

INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **CLIFTON COTTON MILLS LIMITED**

Address: **CDA Plot # D28, 28-D/1, 28-D2, Char Rangamatia,
Kalurghat, Chittagong Chittagong Chittagong
Bangladesh**

Assessor: **Sumerra**

Date: **09 Apr 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:	CLIFTON COTTON MILLS LIMITED
Address:	CDA Plot # D28, 28-D/1, 28-D2, Char Rangamatia, Kalurghat, Chittagong Chittagong Chittagong Bangladesh
Country:	Bangladesh
Province:	Chittagong
City:	Chittagong
Zip Code:	
Audit Duration:	2 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	April 25, 2014
Final Report Date :	May 9, 2014
Are all Action Items From Previous Assessment Completed?:	N/A
Buildings in Complex :	Main Building Generator/Substation Bldg.
Number of Building Levels (Stories) :	Main: 6 story Generator: 1 story
Approximate Building Area (SF) :	100800 sft
Date of Building Construction :	2006
Date of Last Building Renovation/Addition :	NA
Is the Building mixed use?:	No
Ancillary Structures in Complex :	Generator/Substation
Number of Ancillary Levels (Stories) :	1 Story
Approximate Ancillary	Unknown

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Structures Area (SF) :	
Number of Occupants :	Approx. 1600
Exterior Facade Description :	Brick (5") masonry infill.
Structural System Description :	Main Building: Concrete beam & slab system with beams spanning both directions between column. Foundation and lateral-load resisting systems are moment resisting concrete frame. Foundation is monolithic RC slab with beams. Generator Buidling: 1 storied brick masonry wall and tin shade



ASSESSMENT FINDINGS

Structural System Design

Question:	Are Certificates of Occupancy available for review?	
Priority Level:	Low	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment	
Question:	Structural Engineer of Record	
Priority Level:		
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Provide the name and firm of the structural engineer of record.	
Question:	Architect of Record	
Priority Level:		
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		



Suggested Deadline Date:		
Standard:	Provide the name and firm of the architect of record.	
Question:	Are credible structural design documents available for review and kept on site?	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	No design report was available for review as part of the structural documents.	
Source of Findings:	Document Review: Structural drawings were reviewed, no design report was available for review as part of the structural documents.	
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. As-built documents shall include, at a minimum, the following: • Scaled and dimensioned Architectural Documents, including: Scaled site plan showing: (1) general layout of all buildings in the complex with labels (2) location and names of adjacent streets (3) location and size of utilities, if known • Scaled architectural floor plan for each level of each building showing: (1) location and size of stairs (2) location and size of elevators (3) location of fixed walls (4) location of corridors (5) labeled usage areas on each floor, e.g. sewing, storage, dining, rooftop, office, etc. (6) location of major machinery and equipment (7) general layout of factory activities • Scaled elevations of each façade of the building showing: (1) general configuration of the building (2) location and type of façade materials (3) accurate number of levels and any intended future vertical or horizontal expansion areas • Scaled and dimensioned Structural Documents as follows: Floor Plan for each level showing: (1) measured locations of columns and walls (2) reinforcement details (rebar size and layout) for any columns determined using any scanning device or physical investigations. Columns at lowest tiers and rooftop are most useful to explore. (3) confirmed construction type of walls, e.g. masonry or cast concrete (4) general size and layout of beams (5) thickness of slabs (6) general size and location of major floor openings • Foundation Plan showing general layout and type of foundations, if known • Roof Plan showing any construction, equipment, water tanks, or tower added atop roof level. • Building section(s) showing all constructed floors, dimensions between floors, and intended future vertical or horizontal expansion, if any. • Building sections shall indicate location and extent of any mezzanines, suspended storage areas, or partial floors. • Factory Layout and Load Documents for every floor showing: (1) scaled layout of work stations (2) operating equipment (3) dedicated aisle locations (4) type and extent of storage areas (5) type and weights of stored work materials and/or stored work products at maximum density (6) Factory layout and loading documents may use the structural plan documents as background. (7) Factory Layout and Load Plans shall be coordinated with the structural plans. • Factory Equipment Schedule, including: (1) Type of each piece of factory equipment including generators, washing machines, driers, etc. (2) Include plan dimensions and weight of each piece of equipment	
Suggested Deadline Date:	10 Jun 2014	
Standard:	Alliance Standard Part 8 Section 8.19 Required Structural Documentation for New and Existing Factories	



