

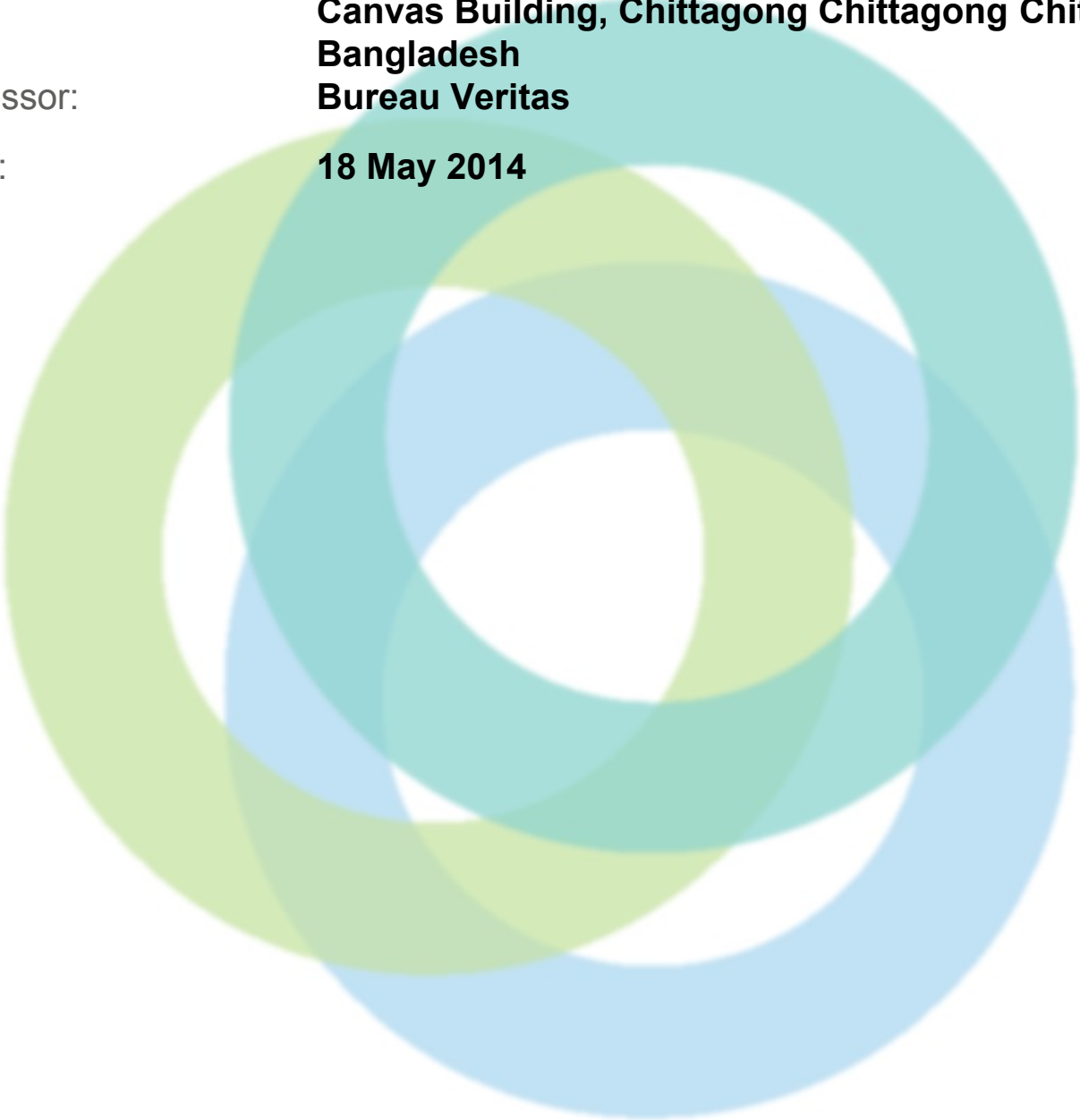
INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **Canvas Garments (Pvt.) Ltd**

Address: **301, North Baizid Bostami Road, Nasirabad I/A,
Canvas Building, Chittagong Chittagong Chittagong
Bangladesh**

