



iziko
museums of
South Africa

IZIKO MUSEUMS | 5-YEAR MAINTENANCE PLAN

REF. CSM/Architects/12/2015

BO-KAAP MUSEUM

DISCIPLINES: ARCHITECTURE | CIVIL | STRUCTURAL | MECHANICAL | ELECTRICAL

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PREPARED BY: FC HOLM CC & PROFESSIONAL TEAM



71 Wale Street, 1950s. Photographer: Lückhoff Collection; Iziko Social History Collections

PROJECT NAME
BUILDING
PROJECT NUMBER

Iziko Museums: 5-Year Maintenance Plan
Bo-Kaap Museum
CSM/Architects/12/2015

Signature of Project Manager

Date

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Background and purpose

- a) Iziko Museums appointed FC Holm Architects to compile 5-year Conservation and Maintenance Plans for the nine museum sites in Cape Town managed by them. This document is the 5-Year Maintenance Plan for the Iziko Bo-Kaap Museum, which forms part of the suite of documents comprising the Existing Building Conditions Report (EBCR), As-Built drawings and the Conservation Management Plan (CMP) for the Iziko Bo-Kaap Museum.
- b) The purpose of this document is to provide a maintenance plan that can be used as a tool by the on-site maintenance teams to ensure regular maintenance is done to the building to prevent deterioration and costly repairs in the long run. This report also aims to provide guidance on annual budgeting for maintenance.
- c) This document also encourages regular record-keeping that would provide continuity when staff are replaced, and to establish a database of knowledge for ongoing maintenance.
- d) This document needs to be read in conjunction with the CMP and EBCR for the Iziko Bo-Kaap Museum.

1. INTRODUCTION

All buildings deteriorate over time, due to the actions of the elements such as rain, wind and sunlight. Buildings therefore require continuous attention on an ongoing basis, to prevent them from deteriorating to a condition that would require costly repairs. Maintenance can be defined as routine, cyclical, non-destructive actions to slow down the deterioration of a building.

To further assist the understanding and importance of maintenance, the following extracts from the various heritage charters should be noted;

“The intention on conserving and restoring monuments is to safeguard them no less as works of art than as historical evidence.” [to maintain authenticity and record].

Venice Charter Article 3.

“It is essential to the conservation of monuments that they be maintained on a permanent basis.”

Venice Charter. Article 4

“Maintenance is fundamental to conservation and should be undertaken where fabric is of cultural significance and its maintenance is necessary to retain that cultural significance.”

Article 16 Burra Charter 1999

“Maintenance means the continuous protective care of the fabric and setting of a place and is to be distinguished from repair. Repair involves restoration or reconstruction.”

Article 1.5 Burra Charter 1999

It is a known fact that regular and expertly executed maintenance, which forms part of an integrated strategy will protect a heritage asset against decay, wear and tear and deterioration. When a building has been neglected to a condition where it becomes necessary to repair the decay, the significance of the asset may be compromised by the intervention to preserve the asset.

Maintenance can be broken down into three categories:

Corrective Maintenance: Work that is necessary to bring a building to an acceptable condition, e.g. as identified in the Existing Building Condition Report (EBCR).

Emergency Maintenance: Work required immediately for health, safety and security, or to prevent the rapid deterioration of the building if not done. Emergency maintenance would include the following:

- Exposed / unsafe wiring & overloaded electrical circuits (fire hazard).
- Broken steps, loose building elements, electrical shock hazard (personal injury hazards).

Planned Maintenance: Work to prevent deterioration which happens regularly during the lifetime of a building, e.g. painting, cleaning, etc.

This document is focussed on planned maintenance, while the EBCR is focussed on corrective maintenance. The initial intervention for the Iziko Bo-Kaap Museum would be corrective maintenance, followed by a routine cyclical maintenance approach. Planned maintenance should be guided by annual inspections as outlined in the Inspection Schedules later in the document.

The maintenance schedule should be flexible to allow emergency maintenance to be prioritised. Even though some maintenance work only occurs every 3 or 5 years (e.g. painting), those items should still be inspected on an annual basis, as localised damage could occur which would require only minimal intervention at the time, thereby preventing more extensive damage within the 5-year cycle.

Planned maintenance also makes budgeting easier, as large-scale interventions (e.g. repainting of building) would be anticipated and allocated in the budget of a specific year.

The purpose of maintenance is to ensure longevity, reduce costs and protect authenticity to preserve significance.

2. HOW TO USE THIS REPORT

This document is the 5-Year Maintenance Plan for the Iziko Bo-Kaap Museum, which forms part of the suite of documents comprising the Existing Building Conditions Report (EBCR), As-Built Drawings and the Conservation Management Plan (CMP).

The report is divided into various sections. The introduction outlines the importance of maintenance, and explains the difference between corrective, emergency and planned maintenance. The next chapter deals with repair and maintenance protocols. Since this is a heritage building of note, these protocols must be adhered to diligently.

The next chapter deals with heritage compliance and the requirements of the National Heritage Resources Act. In many cases a permit will have to be obtained from Heritage Western Cape for the work to be done.

The chapter on the Maintenance Schedule, Checklists and Worksheets forms the heart of the document. The Maintenance Schedule lists all the inspections that must be done, as well as the frequency of it. It also indicates the intervals when major work such as the repainting of the building should be done. These items should be done regardless of the condition, as gradual deterioration in the paint might not be noticeable to someone who sees the building every day.

The Checklists should be copied and used during the annual inspections, as indicated. This will help to identify small defects, before it becomes a problem. These Checklists should be filed for future reference. When a project has been identified, the Project Worksheet should be filled in, containing a description of the problem and a scope of work, which can be used to brief the on-site team, or the contractor or the consultant. Budget and actual costs must also be recorded to facilitate accurate budgeting in future. These Worksheets should also be kept on file and must be annotated if a particular repair failed or did not exceed the warranty period.

The chapter on procurement deals with the requirements of getting the right consultants and contractors on board, while still complying with government procurement policies. The chapter on budgeting provides a draft budget that can be adapted to suit current funding. The aim is to do all the required work as set out in the Maintenance Schedule, while distributing the costs as evenly as possible over the five year period. Since there is a backlog in maintenance, there would be a significant amount of corrective maintenance required in the first years, after which the normal maintenance cycle can be initiated. The building manager must have some discretion to bring some work forward or to delay some work not deemed urgent to fit in with the budget allocation. The same principle applies to emergency work, where scheduled maintenance work may have to move into the next financial year.

The appendix has some typical specifications for various standard maintenance tasks. It should be noted that these specifications should be submitted to the heritage authorities in cases where a permit is required.

3. REPAIR AND MAINTENANCE PROTOCOLS

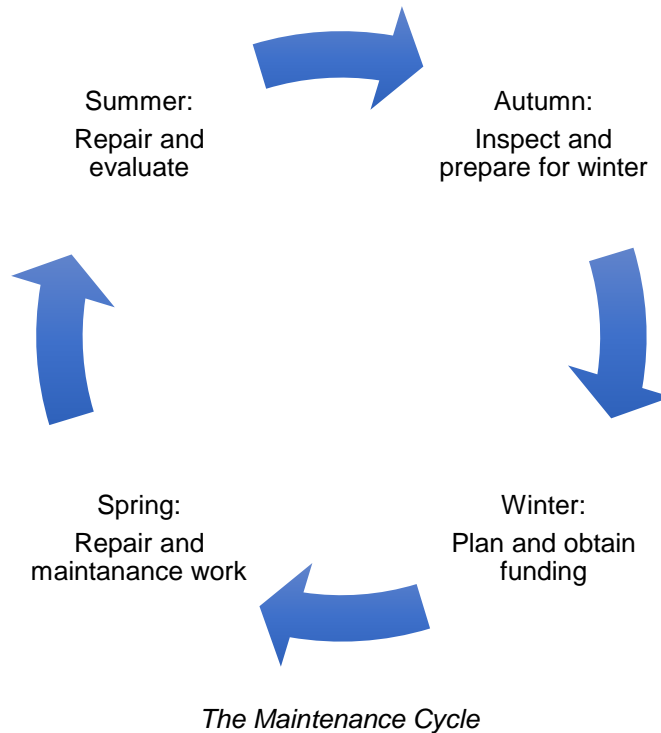
The maintenance plan is divided into seasons. During Autumn the building must be inspected to ensure that it is ready for the winter rainfall season. A thorough inspection of the exterior is required to determine if there are conditions requiring immediate attention. The occupants of the building should also be consulted as they would most likely know if there are certain roof leaks and other problems that may not be visible during inspection.

