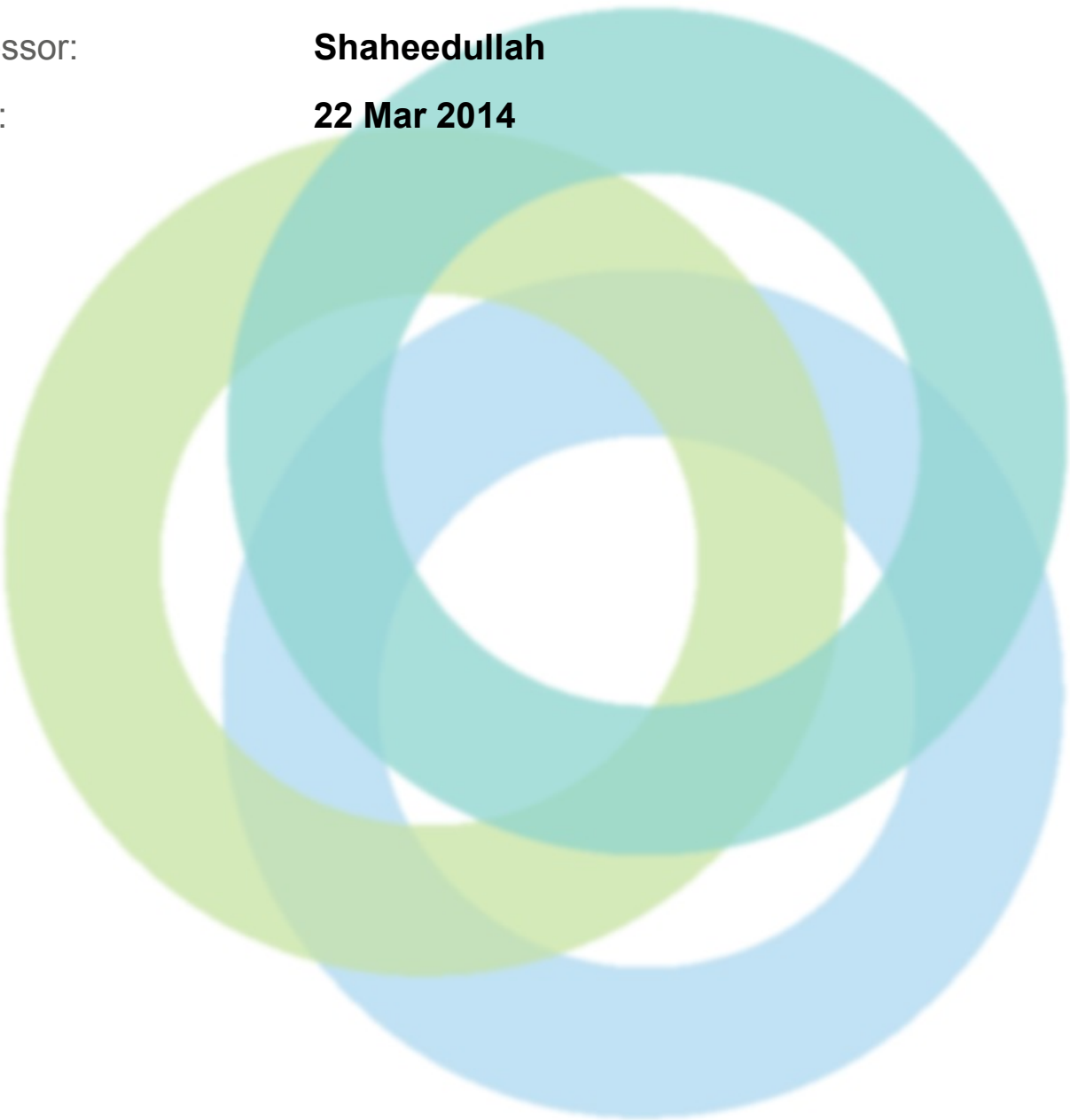


INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **ASWAD COMPOSITE MILLS LTD.**
Address: **Kabirpur, Savar Savar Dhaka Bangladesh**
Assessor: **Shaheedullah**
Date: **22 Mar 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.



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ALLIANCE
 FOR BANGLADESH WORKER SAFETY

