Empowered Lives
Resilient Nations

Construction and Equipping of the Hebron Courthouse Facilities Project

RISK MANAGEMENT PLAN TEMPLATE

REV 2.0

FEBRUARY 2019

Contents

DEFINITIONS

AAU	AAU Anastas Office	Designer/ Consultant
EQA	Environmental Quality Authority (State of Palestine)	Environmental Authority
GAC	Global Affairs Canada	Donor
HJC	High Judicial Council	Beneficiary/ Owner
JV	Joint Venture	Contractor (Al-Mosleh & Atlantic JV)
CTC	Construction Technical Committee	Project Committee
UNDP	United Nations Development Programme	Implementing Agency
AGO	Attorney General's Office	Beneficiary/ Member of the CTC
JP	Judicial Police	Beneficiary/ Member of the CTC
PIU	Project Implementation Unit	UNDP Implementation Unit
DNP	Defects Notification Period	
QMP	Quality Management Plan	
QA	Quality Assurance	
QC	Quality Control	
QCP	Quality Control Plan	
RE	UNDP Resident Engineer	
ITP	Inspection and Test Plan	
O&M	Operation and Maintenance Manual	
NCR	Non-Conformance Report	
BoQ	Project Bills of Quantities	
SLP	Site Logistic Plan	

1 INTRODUCTION

The United Nations Development Program (UNDP) will perform the central role in managing the quality assurance during the Hebron Courthouse Project different implementation phases.

While the implementation of this quality plan will be the overall responsibility of the Project Manager, the quality assurance role for the project will be done during the different phases (Design, then Construction and defects notification period (DNP)) through two different teams.

During the design period and the tendering stage, the quality assurance falls under the UNDP Senior Quality Assurance team for the respective specialties.

During the construction phase and the DNP, quality assurance falls under the responsibility of the Project Implementation Unit (PIU) which will ensure the project is delivered on time, within budget and up to the required and pre-agreed quality standards mentioned in the references to standards and specifications to be applied to all construction activities during the project tendering stage to all construction contractors.

2 PROJECT DISCRIPTION

The Canadian Government provided UNDP with a contribution to manage the design and construction of a courthouse facility in Hebron. The goal of this project is to enhance the ability of the Palestinian Authority to dispense the rule of law in an efficient and effective manner.

The project encompasses three phases: (1) Design (completed); (2) Construction and fixtures, equipment and furniture; and (3) Defects Notification Period.

The Hebron Courthouse will house the First Instance, Magistrate and Appeal courts, Public Prosecution and the Judicial Police Services in a facility with a gross floor area of approximately 16,171 square meters.

The Hebron Courthouse Facility Project will consist of Three (3) Reinforced Concrete Buildings (Courthouse Wing, Main Lobby, Prosecutor Wing) with stone cladding, basement floors with parking spaces, water tank and storage rooms. The entire building will be fenced with security planters and shrubs/plants.

The proposed construction layout is based on two buildings that shape the space instead of merely occupying it. The two volumes that will be going along the form of the parcel will create a strong impact in the urban context, conveying a message of special importance on this location and enhance through its volumes, and its independence.

The project scope for construction activities including external works will be conducted under one contract, which was signed on 04 December 2017with Al-Mosleh and Atlantic joint venture.

3 PURPOSE AND OBJECTIVES

The purpose of the Quality Management Plan (QMP) is to define the quality techniques and process to be applied and the various responsibilities for achieving the required quality levels during the project.

The objective is to ensure that major stakeholders are satisfied with the final project outcome, through delivering the project on time, as per the project approved schedule, within budget, and to the desired and pre-agreed quality standards. The scope of the plan is to establish the:

- Processes.
- Acceptance criteria.

- Quality responsibilities Required to implement effective quality management functions for the project, and
- Define how the project team will implement, support, and communicate project quality practices.

4 MONITORING AND REVIEW

The Project Manager is accountable for the development and implementation of the quality plan and shall ensure that the QMP is reviewed quarterly to ensure that:

- The objectives and requirements of the QMP are still valid and are being met.
- Forthcoming activities are reviewed and any necessary amendments to the QMP are put in place before the relevant work begins.
- QMP processes shall be reviewed to ensure continuing suitability and effectiveness.

5 QUALITY PROCESS AND ACTIVITIES

5.1 DURING DESIGN PHASE

The UNDP Quality Assurance team performed the required quality assurance role during the design phase, which was presented to all stakeholders during the different design stages (20% (design concept), 40%, 60%, 80% and 100%) and got all stakeholders approval for all phases.

Moreover, the Donor used the consultancy of a third party that double checked the design drawings and documents for the different design phases, as mentioned above.

Accordingly, this plan will concentrate on the subsequent project phases for construction and DNP.

