davies Kalaba	Mpika Local Council (Building Inspector)	Inspection

9	Dr. Dean Phiri	Ministry of Health (Director)	Inspection
10	George Mulenga	Ministry of Health (P.S.M)	Inspection
11	Auditor Simwediba	Medical Stores Limited (Mpika site)	Inspection
12	Brian Chitale	Medical Stores Limited (Mpika site)	Inspection

14.0 Resources

14.1 Labour/Personnel

The works contractor has adequate man power and has effected extended working hours. Having more than one team per shift has also helped in speeding up that works.

Table 7 indicates the labour Personnel data on site as at 31st December, 2017.

Table 7. Labour/Personnel

Description	Number	Males	Females	Disabled	Foreign	Local
Site Manager	1	1			1	
Site Engineer	1	1			1	
Site Administrator	2	2			2	
Foremen	6	6			6	
Safety/Environmental Officer	1	1				1
Clerks	1	1				1
Skilled Labour	10	10				10
Semi-skilled Labour	40	40				40
Unskilled Labour	40	37	3			37
Total Employees on Site	102	99	3	0	10	89

Note. The labour force keeps changing depending on weight of activity and nature of works to be done

14.2 Plant and Equipment

The plant and equipment deployed on site is indicated in Table .2

Table 8. Plant and Equipment on Site

No.	Description	Quantity	Date on Site	Status
1	Tipper Truck 25Tons	1no.	10/09/2017	Hired
2	Tipper Truck 15Tons	1no.	21/08/2017	Owned
3	Sport Wagon(Sedan)	1no.	29/11/12	Owned
4	Plate Compactor	1no.	21/08/2017	Owned
5	Concrete Mixers	3no.	12/09/2017	Owned
6	Poker Vibrator	2no.	21/08/2017	Owned
7	Compressor	2no.	21/08/2017	Owned
8	Jack Hammer rock drill	2no.	21/08/2017	Owned
9	Heavy Duty Gen Set	1no.	25/10/2017	Owned
10	Concrete cutter	1no.	26/11/2017	Owned
11	Light Duty Genset	1no.	11/11/17	Owned

The contractor has fully mobilized on site. However, specific machinery is being hired when needed arises. The equipment was substantially adequate for the activities planned /executed in the month.

15.0 Materials

The notable Materials deployed on site is indicated in Table .3

Table 9. Notable Materials

No.	Description	Quantity	Date on Site	Comment
1	Timber (Form work/Shuttering)	Adequate	22/08/2017	Being re-used
2	Steel Reinforcement	7 Tons	30/08/2017	Being used
3	50kg Cement Grade 42.5	3,600 no.	25/10/2017	Stored and in use
4	8" Hollow Blocks	1,200 no.	28/09/2017	in use
5	Crushed Stones 15-18mm	30Tons.	30/10/2017	In use
6	Quarry Dust	15Tons.	30/09/2017	In use
7	Building sand	35 Tons.	30/10/2017	In use
8	257 Mesh	13Rolls.	25/10/2017	In use
9	Structural Steel	100%	20/08/2017	Used
10	Scaffolding	adequate	21/10/2017	In use
12	Communication cables	24boxes	24/11/2017	In store
13	110 PVC Pipe	12no.	24/11/2017	In use
14	160 PVC Pipe	9no.	24/11/2017	In use
15	75mm thk concrete pavers	4,000no.	24/11/2017	On site
11	500 gauge polythene sheet	20 Rolls	15/10/2017	In use
16	125x250x100mm Kerbstones	50no.	24/11/2017	On site
17	254x127 Concrete channel	25no.	24/11/2017	On site
18	Concrete & Channel moulds	30no.	24/11/2017	On site
19	IBR roofing sheets	40no.	03/11/2017	On site

20	Sisalation Insulation	9Rolls	03/11/2017	On site
21	Clear Vu fencing	Adequate	03/11/2017	On site

The materials are being utilized accordingly.

16.0 Construction Activity Progress Projection Plan (CAPPP)

Work planned for next one month

Note. The projection plan below is based on the revised program of work from the contractor for extension of time.

Table 10. Progress Projection Plan

Warehouse building

Item No.	Activity	State Date	Finish Date	Comments
i.	Blockwork & Walling	16/12/17	04/01/17	Completed.
ii.	Plumbing, Electrical, Data & Air-conditioning 1 st Fix	16/12/17	04/01/17	Completed. Except for Air-Cons. Materials not yet on site.
iii.	Wall Plastering, Internally & Externally	16/12/17	17/12/17	Completed.
iv.	Carpentry Joinery & Ironmongery	16/12/17	18/01/18	On Schedule
v.	Doors & Window Frames (Aluminium)	16/12/17	10/01/17	Re-programmed to link with tiling and plaster reveals
vi.	Floor finishes (Tiling)	16/12/17	14/12/17	To be concluded by 06/01/18
vii.	Specialized Installations (Chiller, Dock levellers)	16/12/17	20/01/18	Sub-contractor for chiller not yet on site. Dock levellers to be concluded by main contractor by 20/01/18
viii.	Metalwork (Roller Shutters, Door frames, hand railing & external staircase roof	16/12/17	12/01/18	External staircase roof to be completed by 04/01/18. Roller shutters, Balusters and door

	covering.			frames to be completed on scheduled finish date.
ix.	Air-conditioning works (Units)	16/12/17	20/01/18	Dependant on delivery of units and presence of sub-contractor
x.	Electrical installations (Internal)	16/12/17	20/01/18	Dependant on delivery of fittings
xi.	Fire Detection Services	16/12/17	20/01/18	Dependant on delivery fittings and presence of sub-contractor
xii.	Data communication & Access control	16/12/17	25/01/18	Will need to be coordinated with MSL I.T. for additional specs

External Works

Item No.	Activity	State Date	Finish Date	Comments
i	Excavations (External Works)	16/12/17	20/12/17	Completed
ii	External electrical and water reticulation	16/12/17	20/01/18	External electrical street lighting (solar) can be done as scheduled but dependant on delivery of street lights. Termination of electrical power is dependent on permanent supply and Standby Generator. Water can be done as scheduled but dependent of delivery of ground tanks and pumps. Est.
iii	Sewer reticulation	16/12/17	10/01/18	Piping for sewer completed Construction of Septic tank and Soakaway in progress.
iv	Road work (paving and drainage systems)	16/12/17	10/01/18	Behind schedule
v	Backfilling and compaction	16/12/17	10/01/18	Completed

	(External Civil Works)			
vi	Laying of concrete kerbstones	16/12/17	10/01/18	Behind schedule
vii	Reinforced concrete to driveways & paving	16/12/17	10/01/18	Completed

17.0 Mitigation Measures

Since the contractor did not manage to complete the works within the contract period, they were advised to apply for extension of time without cost and submitted the application to the Project Manager. After review of the application, the extension recommended was up to February 16, 2018. To avoid the contractor delaying again, the contractor has been advised to do a weekly schedule and highlight all remaining works with deadlines. Tracking of this schedule will be done as follows:

17.1 The contractor needs to conduct daily brief and planning meetings with the clerk of works to constantly address complete milestones and scheduled task to enable them track their progress and maintain their revised completion date.

17.2 Produce a materials schedule for all remaining items and ensure they are delivered to site with their relevant sub-contractors to avoid delays in discrepancies of materials and specification with immediate effect. This will also need to be closely monitored for the presence of sub-contractors can bring confusion if not well coordinated.

17.3 Continue working extended hours and maintain labour to avoid compromise in workmanship and quality of work.

17.5 Confirm all designs as final and get a sign off to avoid changes and rectification to works being done.

17.6 Commence snagging of all works once done before the revised completion date to ensure that all remedial works are done within the extended time frame.

18.0 Conclusion/Recommendation

The project overall progress is 91% against 100% originally planned. The contractor has to maintain their current revised program, work momentum and stay ahead or within their schedule in order to guarantee completion within the extended time frame.

It is therefore recommended that the contractor undertake the following.

18.1 The workmanship is to continue improving meeting the minimum stated levels in the contract and continued scrutiny and monitoring of works to ensure compliance by the contractor.

18.2 The contractor is advised to provide additional site housing for workers to reduce absenteeism due to the rains. Emphasis on a target based system for the workers will encourage hard work and in turn, early delivery.

18.3 Continue to undertake works up to extended hours with adequate lighting to the site.

18.4 Provide all necessary facilities under site establishment to enable workers and sub-contractors to be able to work on site at any time.

18.4 In order to further mitigate the delays on the recommended extension of time, the contractor had been instructed to further formulate a comprehensive work program.

18.6 The Project Manager and the Clerk of Works will closely monitor the delayed activities and ensure that the delays do not happen again with the extension period granted.