GENERAL INFORMATION

General Information

Factory Name:	ASWAD COMPOSITE MILLS LTD.
Address:	Kabirpur, Savar Savar Dhaka Bangladesh
Country:	Bangladesh
Province:	Dhaka
City:	Savar
Zip Code:	1449
Audit Duration:	3 Days 24 Hours
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	01 April 2014
Final Report Date :	03 June 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 two are main buildings and four are ancillary buildings. The buildings are named as: 1) Six story RCC Main Building, 2) Three story prefabricated steel Building, 3) Four story RCC Building, 4) Single story guard room, 5) Single story sub-station room, 6) Single story car parking shed.
Number of Building Levels (Stories) :	1) Six story RCC Main Building, Stories above grade: 6, Stories below grade: 0, Occupied levels: 6, 2) Three story prefabricated steel Building, Stories above grade: 3, Stories below grade: 0, Occupied levels: 3, 3) Four story RCC Building, Stories above grade: 4, Stories below grade: 0, Occupied levels: 4, 4) Single story guard room, Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 5) Single story sub-station room, Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 6) Single story car parking shed. Stories above grade: 1, Stories below grade: 0, Occupied levels: 1.
Approximate Building Area (SF) :	Total area of all buildings in the factory premises: 267480 sft. Building wise breakdown as follows: 1) Six story RCC Main Building: 203000 sft (Ground Floor: 29000 sft, 1st Floor: 29000 sft, 2nd Floor: 29000 sft, 3rd Floor: 29000 sft, 4th Floor: 29000 sft, 5th Floor: 29000 sft Roof : 29000sft) 2)Three story prefabricated steel Building: 60000 sft (Ground Floor: 20000 sft, 1st Floor: 20000 sft, 2nd Floor: 20000 sft), 3) Four story RCC Building: 4080 sft (Ground Floor: 1020 sft, 1st Floor: 1020 sft, 2nd Floor: 1020 sft, 3rd Floor: 1020 sft), 4) Single story guard room: 100 sft, 5) Single story sub-station room: 150 sft, 6) Single story car parking shed: 150 sft.
Date of Building Construction :	Factory personnel informed the date of construction as follows: 1) Six story RCC Main Building: Finished in 2006, 2) Three story prefabricated steel Building: Finished in 2006, 3) Four story RCC Building: Finished in 2009, 4) Single story guard room: Finished in 2006, 5) Single story sub-station room: Finished in 2006, 6) Single story car parking shed: Finished in 2006.



Date of Last Building Renovation/Addition :	No record for date of renovation or addition was found from factory personnel.
Is the Building mixed use?:	No
Ancillary Structures in Complex :	1) Four story RCC Building, 2) Single story guard room, 3) Single story sub-station room, 4) Single story car parking shed.
Number of Ancillary Levels (Stories) :	1) Four story RCC Building, Stories above grade: 4, Stories below grade: 0, Occupied levels: 4, 2) Single story guard room, Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 3) Single story sub-station room, Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 4) Single story car parking shed. Stories above grade: 1, Stories below grade: 0, Occupied levels: 1.
Approximate Ancillary Structures Area (SF) :	Total : 4480 sft 1) Four story RCC Building: 4080 sft (Ground Floor: 1020 sft, 1st Floor: 1020 sft, 2nd Floor: 1020 sft, 3rd Floor: 1020 sft), 2) Single story guard room: 100 sft, 3) Single story sub-station room: 150 sft, 4) Single story car parking shed: 150 sft.
Number of Occupants :	Total no. of occupants: 1861. 1) Six story RCC Main Building: 1776, [Ground floor: 55, 1st floor: 10, 2nd floor: 113, 3rd floor: 532, 4th floor: 527, 5th Floor: 539], 2) Three story prefabricated steel Building: 61, [Ground floor: 47, 1st floor: 06, 2nd floor: 8], 3) Four story RCC Building: 16 [Ground floor: 4, 1st floor: 2, 2nd floor: 10, 2nd floor: 0] 4) Single story guard room: 4, 5) Single story sub-station room: 2, 6) Single story car parking shed: 02.
Exterior Facade Description :	5 inch thick plastered masonry brick wall with 40% window opening
Structural System Description :	Factory building #01, Admin building (B#03) and Gate house are RC frame structure With R.C Footings, columns, beams and slabs. Factory building #02 is steel frame structure (deck panel) with R.C Footings, Columns (pedestal) and grade beams.



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:	Available structural documents for building #2 are incomplete and don't meet the Alliance Standard.	
Source of Findings:	Document Review: Seen all documents.	
Suggested Plan of Action:	A qualified structural engineer shall be engaged to prepare credible as-built documents based on the requirements of Part 8 Section 8.19 of the Alliance Standard.	
Suggested Deadline Date:	16 Jun 2014	
Standard:	Alliance Standard Part 8 Section 8.19 Required Structural Documentation for New and Existing Factories	
Question:	Can credible structural documentation indicating general conformance with 2006 BNBC or other comparable applicable international model building code be produced?	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	Provided structural documents for the steel building are incomplete and don't follow BNBC 2006 Standard or other comparable international code.	
Source of Findings:	Document Review: Seen all documents.	
Suggested Plan of Action:	A qualified structural engineer shall be engaged to develop the required documents to confirm the structural integrity of the buildings. Documents must comply with Alliance Standard Part 8 Section 8.19 and 8.20 and BNBC 2006	
Suggested Deadline Date:	16 Jun 2014	
Standard:	Reference Alliance Standards Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings	
Question:	If built after 2006, can documented compliance with the seismic and wind requirements of the 2006 BNBC be provided?	
Priority Level:	Medium	



Non-Compliance Level:	2
Description:	No document compliance with the seismic and wind requirements of the 2006 BNBC was provided for the steel building.
Source of Findings:	Document Review: Seen all documents.
Suggested Plan of Action:	A qualified structural engineer shall be engaged to prepare documents compliance with the seismic and wind requirements stated in the 2006 BNBC.
Suggested Deadline Date:	16 Jun 2014
Standard:	Alliance Standards Part 8 Section 8.17 Design for Lateral Loads and 2006 BNBC Part 6 Section 1.5
Question:	Can documentation be provided that the building is compliant with the requirements for wind loading and storm surge loadings as detailed in BNBC Part 6 Section 1.5.3?
Priority Level:	Medium
Non-Compliance Level:	2
Description:	No compliance documents for building 2 with the requirements for wind loading and storm surge loadings were provided.
Source of Findings:	Document Review: Seen all documents.
Suggested Plan of Action:	A qualified structural engineer shall be engaged to confirm satisfactory structural performance of the buildings under wind loading as detailed in BNBC Part 6 Section 1.5.3.
Suggested Deadline Date:	16 Jun 2014
Standard:	2006 BNBC Part 6 Section 1.5. Compliance may be waived if the Factory Owner provides satisfactory evidence of a cyclone operations plan that includes full evacuation of the factory in advance of any approaching cyclone"
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:	Minor hair cracks have been noticed in the under side of the roof slab at the location where water tanks rests.
Source of Findings:	Photograph: Attached., Visual Assessment: Visual inspection.
Suggested Plan of Action:	A qualified structural engineer shall be engaged 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:	16 Jun 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:	1	
Description:	Certificate of Occupancy was not available for review.	
Source of Findings:	Document Review: Seen all documents.	
Suggested Plan of Action:	Certificate of Occupancy shall be obtained from the appropriate authority.	
Suggested Deadline Date:	16 Jun 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:	No anchoring or bracing was used in the water tank to resist earthquake forces.	
Source of Findings:	Photograph: Attached., Visual Assessment: Visual inspection.	
Suggested Plan of Action:	Water tank shall be adequately anchored and braced to resist earthquake force as per BNBC and Alliance Standard.	
Suggested Deadline Date:	16 Jun 2014	
Standard:	Alliance Standards Part 8 Section 8.18 Seismic Bracing of Key Non-Structural Elements and 2006 BNBC Part 6	



Question:	Are structural steel members free of corrosion, physical damage or other types of deterioration?
Priority Level:	Medium
Non-Compliance Level:	1
Description:	Insufficient coating in structural steel members was discovered in building #2. All columns have rust at the junction of concrete and wall joint.
Source of Findings:	Photograph: Attached., Visual Assessment: Visual inspection.
Suggested Plan of Action:	Rust cleaning and re-painting are required with sufficient coating thickness prior to next rainy season.
Suggested Deadline Date:	16 Jun 2014
Standard:	Alliance Standard Part 8 Section 8.26



Question:	Is expansion joint material free from cracking and other forms of deterioration?
Priority Level:	Low
Non-Compliance Level:	1
Description:	Cracks have been noticed in expansion joint materials.
Source of Findings:	Visual Assessment: Visual inspection.
Suggested Plan of Action:	Remove deteriorated expansion joint material and provide new approved material at the expansion joint.
Suggested Deadline Date:	16 Jun 2014
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance

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:	2
Description:	No program was found.
Source of Findings:	Document Review: Seen all documents.
Suggested Plan of Action:	A program shall be developed 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 that it is enforced.
Suggested Deadline	16 Jun 2014



Date:		
Standard:	Alliance Standard Part 13 Section 13.7 and Part 8 Section 8.9.	
Question:	Have Load Plans been prepared for each floor documenting the actual maximum operational loading that is intended and/or allowable on each floor.	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	Floor load plans have not been prepared for each floor.	
Source of Findings:	Document Review: Seen all documents., Visual Assessment: Visual inspection.	
Suggested Plan of Action:	A qualified structural engineer shall be engaged to develop floor loading plans per the requirements of Part 8 Section 8.20.5.3	
Suggested Deadline Date:	16 Jun 2014	
Standard:	Alliance Standard Part 8 Section 8.10 Floor Loading Plans (Load Plans)	
Question:	Are Floor Load Plans posted as required?	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	Floor load plans have not been developed.	
Source of Findings:	Document Review: Seen all documents.	
Suggested Plan of Action:	A qualified structural engineer shall be engaged to prepare load plans including the information required in Section 8.20 of the Alliance Standard.	
Suggested Deadline Date:	16 Jun 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:	2	
Description:	Areas used for storage of work materials and work products have not been marked to indicate the acceptable loading limits.	
Source of Findings:	Visual Assessment: Visual inspection.	
Suggested Plan of	Areas used for storage of work materials and work products shall be clearly	

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Action:	marked to indicate acceptable loading limits.	
Suggested Deadline Date:	16 Jun 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:	1	
Description:	No Factory Load Manager found at the site.	
Source of Findings:	Document Review: Seen all documents.	
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 to ensure 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:	16 Jun 2014	
Standard:	Alliance Standards Part 8 Section 8.9 Factory Load Manager	