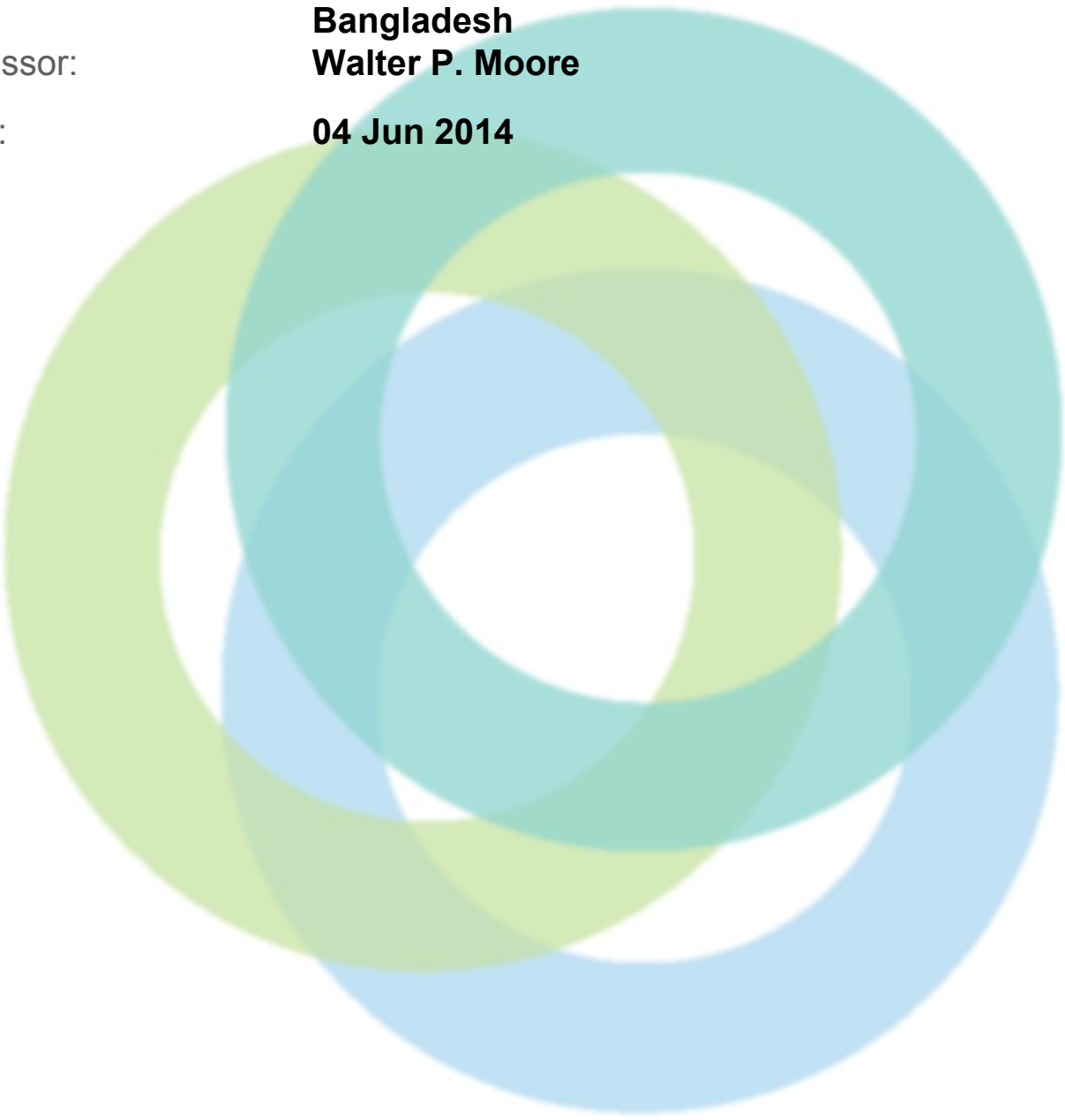


INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **Creative Wash Ltd**
Address: **Nishat Nagar, Tongi, Gazipur Tongi, Gazipur Dhaka
Bangladesh**
Assessor: **Walter P. Moore**
Date: **04 Jun 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.