5.2 DURING CONSTRUCTION PHASE

5.2.1 Contractor Quality Management Plan

As per the construction Contract signed between UNDP and the Contractor, Quality Control (QC) which is defined…….., will be the sole responsibility of the Contractor. All potential UNDP contractors were requested to submit their Quality Control Plan (QCP) during the tendering stage. UNDP will have an assurance role. The winning Contractor is responsible for all processes of quality control and testing.

The Contractor QCP will form the basic document for QC on site. The QCP will be refined and reviewed at the start of the construction phase by the UNDP Resident Engineer (RE) to make sure it meets UNDP quality control requirements for the project.

The contractor QCP, should at minimum, cover the following sections:

- Contractor organizational chart.
- Set the responsibilities for each role within the contractor site team.
- Define works.
- Quality inspection and test plan (ITP), referenced to the project set of specification.
- Phases of inspection for different works (Civil, Mechanical, Electrical, etc.)
- QC forms and records.

UNDP will perform quality assurance audits and inspections to verify the adequacy and effectiveness of the Contractor's QCP.

5.2.1.1 Inspection and Test Plan

Part of the contractor QCP is the Inspection and Test Plan (ITP) for all activities on site representing the back bone of QC activities.

The Contractor ITP will be reviewed and approved by the UNDP Resident Engineer as part of the Contractor QCP. The form in Annex 1 (attached at the end) will be used to compare and approve the contractor's ITP.

The ITP should document a programme for inspection and testing activities covering all construction site and laboratory operations, including both onsite and offsite operations. Inspections will be performed to verify compliance with documented instructions, drawings, procedures, and specifications as required by the Contract.

The ITP will have a three different hold and witness requirements for the UNDP site team and quality assurance team as follows:

- **Hold Point** - A 'hold' point defines a point beyond which work may not proceed without the authorization of UNDP.
- **Witness Point** - A 'witness' point provides UNDP with the opportunity to witness the inspection or test or aspect of the work, at their discretion.
- **Surveillance** - Intermittent monitoring of any stage of the work in progress.

The UNDP site team is responsible to verify the hold and witness points to the extent that is necessary to be confident that the work is being carried out up to the standards required, and as per the requirement of the Quality Assurance (QA) role UNDP site team is performing.

All tests log and laboratory inspection and test certificates will be handed over to the project owner at the end of the project, along with the as-built drawings, and operations and maintenance manual (O&M)

5.2.1.2 Inspections and testing

The contractor shall perform the inspections and tests as prescribed in the approved ITP. The status of the constructed works will be identified by the progressive completion of Inspection and testing documentation.

The contractor shall be responsible for the quality of the works. Inspection request shall be signed for each work activity, such as earth works, concrete works, metal works, roofing works, finishing works, landscape works, etc., including electrical and mechanical works by the respective UNDP engineers in the PIU for all hold and witness points mentioned in the ITP, and to verify that works have been completed in accordance with requirements.

5.2.1.3 Quality Measurements

The Project permanent constructed, or fixed items should undergo quality measurements checks by the relevant UNDP Engineer, as per the approved ITP. Measured works, items, materials, fixtures, and equipment's should fall within the established standards and tolerances mentioned in the project preambles, bill of qualities (BOQ) and project drawings and specifications. When quality measurements do not meet the agreed-upon quality levels, the RE, and in consultation with the Project Manager, will determine the action steps for such discrepancies. Actions may vary from issuing and Non-Conformance Report (NCR) to rejecting part or all the item measured and requesting the contractor to provide new or redo, depending on the process or the deliverable being inspected or reviewed.

5.2.2 Non-conformance and Non-conformance Report (NCR)

Non-conformances are major deviations from the project specifications and the Contract requirement and/or accepted standard of quality, which shall be formally documented for corrective action by UNDP project staff, or the third-party testing group. Failure by the Contractor

to correct a minor deficiency after having been given written notice will also result in a non-conformance, if it is not corrected.

The Non-Conformance Report (NCR) is a formal notification to the Contractor that work does not meet the plans or the specifications for the project and will be issued by the Project manager when recommended by the RE.

Any item of work found to be deficient- out of conformance with the construction drawings and/or specifications - will be identified by the inspector on the non-conformance report as described in this section. Non-conformance reports will be included on the non-conformance log and tracked through verification that the non-conformance has been corrected.

The RE will be responsible to track the NCR and to maintain its log and to notify the project manager when NCRs are not actioned and closed properly.

Items or works that have an issued NCR will be considered as a rejected item or works and will not be, accordingly, included in the Contractor payments until such NCR is closed and remedial action is approved by RE and Project Manager.

5.2.3 Materials Testing

Plan Materials qualification testing will be done prior to construction to verify that the materials follow specifications requirements. The contractor will obtain representative samples of materials designated and the proposed source of these materials. UNDP will keep a record of all material testing done, either on or off-site, maintain a record of all test's logs, and certificates will be handed over to the project owner at the end of the project and along the as built drawings and operation and maintenance manual (O&M).

