

UN Common Services

**UN City | Refurbishment of fitness
centre changing rooms**

Scope of Work

CHA-ARUP-ZZ-XX-RP-V-0001

Issue | 11 december 2020

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1 Introduction

This document shall be read in conjunction with the other specifications and the rest of the contract documents and is intended to provide the Contractor with an overview and summary of the works as described in the Contract, Specifications, Schedules and Drawings.

The Contractor shall ensure that all requirements across the specifications, schedules and drawings are met.

The Contractor is responsible for the preparation of the construction documents, the construction, testing, commissioning and handover of the scope of work described in this document and across the Contract, specification, schedules and drawings.

1.1 The Project

The project consists in the refurbishment of the fitness centre changing rooms of the United Nations (UN) City in Copenhagen, Denmark.

1.1.1 Background

The existing changing and shower facilities have inadequate capacity and ventilation. The lighting and finishes are outdated and worn down. The Client wish to refurbish the area increasing shower capacity and improve the indoor climate. The existing HWC is rarely used and not required. View from the corridor into the changing rooms shall be reduced and access improved.

The project sets out to increase the shower capacity from 4 to 7 in both male and female changing rooms by separating the changing from the

showers dividing the space into a wet (blue) and a dry (magenta) zone.



Figure 1 Plan of the proposed work for the changing rooms area

The shower occupancy durations are also significantly reduced by having open stalls. One shower in each changing room will however be screened off by a frosted glass door for privacy reasons. The showers are however visually screened from the dry zones. The toilet floor area is reduced to a minimum to increase changing room floor area. The

access to the facilities is improved by widening the narrow corridor locally. A cold water tap for bottle re-fill is installed outside the changing rooms in close vicinity to the gym.

The dry zones and wet zone are separated with a simple short corridor with double sided inclined floors preventing water to flow across. The wet zone will have a continuous linear floor drain accommodating all showers for optimal water drainage. The inclination shall be 2/100 and the wet zone shall comply with SBI-252 wet room guidance principles. All floors shall have hollow skirtings for ease of cleaning and anti-slip resistant high durable tiles. The wet zones shall be fully wall tiled.

The existing sprinkling and fire detection and movement sensors are refitted the new layout.

Showers and hot water tap automation are implemented to reduce consumption where possible.

Ventilation capacity is increased to comply with the Ashrea 62.1 recommendation of 10 air changes to achieve a good indoor air quality in changing rooms, this leads to the required ventilation rate of 260 l/s for the men's- and 250 l/s women's changing room.

1.1.2 The Works

This Works include:

- Partial demolition of the existing changing room facilities.
- Refurbishment of the changing room facilities consisting of architectural works, as well electrical and mechanical services installations.

The Works are further described in the following sections.

1.2 General Scope

The Contractor shall take full responsibility for the elements and components included in this document, the specifications and drawings.

The Contractor shall undertake all design and construction activities:

- in accordance with the standards outlined in this specification and all other appendices to the Contract.
- in compliance with all applicable codes and laws.
- having regard for the concerns, need and interests of:
 1. all persons who will be facility users
 2. all authorities having jurisdiction
 3. the neighbouring properties and users
- in accordance with good industry practice.

The Contractor shall obtain all necessary approvals and shall comply with all requirements of the planning approvals. The Contractor shall coordinate and provide submissions to the local authorities including all relevant technical information, calculations, samples, finishes, performance data and other details.

The Contractor is responsible for actively co-ordinating with its sub-Contractors and suppliers to ensure adherence to this technical specification and all requirements specified in the contract documents.

The Contractor is fully responsible for recommending methods, preparing drawings, calculations, detailed specifications and installation for accessories.

The Contractor is responsible for obtaining all design and construction permits and approvals as noted in the scope of works and

specifications. The Contractor is also responsible for testing and commissioning all utility networks and should allow for all necessary temporary works and fittings, third party attendances and associated costs as required.