Factory Name: **Creative Wash Ltd**

Address: **Nishat Nagar, Tongi, Gazipur Tongi, Gazipur Dhaka Bangladesh**

Assessor: **Walter P. Moore**

Date: **04 Jun 2014**



ALLIANCE
FOR BANGLADESH WORKER SAFETY

GENERAL INFORMATION

General Information

Factory Name:	Creative Wash Ltd
Address:	Nishat Nagar, Tongi, Gazipur Tongi, Gazipur Dhaka Bangladesh
Country:	Bangladesh
Province:	Dhaka
City:	Tongi, Gazipur
Zip Code:	1711
Audit Duration:	1 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	06/04/2014
Final Report Date :	06/13/2014
Are all Action Items From Previous Assessment Completed?:	No
Buildings in Complex :	04
Number of Building Levels (Stories) :	Ground + Structural steel roof with intermediate mezzanine frames independent to main structure
Approximate Building Area (SF) :	178764 sq. ft.
Date of Building Construction :	1963
Date of Last Building Renovation/Addition :	N/A
Is the Building mixed use?:	No
Ancillary Structures in Complex :	20
Number of Ancillary Levels (Stories) :	Ground + Roof
Approximate Ancillary	Unknown

Factory Name: **Creative Wash Ltd**

Address: **Nishat Nagar, Tongi, Gazipur Tongi, Gazipur Dhaka Bangladesh**

Assessor: **Walter P. Moore**

Date: **04 Jun 2014**



ALLIANCE
FOR BANGLADESH WORKER SAFETY

Structures Area (SF) :	
Number of Occupants :	Unknown
Exterior Facade Description :	Plastered brick walls tightly abutted between masonry pilasters
Structural System Description :	Masonry and Steel Column supported Roof Truss



ASSESSMENT FINDINGS

Structural System Design

Question:	Has evidence of structural integrity been provided using a Preliminary Structural Assessment?	 
Priority Level:	High	
Non-Compliance Level:	3	
Description:	Although the vertical load carrying system was observed to be logical with key structural elements performing satisfactorily, the lateral load carrying system was not apparent and redundant. As built documents provided were not credible as numerous deviations were observed with the 'as-built' condition of the structure as compared to the drawings. No visible distress in main load carrying members were noted and foundation performance appeared satisfactory with no settlement observed. The Dining Shed and workshop appears to have been constructed from left over structural materials and in the absence of an engineered structural design. We observed steel columns that appear to be out of plumb, and the structure has no recognizable lateral force resisting system or load path.	
Source of Findings:	Document Review: As observed from documents reviewed., Visual Assessment: As noted during visual assessment	
Suggested Plan of Action:	An analytical verification and detailed assessment of the structure(s) should be undertaken under the guidance of a qualified structural engineer to ensure lateral stability of the structure.	
Suggested Deadline Date:	15 Oct 2014	
Standard:	Reference Alliance Standards Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings	
Question:	Are credible structural design documents available for review and kept on site?	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	"As Built" drawings reviewed for the factory were noted with numerous inconsistencies to the as-built condition of the factory. It could not be validated if an independent analysis of the structure was also performed to verify the lateral stability of the structure under recommended parameters defined in BNBC 2006 for Wind and Seismic loading.	
Source of Findings:		
Suggested Plan of Action:	Have a qualified structural engineer prepare credible as-built documents based on the requirements of Part 8 Section 8.19 of the Alliance Standard.	



Suggested Deadline Date:	15 Oct 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:	3	
Description:	Although the 'as-built' documentations indicate all necessary parameters adopted for gravity and lateral loads for the structure, the same could not be validated due to lack of analytical calculations in support of it. Additionally, visual assessment could not confirm the principle lateral load resisting system for the frame. Conformance to BNBC 2006 should be analytically verified by a qualified structural engineer.	
Source of Findings:	Document Review: As per reviewed of 'as built' drawings made available.	
Suggested Plan of Action:	Engage a qualified structural engineer 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	
Suggested Deadline Date:	15 Oct 2014	
Standard:	Reference Alliance Standards Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings	
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:	3	
Description:	No analytical model and corresponding calculation reports were made available to demonstrate compliance with BNBC 2006 with the requirements for wind loading and storm surge loading. General notes on 'as-built' documentations provided for review however indicated that buildings have been designed with appropriate wind loading parameters as per BNBC 2006.	
Source of Findings:	Document Review: As noted during review of 'as-built' structural drawings	
Suggested Plan of Action:	Engage a qualified structural engineer to confirm satisfactory structural performance of the buildings under wind loading.	
Suggested Deadline Date:	15 Oct 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:	Is a clear and redundant load path to resist lateral loads provided?	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	A redundant structural system with clear load path to foundations to resist lateral loads could not be determined. The end bays were noted to be masonry bearing walls and pilasters which are traditionally known to be seismically vulnerable unless reinforced appropriately. The lateral resisting capacity of the structure should be analytically confirmed.	
Source of Findings:		
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:	15 Oct 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:	If the structure has been previously expanded, was the structural impact on the entire structure analytically evaluated and confirmed by a qualified structural engineer.	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	The addition of mezzanine floor levels appear independent of the main structure. These were observed without any lateral bracing and at a nominal gap from the main building. Lateral stability of this structure and probability of 'pounding' with the main structural elements should be evaluated.	
Source of Findings:	Document Review: As observed during document review.	
Suggested Plan of Action:	Have a qualified structural engineer complete an analytical evaluation of the structural impact of the addition.	
Suggested Deadline Date:	15 Oct 2014	
Standard:	Reference Alliance Standards Part 8 Section 8.1 Applicability of Building Code.	
Question:	Are Certificates of Occupancy available for review?	
Priority Level:	Low	
Non-Compliance Level:	2	