5.2.4 Submittals

After being reviewed by the Contractor's QC Manager for completeness, submittal documents will be transmitted to UNDP RE for further action. The Project Manager will involve relevant project staff and Designer for review and verification for compliance with contract requirements when required. The submittal's disposition will be noted on the submittal, which will be signed, dated and returned to the contractor. If required, the Contractor will revise the submittal, incorporating the comments, and will resubmit it for review and verification for compliance. Submittals will be logged into the project submittal log, and copies will be retained in the project files.

5.2.4.1 Submittals Process, Review and Acceptance

Submittals will be managed as follows:

1. Contractor will number and certify the completeness of all submittals before submitting to the UNDP RE.
2. Upon receiving the submittal, the RE will log the submittal and provide a review to ascertain whether the package is complete. If the submittal is incomplete the submittal will be returned to the contractor (without being signed as received).
3. The original submittal transmittal and all copied attachments will be logged into the project submittal log. The RE will notify the Project Manager, who will then forward submittals to the appropriate reviewers. If the project manager decides that another review from other stakeholders is needed, it will be followed as such.
4. When the Project Manager provides a submittal to the appropriate reviewer (project Designer, Project owner, or third party) they will review the submittal for general conformance with contract design documents and will coordinate concurrent discipline reviews and consolidate responses into a single coordinated action.

5. The Project Manager will return a minimum of one copy of the submittal to the RE with an original stamp of the action required. The RE will review the action required and will approve or amend the action as required. Submittals receival, logging, approval/rejection and returning to contractor is the solely responsibility of UNDP RE.
6. The RE will then document the coordinated action and return the submittal to the Contractor.
7. The four actions that may be taken for each submittal are:
    A. Approved: Submittal meets contract requirements. No additional copies will be required of the contractor.
    B. Approved as Noted: Submittal meets contract requirements with minor corrections noted.
    C. Revise and Re-submit: Submittals is missing information or data and needs to be revised again rectified and returned to UNDP Resident Engineer. No work will begin in the field until the revised submittal has been approved.
    D. Rejected: Submittal is inadequate and does not meet contract requirements. Revise the complete submittal and resubmit for approval. No work will begin in the field until the new submittal for the same material or item has been submitted again and approved.
8. When a submittal is to be revised and resubmitted, the contractor will revise the submittal and indicate this revision by incrementing the revision number. The contractor's submittal process will then be repeated.

The Resident Engineer is responsible for tracking the submittal package during the entire review process and advising all concerned of any schedule impacts to ensure that the review process timeframe is adhered to.

5.2.4.2 Submittal Schedule

The construction contractor will prepare and submit a submittal schedule to the RE at the beginning of the construction phase, which will then be provided to UNDP Project Manager. The schedules should be linked to the Contractor's approved programme of works. The schedule will be initially submitted within [see conditions of contract] after the award of the contract and updated monthly. The RE shall work with the contractor to prioritize and sequence submittals so that the most critical submittals are received and processed first (preparation of submittal schedule). The submittal schedule will become the baseline against which receipt of all required submittals will be compared. The approved submittal schedule will be forwarded to the UNDP Project Manager for resource availability planning.

5.2.5 Shop Drawings

Shop drawings are construction drawings provided by the Contractor which are utilized to facilitate compliance with the project drawings and specifications.

The RE will determine which works need a shop drawing to be submitted and agree this scope with the contractor, the shop drawings should be submitted by the contractor one week at least before the intended work starts at site.

The shop drawings review process will be like the submittals explained above

Works that require shop drawings, as requested by the RE, will not be allowed to start at site until shop drawings is approved by the RE.

5.2.6 Method Statements

The Contractors shall submit work method statements for specific work tasks as required by UNDP RE. These should be issued to UNDP at least 7 days before the works are due to commence, and in line with the project work schedule. The work method statement shall detail:

- The job to be undertaken.
- The individual activities required to complete the job.
- The individual trades/disciplines involved in each activity.
- Plant, equipment, tools to be used in each activity.
- Test to be performed.
- Material to be used, any substances/chemicals to be used and where and during which activity they will be used (together with a safety data sheet assessment).
- The name(s) of the Supervisor(s) for each activity.
- The name of the person in overall charge of the job.
- A detailed description and methodology of how the work will be done including control measures and procedures to complete each activity and the overall job safely.

All work method statements shall be reviewed by the UNDP RE ensuring compliance of contract documents.

Works that require a method statement as requested by the RE will not be allowed to start on site until method statement is approved by the RE.

5.2.7 Field Samples and Mock-ups

Field samples and mock-ups shall be prepared at the jobsite by the Contractor as specified in the specifications, and as required by the RE. A detailed mock-up schedule is to be submitted by the contractor once scope of mock-ups is finalized by the RE.

The contractor shall construct and prepare field samples and jobsite mock-ups at designated locations on the jobsite or on the structure as directed by the UNDP.

The Contractor will need to secure authorized product manufacturer's representatives to inspect and approve field samples and mock-ups, which involve their materials, for proper application or installation of the materials in accordance with their respective instructions and recommendations for the conditions or circumstances involved in the application or installation.

Approved samples and mock-ups shall serve as the standards of quality for the various affected units of work.

Field Samples and Mock-Ups for Approval of Textures, Finishes, and Colors: Preserve approved field samples and mock-ups for comparison purposes until the affected work is completed and accepted by UNDP. Finished work shall match the approved field samples and mock-ups.

The UNDP Project manager may request other project stakeholders to inspect and approve mock-ups such, as the project designer and project owner.

Affected work shall not start until the RE has approved the field samples and mock-ups, in writing.

5.2.8 Site Logistic Plan

Site Logistic Plan (SLP) will be required for both quality and safety requirement. The SLP will be submitted by the contractor at the beginning of the construction phase for UNDP approval.

From quality perspective, the site logistic plan will enable UNDP to approve the storage location and the needed conditions for materials to be used on site, and to determine the quality of the facilities that will be provided by the Contractor for UNDP, staff or for the welfare of the work force.

5.2.9 Quality Records

UNDP RE will ensure that the records are providing the documented evidence necessary to verify that a product/service, and that they are in accordance with the contract requirements, BoQ and specifications.

The records would be in various forms, and would include checklists, testing certificates, certificates of compliance/conformity, survey data, daily reports and photos of written approvals and the like, and Inspection and Test Plans.

Testing certificate will be kept with UNDP in the project tests and certificates files. The RE will be responsible for keeping the project quality records, documents and audits, in both soft and hard copies.

A copy of the project quality records will be handed over to the project owner at the end of the project together with the as-built drawings, and other required documentation., such as the O&M manual.

The minimum quality records that should be kept by the RE in both soft and hard copies are:

- Testing certificates and test logs.
- Daily reports.
- Daily Photos.
- Submittals and submittals log.
- Shop drawings.
- Method statements.
- Contract Commencement Meeting.
- Site logistic plan.
- Two weeks look ahead schedule.
- Non-Conformance reports and non-conformance log.
- Contractor ITP.
- Project Construction Schedule.
- Submittals schedule.
- Site correspondence.
- Site instruction.
- Inspection Requests.
- Quality measurements
- Measurements sheets.
- Defects notification reports and DNR log.
- Materials approval.
- Works or items taking over.
- Project commissioning plan.
- Items commissioning inspections and certificates.
- Project commissioning Report.
- Project operation and maintenance manual.

5.2.10 Project Schedule Management

A detailed construction schedule (using Microsoft MS or Primavera) will be established at the beginning of the construction phase, and then updated and submitted by the Contractor on monthly basis. This detailed review and planning process ensures accurate monitoring by the UNDP site staff of the Contractor's weekly progress, submittal schedule, and allows for early identification of issues impeding planned works.

The detailed construction schedule will always abide by the substantial hand over date to part, or all the project, as set in the project contract.

The construction schedule will allow the UNDP Project manager to create and update the project overall plan regularly and accurately.

Monthly Schedules will be shared with project stakeholders, as required, and as deemed appropriate by the Project Manager.

5.2.11 Project Site Weekly Meeting

The quality assurance role UNDP PIU is required to conduct weekly coordination, review and follow for the site activities Accordingly, at the beginning of the construction phase, a certain day and time will be agreed between UNDP and the contractor to conduct weekly site meetings.

The meeting will be attended by the appropriate UNDP and the Contractor's personnel and the contractor subcontractors and workers representative.

The weekly meeting will first discus safety and environment project-related issues, before moving to quality and then planning issues of the project.

At the weekly meeting, UNDP will review progress related to the past month of planned work versus what was achieved by the Contractor. The Contract will also present the planned work for the coming two weeks (two weeks look ahead) for discussion and review.

5.2.12 Two Weeks Look Ahead Schedule

The Contractor will be required to submit a two-weeks' look ahead schedule for UNDP's approval on a weekly basis.

The purpose of the two week look-ahead schedule is to plan labour activities and goals for the following two weeks at site. While creating the two weeks look ahead schedule the focus will be on the construction project schedule and how to deliver the overall schedule.

The two weeks look ahead will be discussed and approved during the site weekly meeting between the contractor and UNDP.

5.2.13 Shifts Management

For meeting the completion deadlines, there might be an increasing demand by the Contractor for performing construction work at night. As coordinated with the Governorate of Hebron and the Hebron Municipality, such after works need to be coordinate ahead of time with the concerned parties and need a prior clearance from UNDP's RE and the Project Manager. It should be ensured that the contractor submits a method statement for shifts management that includes mainly:

- Risk assessment, considering the increased safety risks at the workplace when conducting any construction activities at night.
- Shifts Planning.
- Personnel responsibilities.

The RE will ensure that the Contractor is complying with the method statement and night shift's agreed procedures. The Contractor will be requested to obtain an official approval from UNDP and other relevant parties prior to any commencement of night shift's works or work during official holidays, stating the activities planned, improved safety plan for night work and the personnel involved. No activities that require inspections with "Hold points" shall be permitted by UNDP. During an emergency or critical activity, E.g. Concrete Pouring, UNDP shall arrange proper supervision for the works.

5.2.14 Preventive Actions

Preventive actions need to be taken to eliminate the cause of a potential non-conformity. For example, defects that appear on the surface of concrete during construction or within a relatively short time, after completion are usually caused by poor quality materials, improper mix design, lack of proper placing and curing procedures, or poor workmanship. UNDP RE shall be responsible to advice the contractor in written on what preventive actions are necessary to eliminate the causes of potential deficiencies to prevent their occurrence.

In case the contractor does not comply with the recommended preventive actions requested by the RE, UNDP may reject the works or items. If approved to have any defects during the construction or defects notification period.

5.2.15 Competency Awareness and Training

The competency needs of all personnel performing activities which affect the quality of construction shall be identified by UNDP. Personnel performing specified assigned tasks shall be appropriately qualified based on training, skills and/or experience, which will be confirmed by UNDP and /or the Contractors Project Management team as required.

The Project Manager shall be responsible for ensuring that the Contractor key staff and key site personnel hold current and relevant qualifications for the work they are required to perform and maintain their training records.

The contractor will be required to ensure that his personnel and work force hold the required qualifications and certifications to implement the work they were hired to perform. Records of training and competencies (written confirmation by Contractors Project Manager) will be kept and maintained in Contractor relevant project files and will be audit by UNDP PIU at their request.

5.3 DURING PROJECT COMMISSIONING AND DEFECTS NOTIFICATION PERIOD

5.3.1 Project Commissioning Plan

The commissioning plan will outline the scope and define the responsibilities of the project commissioning process, as well as the activities, schedules and documentation required. The objective of the commissioning plan is to ensure the project owner receives an efficient, fully functioning facility at the project completion. An effective commissioning plan can help ensure handover to the owner is smoother and less troubleshooting, and that fine tuning is correctly done for the equipment installed in the project.

The best commissioning process is one that is planned from the project's very inception. Designing in the ability to commission systems properly from the outset can provide huge benefits, especially on cost and performance.

A detailed testing and commission plan should be submitted by the contractor six months prior the construction end date for UNDP approval.

UNDP will revise the commissioning plan before sharing it with other stakeholders.

The project commissioning will be performed by a committee that includes the different project stakeholders. UNDP may use the services of a third party to perform the commissioning for certain systems within the project.

The Commissioning Committee for the project will be formed and approved by the Project Steering Committee.

The Commissioning Committee will be composed from the UNDP team, the Contractor's designated Engineer(s), Owner Representatives, Donor representative (observer only) and the project designer engineers. The Project Manager will act as the Commissioning Manager.

5.3.2 Projects commissioning Activities

5.3.2.1 Technical Overview

During testing and commissioning, and under the supervision of the Project Manager, the Commissioning Committee monitors the equipment and plant installations, as well as, operation and performance, all in connection with the safety and security requirements stipulated in the

project design. Monitoring takes place on both informal and formal bases, with the latter consisting of official check lists and snag lists.

There are two distinct phases of the commissioning listing procedure: acceptance tests (first snag) and commissioning process (second Snag). The first Snag list is compiled and ratified by the contractor's Project team and verified by the contractor project manager and the second Snag list by the Commissioning Committee with critical items clearly indicated.

The follow-up towards completing the rectification works on both Snag lists is the sole responsibility of the Contractor. However, accepting the rectified works of the second Snag list is the direct responsibility of the Commissioning Committee as per the criteria set in the relevant contract documents and procedures.

5.3.2.2 First Test: Functional/Operational

The Contractor -through his own Engineers, and/or sub-contractors' Engineers, and/or suppliers' Engineers- will check each apparatus and equipment to ensure that all components of the plant are operational.

During this testing phase, fine adjustments and balancing are made for project equipment to ensure correct operations.

The contractor's technicians check for proper operation of all equipment and verify correct rotation of all drives and motors.

The Commissioning Committee will check for proper and correct operation of the equipment once the contractor has completed the installation and the first test check list has been signed off. Power is connected to the equipment after which rotation testing is checked and equipment is run as individual units.

All critical snags that prevent a system from proper performance should be noted on the first Snag list for rectification by the Contractor.

This testing phase is completed for an item or equipment once all critical items on the first snag list have been corrected and the inspection is been signed off by the contractor and the concerned UNDP Engineer. At this point, the unit is ready to be operated as an integral part of a system.

5.3.2.3 Second Test: System

Upon completion of the first test, the Contractor/Supplier/Subcontractor testing team run each system.

Where it is appropriate, wet and dry calibrations are carried out as part of this testing phase.

This test phase is considered complete for a system when the critical items on the snag list have been rectified and the contractor and UNDP Engineer have signed off the inspection.

5.3.2.4 Third Test: Process Commissioning and Performance Test

The second snag list is produced by the commissioning committee and all critical items are rectified prior to the commencement of the performance test.

The performance test is carried out to ensure that the entire facility can operate continuously at minimal throughput for a period of not less than 24 hours.

The project commissioning certificate is issued to the Contractor on completion of all the items on the second snag list and the successful performance test which will result from this third test which will be done by the commissioning committee.

The works and the equipment remain the responsibility of the Contractor until the substantial hand over certificate is issued. It is the Contractor's duty to ensure that all precautions are taken to protect the equipment and plant against loss, accidental damage, sabotage, improper operation and misuse until this certificate is issued.

5.3.3 Project Commissioning Certificates

The project commissioning certificate is issued to the Contractor on completion of all the items on the second snag list and the successful performance test which will result from this third test which will be done by the commissioning committee.

5.3.4 Project Substantial Hand Over

Once all commissioning and UNDP snagging activities are completed, UNDP will request the Owner to form the substantial hand over committee, which will include further to those appointed by the owner, UNDP Engineers, UNDP Resident Engineer, Project Manager, Contractor, Project Designer and Donor representative.

The committee will perform a final inspection to the facility and issue the Contractor a snag list to be completed by an agreed period. If the snag lists are not major and upon receiving the commissioning certificate the Hand over committee will issue the Contractor a substantial hand over certificate

5.3.5 Defects Notification Period

The defects notification period is intended to complement this liability by setting out how and when the Contractor must remedy defective work which becomes apparent during the defects notification period.

The defects notification period starts after all major snag items are cleared and closed, and the commissioning certificate and the substantial hand over certificate is issued to the contractor.

The defects notification period is one year long as per the Contract.

UNDP Engineers will perform a monthly visit to the handed over facility and inspect the facility for any apparent defects and accordingly will prepare a monthly Defects Notification Report (DNR) to issue to the contractor.

5.3.6 Defects notification report

Through the defects notification report UNDP will instruct contractor to implement corrective actions to remedy work that are not in accordance with the drawings and specifications. The corrective actions will include removal and replacement of defective work using methods approved by the UNDP Project Manager. Removal shall be done in a manner that does not disturb operation of the product; otherwise, the disturbed material shall also be removed and replaced. Replacement shall be done in accordance with the corresponding technical specifications. Replacement will be subject to the same scope of QC inspection and testing as the original work. If the replacement work is not in accordance with the drawings and specifications, the replacement work will be removed, replaced, re inspected, and re-tested. Any item of work found to be deficient will be identified by UNDP Engineers and issued to the Contractor in the DNR as described in this section.

The defects notification Reports will be shared with the facility owner for future reference.

5.3.7 Operation and Maintenance Manual

Before the project substantial handover certificate could be issued to the contractor, the Contractor will be required to submit the project Operation and Maintenance (O&M) manual for UNDP review and approval

The operation and maintenance manual (O&M manual), contains the information required for the operation, maintenance of the facility.

- The O&M manual should as minimum contains the following:

- A description of the main facility systems and components.
- Details of the building's construction (such as finishes, cladding, doors and windows, roof construction, and so on).
- Facility systems and components specifications.
- Instructions for its operation and maintenance (including health and safety information and manufacturers' instructions for efficient and proper operation).
- An asset register of plant and equipment.
- Commissioning and testing results.
- Guarantees, warranties and certificates.

5.3.8 As-Built Drawings

Before the project substantial handover certificate is issued to the contractor, the Contractor will be required to submit five hard and soft copies of a fully-updated as-built drawings, as per contractual requirements.

5.3.9 Project final hand over

At the end of the defect's notification period, UNDP will ask the owner to form the final hand over committee.

A final inspection will be done by the final hand over committee and if everything was found to be in order, the Contractor will be issued a final hand over certificate. Otherwise, a final snag list is prepared and the final hand over certificate will not be issued until this final snag list is completely closed.

5.3.10 Project close-out

Project close-out is considered complete with the notification to the Owner's management with respect to:

- As-built drawings.
- Operation and Maintenance Manuals.
- During construction tests and laboratory certificates.
- Commissioning certificates
- Defects notification reports during the defect's notification period.
- Guaranties and warranties handed over to the owner.