Question:	Is a Geotechnical Report available for review and kept on site?
Priority Level:	Low
Non-Compliance Level:	
Description:	
Source of Findings:	
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	Alliance Standard Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings
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:	No design report was available for review as part of the structural documents and therefore general conformance with 2006 BNBC or other comparable applicable international model could not be confirmed.
Source of Findings:	Document Review: Review structural drawings and no design report was available for review as part of the structural documents
Suggested Plan of Action:	Engage a qualified structural engineer to develop the required documents to confirm the structural integrity of the buildings (collect code confirmation and design criteria). Documents must comply with Alliance Standard Part 8 Section 8.19 and 8.20
Suggested Deadline Date:	10 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:	
Description:	
Source of Findings:	



Suggested Plan of Action:		
Suggested Deadline Date:		
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:	3	
Description:	No design report was available for review as part of the structural documents and therefore general conformance with the requirements for wind loading and storm surge loadings as detailed in BNBC Part 6 Section 1.5.3 could not be confirmed.	
Source of Findings:	Document Review: Reviewed structural drawings and no design report was available for review as part of the structural documents	
Suggested Plan of Action:	Engage a qualified structural engineer to confirm satisfactory structural performance of the buildings under wind loading. 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.	
Suggested Deadline Date:	10 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:	Has evidence of structural integrity been provided using a Preliminary Structural Assessment?	
Priority Level:	High	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 8 Section 8.2 Structural Integrity of Existing	



	Factory Buildings	
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:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 8 Section 8.1 Applicability of Building Code.	
Question:	Structural System Type as defined by 2006 BNBC Part 6 Chapter 1 Table 6.1.2.	
Priority Level:		
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	2006 BNBC Part 6 Chapter 1 Table 6.1.2	
Question:	What is the Structural Configuration?	
Priority Level:		
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline		



Date:		
Standard:	2006 BNBC Part 6 Chapter 1 Section 1.3.4	
Question:	Is a clear and redundant load path to resist lateral loads provided?	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	Although lateral load is visually noted as transferred by wall, beam & slab in column, for seismic load, lateral system or load path could not be evaluated in absence of detail design report.	
Source of Findings:	Document Review: Review structural drawings and no design report was available for review as part of the structural documents and therefore load path could not be properly evaluated., Visual Assessment: Lateral load is visually noted as transferred by wall, beam & slab in column	
Suggested Plan of Action:	Engage a qualified structural engineer to develop the required documents to confirm the designed load path. If necessary, have a qualified structural engineer complete further analysis of the structure and develop a remediation plan if required.	
Suggested Deadline Date:	10 Jun 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:	Are the available FoS for the columns adequate based on Preliminary calculation?	 
Priority Level:	High	
Non-Compliance Level:	3	
Description:	42psf live load Center 1.61 Corner 1.04 Edge 0.97 20 psf Live load: Center 1.84 Corner 1.13 Edge 1.08 FoS < 1.25 for a 20 psf live load requires evacuation and initiation of the Emergency Escalation Protocol by the Alliance review panel.	
Source of Findings:	Uploaded Document: Stress Calculation Findings of review panel	
Suggested Plan of Action:	Findings from the Alliance Review Panel are presented below: 1. The area of one bay from the diagonal side along South-East to North-West (as marked in the attached drawing) must immediately be kept out of use for safety. A light barrier has to be installed along the interior edge of the exterior bay along the above-mentioned side. 2. Operations in the building may continue. However the live load during the operations shall not exceed 1KN/m2 (20 psf) and all storage loads should be removed from floors except the ground floor. 3. In case of emergence of any sign of distress, the concerned engineer should be informed immediately for his guidance; if necessary the building has to be evacuated. Also to be informed to the representative of Department of Inspection for Factories and establishments (DIFE). 4. Detail Engineering Analysis (DEA) to be started immediately to find out the condition of stressed Columns and completed within 6 (six) weeks under the supervision of a	