The Contractor shall, before proceeding, obtain approval for any kind of material to be used. The materials to be used shall comply with samples, selected and approved by the Employer. For products specified to a Danish or European Standard, the contractor shall obtain certificates of compliance from manufacturers.

The Contractor shall ensure that the whole quantity of each product required to complete the work is of consistent kind, size, quality and overall appearance.

The Contractor shall check all delivery tickets, labels, identification marks and, the products themselves to ensure that all products comply with the project documents. Where different types of any product are specified, the Contractor shall check to ensure that the correct type is being used in each location.

The Contractor shall prevent products over-stressing, being distorted and experiencing any other type of physical damage.

The Contractor shall keep products clean and free from contamination. Preventing staining, chipping, scratching or other disfigurement, particularly of products exposed to view in the finished work.

The Contractor shall keep products dry and in a suitably low humidity atmosphere to prevent premature setting, moisture movement and similar defects. Where appropriate, the Contractor shall store off the ground and allow free air movement around and between stored products.

The Contractor shall prevent excessively high or low temperatures and rapid changes of temperature in the products.

The Contractor shall protect adequately from rain, damp, frost, sun and other elements as appropriate. The Contractor shall ensure that products are at a suitable temperature and moisture content at time of use.

The Contractor shall ensure that sheds and covers are of ample size, in good weatherproof condition and well secured.

The Contractor shall keep different types and grades of products separately and adequately identified.

So far as possible, the Contractor shall keep products in their original wrappings, packings or containers until immediately before they are used.

Wherever possible the Contractor shall retain protective wrappings after fixing and until shortly before Completion.

The Contractor shall ensure that protective measures are fully compatible with and not prejudicial to the products/materials.

The Contractor shall provide samples in line with the requirements indicated in all the specifications and drawings.

The Contractor shall be responsible for carrying out risk management in accordance with ISO 31000 *Risk Management Principles and Guidelines*, unless otherwise noted.

All temporary works design is the responsibility of the Contractor. The Contractor shall employ a temporary works design engineer with a minimum of 10 years' relevant temporary works design experience.

1.3 Appointment of sub-contractors

Should the Contractor wish to appoint sub-contractors to assist in the completion of the Works, which are not mentioned in the Contract, the Contractor must inform the Engineer and obtain approval. The approval submission shall include as a minimum a description of the intended scope of works and responsibility, how quality insurance is achieved and relevant information documenting sufficient skill and experience in the field of work proposed to be covered.

1.4 Safety in Design

The Contractor's design shall comply with all relevant Safety in Design legislation and standards as described in the Health & Safety Plan.

2 Architecture

2.1 Decommissioning, Retain and Reuse

The Contractor shall retain the following elements;

- Corridor doors
- Partition wall between changing rooms
- Partition wall between changing rooms both sides of HWC

The Contractor shall dispose the following existing elements:

- HWC room
- Floor finish and tiles
- Walls and wall finishes
- Suspended ceilings

The Contractor shall remove and store the following existing elements:

- Sanitary from HWC
- Fixed inventory I HWC

The Contractor shall retain and re-use the following existing elements:

- Two toilet doors
- Two access doors to changing rooms
- 4 Wash basins

- Benches, soap dispenser, litter bins, paper dispensers, hair dryers etc.

2.2 Flooring

The Contractor shall install cement-based levelling substrate as per the specifications, schedules and drawings. This material shall be installed as a sub-layer for new floor tiling including step between dry and wet zones. Finished floor levels in toilets, dry zones and corridors shall be maintained.

The Contractor shall install new floor tiles and raised sloping floors in the wet shower zones accommodating drain pipes from new continuous floor drains to existing drains.

All floors shall be tiled with associated hollow ceramic skirtings.

2.3 Ceiling

The Contractor shall install a wood-crete panel ceiling as shown on the reflected ceiling plan elevated 24cm from existing height in the changing rooms, showers and toilets. The ceiling height in the corridor shall remain as existing.

The Contractor shall coordinate the ceiling with all Mechanical and Electrical installations.

2.4 Walls

All new walls shall be erected in aircrete blockwork from floor to above slab. The installation walls facing the toilet can be made in single side wet room gyp boards to reduce thickness.

The Contractor shall close the door opening at the bottom of the staircase and accommodate a new cold water tap installation. The entire wall facing the staircase shall be repainted.

The Contractor shall prepare all walls for painting in corridors and tiling in toilets, changing rooms and showers.

2.5 Painting/Tiling

The Contractor shall tile and paint walls to underside of the new ceiling + min 30mm.

2.6 Doors

The Contractor shall re-install 4 doors and apply new wooden flashings.

The Contractor shall install a pair of frosted glass doors in the shower areas.

The Contractor shall install new flashing around existing doors facing the corridor.

2.7 General Fixtures Furnishing Equipment

The contractor shall install Employer supplied coat hooks, litterbins, soap-dispensers, benches before hand over.

2.8 Sanitary

The Contractor shall re-install wash basins and install new toilets.

3 Electrical Services

3.1 Electrical Engineering Works

The electrical services shall be installed in accordance with the specifications and drawings, all relevant Danish Standards and requirements of the local authorities and the Employer.

The electrical engineering works shall comprise, but not be limited to the following:

- Earthing and Bonding Installation
- Electrical Services Distribution within the corridor and changing rooms
- Lighting within the corridor and changing rooms
- Emergency Lighting
- Fire Detection and Alarm System
- Retain power supplies to any existing mechanical, public health, plant, Building Management System (BMS), architectural and other systems.
- Extend containment for power, lighting, fire alarm, Public Address Voice Alarm (PAVA) and security within both the corridor and changing rooms

This report shall be read together with the electrical specifications and drawings.

3.2 Decommissioning Works

The Contractor shall remove all of the following:

1. Existing lighting and associated lighting control and cabling.
2. Fire Alarm devices (heat detectors, optical smoke detectors) and cabling.

The Contractor shall however remove but retain the following systems and devices, which shall be reinstalled:

1. PAVA Speakers
2. Power and control cabling for the underfloor heating manifolds.
3. Control and power cabling for any thermostats.

3.3 Distribution Boards

The Contractor shall update the existing distribution board that currently supplies the UN City corridor and changing rooms. This shall include any additional circuit breakers, Residual circuit devices (RCD)s and all associated cabling and additional containment necessary from the distribution board to the corridor and changing rooms.

3.4 Earthing and Bonding Installation

The Contractor shall install a complete earthing and bonding system in accordance with DS EN 50522. A main earth bar shall be provided in the electrical cupboard housing the existing distribution board.

The Contractor shall carry out supplementary bonding on cable trunking, trays, ceiling and ceiling support systems, ventilation ductwork, pipework, etc.

3.5 General Purpose Small Power

The Contractor shall recess all accessories within the changing room and corridor within the fabric of the building (socket outlets and associated conduits to be installed within the walls) and of finishes as per the specifications.

All accessories shall be located in accordance with all BR18 requirements.

The Contractor shall install all necessary additional containment required throughout the corridor and changing rooms. Horizontal distribution shall generally be installed within both the ceiling void and within the floor make up, in conduits, cable tray or trunking as required in the specifications and indicated on the electrical drawings.

High level conduits shall be installed to supply perimeter socket outlets, lighting/lighting controls cabling, and IT/Comms cabling and power supplies to equipment installed at high level (heating manifold, etc).

The Contractor shall provide residual current devices (RCDs) for all circuits.

3.6 Lighting

The Contractor shall install lighting throughout the corridor and changing rooms as shown on the drawings and the luminaire schedules. This include all luminaires, lamps, wiring, containment, ballasts and control cabling. Setting out of the luminaires shall be to the architectural drawings. All luminaires shall be fitted with digital addressable lighting interface (DALI) control gear.