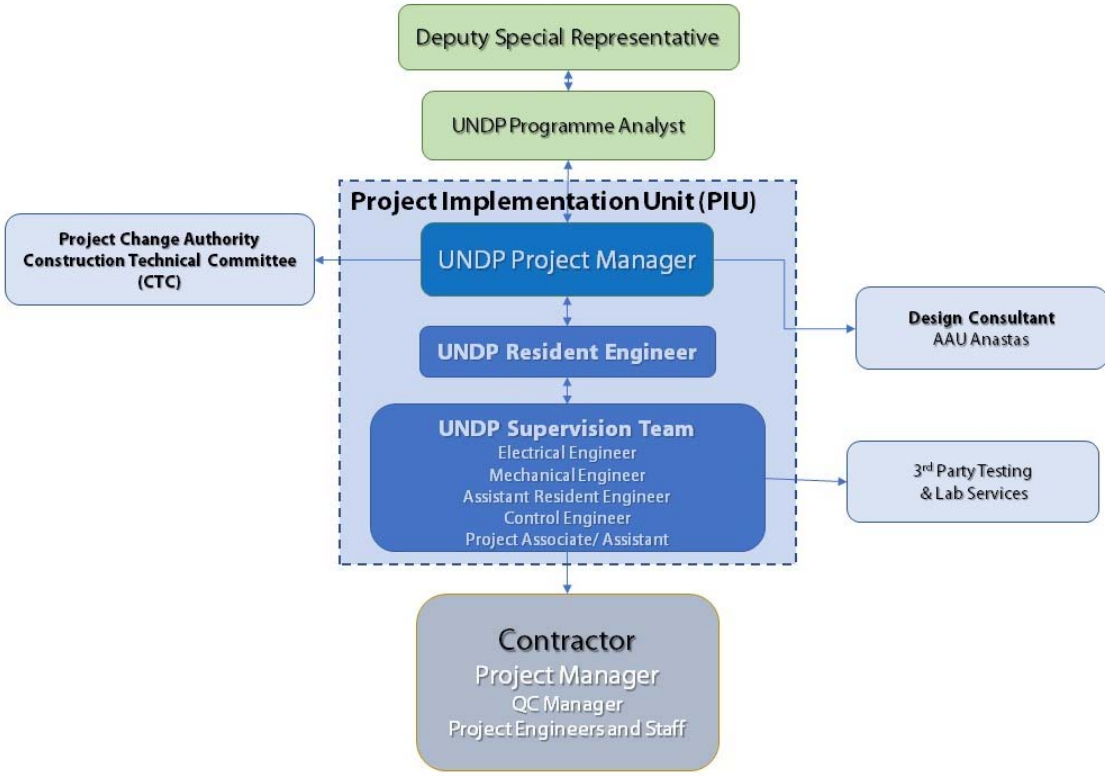
- Final hand over certificate is issued to the contractor by the final hand over committee.

From this point, the project is considered handed over to Owner, and routine/preventive maintenance become the responsibility of the Owner.

6 ROLES AND RESPONSIBILTIES

Everybody who works for UNDP, whether as an employee or Contractor, has a responsibility to fulfil UNDP's quality policy and objectives, and is expected to work towards achieving these organizational objectives.

The QC and QA functions of the project organizations are functionally integrated although



contractually separate. The figure below shows the functional structure of the project team regarding quality during the construction, commissioning and DNP phases.

6.1 CONTRACTOR

Al-Mosleh and Atlantic JV (Contractor) is responsible for QC of the constructed work and installed equipment's and items as well as the necessary inspections and tests required to ensure that the work complies with the contract documents. The Contractor exercise authority over their workforce, including QC personnel and the third-party QC support services.

Contractor provides the labor, materials and equipment required to construct the project in accordance with the contract documents.

The Contractor will be presented by his project manager whom will be the overall responsible of quality at site.

Also, the Contractor is required to employ a quality manager whom will be a full-time employee of the contractor, the quality Manager will have full authority to institute any and all actions necessary for the successful implementation of the QC program to ensure compliance with the contract plans and technical specifications.

6.2 PROJECT IMPLEMENTATION UNIT (PIU)

The Project Implementation Unit comprises of the Project Manager, Project Assistant (Associate), Resident Engineer and the UNDP Supervision Team.

6.2.1 Project Manager

- The Project Manager will have the overall responsibility for implementation and technical quality assurance of the project, and to report to all stakeholders regarding the project quality management.
- The Project Manager will be responsible in coordinating and managing information exchange between site team and the contractor and external stakeholders including the Designer.
- The Project Manager will also manage, coordinate, and administer all QC/QA activities and requirements, including coordination with UNDP senior engineers, beneficiaries, partners, governmental authorities, donor, and the design consultant firm.
- The project manager has overall responsibility for the quality management process. The project manager leads the Project Implementation Team including the Resident Engineer, ensuring that the project is functioning smoothly per the set schedules and programmes.
- The Project Manager is responsible for the day-to-day management and decision-making for the project.
- The Project Manager's prime responsibility is to ensure that project produces the results (outputs) specified in the project document, to the required standards of quality and within specified constraints of time and cost.
- The Project Manager directly supervises the project team overseeing the direct implementation of the project and reports directly to the Programme Analyst.

6.2.2 Resident Engineer

- The Resident Engineer have the most important role in ensuring the project will be implemented according to the quality required by the project specification and BoQ, the RE prime responsibility is to ensure works at site are implemented according to the required standards.
- The RE will provides direct on -site daily supervision of the construction activities and reports daily to the Project Manager on all site-related works, progress and issues. The RE undertake daily supervision tasks of the construction activities to ensure that works are implemented in accordance with the designs, technical specifications, local/municipal regulations, and other contract documents.
- The RE also directly supervise contractors' performance in all matters related to safety and workmanship at the project site and notify the Contractor of any defects found with regards to the quality of the workmanship, material and equipment incorporated in the project works, including the performance of the required sampling and testing of materials.
- The RE also measure and accurately record the quantities of executed works and verify these quantities against interim payment requests submitted by the contractor.

6.2.3 UNDP Supervision Team

The team will report directly to the Resident Engineer, assisting in technical review of all submittals from the contractor, performing inspections, monitoring the implementation process and overall supervision.

6.2.4 Project assistant/associate

Project assistant/associate providing administrative and logistical support to the whole team.

6.2.5 Individual Experts

Additional individual expertise will be hired for testing and installation of certain systems and activities, such as security systems engineer, finishing control engineer and others. Individual experts will report to the RE and their recruiting date will be added to the project schedule.

6.3 DESIGN CONSULTANT (AAU ANASTAS)

The design firm will perform the following duties as per the signed contract with UNDP in close coordination with the Project Manager

- Attend weekly meetings with UNDP, Contractor, Architects and Engineers
- Issuance of direction and clarification to resolve design related issues.
- Respond to any site inquiry from UNDP or the Contractor regarding design or project drawings or BOQ.
- Ensure the production of as-built drawings and incorporate them in the final set of drawings.
- Review of submittals of material, equipment, when required by UNDP etc.

6.4 PROJECT STEERING COMMITTEE (PSC)

The Project Steering Committee is the highest body within the governance structure for the project, which is responsible for the business issues associated with the project that are essential to the ensuring the delivery of the project outputs and the attainment of project outcomes. This includes approving the budgetary strategy, defining and realizing outcomes, monitoring risks, quality and timelines as reported by the Project Manager.

PSC will be responsible for making policy and resourcing decisions and assessing requests for changes to the scope of the project when raised by the CTC.

The Project Manager will attend meetings of the Steering Committee to discuss their reports and answer any questions raised by members.

6.5 CONSTRUCTION TECHNICAL COMMITTEE (CTC)

The Construction Technical Committee was established based on a decision by the Project Steering Committee (PSC) and represent the technical change authority in the project.

Construction Technical Committee is being established of qualified and experienced engineers that will meet every two weeks regular on site. The committee is composed of representatives of local partners (HJC/ AGO/ Judicial Police), local authority, UNDP, AAU, and the Contractor, and GAC as observers.

The CTC meetings purpose will include, but not limited to:

- Review work progress against schedule and implementation plans.
- Ensure that construction works are implemented in accordance with design standards and technical specifications.
- Resolution of design and other technical issues.

6.5.1 Scope Changes

All proposed changes to the project will be required to be submitted through the formal change management process. The individual proposing the change will be required to complete the accepted change request template which requires a detailed description of the proposed change and an analysis of the project impact.

The completed Change Request after being revised and approved by both RE and UNDP project Manager will be taken to Construction Technical Committee (CTC) for approval since the CTC represent the change authority in the project. If approved, the Project Manager will be responsible to update the Project Plan and any other relevant documentation.

7 QUALITY REPORTING

The Project Manager is responsible for overall managing and reporting on quality, while the RE will be responsible for archiving of quality records and making available for other stakeholders to check when required.

Quality issues will be reported in the project monthly and quarterly reports. Also, major deviation in the project quality from project specification and drawings will be reported to the PSC.

ANNEX 1 - INSPECTION AND TEST PLAN

Project Title: **Works Contract Reference/ UNDP:** **Prepared By:** (Contractor)	**Date of First Issue:** **Review Date** (UNDP)**:** **Plan Reference [Electrical/ Mechanical/ Concrete Works/other Work Package Breakdown]:**

No.	Item Description	Specification Requirement	Reference/ Source Document	Type of Inspection /Test	Frequency of Test/ Inspection	Type of Control/ Record Procedure	Hold Point	Quality Acceptance Responsibility	Verified by/Sign off	UNDP Action (W,H,R,C,A,L)

W: Witness, H: Hold Point, R: Review, C: Consent, A: Approval, L: Lead the Inspection.

Note: This Document should be prepared by the contactor quality control engineer and submitted for approval by UNDP.
[*UNDP Engineers involvement level which is identified in UNDP Action column will depend on the capacity of the works contractors]*