During winter the inspection report can be reviewed, work can be planned for the spring season and quotes can be obtained. Emergency work may be executed during winter, e.g. repair and maintenance work to the stormwater drainage system.

During spring and summer most of the work will be executed in terms of the plan. Over time the annual maintenance plan will become more routine and budgeting will become more accurate and predictable.

3.1. Procedures

- The building manager or maintenance staff must make a list of defects picked up during inspections. A camera should be used to record the defects;
- Prioritize the defects. Defects related to safety, structural integrity, or water ingress must be attended to first;
- Determine who will do the work. Normal issues such as cleaning of gutters can be dealt with by the in-house maintenance teams, while more serious or technical issues such as waterproofing can be outsourced to specialist contractors;
- Obtain quotes and apply for funding, if required.



3.2. Maintenance logbook

The building manager should have a maintenance logbook where all maintenance work carried out is recorded. The information contained in the logbook should include a description of the work, date of completion, estimated and actual cost, name of the contractor and warranties. Details of treatments, paint types and colours should be cross-referenced so that this information is readily accessible in future. The maintenance logbook over time becomes a valuable resource for future budgeting.

To ensure a long term benefit, the effectiveness of materials and procedures used must be evaluated to assess suitability for future maintenance work. The aim should be to improve on the previous decision so that the maintenance can become more effective in future. This will also improve the briefing of the contractor when work is required in the next maintenance cycle. Keeping of detailed records is also very valuable where there is a change in maintenance personnel, to provide continuity and prevent repetition of previous mistakes. The following issues must be considered when reviewing maintenance work;

- Necessity and appropriateness of the materials and procedures adopted;
- Duration and quality of the work;
- Timeframe of the planned maintenance work;
- If better products have come on the market since completion of previous maintenance work.

These protocols as contained in the CMP may be used to augment existing policies and procedures, particularly where these do not necessarily address heritage issues.

3.2.2. Protocol 1: Security, access control and surveillance Issues.

- The Iziko Bo-Kaap Museum contains artefacts of heritage and cultural importance and value. Some of these artefacts are moveable and have high monetary value and are therefore susceptible to theft. The building fabric includes precious and rare materials and fixtures that are irreplaceable (or at great cost) and therefore are also susceptible to theft.
- Thieves are also responsible for damage to heritage fabric when forcing access into buildings and when stealing water pipes, electrical wiring etc.
- Damage to heritage fabric can also be caused by unauthorised or unsupervised access to parts of the building (such as the roof), or ignorance regarding the value or vulnerability of heritage fabric and artefacts.

Protocols:

- Minimize access and exit points to the building;
- Access points should ideally have camera surveillance;
- Position the security / guard room close to the main entrance, including the location for keys (keys to be kept securely).

- 3.2.3. Protocol 2: Tenancy, stakeholder and contractor liaison and agreements issues.
- Neglect is often the result of ignorance and in order to minimise possible adverse impacts, it is important to convey to user groups, tenants, contractors and other stakeholders the responsibility the heritage importance of the Bo-Kaap Museum and its contents, as well as other potential risks.

Protocols:

- User groups, tenants, contractors and other stakeholders who enter into any agreement or contract with Iziko should be advised of the historical significance of the Iziko Bo-Kaap Museum and the heritage value of its contents, specifically its heritage status as a provincial heritage site.
- All existing fixtures contained in the museum are of heritage value, especially vintage or period fittings. Under no circumstances are these to be removed (except temporarily for painting / refurbishment purposes).
- Contractors must make use of skilled artisans for heritage work, who must be supervised continuously, preferably by a heritage professional. Hand tools are preferred to machine tools for intricate work, specifically if it involves parts of the building, or fabric of heritage importance.
- Contractors must proceed with caution with all new work and must provide the necessary protection to existing surfaces that may be impacted (especially floors and door thresholds and surrounds).
- Heritage artefacts and fabric must be protected from damage with the installation of any scaffolding, hoists and temporary works.

- 3.2.4. Protocol 3: Appropriate cleaning materials and methods for heritage fabric.
- Although the Iziko Bo-Kaap Museum is constructed with durable materials, inappropriate cleaning materials and methods may lead in the long term to the deterioration of heritage fabric. Appropriate cleaning materials and methods should be employed. Strong or corrosive industrial solvents and abrasive mechanical equipment should be avoided for cleaning of heritage fabric.

Protocols:

- Cleaning grime and accumulated dirt from walls;
Clean with sugar soap, diluted to manufacturer's instructions followed by clean water and a dry cotton cloth.
- General cleaning of timber floors;
Vacuum floors with brush head exposed. Wipe floors with microfibre mop (commercial) and use floor cleaning solution with spray bottle (Bona or Loba; diluted in accordance with the manufacturer's instructions). Clean every 2-3 days.
- General cleaning of brass and copper elements;
Mask all hardware with tape or remove carefully. Clean brass and copper with hot soapy water and a soft cloth. Never use any abrasive or acidic / caustic materials or chemicals ("Brasso", steel wool, brushes, baking soda and other acidic or caustic solutions). Polish brass ironmongery with brass polish to manufacturer's specifications.
- Removal of mould;
Scrub or wipe painted timber clean with mild solution of water and bleach. Rinse with clean water. Dry painted timber with soft cloth.
- Removal of reusable putty-like adhesive, masking tape & stickers;
Carefully remove reusable putty-like adhesive, masking tape, stickers and clean surface with sugar soap. Remove reusable putty-like adhesive that is still tacky with a larger ball of new reusable putty-like adhesive with a fast press on and lift of action. Remove old and hard reusable putty-like adhesive by rubbing it with a soft cloth soaked in a bit of Benzene.

- 3.2.5. Protocol 4: Compliance with building and services codes affecting heritage fabric Issues.
- Current building and services codes for light, ventilation, fire protection, safety and the environment etc. may conflict with the existing spatial arrangement and fabric of heritage buildings.
 - Alterations to heritage buildings to conform to the codes may have negative impacts on heritage space and fabric.

Protocols:

- Compliance with current building codes should not necessarily be used as the reason for authorising alterations to heritage buildings until other avenues to achieve acceptable health, safety and environmental standards have been exhausted. Unavoidable impacts of heritage buildings should be mitigated where possible.

- Where not forming part of any approved Conservation Management Plan, any alterations to a heritage building should comply with the NHRA (National Heritage Resources Act No. 25 of 1999) and where applicable the necessary permit should be obtained. In terms of the Act “Alter means any action affecting the structure, physical appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or other decoration or any other means”.

3.2.6. Protocol 5: Routine inspection, maintenance and servicing Issues.

- Regular maintenance and servicing of component parts is required to keep buildings in good stead, particularly buildings that contains fabric vulnerable to the elements, aging services and hard use.
- The principal of “prevention is better than cure” is in particular applicable to building maintenance. Inspections of the building elements and fabric must be undertaken at periodic intervals, with reports to be compiled for further action.

Protocol:

- Routine inspections of the building exterior and interior must be undertaken by management, with reports to be prepared for further action. The schedule provided below is a guide for items to be inspected and the time interval between inspections. The reports should be logged to maintain a log for management continuity over time.
- Alternative methods should be investigated and where necessary waivers should be obtained from the relevant authorities. Unavoidable impacts on heritage buildings should be mitigated where possible.
- Where not forming part of any approved Conservation Management Plan, any alterations to a heritage building should comply with the NHRA (National Heritage Resources Act No. 25 of 1999) and where applicable the necessary permit should be obtained. In terms of the Act “Alter means any action affecting the structure, physical appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or other decoration or any other means”.

4. HERITAGE PROCEDURES

It should be noted that certain maintenance tasks would require an application for a permit.

Where not forming part of any approved Conservation Management Plan, any alterations to a heritage building should comply with the NHRA (National Heritage Resources Act No. 25 of 1999) and where applicable the necessary permit should be obtained. In terms of the Act “Alter means any action affecting the structure, physical appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or other decoration or any other means”.

The following should be noted:

- Section 1 of the Act states that the Act binds the State. Whereas previously State Departments were not bound by heritage legislation, this section of the Act specifically binds all State departments to the provisions of the Act.
- Section 27 specifically deals with provincial heritage sites. In terms of Section 27, the Act States that “No person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or damage the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site.” In this instance the responsible heritage resources authority is Heritage Western Cape (HWC). The purpose of such a permitting system is to clarify the nature and degree of significance of different components of the heritage site to evaluate the nature of proposed interventions. For instance, the ceilings, cornices, mouldings etc. of a specific room need to be clearly analyzed and assessed prior to any intervention. The purpose is thus to ensure the retention of heritage worthy elements.
- The definition of “alter” contained in the Act means “any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or other decoration or any other means”. The term is thus broad ranging and all-embracing and extends well beyond the external appearance of a building. Dropped ceilings, the insertion of air conditioning systems, bathrooms etc. all fall within the definition of “alter” and require a permit in terms of the provisions of the Act. The only activities which could reasonably be regarded as not requiring a permit, are those relating to essential repair and maintenance.

5. MAINTENANCE SCHEDULES

The Maintenance Schedule (see Annexure A) list all the inspections and work that must be done, as well as the frequency. It also indicates the intervals when major work such as the repainting of the building must be done. These items must be done regardless of the condition, as gradual deterioration in the paint might not be noticeable to someone who sees the building regularly.

6. MAINTENANCE CHECKLISTS / WORKSHEETS

It is essential that repair and maintenance work are documented and kept on file. Maintenance Checklists must be filled in for each season (see Annexure B). It is important that all the checks must be done annually, or more frequently where indicated, to identify problems early.

Once a defect is identified, the building manager must decide if the in-house maintenance team can fix it, or if specialist contractors are required. All records must be kept of the repair work that was done resulting from the inspection, including the company or tradesperson who executed the work, contact numbers, costs and any guarantees must be placed on file. A proforma Project Worksheet and Maintenance Record are also included under Annexure B, that can be adapted to suit specific requirements.

Any additional information such as professional reports from architects or engineers, cost estimates, warranties, drawings and specifications must also be kept on record. The inspector must also compile a photographic report of the defect and repair.

The frequency of inspections will be determined by the rate of decay and deterioration of the various building elements. When the maintenance plan is introduced, it is advisable to carry out some inspections at shorter intervals. After some point it may be appropriate to extend the intervals between inspections.

Recommendation

Due to the extremely deteriorated condition of specifically the front façade of the Iziko Bo-Kaap Museum and the amount of corrective maintenance required in this area, it is recommended that inspections be held every 6 months on some tasks, and once a year on other tasks as identified in the checklists. No inspection should be more than 12 months apart.

7. PROCUREMENT

In many cases it would be necessary to obtain the services of a heritage architect and possibly an engineer and quantity surveyor to prepare specifications, drawings and tender documents. The heritage architect must also to submit all the required heritage applications to obtain the required permit from the relevant authorities, and to supervise the work, ensuring the contractor executes the work according to specification. An engineer must not be appointed without a heritage architect, as the engineer (structural, mechanical or electrical) must be guided by the heritage architect in terms of any intervention.

Repair work must not entail the removal or alteration of any significant heritage characteristics. Alterations must be reversible and make as little impact on the building as possible. Should any alteration be required, it must be done to protect buildings from deterioration and to ensure the safety of its occupants.

7.1. Heritage Architect

The heritage architect must have a proven track record of work done on heritage buildings and must be recognized by the heritage authorities as a heritage practitioner. The heritage architect must be able to provide a list of at least three projects of similar nature and scope on graded heritage buildings, with contactable references for each.

7.2. Contractors

Contractors must be carefully selected, based on previous experience on projects of similar nature, scope and complexity projects completed on graded heritage buildings, in addition to the departmental procurement requirements. The following must be provided by the contractor to be evaluated as prequalification before any tender process;

- List of at least three similar projects, with contactable references for each project. Work on an ungraded old building must not be accepted as applicable experience. The level of complexity of previous work on graded heritage buildings must match the complexity of work he will be appointed for.
- Proof of how many years the contractor has been in business and doing work on heritage related projects.
- Proof of general good standing amongst heritage architects.
- References from heritage practitioners for whom the contractor had done similar work previously.

Contractors must be supplied with a well-defined brief, scope of works and specification on which to quote. Depending on the nature of the work, this should preferably be prepared by a heritage architect. This will ensure that all the quotes received are comparable. A contractor-defined specification and scope must be avoided.

8. MAINTENANCE BUDGETS

There are three kinds of maintenance budgets:

- Committed expenditure;
Tasks that occur every year as part of planned maintenance, such as mechanical services maintenance contracts etc.
- Variable expenditure;
Regular tasks within an overall program of planned maintenance that may not occur every year. The building manager can exercise some discretion on the priorities of these tasks.
- Managed expenditure;
Unplanned maintenance work, mainly unplanned emergency corrective maintenance;

The aim of the maintenance budget is to reduce *managed expenditure* and replace it with *variable expenditure* over time. By doing regular inspections, the occurrence of unplanned emergency tasks can be eliminated.

Budgets must also include costs for inspections, professional fees, if required, cleaning and the actual cost of the work and materials. The building manager must decide what work is necessary to maintain the building, within the funds available, and which tasks can be carried over to the next year.

The purpose of the draft cashflow (see Annexure C) is to assist the building manager to compile an annual budget and to apply for funding. The budgeted amounts are estimates, based on the projects in the Existing Building Condition Report and include VAT. Budgeting will become more accurate over time, as actual costs are recorded and used as basis for each consecutive annual budget. The figures in the draft cashflow are mainly for work to be done by external contractors and include an allocation for consultant fees. The tasks done by the inhouse maintenance teams such as inspections, cleaning, etc. have not been costed and will fall under the normal maintenance budget.

The purpose of a 5-year plan is to look ahead at the big cost items and allocate them to the various years, to evenly spread the costs across different financial years, while ensuring that all the maintenance tasks are executed within the required timeframes. These estimated amounts are escalated annually at 8% to compensate for normal inflation in the building industry. The values that are highlighted indicate in which year that task has been allocated. The light grey figures are there to assist the building manager if a certain task has to be re-allocated a year earlier or later.



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BO-KAAP MUSEUM
ANNEXURES

DATE: SEPTEMBER 2018

IZIKO MUSEUMS | 5-YEAR MAINTENANCE PLAN

REF. CSM/Architects/12/2015

BO-KAAP MUSEUM

ANNEXURE A: ROUTINE BUILDING MAINTENANCE SCHEDULE

DATE: **SEPTEMBER 2018**

PREPARED BY: **FC HOLM CC**

IZIKO BO-KAAP MUSEUM

DOCUMENT: Routine Building Maintenance Schedule

DATE:

NOTES: The purpose of this document is to manage where and when routine is required.
Repairs and maintenance must follow conservation principals

AREA	DATE	COMPONENT	SCOPE OF WORK	IMMEDIATE	ANNUALLY	3 YEARS	5 YEARS	NOTES
ROOF		General	Remove plants, leaves, moss, nests, dead animals and wind driven debris from the roof and outlets twice a year.		Spring and autumn; Inspection and cleaning.			Done by in-house maintenance team to prepare roof for winter and to clean roof after winter.
		Waterproofing & flashing	Inspect waterproofing, flashing and silver paint finish annually, before the rain season for deterioration. Do repairs where necessary		Summer; Inspection and minor repairs		Major repairs and refinishing.	Inspect during summer to allow enough time for procurement and on-site work before winter by a waterproofing specialist.
		Gutters & downpipes	Inspect fixings and repair any loose gutters and downpipes. Inspect for blockages, leaks etc. twice per year.		Spring and autumn; Inspection and cleaning		Major repairs and refurbishment.	Done by in-house maintenance team to prepare rainwater goods for the winter and to clean rainwater goods after the winter.
		Parapet walls	Inspect parapet capping and waterproofing on top and inside face of walls annually. Repair where and when necessary.		Summer; Inspection and minor repairs		Major repairs and refinishing.	Inspect during summer to allow enough time for procurement and on-site work before winter by a waterproofing specialist.
FACADES		Paint & decorative finishes	Inspect annually for cracks, paint peeling, damaged plaster, signs of moisture penetration, vandalism. Repair immediately.	Immediately; Corrective maintenance	Spring; Minor repairs		Complete repaint	Inspect after winter when walls are still damp, to allow time for procurement and on-site work in summer and autumn.
		External doors and windows	Inspect annually for cracks, water ingress, rot, missing ironmongery, broken glass, defective sealant and any other defects. Repair immediately.	Immediately; Corrective maintenance	Spring; Minor repairs			Inspect after winter when walls are still damp, to allow time for procurement and on-site work in summer and autumn.
PAVING		Cobblestone paving	Inspect paved areas for sagging, loose grouting weed growth, ponding etc. Repair immediately.	Immediately; Corrective maintenance		Inspect and repair		Inspection and small repairs by in-house maintenance team.
		In situ concrete paving	Inspect paved areas for sagging, loose / missing sealant weed growth, etc. Repair immediately.	Immediately; Corrective maintenance		Inspect and repair		Inspection and small repairs by in-house maintenance team.
		Slate paving	Inspect paved areas for sagging, loose grouting weed growth, ponding etc. Repair immediately.	Immediately; Corrective maintenance		Inspect and repair		Inspection and small repairs by in-house maintenance team.

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AREA	DATE	COMPONENT	SCOPE OF WORK	IMMEDIATE	ANNUALLY	3 YEARS	5 YEARS	NOTES
STORMWATER & SEWER SYSTEM		Catch pits and stormwater pipes	Inspect for blocked and overflowing stormwater drains and pipes. Repair if necessary.	Immediately; Corrective maintenance	Spring and autumn; Inspect and cleaning			Inspect by in-house maintenance team to prepare the stormwater system for winter and to clean the system after winter.
		Manholes and sewer pipes	Inspect for blocked and overflowing sewer drains. Repair if necessary.	Immediately; Corrective maintenance		Inspect and repair		Inspection and small repairs by in-house maintenance team.
BUILDING STRUCTURE		Roof	Inspect the roof and structural timbers and check for any movement, cracks or splits, rot, beetle infestation and signs of bird and rodent access.	Immediately; Corrective maintenance		Inspect and repair		Inspect by in-house maintenance team. Consult structural engineer if necessary. Procure quotes for repair work from specialist contractor.
		Walls	Inspect superstructure and walls for any structural movement and cracks.	Immediately; Corrective maintenance		Inspect and repair		Inspect by in-house maintenance team. Consult structural engineer if necessary. Procure quotes for repair work.
		Columns, beams and slabs	Inspect for cracks, spalling plaster / concrete and rusting reinforcement.	Immediately; Corrective maintenance		Inspect and repair		Inspect by in-house maintenance team. Consult structural engineer if necessary. Procure quotes for repair work.
BUILDING INTERIOR		Ceilings and cornices	Inspect for signs of water damage, peeling paint / varnish and rot. Repair if necessary.	Immediately; Corrective maintenance			Inspect, repair and repaint.	Inspections and minor repairs by in-house maintenance team. Repainting by contractor.
		Walls	Inspect for peeling paint, damp and cracks. Repair if necessary.	Immediately; Corrective maintenance			Inspect, repair and repaint.	Inspections and minor repairs by in-house maintenance team. Repainting by contractor.
		Tiled areas	Inspect for cracked tiles, loose grouting etc. Repair immediately.	Immediately; Corrective maintenance		Inspect and repair		Inspection and small repairs by in-house maintenance team.
		Vinyl floors	Inspect for loose and broken flooring. Repair immediately.	Immediately; Corrective maintenance		Inspect and repair		Inspection by in-house maintenance team. Repairs by qualified service provider.
		Timber floors	Inspect for warping, rot, worn through areas and other defects. Repair immediately.	Immediately; Corrective maintenance	Spring; Inspection and repairs			Inspect after winter when there is still a potential build-up of moisture in the building structure and to allow time for procurement and on-site work in summer and autumn.

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AREA	DATE	COMPONENT	SCOPE OF WORK	IMMEDIATE	ANNUALLY	3 YEARS	5 YEARS	NOTES
BUILDING INTERIOR		Carpets	Inspect for any damage.	Immediately; Corrective maintenance		Inspect and repair		Inspection by in-house maintenance team. Repairs by qualified service provider.
		Internal doors	Inspect annually for cracks, rot, missing ironmonger, and any other defects. Repair if necessary.	Immediately; Corrective maintenance			Inspect, repair and repaint.	Inspection and small repairs by in-house maintenance team.
		Skirting, dados etc.	Inspect for excessive wear, rot, condition of varnish / paint etc. Repair if necessary	Immediately; Corrective maintenance			Inspect, repair and repaint.	Inspection and small repairs by in-house maintenance team.
		General	Inspect fixtures, sanitaryware, stair treads, handrails. Repair if necessary.	Immediately; Corrective maintenance			Inspect, repair and repaint.	Inspection and small repairs by in-house maintenance team.
BUILDING SERVICES		Electrical installation	Inspect and test electrical circuits, light fittings, plug points etc.	Immediately; Corrective maintenance	Inspect and repair			Inspection and repairs by qualified service provider.
		Mechanical installation	Inspect and service the lift, air conditioning and ventilation systems.	Immediately; Corrective maintenance	Inspect and repair			Inspection and repairs by qualified service provider.
		Fire protection installation	Inspect and service fire extinguishers,	Immediately; Corrective maintenance	Inspect and repair			Inspection and repairs by qualified service provider.
		Electronic installations	Inspect, test and service the security alarm, CCTV and fire detection installations.	Immediately; Corrective maintenance	Inspect and repair			Inspection and repairs by qualified service provider.

IZIKO MUSEUMS | 5-YEAR MAINTENANCE PLAN

REF. CSM/Architects/12/2015

BO-KAAP MUSEUM

ANNEXURE B: MAINTENANCE CHECKLISTS AND WORKSHEETS

DATE: SEPTEMBER 2018

PREPARED BY: FC HOLM CC

IZIKO BO-KAAP MUSEUM

DOCUMENT: Spring and Summer Maintenance Checklist
 DATE:
 NOTES:
 WEATHER CONDITIONS:

TASK	NOTES	INITIAL
Remove plants, leaves, moss, nests, dead animals and wind driven debris from the roof and outlets twice a year.		
Inspect waterproofing, flashing and silver paint finish annually, before the rain season for deterioration. Do repairs where necessary		
Inspect fixings and repair any loose gutters and downpipes. Check for blockages, leaks etc. twice per year.		
Inspect parapet capping and waterproofing on top and inside face of walls annually. Repair where and when necessary.		
Inspect façade walls annually for cracks, paint peeling, damaged plaster, signs of moisture penetration, vandalism. Repair immediately.		
Inspect external doors and windows annually for cracks, water ingress, rot, missing ironmongery, broken glass, defective sealant and any other defects. Repair immediately.		
Inspect cobblestone paving for sagging, loose grouting weed growth, ponding etc. Repair immediately.		

IZIKO BO-KAAP MUSEUM

DOCUMENT: Spring and Summer Maintenance Checklist
 DATE:
 NOTES:
 WEATHER CONDITIONS:

TASK	NOTES	INITIAL
Inspect in situ concrete paving areas for sagging, loose / missing sealant weed growth, etc. Repair immediately.		
Inspect slate paving areas for sagging, loose grouting weed growth, ponding etc. Repair immediately.		
Inspect stormwater catch pits and pipes for blocked and overflowing stormwater drains and pipes. Repair if necessary.		
Inspect sewer manholes and pipes for blocked and overflowing sewer drains. Repair if necessary.		
Inspect the roof and structural timbers and check for any movement, cracks or splits, rot, beetle infestation and signs of bird and rodent access.		
Inspect superstructure and walls for any structural movement and cracks.		
Inspect columns and beams for cracks, spalling plaster / concrete and rusting reinforcement.		
Inspect for signs of water damage, peeling paint / varnish and rot. Repair if necessary.		
Inspect ceilings and cornices for signs of water damage, peeling paint / varnish and rot. Repair if necessary.		

IZIKO BO-KAAP MUSEUM

DOCUMENT: Spring and Summer Maintenance Checklist
 DATE:
 NOTES:
 WEATHER CONDITIONS:

TASK	NOTES	INITIAL
Inspect internal walls for peeling paint, damp and cracks. Repair if necessary.		
Inspect for cracked tiles, loose grouting etc. Repair immediately.		
Inspect for loose and broken vinyl flooring. Repair immediately.		
Inspect timber floors for warping, rot, worn through areas and other defects. Repair immediately.		
Inspect carpets for any damage.		
Inspect internal doors annually for cracks, rot, missing ironmonger, and any other defects. Repair if necessary.		
Check skirting, dados etc. for excessive wear, rot, condition of varnish / paint etc. Repair if necessary		
Inspect fixtures, sanitaryware, stair treads, handrails. Repair if necessary.		
Inspect and test electrical circuits, light fittings, plug points etc.		
Inspect and service the lift, air conditioning and ventilation systems.		
Inspect and service fire extinguishers,		
Inspect, test and service the security alarm, CCTV and fire detection installations.		

IZIKO BO-KAAP MUSEUM

DOCUMENT: Autumn and Winter Maintenance Checklist
DATE:
NOTES:
WEATHER CONDITIONS:

TASK	NOTES	INITIAL
Remove plants, leaves, moss, nests, dead animals and wind driven debris from the roof and outlets twice a year.		
Inspect fixings and repair any loose gutters and downpipes. Check for blockages, leaks etc. twice per year.		
Inspect stormwater catch pits and pipes for blocked and overflowing stormwater drains and pipes. Repair if necessary.		
Inspect sewer manholes and pipes for blocked and overflowing sewer drains. Repair if necessary.		

IZIKO BO-KAAP MUSEUM



DOCUMENT: Maintenance Record
DATE:
NOTES:

PROJECT	LOCATION	COST	START DATE	END DATE	NOTES

IZIKO BO-KAAP MUSEUM



DOCUMENT: Project Worksheet
 DATE:
 REVISION:

Name of project:	Corrective Maintenance	
	Emergency Maintenance	
	Planned Maintenance	

1. PROJECT DESCRIPTION	Reference

2. CLIENT DEPARTMENT REQUIREMENTS	Reference

3. CMP GUIDELINES	Reference

4. SCOPE OF WORK / SPECIFICATIONS	Reference

5. PROCESS AND PROCEDURES	
5.1. Procurement requirements;	Tender / RFQ
5.2. Heritage approval required;	Yes / No

6. COSTS				
Type	Notes	Budget	Actual cost	Over / under
Materials				
Contractor				
Consultants				
Other				
Other				
Other				
Total				

IZIKO BO-KAAP MUSEUM

DOCUMENT: Project Worksheet
DATE:
REVISION:

7. COSTS				
Discipline	Required	Firm name	Fee budget	Fee total
Heritage Architect				
Civil Engineer				
Structural Engineer				
Electrical Engineer				
Mechanical Engineer				
Landscape Architect				
Quantity Surveyor				
Space Planning				
Other				
Total				

8. LOCATION IN BUILDING (PLAN)	Reference

9. LOCATION ON SITE (PLAN)	Reference

10. NOTES	Reference

IZIKO MUSEUMS | 5-YEAR MAINTENANCE PLAN
REF. CSM/Architects/12/2015

BO-KAAP MUSEUM
ANNEXURE C: ROUTINE MAINTENANCE BUDGET

DATE: **SEPTEMBER 2018**

PREPARED BY: **FC HOLM CC**

IZIKO BO-KAAP MUSEUM

DOCUMENT: Routine Maintenance Budget
 DATE:
 NOTES:

COMPONENT	AGENCY	YEAR 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	NOTES
BUILDING EXTERIOR REPAIRS								
Waterproofing and exterior repainting	Outsource		R 45,000.00	R 95,000.00	R 95,000.00			
Roofs and rainwater goods	Outsource		R 25,000.00	R 35,000.00	R 35,000.00			
BUILDING INTERIOR REPAIRS								
Internal repainting	Outsource		R 25,000.00	R 35,000.00	R 35,000.00			
BUILDING SERVICES REPAIRS								
Fire protection and suppression systems	Outsource		R 35,000.00					
HVAC installation	Outsource		R 180,000.00					
Domestic hot water installation	Outsource		R 35,000.00					
BUILDING EXTERIOR MAINTENANCE								
Roof	In-house							
Facades	In-house							
Paved areas	In-house							
Stormwater & sewer system	In-house							
BUILDING INTERIOR MAINTENANCE								
Ceilings and cornices	In-house							
Internal walls	In-house							
Floors	In-house							
Internal doors	In-house							
Skirting, dados etc.	In-house							
BUILDING SERVICES MAINTENANCE								
Electrical installation	In-house							
Air conditioning and ventilation systems	In-house							
Fire detection and protection installations	In-house							
Security alarm & CCTV installations	In-house							
TOTALS			R 345,000.00	R 165,000.00	R 165,000.00			

IZIKO MUSEUMS | 5-YEAR MAINTENANCE PLAN
REF. CSM/Architects/12/2015

BO-KAAP MUSEUM

ANNEXURE D: SPECIFICATIONS

DATE: SEPTEMBER 2018

PREPARED BY: FC HOLM CC

GENERAL NOTES

DOCUMENTATION, DRAWINGS, SPECIFICATIONS AND SCHEDULES

Drawings, specifications and schedules

Refer to all consultant *drawings, specifications* and *schedules*.

All dimensions must be checked on site. Any indistinctnesses or discrepancies must be pointed out to the principal agent for rectification or clarification before such work is taken into hand.

Never scale from any drawing.

Meaning of words

The following words appear often in the text of this specification. They are always highlighted in italics. The meaning of these words are important and are therefore explained:

- *Design* refers to the strategic approach, process and requirements to achieve a certain outcome for a component or installation forming part of the works or the works as a whole. Such strategic approach, process and requirements can be set out on *drawings, specifications* and *schedules*.
- *Specified* refers to an explicit set of requirements to be satisfied by a material, product, workmanship, or service for a component or installation forming part of the works. Such detailed set of requirements can form part of these *general specifications*, but can also form part of the *drawings, particular specifications, schedules*, or be issued in the form of an *instruction* to the contractor.
- *Indicated* refers to the type, size, position and / or assembly of a component or installation forming part of the works, as shown on *drawings* and *schedules*.
- *Detail* refers to the specific assembly of a particular component forming part of the works. Such specific assembly can be shown on *drawings, specifications* and *schedules*.
- *Drawings, specifications* and *schedules* refer to the said forming part of the contract documentation and any modification or additions thereto issued to the contractor during the execution of the works.
- *Particular specification* means a specification that is drawn up as a supplement to these *general specifications* for a component or installation, forming part of the works.
- *Instructed* refers to a directive issued to the contractor by the principal agent or other consultants with delegated authority, in addition to the *drawings, specifications, schedules* and other documentation forming part of the contract. All *instructions* shall be in writing. Should an instruction be given verbally, the contractor shall confirm such instruction in writing, before taking work related to such instruction in hand.

- *Inspected* means by the principal agent or other consultants with delegated authority. Where applicable and in addition to the above, certain *inspections* are to be done by local authority and other inspectors as well as by the *manufacturers* of certain components forming part of the works.
- *Approved* means by the principal agent or other consultants with delegated authority. All approvals shall be in writing and is limited to visual appearance only. *Approval* does not relieve the contractor from compliance with the applicable *specifications*.
- *Agreed* means with the principal agent or other consultants with delegated authority. All agreements to deviate from *drawings, specifications, schedules* and other documentation forming part of the contract shall only be entered into with the principal agent only.
- *Notice* means any notice with a bearing on the contract and works on site and can be given by the contractor, principal agent other consultants, the employer, any relevant statutory authorities or any other person or organization affected by the contract and works on site. All notices received or given shall be confirmed to the principal agent in writing.
- *Guarantee* means a formal assurance in writing that certain conditions will be fulfilled, especially that a material, product or component forming part of the works will be repaired or replaced if not of a *specified* quality or minimum performance standard.
- *Manufacturer* refers to the person or company who makes a specific material, product or component forming part of the works.
- In accordance with the manufacturer's specifications refers to the said at the time of tender.
- *Accredited* means with a statutory regulatory institution in South Africa.
- *BS* means British Standard.
- *MOD AASHTO* refers to an internationally accepted test to determine the density of compacted material like soil filling, expressed as a percentage of the maximum compaction of the filling at various moisture contents as determined in a laboratory.
- *NBR* means the National Building Regulations.
- *SABS* means the South African Bureau of Standards.
- *SANS* means the South African National Standards.
- *SABS-CKS* refers to *specifications* prepared by the SABS, mainly for the procurement of products for the use of government departments.
- *SABS EN* means a European Norm adopted by the SABS as a National Standard. (ENV is a voluntary norm)
- *NHBRC* means the National House Builder Registration Council.

Units of measurement, symbols

The units of measurement are metric units as standardized by the "Système International d'Unités" (SI). The following unit symbols are used in this document:

° C	Degrees Celsius	kPa	Kilo Pascal
g	Gram	MPa	Mega Pascal
kg	Kilogram	kW	Kilowatt
t	Metric Tonne	mℓ	milliliter
Hz	Hertz	ℓ	liter
s	Second	mm	millimeter
min	Minute	m	meter
h	Hour	m ²	square meter
kN	Kilo Newton	m ³	cubic meter

Organisation of this specification

To improve cross reference to other contract documentation, this specification has been organized largely in accordance with the Standard System of Measuring Building Work, issued by the Association of South African Quantity Surveyors.

Description of items

The description of an item implies the complete supply, assembly, commissioning and operation of the item as intended, unless explicitly *specified* otherwise.

Product types and trade names

Trade names in these *specifications* are always in brackets, with the name of the manufacturer in capital letters (e.g. MIDAS Superfill Acrylic Pirmer). Reference to trade names might be different on the *specifications*, *drawings* and *schedules* of other consultants.

Product types can be *indicated* on the architect's drawings, e.g. **Concrete Shingle roof tiles as specified**. For the *specification* of such product always refer to these *specifications*. The method of referencing products might be different on the *specifications*, *drawings* and *schedules* of other consultants.

The standards of the South African Bureau of Standards (SABS) are the main source of reference and will form the basis for any changes of items *specified* with a trade name in these *specifications*, or any other drawing or document forming part of the contract documentation.

After tenders have been evaluated and a contract concluded, the appointed contractor may apply to the principal agent for the use of materials, products or components other than what has been *specified* by trade name. In such instances the principal agent shall expect any one or all of the following:

- A sample for *inspection*.
- Proof of quality.
- Test reports.
- Capability reports on the factory.
- A saving in cost.

Referenceto trade names, if used in any context, is only an indication of the type and / or required quality of product or equipment to be used. It is not a mandatory

requirement to use such materials, products or components supplied by a specific manufacturer. The method of referencing to trade names might be different on the *specifications*, *drawings* and *schedules* of other consultants.

Product types can be *indicated* on the architect's drawings, e.g. **Concrete Shingle roof tiles as specified**. For the *specification* of such product types always refer to these *specifications*. The method of referencing products might be different on the *specifications*, *drawings* and *schedules* of other consultants.

The standards of the South African Bureau of Standards (SABS) are the main source of reference.

After tenders have been evaluated and a contract concluded, the appointed contractor must provide the principal agent with a complete list of materials, products and components he intends to use on the project. The principal agent shall expect any one or all of the following:

- A sample for *inspection*.
- Proof of quality.
- Test reports.
- Capability reports on the factory.

Applications for the use of specific materials, products or components, must be *approved* in writing by the principal agent before any such materials, components or products are ordered.

When so requested by the principal agent, provide evidence in the form of delivery slips, certificates or other written proof that material, products or components adheres to what has been *specified* and / or comply with the standards as laid down in this specification.

Products that are *specified* as mark bearing must bear the mark of the relevant standards body.

Compliance with standards, Acts of Parliament and by-laws

All materials, construction methods and other work / activities, must comply with the:

- National Building Regulations (act no. 103 of 1977) including all subsequent amendments.
- Standards and guidelines as set out in the *NHBRC Home Building Manual* (Rev 1 of Feb 1999) including all subsequent amendments.
- All other applicable Acts of Parliament and by-laws of the applicable local authority.

In the case of any of these *specifications* and / or any other documentation forming part of the contract documentation and / or any other instructions of whatsoever kind are in transgression and / or different with any of the above, the contractor shall not take such work in hand. Report such transgressions and / or difference immediately to the principal agent and await further instructions from the principal agent.

Latest edition / revision / amendment.

Standards referred to in these *specifications* are the latest edition / revision / amendments, published at the closing date of tenders.

The latest amendments of any Acts of Parliament and local authority by-laws, including such amendments made during the contract period shall be applicable to the contract.

Manufacturer's specifications

All materials must be transported / stored / handled / applied / installed / fixed / finished *in accordance with the manufacturer's specifications* of such materials.

Accuracy of building work

Building work must comply with *SABS 0155*, accuracy level 2, except where *specified* otherwise.

Discrepancies

In the case of discrepancies between these *specifications* and:

- The *drawings* and *schedules* of the architect, these *specifications* take preference.
- The *drawings* and *schedules* of the engineers, or other specialist consultants, these *specifications* do not take preference.
- Any particular specification, these specifications do not take preference.
- The manufacturer's specifications, these specifications do not take preference.

Report any of discrepancies immediately to the principal agent, before taking work, where a discrepancy exists, in hand.

In the case of discrepancies between these *specifications*, or any other *drawings*, *particular specifications* and *schedules* forming part of the contract documentation, or discrepancies between these *specifications* and the specifications of the manufacturer of any materials, components or products to be installed as part of the contract and / or the recommendations of a specialist contractor appointed for the installation of such materials, components or products, report such discrepancies immediately to the principal agent and obtain an *instruction* how to proceed, before taking work, where a discrepancy exists, in hand.

ALTERATIONS

Record of existing structures

A full record (including photographs) of the existing condition, with specific emphasis on existing defects of all existing structures, within and surrounding the works area, including such structures on neighbouring properties, must be made and submitted to the principal agent for safekeeping, before any work of whatsoever kind is taken in hand.

Damage to remaining portions

Prevent as far as possible structural or other damage to the remaining / surrounding buildings / portions of the building/s.

Agree on a method how to make good all existing work damaged during alteration work.

Services to remain operational

All existing services installations must be terminated and where applicable removed.

Give timely notice to the principal agent if disconnection or alteration of existing services is necessary.

Recovered material

Demolished material is the property of the contractor. No credit must be allowed to the employer.

Fittings to be removed

Remove all light fittings, ironmongery and other removable fittings that could be damaged during the construction period. Mark and store all such items. Re-fix only after painting has been completed.

Temporary support

Refer to the civil / structural engineer's *drawings*, *specifications* and *schedules* for all temporary support.

Borer beetle and pest control

After completion of all demolition work and only when so instructed, the entire building structure must be fumigated with Methyl Bromide gas by an accredited pest control specialist in order to rid the building of borer beetle and all other pests and vermin.

Obtain a written guarantee from the pest control contractor for the eradication of all borer beetle and hand over to the principal agent.

Obtain a rodent extermination certificate from an accredited pest control contractor and hand over to the principal agent.

Immediately after above fumigation has been completed and the building is again safe, all remaining timber must be treated with a ready-for-use organic solvent based solution containing specifically blended insecticidal and fungicidal active ingredients that provides a colourless surface treatment for protection of seasoned timber against wood borer and termite attack as well as discolouring fungi and mould growth.

Quality control

- All applications of liquid application waterproofing systems must be applied by trained artisans.
- During the course of the waterproofing work the manufacturer of the waterproofing material must inspect regularly during the course and upon completion of the waterproofing installation and must certify in writing that the application has been done according to the manufacturer's specifications.
- Surface preparation
- Horizontal surfaces must have minimum falls and cross falls (where applicable) of 1:20.

- Ensure that all surfaces to receive liquid application waterproofing systems comply with the manufacturer's specification, before application of waterproofing.

Reinforced emulsion waterproofing of parapets

- Apply x3 coats highly flexible liquid applied emulsion reinforced with a high-strength stitch-bond polyester reinforced membrane saturated into the second coat, as flashing and counter flashing against side walls and over parapets, as indicated.
- Apply acrylic paint, as specified for external masonry, over waterproofing system.

External plaster repairs;

Repair cracks on historic structures;

- See specification below.

Repair of hairline crack repairs on masonry surfaces (<0.3 mm);

- Apply approved alkali resistant primer for masonry surfaces ensuring a continuous primer film is applied as specified by the manufacturer. Allow to dry as specified by the manufacturer.
- Apply approved membrane free flexible waterproofing compound as specified by the manufacturer. Allow to dry as specified by the manufacturer.
- A second coat may be required in order to fill and bridge all cracks and ensure a perfect surface.
- Use a water-wet brush to draw off edges to zero, matching existing profile.

Moderate cracks on external masonry plaster surfaces (0.3 – 4 mm);

- Rake out cracks using a scraper blade and dust off.
- Repair cracks, other minor plaster defects, mapping holes and blow holes with approved white ready mixed resin bound filler in paste form, providing tough, flexible weather resistant filling on masonry plastered surfaces to a maximum thickness as specified by the manufacturer. Smooth off while still wet. Allow to dry as specified by the manufacturer.
- Finish wall by means of sanding, or other approved method to match existing texture and profile of surface.
- Apply approved alkali resistant primer for masonry surfaces ensuring a continuous primer film is applied as specified by the manufacturer to all unpainted areas. Allow to dry as specified by the manufacturer.
- Apply approved membrane free flexible waterproofing compound as specified by the manufacturer. Allow to dry as specified by the manufacturer.
- A second coat may be required in order to ensure a perfect surface.
- Use a water-wet brush to draw off edges to zero, matching existing profile.

Large cracks on masonry surfaces (>4 mm)

- Rake out large plaster cracks using an angle grinder or other approved method in an inverted V-shape to >5 mm wide and deep. Remove dust and debris.

- Repair cracks with approved Portland cement-based compound for filling and plastering surfaces as specified by the manufacturer. Allow to dry cure as specified by the manufacturer.
- Finish wall by means of sanding, or other approved method to match existing texture and profile of surface.
- Apply approved alkali resistant primer for masonry surfaces ensuring a continuous primer film is applied as specified by the manufacturer to all unpainted areas. Allow to dry as specified by the manufacturer.
- On external masonry surfaces:
- Apply approved membrane free flexible waterproofing compound as specified by the manufacturer. Allow to dry as specified by the manufacturer.
- A second coat may be required in order to ensure a perfect surface.
- Use a water-wet brush to draw off edges to zero, matching existing profile.

PAINTING

Repainting of historic masonry structures;

Preparation;

- All external wall surfaces to be prepared as follows: surfaces must be clean, free from grease and they must be porous.
- Previously lime washed surfaces must be well brushed down and any
- loose lime wash scrapped off.
- Any mould should be treated with fungicide and thoroughly washed off with clean water. Do not use fungicides, which contain silicon.
- All cracks must be opened up and filled with lime plaster in the ration of 2
- lime, 1 cement, 12 sand by vol.
- Pigment for colouring should be pre-mixed with hot water. As colour-matching is difficult, enough lime wash must be made to complete a single coat.

Damping down;

- Lime wash should never be applied to a dry surface, as this will cause rapid drying out of the lime wash and result in dusting.
- Spray about 3 m² of the surface to be lime washed with water until the surface is damp but not running with water.
- Do not try to damp down the whole wall or ceiling at one time, as most of the area will be dry before it can be lime washed.
- Dry joints must be avoided as these will result in the lime wash gaining a patchwork appearance.

Application;

- Lime wash is best applied by using a flat brush or masonry paintbrush.
- Stir the lime wash well before and during application, apply working the wash well into the surface. The lime wash should be applied in several thin coats.

- Avoid runs or drips running down the face of the work.
- The first coat of lime wash will appear transparent when first applied so care must be taken not to build up the lime wash too quickly as this will craze on drying.
- Each coat should be allowed to dry before the next coat is applied for 24 hours between coats. It is very important to re-wet the previous coat before applying the next coat.
- At least 4 coats will be needed to cover new work, and 3 coats for previously lime washed walls. Each coat will need to be burnished into the surface with a dry brush as it starts to 'gel'. This will give a surface free from brush strokes and leave a unified finish.
- Once the final coat is complete, the surface should be kept damp for 2 days to prevent rapid drying.

Repainting of new masonry structures;

Alkali resistant primer

- Apply approved alkali resistant primer for masonry surfaces ensuring a continuous primer film is applied as specified by the manufacturer to all unpainted areas. Allow to dry as specified by the manufacturer.

Pure acrylic final coat of paint (low sheen)

- Apply two coats approved pure acrylic emulsion low sheen paint as specified by the manufacturer. Allow to dry as specified by the manufacturer.

Repainting of exterior timber elements;

Preparation;

- Remove glass from the window frames that are broken.
- Remove all loose and crumbling window putty and replace with new putty.
- Remove all ironmongery and other fittings from the timber doors and windows.
- Glass to be replaced with new as per glazing specification.
- Replace all broken/rotten timber with the same timber.
- Remove all loose and peeling paint by scraping, sanding or other suitable means. Feather all edges.
- Brush off dust and loose particles and clean surface with a clean damp cloth.
- Punch all exposed nail heads and prime with one coat approved high build zinc phosphate primer as specified by the manufacturer. Allow to dry as specified by the manufacturer.
- Repair cracks, other minor defects with approved white ready mixed resin bound filler in paste form, providing tough, flexible weather resistant filling on masonry plastered surfaces (POLYCELL Mendall 90 801601) to a maximum thickness as specified by the manufacturer. Smooth off while still wet. Allow to dry as specified by the manufacturer.
- Finish timber by means of sanding, or other approved method to match existing texture and profile of surface.

- Apply polyurethane sealant around all window frames between the timber and plaster to prevent moisture ingress.

Timber primer;

- Apply one overall coat approved wood primer as specified by the manufacturer. Allow to dry as specified by the manufacturer.
- Apply a second overall coat approved of universal undercoat as specified by the manufacturer. Allow to dry as specified by the manufacturer.

Superior pure acrylic final coat of paint (low sheen);

- Apply two coats approved superior pure acrylic emulsion low sheen paint as specified by the manufacturer. Allow to dry as specified by the manufacturer.

Repainting of interior timber elements;

Preparation;

- Remove glass from the window frames that are broken.
- Remove all loose and crumbling window putty and replace with new putty.
- Remove all ironmongery and other fittings from the timber doors and windows.
- Glass to be replaced with new as per glazing specification.
- Replace all broken/rotten timber with the same timber.
- Remove all loose and peeling paint by scraping, sanding or other suitable means. Feather all edges.
- Brush off dust and loose particles and clean surface with a clean damp cloth.
- Punch all exposed nail heads and prime with one coat approved high build zinc phosphate primer as specified by the manufacturer. Allow to dry as specified by the manufacturer.
- Repair cracks, other minor defects with approved white ready mixed resin bound filler in paste form, providing tough, flexible weather resistant filling on masonry plastered surfaces (POLYCELL Mendall 90 801601) to a maximum thickness as specified by the manufacturer. Smooth off while still wet. Allow to dry as specified by the manufacturer.
- Finish timber by means of sanding, or other approved method to match existing texture and profile of surface.
- Apply polyurethane sealant around all window frames between the timber and plaster to prevent moisture ingress.

Timber primer;

- Apply one overall coat approved wood primer as specified by the manufacturer. Allow to dry as specified by the manufacturer.
- Apply a second overall coat approved of universal undercoat as specified by the manufacturer. Allow to dry as specified by the manufacturer.

Superior pure acrylic final coat of paint (low sheen);

- Apply two coats approved superior pure acrylic emulsion low sheen paint as specified by the manufacturer. Allow to dry as specified by the manufacturer.

Revarnishing of interior timber elements (excluding floors);

Preparation of existing timber for clear finish;

- Clean all timber surfaces with mineral turpentine and steel wool.
- Remove all loose and peeling paint by scraping, sanding or other suitable means. Feather all edges.
- Brush off dust and loose particles.
- Ensure that all nails, pins and screws are embedded well below the surface.
- Repair all damage with appropriate and approved materials and method, ensuring a smooth flawless surface. Where necessary timber infill pieces must be used where timber has been damaged.
- Sand down all surfaces with suitable grit abrasive paper, finishing with a 150 grit abrasive paper to a smooth to a matt and even surface.
- Wipe down with a damp cloth to remove dust.

Polyurethane interior varnish for internal timber

- Apply at least three layers approved single final layer single pack polyurethane varnish as specified by the manufacturer. Allow to dry as specified by the manufacturer.
- Denib entire surface with 150 grit sandpaper between layers. Remove dust using a soft brush.

Repainting of fiber cement ceilings;

Preparation of existing fibre cement for painting

- NB: Please note specification for handling of asbestos sheeting elsewhere.
- Remove all loose and peeling paint by scraping, sanding or other suitable means. Feather all edges.
- Where necessary, remove heavy layers of dead growth with a hard bristle brush.
- Brush off dust and loose particles.

Alkali resistant primer

- Apply approved alkali resistant primer for masonry surfaces ensuring a continuous primer film is applied as specified by the manufacturer to all unpainted areas. Allow to dry as specified by the manufacturer.

Copolymer acrylic final coat of paint

- Apply two coats approved copolymer acrylic paint as specified by the manufacturer. Allow to dry as specified by the manufacturer.

Repainting of gypsum and soft board ceilings;

Preparation of existing gypsum and soft board for painting

- Remove all loose and peeling paint by scraping, sanding or other suitable means. Feather all edges.
- Where necessary, remove heavy layers of dead growth with a hard bristle brush.
- Brush off dust and loose particles.
- In cases of fungal and algae growth, apply sodium hypochlorite solution (household bleach mixed 1 part bleach with 2 parts water) to areas where fungal growth and algae occur. Leave for at least 1 hour.
- Caution: Protect hands and eyes.

- Clean the entire area with a sugar soap solution to remove all traces of sodium hypochloride solution, dust, dirt and any other contaminants. Rinse well with clean water and allow drying.
- NB: Care must be taken to avoid damage to exposed gypsum board or soft board surfaces by water during cleaning operations.

Alkali resistant primer

- Apply approved alkali resistant primer for masonry surfaces ensuring a continuous primer film is applied as specified by the manufacturer to all unpainted areas. Allow to dry as specified by the manufacturer.

Copolymer acrylic final coat of paint

- Apply two coats approved copolymer acrylic paint as specified by the manufacturer. Allow to dry as specified by the manufacturer.