The Contractor shall supply, install, test, and commission all lighting, emergency lighting and lighting controls as detailed in the schedules, specification and drawings.

The Contractor shall ensure that all luminaire locations are co-ordinated with the architectural drawings, the ceiling installations, and other high level services.

The Contractor shall modify the existing lighting control system, used throughout the UN City building, to control lighting within the corridor and changing rooms. All luminaires shall be controlled from DALI. All luminaires shall also be centrally controlled.

The Contractor shall install emergency lighting, in accordance with DS/EN 1838 and DBI 34 and the drawings. Emergency lighting luminaires shall be complete with changeover modules from the central battery system. All the emergency and Exit luminaires shall be connected to this system.

The emergency lighting wiring will be separate from the standard wiring for the rest of the lighting.

3.7 Fire Alarm System

The Contractor shall extend the addressable system within the UN City building comprising of electronic sounders, smoke detectors, strobes and manual call points. The system shall be installed, tested and commissioning in accordance with DS/EN 54, DBI 232 and BR18.

The Contractor shall liaise with the Employer to establish connection back to the existing Fire Alarm Panel in the main building. The Contractor shall liaise with the Employer's approved Fire Alarm maintenance company to confirm the exact connections back.

The Contractor shall refer to the Fire Alarm specification for further details.

4 Mechanical Services

4.1 Mechanical Engineering Works

The mechanical services shall be installed in accordance with the specifications and drawings, all relevant Danish Standards and requirements of the local authorities and the Employer.

The mechanical engineering works shall comprise, but not be limited to the following:

- Domestic Cold- and Hot Water
- Drainage
- Sprinkler System
- Ventilation.

4.2 Site Investigations

The Contractor shall carry out a site survey to confirm the following assumptions that have been made as part of the design:

1. Location of Domestic water main within the basement.
2. Location of Sprinkler water main within the basement.

4.3 Decommissioning Works

The Contractor shall remove the existing pipework and ductwork, including bends in the ceiling and shall replace these.

The Contractor shall cap unused section of the drainage pipework.

4.4 Domestic Water

The Contractor shall provide pipe routing for Domestic Cold- and Hot Water systems from the water mains within the basement to all fixtures in the new changing room. The Contractors shall provide valves and provisions to allow the new branches and all fixture be accessible and maintainable.

All water installations shall be routed at high level within the ceiling void.

The Contractor shall survey the basement and determine the location of suitable water main and provide routing and connection details to that location.

4.5 Drainage

The Contractor shall provide gravity drainage for all fixtures within the new changing room, the drainage shall be routed to existing drainage pipes/gullies. The shower area will be raised, and all drainage pipes for the new showers shall be routed to existing floor gullies within the new raised floor.

The Contractor shall provide necessary provisions to connect new pipes to the existing system at the point of connection. The connection shall be smell free and watertight.

The Contractor shall provide channel drains for the new showers. The new channel drains shall be flush with the floor and the floor shall slope towards the new channel drain.

All connection to new fixtures shall be provided with a water trap.

4.6 Sprinkler Systems

The Contractor shall provide sprinklers for the changing room and provide pipe routing from the existing sprinkler main to all new sprinklers. The Contractor shall provide valves and provisions to allow the new branches and all fixture be accessible, maintainable and drainable.

All sprinkler pipes shall be routed at high level within the ceiling void.

The Contractor shall survey the basement and determine the location of suitable sprinkler main and provide routing and connection details to that location.

4.7 Ventilation

The Contractor shall provide duct routing for supply and extract system from the main distribution within the basement to all diffusers in the new changing room. The Contractors shall provide duct accessory and provision to allow the new branches and all diffusers be accessible and maintainable.

The Contractor shall adjust existing dampers and fans to ensure 10 air changes per hour for the new changing rooms without impacting the ventilation to other room on the ventilation system.