



GOVERNMENT OF BERMUDA

**Ministry of Government Public Works  
Department of Public Land and Buildings**

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**FLOOR CONVERSION  
FROM SUSPENDED WOOD FLOORS TO SOLID CONCRETE FLOORS  
SPECIFICATION  
THE YOUTH CENTRE**

**Between the Owner:** Ministry of Public Works  
Department of Public Lands and Buildings  
2 Aeolia Drive Devonshire DV05  
Hamilton  
Bermuda  
1441-292-2500

**And the Contractor:** TBC

**For the Project:** The Youth Center  
3 Angle Street, Hamilton  
Bermuda,

**Building #':**

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**IMPORTANT NOTES:**

Prior to submitting a bid, you must visit the site and satisfy yourself as to the nature, complexity and quantity of the works to be finally performed and the relevant equipment and labour skills, productivity and hours required to complete these works.

**THE CONTRACTOR WILL BE REQUIRED TO SUBMIT A DETAILED GNATT CHART SHOWING HIS/HER PROPOSED SCHEDULE OF WORK IF AWARDED THE CONTRACT. THE SCHEDULING OF THESE WORKS WILL BE AGREED UPON AND SHALL FORM PART OF THE CONTRACT DOCUMENTS.**

## **DIVISION 01. GENERAL REQUIREMENTS**

### **01500 - Temporary Facilities and Controls**

This work shall consist of the application of temporary measures throughout the life of the project.

### **01510 - Temporary Utilities**

All connections and extensions required to provide temporary utilities shall be made by the Contractor at the Contractor's expense.

### **01511 - Temporary Electricity**

The contractor is to connect to existing power service without disrupting local service requirements.

### **01518 - Temporary Water**

The contractor is to connect to an existing water source for construction operations.

### **01523 - Sanitary Facilities**

The Contractor will be able to use the existing sanitary facilities, which he shall maintain in a neat and sanitary condition.

### **01530 - Temporary Construction**

The contractor shall provide and maintain for duration of work all required temporary stairs, ladders, ramps, runways and hoists for use of all trades.

### **01540 - Construction Aides**

The contractor to provide all construction aids needed during construction which shall include but not limited to; elevators, hoists, etc.

### **01542 - Construction Scaffolding and Platforms**

The contractor shall provide and maintain for duration of work all required temporary standing scaffolding and 'Independent tied' scaffold or alternative safety harness system.

### **01550 - Vehicular Access and Parking**

Arrange and agree with client parking areas to accommodate construction personnel.

### **01560 - Temporary Barriers and Enclosures**

The contractor shall provide barriers to prevent unauthorized entry into construction areas and to protect existing facilities and adjacent properties from damage from construction operations. Install barricades and covered walkways required by governing authorities for public right of ways.

### **01600 - Product Requirements (Scope of Work)**

All materials shall be installed in strict accordance with the manufacturer's written specifications or Material's Institute Standards. Where the manufacturer's recommended details are used, the

Manufacturer shall be responsible for the performance of their product. All Items not specifically mentioned that are required to make the work complete and operational shall be included.

**Installation and Storage** - All materials, supplies and equipment shall be installed per manufacturer's recommendations and per applicable codes and requirements. Material stored on site shall be protected from damage by moisture, wind, sun, abuse or any other harmful affects.

**01700 - Execution Requirements**

The execution of all work shall be in strict accordance with these specifications and manufacturer's written specifications or Material's Institute Standards. Where the manufacturer's recommended details are used, the manufacturer shall be responsible for the performance of their product. All work not specifically mentioned that is required to make the work complete and operational shall be included.

**Codes** - Construction shall comply with all applicable building codes. It is the responsibility of the Contractor to insure compliance with said codes and modify the specifications as needed to comply with such codes.

**Measurements** - The Contractor shall check and verify all dimensions and conditions before proceeding with construction.

**Workmanship** - Workmanship shall conform to the best and highest standards of quality in each trade and shall include all items of fabrication, construction and installation. All work shall be completed by skilled tradesmen and mechanics. Installation of all equipment and materials shall be in strict accordance with manufacturer's recommendations.

**Insurance** - Builders Risk Insurance shall be maintained by the contractor during the course of construction until final acceptance by the owner. All bonding and insurance requirements shall be coordinated with the Owner prior to beginning construction. All contractors shall provide and be solely responsible for necessary barricades and safety precautions, and strictly adhere to all governing codes on safety, including the OSHA Act.

**01740 - Cleaning**

Construction site shall be in a clean and orderly condition throughout the construction process. At the conclusion of construction, the project shall be properly cleaned. This should include but not be limited to; cleaning the exterior glass, surfaces exposed to view, remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, and remove all waste and surplus materials.

**01760 – Protecting Installed Construction**

Contractor shall protect all installed construction. If products or materials come with a protective coating, contractor shall maintain protective coating until construction is complete. Contractor shall replace any items that become defective or damaged.

**01903 – Hazardous Materials Abatement**

Contractor shall abate any hazardous material or substance before beginning construction. Contactor shall contract with a properly licensed and qualified hazardous material contractor.

**01904 – Hazardous Materials Removal and Disposal**

Remove and dispose of any hazardous material before beginning construction. Contactor shall contract with a properly licensed and qualified hazardous material contractor.

## **DIVISION 2. SITE WORK**

### **02000 – General**

Contractor shall review construction documents and provide necessary site work, excavation and grading as required to construct said project.

### **02220 – Site Demolition**

Provide all labor, materials and equipment to perform the required demolition of existing wood floors no longer needed, abandoned utilities and structures which interfere with the proposed construction. When required install a barrier around the area of demolition work. Protect all adjacent areas not to be demolished. Remove all debris from job site before construction begins.

### **02250 – Shoring and Underpinning**

Existing footings, foundations, pile caps, grade beams, retaining walls or pavement which may be affected by excavation operations shall be shored or underpinned adequately or otherwise protected against settlement and shall be protected against lateral movement. Provide necessary materials to hold back earth at excavations and as required to prevent cave-ins and earth sloughs.

### **02300 – Earthwork - At slab foundations**

Compact sub-grade under slabs to a minimum 95% density. Compact backfill areas not under slabs or foundation to a minimum 90% ASTM D-689. Sub-base directly under concrete slabs on grade shall be a minimum of four inches of compacted granular fill.

### **02312 – Rough Grading**

Prior to commencement of earthwork, perform such soil and rock removal and filling as may be required to facilitate the progress of the work and bring all elevations to the rough grade lines indicated on the Contract Documents. Fill or backfill as required.

### **02315 – Excavation**

Carry out the excavation, dewatering, sheeting and bracing in such manner as to eliminate any possibility of undermining or disturbing the foundations or any existing structure or any work previously completed..

### **02316 – Backfilling**

Complete all backfilling to the dimensions and levels shown on the construction documents. Where excavated material or any portion thereof is deemed unsuitable for backfilling material, procure and place approved select borrow materials. Backfill as promptly and as is consistent with non-damage to the installed structures. No material shall be placed or compacted when it is too wet or when the sub-grade or previously placed material is too wet.

### **02317 – Select Borrow**

Materials needed in addition to that available from construction operations shall be defined as select borrow. Select borrow shall consist of durable natural granular material or granular aggregates mixed or blended with sand, stone dust, soil or other filler materials to provide a well graded mixture meeting the requirements herein specified. These materials shall be free from vegetable or organic matter, lumps or an excessive quantity of clay or other objectionable or foreign substances, but may contain a maximum of ten percent of shale by weight. The size and gradation of the material shall range from stone no larger than 3 inches across its maximum

dimension to soil passing a No 200 sieve. The gradation shall be well dispersed through the borrow.

#### **02320 – Excavation and Fill**

Backfill material to be used from the excavations shall be of such nature that after it has been placed and properly compacted, it will make a dense, stable fill. It shall not contain vegetation, masses of roots, stones over 3-inches in diameter, or porous matter and shall not be saturated. Organic matter shall not exceed minor quantities and shall be well distributed.

#### **02362 – Termite Control**

If required, Foundations shall be pre-treated under all slabs and crawlspace areas between vapor barrier and granular sub-base to conform with HUD minimum standards and applicable building codes. Treatments shall not be made when soil is excessively wet or after heavy rains. Contractor shall provide a one-year renewable warranty.

#### **02500 – Utility Services**

Install necessary utility services, such as electricity, water, gas and oil, sanitary sewerage and support structures for power and communications. Coordinate requirements with local utility providers.

### **DIVISION 3. CONCRETE**

#### **03000 – General**

Contractor shall review construction documents and provide labor and materials pertaining to concrete and foundations as required in said documents and as specified herein, while complying with all applicable building codes.

#### **03050 – Concrete Specifications**

All concrete work shall be designed on the basis of "Strength Design" in accordance with ACI 318 "Building Code Requirements for reinforced Concrete." Concrete work shall be proportioned in accordance with ACI 301 "Specifications for Structural Concrete" and ACI 211.1 "Recommended Practice for Selecting Proportions for Normal Weight Concrete". Concrete slabs, patios, driveways, walls and foundations shall be constructed of a minimum 3000 to 3600 psi concrete, 28 day test, with a 4" minimum to 6" maximum slump maximum, air-entrained to 5 - 8%. No additional water shall be added to concrete after slump test is recorded. Cylinders shall be taken from every batch truck and tested for compressive strength at 7 and 28 days. Concrete should be a mix of high grade Portland cement, clean sand or granular fill and washed gravel or crushed stone as coarse aggregate per ACI 530. Maximum aggregate size shall be 3/4". All aggregates shall conform to ASTM C33. Gravel should be well graded and not exceed 1 1/2" in size. Water shall not exceed 5 1/2 gallons for each bag, unless sand is very dry. Concrete shall be mixed using an approved batch machine or mobile mixer until uniform in color and providing a 4" minimum to 6" maximum slump.

### **03100 – Concrete Formwork, Reinforcement and Materials**

Provide all labor, materials and equipment necessary for the completion of the plain and reinforced concrete called for on the plans. Concrete when deposited shall have a temperature ranging between a minimum of 50 degrees Fahrenheit and a maximum of 90 degrees Fahrenheit.

**Construction of Forms** – Construct wood forms of sound material, and of the correct shape and dimensions, constructed tightly and of sufficient strength. Brace and tie the forms together. Make joints and seams mortar tight. Install leakage control materials in accordance with manufacturer's installation instructions.

**Chamfered Corners** – Unless otherwise noted, provide chamfered corners on all exposed corners. Provide 3/4 inch moldings in forms for all chamfering required.

**Embedded Items** – make provisions for sleeves, anchors, inserts, water-stops and other features.

**Form Ties** – Use form ties of sufficient strength and in sufficient quantities to prevent spreading of the forms. Place ties at least 1 inch away from the finished surface of the concrete. Do not use ties consisting of twisted wire loops. Leave inner rods in concrete when forms are stripped. Space all form ties equidistant and symmetrical and line up both vertically and horizontally.

**Cleanouts and Access Panels** – Provide removable cleanout sections or access panels at the bottom of all forms to permit inspection and effective cleaning of loose dirt, debris and water material. Clean all forms and surfaces to receive concrete of all chips, sawdust, and other debris and thoroughly blow out with compressed air just before concrete is placed.

### **03220 – Welded Wire Mesh**

Welded wire fabric shall conform to ASTM A105 and be located in the center of the depth. Install at slab on grade conditions.

### **03230 – Anchor Bolts**

Provide 1/2" diameter x 10" long anchor bolts in filled cells and poured concrete walls at 48" on center (OC) maximum at all window locations and on each side of exterior doors. For slabs, install appropriate tie downs or straps as required by applicable building codes.

### **03300 – Slab Foundations**

Concrete floor slabs shall be constructed of 3000 psi concrete, 4" thick reinforced with 10 gauge 6" x 6" welded-wire mesh continuous and rebar (reinforcing steel) as per plans. Place slabs over well-compacted granular fill compacted in 12 inch lifts to 95 percent density per AASHTO T-180 Proctor, and a 4 or 6 mil vapor barrier. Construction or control joints shall be provided in slabs on grade so that the maximum area between joints shall be 400 sq. ft. and the length of that area is not more than twice the width. Provide smooth steel trowel finish for all interior slab areas and garage surfaces.

### **03300 – Expansion Joints**

Provide 1/2" thick by 4" wide bituminous expansion joint material at all surfaces where slabs adjoin raised slab, crawlspace or basement stem-wall CMU or poured foundations.



**03350 – Concrete Finishing**

Repair of surface defects shall begin immediately after removal of form or pouring of slab foundation. Provide smooth steel trowel finish for all interior slab areas surfaces. . Patch all voids and depressions exceeding 3/8 inch in any direction.

**DIVISION 09. FINISHES**

**09600 – Floor Finishes**

The Contractor shall ensure that all surfaces to be covered and install appropriate underlayment or preparation per manufacturers recommendations. Clean down, remove all foreign matter including grease, dust, dirt, fill cracks and holes, fine sand and leave smooth. The whole surface must be thoroughly dry unless otherwise specified before coating commences.

**09650 – Vinyl Flooring**

Install appropriate underlayment for all surfaces as described below or required by manufacturer. Properly clean and fill all surfaces leaving installation area smooth and free of foreign material. Cracks and expansion joints should be smooth and level. Wood sub-floors must be solid, free from movement and have a minimum of 18” of well ventilated air space below the structure. Follow pattern arrows on back of vinyl flooring for the direction of installation. The layout will be finalized on site, a picture of the proposed layout is shown below. Note that the color scheme is different from the picture and is specified below.

**Sheet Vinyl:** Install 12”wide x 12”long vinyl tiles as indicated per construction documents. Use appropriate adhesive material or installation method guidelines per manufacturers recommendations.

Specify:	Manufacturer:	Amstrong
	Description:	Standard Excelon Rave
	Color and item number:	40% White Out – 57518
		15% Kicking Kiwi – 57510
		10% Lemon Lick – 57509
		10% Bodacious blue – 57517
		15% Bikini Blue – 57512
		10% Screaming Pumpkin - 57516

Black Coved wall strip 4” high