-

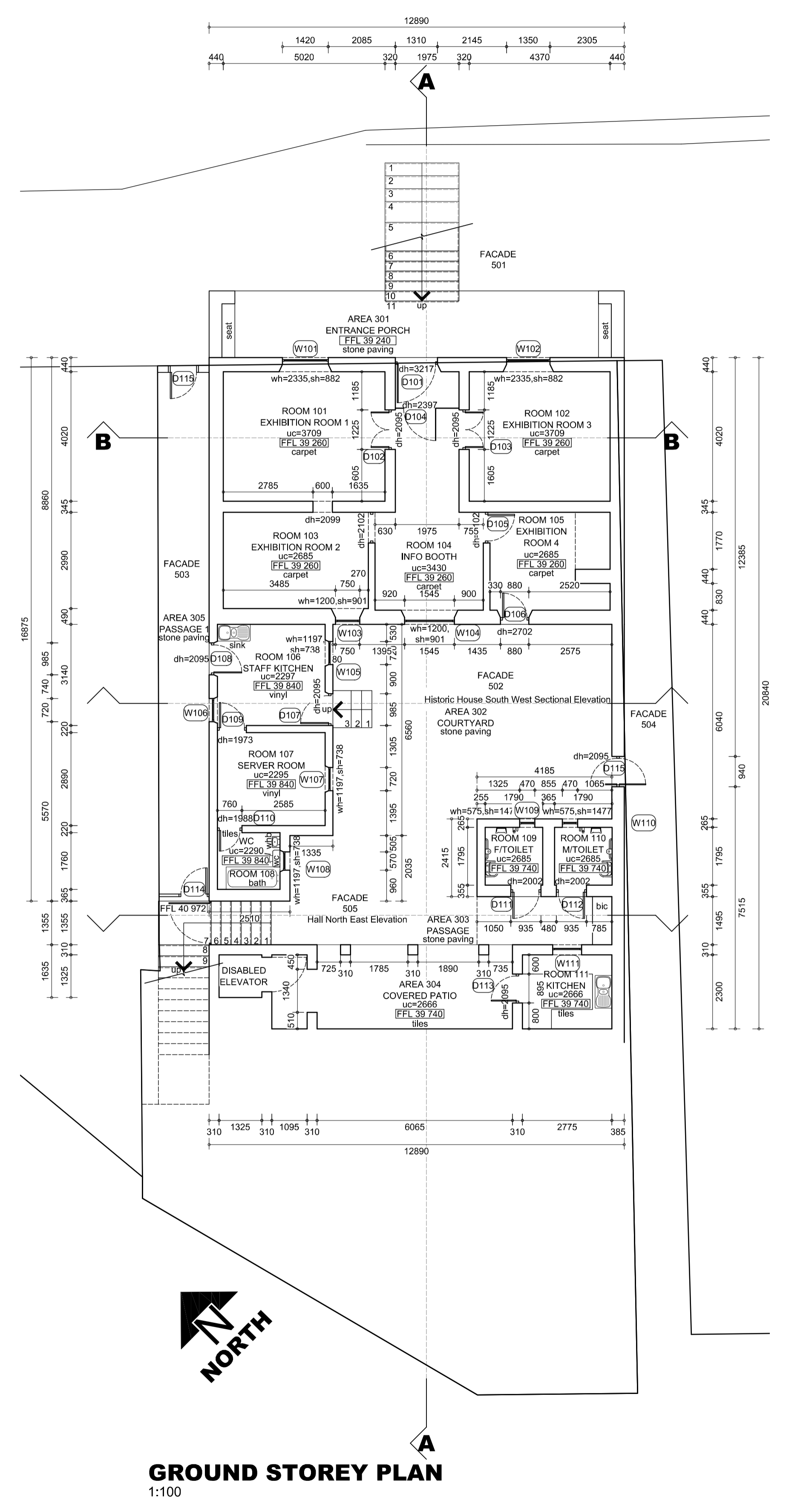
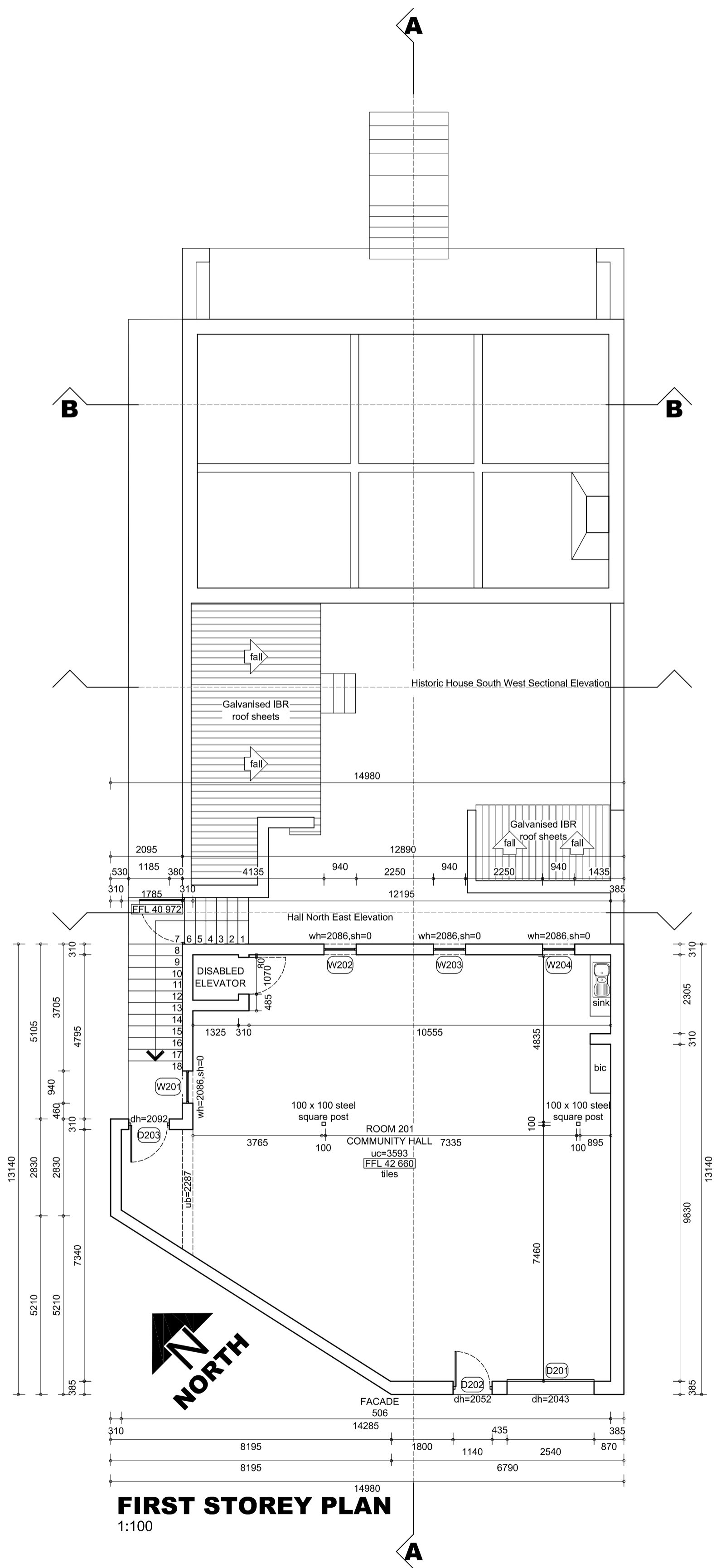
IZIKO MUSEUMS | 5-YEAR MAINTENANCE PLAN
REF. CSM/Architects/12/2015

BO-KAAP MUSEUM

ANNEXURE E: FLOOR PLANS

DATE: **SEPTEMBER 2018**

PREPARED BY: **FC HOLM CC**



GENERAL NOTES

This document is the property of the FC-Team Architects CC and may not be reproduced, issued or used for any other than the specific purpose for which it was originally intended.

All materials and construction methods must comply with the National Building Regulations and all SANS 10400 (including all amendments) as well as all by-laws of the relevant local authority.

All materials and equipment must be fixed and finished off in accordance with the specifications of the manufacturer of such materials and equipment.

All dimensions must be checked on site. Any inaccuracy or discrepancy must be pointed out to the principal agent for rectification or confirmation before work is taken from hand.

Refer to the general specifications for material and methods for this project.

Never scale from this drawing.

Statutory information obtained from Mozambique Bay Town Planning Department.

AREA'S

ENTRANCE PORCH	29.2m ²
MAIN MUSEUM	106.7m ²
STAFF COTTAGE	30.3m ²
COURTYARD	86.9m ²
ABLUTIONS	11m ²
COMMUNITY HALL GROUND	33.6m ²
COMMUNITY HALL FIRST	164.9m ²
TOTAL	462.6m²



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IZIKO MUSEUMS OF SOUTH AFRICA BO-KAAP MUSEUM

AS BUILT STOREY LAYOUT PLANS

scale	drawn
as shown	linea
date	checked
30/09/2016	ad
drawing no.	revision
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