Description:	No certificate of occupancy was made available for review.
Source of Findings:	
Suggested Plan of Action:	Provide Certificates of Occupancy for review.
Suggested Deadline Date:	15 Oct 2014
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment

Structural System Construction

Question:	Are structural steel members free of corrosion, physical damage or other types of deterioration?
Priority Level:	Medium
Non-Compliance Level:	3
Description:	We observed minor corrosion of steel trusses at isolated locations, and bent truss and roof bracing members throughout the building.
Source of Findings:	Visual Assessment: As observed during visual assessment.
Suggested Plan of Action:	Complete further testing on areas of deterioration and have a qualified structural engineer develop a remediation plan.
Suggested Deadline Date:	15 Oct 2014
Standard:	Alliance Standard Part 8 Section 8.26



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:	We observed racks that were not anchored or braced adequately.
Source of Findings:	Visual Assessment: As observed during visual assessment.
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:	15 Oct 2014
Standard:	Alliance Standards Part 8 Section 8.18 Seismic Bracing of Key Non-Structural





	Elements and 2006 BNBC Part 6	
Question:	Have all areas of needed maintenance, including areas with efflorescence, dampness, standing water on rooftops, and corrosion been addressed.	
Priority Level:	Medium	
Non-Compliance Level:	1	
Description:	No major maintenance issue was noted besides few truss members in washing area with corrosion.	
Source of Findings:		
Suggested Plan of Action:	Under guidance from a qualified structural engineer, address all areas of needed maintenance by correcting the identified issues.	
Suggested Deadline Date:	15 Oct 2014	
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance	
Structural Safety Programs		
Question:	Are floor loads in compliance with posted plans?	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	No Load Plans are available. However the requirement for these would be applicable only for mezzanine levels and not for production areas since these are directly on grad	
Source of Findings:		
Suggested Plan of Action:	Redistribute floor loads to comply with the Floor Loading Plans.	
Suggested Deadline Date:	15 Oct 2014	
Standard:	Alliance Standard Part 8 Section 8.10 Floor Loading Plans (Load Plans).	
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:	1	
Description:	No load management program implementation was evidenced.	
Source of Findings:		
Suggested Plan of	Develop a program to ensure that all live loads for which a floor or roof has	



Action:	been designed for will not be exceeded. The designated Load Manager shall oversee this program and ensure it is enforced.	
Suggested Deadline Date:	15 Oct 2014	
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:	No Load Plans are available. However the requirement for these would be applicable only for mezzanine levels and not for production areas since these are directly on grade.	
Source of Findings:		
Suggested Plan of Action:	Have a qualified structural engineer develop Floor Loading Plans for Mezzanine floors per the requirements of Part 8 Section 8.20.5.3	
Suggested Deadline Date:	15 Oct 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:	No Load Plans are available. However the requirement for these would be applicable only for mezzanine levels and not for production areas since these are directly on grade.	
Source of Findings:	Visual Assessment: As observed during visual assessment.	
Suggested Plan of Action:	Have a qualified structural engineer prepare load plans for mezzanine floors including the information required in Section 8.20 of the Alliance Standard.	
Suggested Deadline Date:	15 Oct 2014	
Standard:	Alliance Standard Part 8 Section 8.20.5.3	
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	

Factory Name: **Creative Wash Ltd**

Address: **Nishat Nagar, Tongi, Gazipur Tongi, Gazipur Dhaka Bangladesh**

Assessor: **Walter P. Moore**

Date: **04 Jun 2014**



ALLIANCE
FOR BANGLADESH WORKER SAFETY

Description:	Although not critical to the factory operations which are primarily over grade a designated load manager was not deputed within the factory.
Source of Findings:	
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 who is located onsite full time at the factory, 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:	15 Oct 2014
Standard:	Alliance Standards Part 8 Section 8.9 Factory Load Manager