Assessor: **Bureau Veritas**

Date: **18 May 2014**





Introduction to the Report

The following report contains a site profile and summary of non-conformities identified during an onsite assessment commissioned by the Alliance for Bangladesh Worker Safety (Alliance) and conducted by a third-party Qualified Assessment Firm (QAF). The assessment was conducted against the Alliance for Bangladesh Worker Safety Assessment Protocols (APs) and Fire Safety and Structural Integrity Standard, which is harmonized with the factory assessment guidelines developed by Bangladesh University of Engineering and Technology (BUET) for the Bangladesh National Tripartite Plan of Action (NTPA). The goal of the Alliance process is to provide clear and practical technical requirements by which Bangladeshi Ready Made Garment (RMG) Factories producing for Alliance members may be consistently and fairly evaluated for fire, structural, and electrical safety in a non-duplicative manner. Each assessment will prompt action plans that will be used by RMG factories to systematically and sustainably improve safety conditions for garment workers. Beyond tracking and reporting on action steps taken in a transparent manner, the Alliance organization and its members will seek to further support factory improvements through technical assistance, training, implementation support for functional Worker Committees, and in some cases financial assistance and wage support for workers if factories are closed for remediation.

The contents of the report do not constitute a guarantee of compliance with the applicable laws, the Alliance Standard or the absolute or continued safety against fire, electrical and/or structural integrity issues that may lead to injury or loss of life. The report is designed to provide a non-exhaustive summary of risk issues, based on a limited sampling and duration of time onsite by the named QAF. Neither the QAF nor the Alliance can certify or guarantee the quality, outcome, or effectiveness of actions taken in response to the report.

For more information and report feedback please go to: www.bangladeshworkersafety.org.





GENERAL INFORMATION

General Information

Factory Name:	Canvas Garments (Pvt.) Ltd
Address:	301, North Baizid Bostami Road, Nasirabad I/A, Canvas Building, Chittagong Chittagong Chittagong Bangladesh
Country:	Bangladesh
Province:	Chittagong
City:	Chittagong
Zip Code:	4211
Audit Duration:	1 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	05-18-2014
Final Report Date :	10-12-2014
Are all Action Items From Previous Assessment Completed?:	N/A
Buildings in Complex :	There are 6 buildings in the factory premises out of which one is main production building and five are ancillary buildings. The buildings are named as: 1) Five story main building with pre-fab shed on roof; 2) Single Story shed (HR & Child care), 3) Single Story PEB shed (Tennis court), 4) Single Story shed (Embroidery), 5) Single Story shed (Hanger Keeping store), 6) Two Story RCC Building (Generator).
Number of Building Levels (Stories) :	1) Five story main building with pre-fab shed on roof: Stories above grade: 5, Stories below grade: 0, Occupied levels: 5, 2) Single Story shed (HR & Child care): Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 3) Single Story PEB shed (Tennis court): Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 4) Single Story shed (Embroidery): Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 5) Single Story shed (Hanger Keeping store): Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 6) Two Story RCC Building (Generator): Stories above grade: 2, Stories below grade: 0, Occupied levels: 2.
Approximate Building Area (SF) :	Total area of buildings in the factory premises: 61758.40 sft + 10266 sft (roof) + 480 sft (roof) = 72504.4 sft . Building wise breakdown as follows: 1) Five story main building with Pre-fab shed: 60508 sft (Ground floor: 9178 sft, 1st floor: 10266 sft, 2nd floor: 10266 sft, 3rd floor: 10266 sft, 4th floor: 10266 sft, Roof: 10266 sft), 2) Single Story shed(HR & Child care): 901.5 sft, 3) Single Story PEB shed (Tennis court): 2196.5 sft, 4) Single Story shed (Embroidery): 6270 sft, 5) Single Story shed (Hanger Keeping store): 738.4 sft, 6) Two Story RCC Building (Generator): 1890 sft (Ground floor: 930 sft, 1st floor: 480 sft. Roof: 480 sft).
Date of Building Construction :	Factory personnel informed the date of last building construction as follows: 1) Five story main building with Pre-fab shed on roof (Ground floor to 4th floor): Finished in 2005, 2) Single Story shed (HR & Child care): Finished in 2005, 3) Single Story PEB shed (Tennis court): Finished in 2005, 4) Single Story shed



	(Embroidery): Finished in 2005, 5) Single Story shed (Hanger Keeping store): Finished in 2005, 6) Two Story RCC Building (Generator): Finished in 2005.
Date of Last Building Renovation/Addition :	Factory personnel informed the date of last building addition as follows: 1) Five story main building with Pre-fab shed on roof (5th floor): Finished in 2008, 2) Two Story RCC Building (Generator room, Boiler room, Compressor room): Finished in 2014.
Is the Building mixed use?:	No
Ancillary Structures in Complex :	1) Single Story shed (HR & Child care), 2) Single Story PEB shed (Tennis court), 3) Single Story shed (Embroidery), 4) Single Story shed (Hanger Keeping store), 5) Two Story RCC Building (Generator).
Number of Ancillary Levels (Stories) :	1) Single Story shed (HR & Child care): Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 2) Single Story PEB shed (Tennis court): Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 3) Single Story shed (Embroidery): Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 4) Single Story shed (Hanger Keeping store): Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 5) Two Story RCC Building (Generator): Stories above grade: 2, Stories below grade: 0, Occupied levels: 2.
Approximate Ancillary Structures Area (SF) :	1) Single Story shed (HR & Child care): 901.5 sft, 2) Single Story PEB shed (Tennis court): 2196.5 sft, 3) Single Story shed (Embroidery): 6270 sft, 4) Single Story shed (Hanger Keeping store): 738.4 sft, 5) Two Story RCC Building (Generator): 1890 sft (Ground floor: 930 sft, 1st floor: 480 sft, Roof: 480 sft).
Number of Occupants :	Total number of occupants: 1025. 1) Five story main building with Pre-fab shed on roof: 956 [Ground floor: 98, 1st floor: 240, 2nd floor: 148, 3rd floor: 20, 4th floor: 250, 5th floor: 200], 2) Single Story shed (HR & Child care): 10, 3) Single Story PEB shed (Tennis court): 10, 4) Single Story shed (Embroidery): 30, 5) Single Story shed (Hanger Keeping store): 1, 6) Two Story RCC Building (Generator): 18 [Ground floor: 3, 1st floor: 15].
Exterior Facade Description :	The main building is a RCC moment resisting frame structure with infilled masonry. Windows are glassed sliding type. A vertical basket type ladder is anchored with exterior facade of the main building. There is parapet along all length of the building, but it is not plastered yet. Visually, the exterior facade is free of cracking.
Structural System Description :	The main building is a RCC moment resisting frame structure with infilled masonry. Slabs and beams are poured monolithically. There are moment resisting frames in one direction (one way slab) of the main building except ground floor. There is a dining hall at roof top of the main building which is a tin shed with infilled masonry, supported by RCC columns.



ASSESSMENT FINDINGS

Structural System Design

Question:	Are credible structural design documents available for review and kept on site?	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	Structural drawings are available with the proper identity of the structural engineer, approved from CDA. Seismic criteria and wind criteria have been mentioned in the general index of the available documents. As-built architectural drawings are available with proper identity of the architect. Photocopy of soil test report has been found, but a design report is not available.	
Source of Findings:	Document Review: Documents reviewed on site.	
Suggested Plan of Action:	Have a qualified Structural Engineer prepare the design report and submit it for review.	
Suggested Deadline Date:	01 Aug 2014	
Standard:	Alliance Standard Part 8 Section 8.19 Required Structural Documentation for New and Existing Factories	
Question:	Is a clear and redundant load path to resist lateral loads provided?	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	There are moment-resisting frames in one direction (one way slab) except on the ground floor, so the lateral load path is not clear and the redundancy is not known.	
Source of Findings:	Document Review: Documents reviewed on site., Visual Assessment: Visual inspection conducted.	
Suggested Plan of Action:	Have a qualified structural engineer complete further analysis of the structure and develop a remediation plan if required.	
Suggested Deadline Date:	01 Aug 2014	
Standard:	Alliance Standards Part 8 Section 8.17 Design for Lateral Loads and 8.3.3. 2006 BNBC Part 6 Section 1.5	



Question:	Have provisions been made in floors or decks for a concentrated load (such as heavy equipment, water tanks, stored materials, etc) applied at a location wherever this load acting upon an otherwise unloaded floor would produce stresses greater than those caused by a uniform load?
Priority Level:	Medium
Non-Compliance Level:	2
Description:	There are six undocumented overhead plastic water tanks on the rooftop of the building having a total capacity of $(4 \times 5000 + 2 \times 2000) \text{Ltr} = 22000 \text{Ltr}$. These tanks are acting as concentrated loads.
Source of Findings:	Visual Assessment: Visual inspection conducted.
Suggested Plan of Action:	Engage a qualified structural engineer to confirm and document that provisions have been made to accommodate concentrated loads. If provisions have not been made, have a qualified structural engineer develop a remediation plan.
Suggested Deadline Date:	01 Aug 2014
Standard:	Alliance Standard Part 8 Section 8.13 and 8.14
Question:	Are Certificates of Occupancy available for review?
Priority Level:	Low
Non-Compliance Level:	2
Description:	The Certificate of Occupancy is not available.
Source of Findings:	Document Review: Documents reviewed on site.
Suggested Plan of Action:	Apply for issuance of a Certificate of Occupancy and provide it for review.
Suggested Deadline Date:	31 Jul 2014
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment



Structural System Construction



Question:	Are all non-structural elements suspended from, attached to, or resting atop the structure adequately anchored and braced to resist earthquake forces?
Priority Level:	Medium
Non-Compliance Level:	2
Description:	There are six undocumented overhead plastic water tanks having a total capacity of $(4 \times 5000 + 2 \times 2000) \text{Ltr} = 22000 \text{Ltr}$. Besides there are storage racks at ground floor. These tanks and storage racks need proper bracing and anchorage.
Source of Findings:	Visual Assessment: Visual inspection conducted.
Suggested Plan of Action:	Adequately anchor and brace all non-structural elements to resist earthquake forces to comply with the BNBC and Alliance Standard.
Suggested Deadline Date:	01 Aug 2014
Standard:	Alliance Standards Part 8 Section 8.18 Seismic Bracing of Key Non-Structural Elements and 2006 BNBC Part 6



Structural Safety Programs

Question:	Is a program in place to ensure that the live loads for which a floor or roof is or has been designed will not be exceeded?
Priority Level:	Medium
Non-Compliance Level:	3
Description:	There is no program that will ensure that the designated load in each floor will not be exceeded.
Source of Findings:	Document Review: Documents reviewed on site.
Suggested Plan of Action:	Develop a program to ensure that all live loads for which a floor or roof has been designed for will not be exceeded. The designated Load Manager shall oversee this program and ensure it is enforced.
Suggested Deadline Date:	18 Jul 2014
Standard:	Alliance Standard Part 13 Section 13.7 and Part 8 Section 8.9.
Question:	Are Floor Load Plans posted as required?
Priority Level:	Low
Non-Compliance Level:	3
Description:	Floor Load Plans are available but they are not posted as required.
Source of Findings:	Document Review: Documents reviewed on site., Visual Assessment: Visual inspection conducted.



Suggested Plan of Action:	Have a qualified structural engineer prepare load plans including the information required in Section 8.20 of the Alliance Standard and have it posted in all required locations.
Suggested Deadline Date:	01 Aug 2014
Standard:	Alliance Standard Part 8 Section 8.20.5.3
Question:	Are areas used for storage of work materials and work products, clearly marked to indicate the acceptable loading limits as described in the Load Plan for that floor?
Priority Level:	Low
Non-Compliance Level:	3
Description:	There are no markings on the floor to designate spaces and height for storage of work materials.
Source of Findings:	Visual Assessment: Visual inspection conducted.
Suggested Plan of Action:	Provide signage or the appropriate markings at all areas used for storage to indicate the acceptable loading limits detailed in the Load Plan.
Suggested Deadline Date:	01 Aug 2014
Standard:	Alliance Standard Part 8 Section 8.11 Floor Load Markings
Question:	Is a designated representative (Factory Load Manager), who is onsite full time, trained regarding the structural floor capacity, and serves as an ongoing vendor resource and monitor of operational factory floor loadings?
Priority Level:	Low
Non-Compliance Level:	3
Description:	There is no designated representative (Factory Load Manager) who is onsite full time, trained regarding the structural floor capacity, and serves as an ongoing vendor resource and monitor of operational factory floor loadings.
Source of Findings:	Document Review: Documents reviewed on site.
Suggested Plan of Action:	Designate a representative as the Factory Load Manager. The Factory Owner shall ensure that at least one individual, the Factory Load Manager, is located onsite full time at the factory and is trained in calculating operational load characteristics of the specific factory. The Factory Load Manager shall serve as an ongoing resource to RMG vendors and be responsible for ensuring that the factory operational loads do not at any time exceed the factory floor loading limits as described on the Floor Loading Plans.
Suggested Deadline Date:	18 Jul 2014
Standard:	Alliance Standards Part 8 Section 8.9 Factory Load Manager

Factory Name: **Canvas Garments (Pvt.) Ltd**

Address: **301, North Baizid Bostami Road, Nasirabad I/A, Canvas Building,
Chittagong Chittagong Chittagong Bangladesh**

Assessor: **Bureau Veritas**

Date: **18 May 2014**



ALLIANCE
FOR BANGLADESH WORKER SAFETY