	certified professional Structural engineer and submit the Corrective Action Plan (CAP) to Alliance for early approval. Failing to do so within the stipulated time, evacuation of upper two floors will be enforced by DIFE. 5. Depending on the findings of the DEA, permanent remedial measures should be taken for the safety of the building. 6. All those activities should be monitored by an inspector of DIFE for strict compliance.	
Suggested Deadline Date:	13 Aug 2014	
Standard:	Provide results of preliminary calculations in space provided. a) column capacity; FoS > 1.86 - Safe b) column capacity; FoS 1.5 -1.86 - Needs Evaluation c) Column capacity; FoS 1.25-1.5 - Needs Evaluation d) Column capacity; FoS <1.25 - Unsafe In case of a critically low FoS (<1.25), consider Immediate Escalation Protocol	
Question:	Results of ferro-scanning for confirmation of steel rebar in the columns of the lowest tier were satisfactory.	
Priority Level:	Medium	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment	
Question:	What are the full dead and live loads of the floor slabs and decks?	
Priority Level:		
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Provide information regarding the dead and live loads of the floor slabs and decks.	
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:	
Description:	
Source of Findings:	
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	Alliance Standard Part 8 Section 8.13 and 8.14
Question:	Where density of operations, storage of materials, or equipment weights require live load capacity in excess of 2.0 kN/m ² (42 psf), do the design documents confirm that the required load capacity exists? Or has the load capacity been analytically confirmed and certified by an Alliance-qualified structural engineer?
Priority Level:	Medium
Non-Compliance Level:	2
Description:	Each floor contains a sub-store room/area. Load capacities of these floors have not been confirmed as design detail is not available to confirm that the required load capacity exists in these areas. On the ground floor main storage, since designs documents to not include anticipation of live loads, it is unclear if the floor casting/foundation is sufficient to accommodate the storage loads of accessories store.
Source of Findings:	Document Review: Load capacities of these floors have not been confirmed as design detail is not available to confirm that the required load capacity exists in these areas., Photograph: Photos of storage areas., Visual Assessment: Visual observations of storage areas.
Suggested Plan of Action:	Have a qualified structural engineer confirm that capacity to support the load of the sub-stores on each floor is available. Load Plans complying with Alliance Standard Part 8 Section 8.20.4.3 should also be developed (see recommendations elsewhere in this report). Engage a qualified structural engineer to confirm and document foundation/floor casting design can accommodate concentrated storage loads observed (see elsewhere regarding development of load plans)in fabric storage on ground floor.
Suggested Deadline Date:	10 Jun 2014
Standard:	Alliance Standards Part 8 Section 8.15 Minimum Floor Design Loads



Structural System Construction



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:	2
Description:	Efflorescence observed on top of stair case & wall beside toilet, in all floors.
Source of Findings:	Photograph: Photo of water damage/efflorescence
Suggested Plan of Action:	Under guidance from a qualified structural engineer identify the source of moisture resulting in water damage/efflorescence. Any and all sources of moisture should be rectified/repared. Once source is identified and repaired Damaged walls should be cleaned and replastered as necessary. (Failure to address the source of moisture will result in repeated issues).
Suggested Deadline Date:	10 Jun 2014
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance
Question:	The exterior façade is free of cracking.
Priority Level:	Low
Non-Compliance Level:	
Description:	
Source of Findings:	
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	Alliance Standard Part 8 Section 8.2
Question:	Are expansion joints provided at appropriate intervals on the exterior façade?
Priority Level:	Low
Non-Compliance Level:	
Description:	
Source of Findings:	
Suggested Plan of Action:	
Suggested Deadline Date:	



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Standard:	Alliance Standard Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings	
Question:	Is expansion joint material free from cracking and other forms of deterioration?	
Priority Level:	Low	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance	
Question:	Is the building free of active signs of water intrusion or ponding due to lack of performance of the façade system?	
Priority Level:	Low	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance	
Question:	Are the performance of key structural elements such as columns, slender columns, flat plates and transfer structures satisfactory?	
Priority Level:	High	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		



Standard:	Alliance Standard Part 8 Section 8.3.3	
Question:	Is the structural system free of settlement cracking, excessive perimeter separations, and unlevel floors attributable to foundation settlements?	
Priority Level:	High	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 8 Structural Design Section 8.2 Structural Integrity of Existing Factory Buildings	
Question:	Is the structural system free of deflections (sagging), rotations (twisting), perceivable vibrations, or other noticeable movements of the structure?	
Priority Level:	High	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 8 Structural Design Section 8.2 Structural Integrity of Existing Factory Buildings	
Question:	Is the structural system free of distress, separations, or cracking that indicates lack of performance or overstress of the lateral load-carrying system?	
Priority Level:	High	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		



Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.3.3	
Question:	Is the structural system free of distress, settlement, shifting, or cracking in columns or walls?	 
Priority Level:	High	
Non-Compliance Level:	1	
Description:	Shrinkage cracks found out side of east wall (Exterior, 1st floor).	
Source of Findings:	Photograph: Photos of exterior east side with shrinkage crack.	
Suggested Plan of Action:	Remove plaster and replaster again with proper curing.	
Suggested Deadline Date:	10 Jun 2014	
Standard:	Alliance Standard Part 8 Section 8.3.3	
Question:	Have any previous repairs to correct structural deficiencies or to reinforce the existing structure been completed?	
Priority Level:		
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:		
Question:	Was masonry-chip aggregate concrete (MCAC) used in the construction of the building?	
Priority Level:		
Non-Compliance Level:		
Description:		
Source of Findings:		



Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 7 Building Materials Section 7.2 Masonry-chip aggregate concrete (MCAC)	
Question:	If yes, have the structural members constructed with MCAC been investigated by an appropriate program of in-situ testing and representative destructive testing or core samples?	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	No documentation of strength testing of MCAC has been provided.	
Source of Findings:	Document Review: No documentation of strength testing available.	
Suggested Plan of Action:	The compressive strength of columns, floor framing and shear walls using MCAC shall be investigated by an appropriate program of in-situ testing and representative destructive testing of core samples.	
Suggested Deadline Date:	07 Sep 2014	
Standard:	Reference Alliance Standards Part 7 Building Materials Section 7.2 Masonry-chip aggregate concrete (MCAC)	
Question:	Are any structural elements constructed with MCAC exposed to rainfall or other sources of water sealed with a protective coating to prevent water intrusion?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standards Part 7 Building Materials Section 7.2 Masonry-chip aggregate concrete (MCAC).	
Question:	Are structural steel members free of corrosion, physical damage or other types of deterioration?	



Priority Level:	Medium	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.26	
Question:	For post-tensioned reinforced concrete systems or elements, cored holes have not compromised the post-tensioned strands.	
Priority Level:	High	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Not Applicable	
Question:	Is the structure free from any major/progressive distress?	
Priority Level:	High	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standards Part 8 Section 8.3.3	
Question:	For post-tensioned reinforced concrete systems or elements, is there any evidence of water penetration or corrosion at anchorages of post-tensioned strands.	



Priority Level:	Medium	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:		
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:	1	
Description:	Two lightning arrestors on roof top are not properly anchored to resist wind loads or earthquake forces.	
Source of Findings:	Visual Assessment: Observed un-anchored lightning arrestors.	
Suggested Plan of Action:	Develop engineered plans to brace all non-structural elements to resist wind and earthquake loads to comply with the BNBC and Alliance Standard. Install anchor and braces as shown on approved plans.	
Suggested Deadline Date:	10 Jun 2014	
Standard:	Alliance Standards Part 8 Section 8.18 Seismic Bracing of Key Non-Structural Elements and 2006 BNBC Part 6	
Question:	If the building is currently being renovated or expanded, are the Construction Practices and Safety requirements of Section 9 being followed?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		



Standard:	Alliance Standard Part 9 Construction Practices and Safety.	
Structural Safety Programs		
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:	3	
Description:	No load plans have been prepared as per Alliance Standards Part 8 Structural Design Section 8.10 Floor Loading Plans (Load Plans)	
Source of Findings:	Visual Assessment: No load plans were available for review or posted.	
Suggested Plan of Action:	Have a qualified structural engineer develop Floor Loading Plans per the requirements of Part 8 Section 8.20.5.3	
Suggested Deadline Date:	10 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:	3	
Description:	There were no load plans posted in the factory as per Alliance Standard Part 8 Section 8.20.5.3.	
Source of Findings:	Visual Assessment: No loads plans were visually observed.	
Suggested Plan of Action:	Create and post load plans in each floors as per Alliance Standard Sections 8.10 and 8.20.5.3.	
Suggested Deadline Date:	10 Jun 2014	
Standard:	Alliance Standard Part 8 Section 8.20.5.3	
Question:	Are floor loads in compliance with posted plans?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		



Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.10 Floor Loading Plans (Load Plans).	
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:	Live load is not calculated and displayed anywhere in the building as per Alliance Standards Part 8 Structural Design Section 8.11 Floor Load Markings.	
Source of Findings:	Photograph: Photos of areas of potential high live loads	
Suggested Plan of Action:	Provide signage or the appropriate markings at all areas used for storage such as ground floor storage area, 3rd Floor NE storage area, and 9th Floor Storage) to indicate the acceptable loading limits detailed in the Load Plan.	
Suggested Deadline Date:	10 Jun 2014	
Standard:	Alliance Standard Part 8 Section 8.11 Floor Load Markings	
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:	No program is in place to ensure loads will not be exceeded as per BNBC Part 6 Chapter 1 Section 1.4.6 and Alliance Standard Part 13 Section 13.7 and Part 8 Section 8.9.	
Source of Findings:	Worker Interviews: Management confirms that they don't have a program to manage loads.	
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:	10 Jun 2014	
Standard:	Alliance Standard Part 13 Section 13.7 and Part 8 Section 8.9.	
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:	No load manager has been assigned as per Alliance Standards Part 8 Section 8.9 Factory Load Manager	
Source of Findings:	Worker Interviews: Management confirmed there is no designed Load Manager.	
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:	10 Jun 2014	
Standard:	Alliance Standards Part 8 Section 8.9 Factory Load Manager	
Question:	For post-tensioned reinforced concrete systems or elements, is a program in place to ensure post-tensioned strands are located before core drilling begins?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance	