

POST-DISASTER INVESTIGATION OF STRUCTURES IN EASTERN
INDIA AT VISAKHAPATNAM AFTER VERY SEVERE
CYCLONE HUDHUD

by

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ABSTRACT

IBRAHEEM MASOUD ALHAIDER. Post-Disaster Investigation of Structures in Eastern India at Visakhapatnam after Very Severe Cyclone Hudhud. (Under the direction of DR. SHENEN CHEN)

This thesis reports a systematic post-disaster assessment of structures after the Very Severe Cyclone (VSC) Hudhud in eastern India during October 2014, which is the strongest storm event to hit any Indian city. Started as a tropical storm in the Bay of Bengal, Hudhud demonstrated unique climate phenomenon that resulted in massive snow dump in Nepal (1,200 km away from the Bay). The damage assessment of over 100 structures in Visakhapatnam (Vizag) of Andhra Pradesh, India, has been performed based on ground observations and is reported herein. A rating technique ranked damaged conditions based on a 0 to 3 score is used for the study. From 114 structures analyzed, the rating outcomes indicate unique wind damage distributions in Vizag that demonstrated likely sustained strong wind forces that carried its water contents further inland.

This thesis offers a first-order assessment of the effect of the VSC Hudhud and the assessment outcomes for the structures investigated are listed in the Appendix at the end of this thesis.

Keywords: Very Severe Cyclone (VSC), Structural Damage, Hudhud, Vizag

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CHAPTER I: INTRODUCTION

1.1 Introduction

Cyclonic storm Hudhud, which made first landfall in Andaman Islands in the Bay of Bengal in October 2014, was an exceptionally powerful tropical cyclone that devastated portions of the city of Visakhapatnam (Vizag), Andhra Pradesh, India. With an unofficially recorded wind speed of 216 km/h (134 mph, one minute sustained wind), the very severe cyclone (Indian Meteorological Department classification, 2003) Hudhud struck Andhra Pradesh coast at Visakhapatnam on 12th October, 2014. The storm event has been billed as the strongest and most expensive storm event in India history (Rao et al. 2015).

VSC Hudhud also demonstrated an unprecedented sustained force and retained moisture that allowed it to cause significant amount of snow falls in the Himalayan mountain range in Nepal, which resulted in an avalanche that killed 43 hikers and guides in Nepal (Neckel et al. 2015). Figure 1 shows the storm path indicating strength gain throughout October 8th to October 11th, 2014, and reached Vizag at near maximum wind speed of 185 km/h (114 mph). Figure 1 shows the storm path that identified the cyclone as genesis in the Adaman Sea and building up its strength towards Vizag. The storm is characterized by strong wind forces, forceful wave impacts on shorelines and localized inundation of sea waters (Vivek and Kumar 2015).

To collect perishable storm data and perform ground-truth analysis of the storm, a research team has traveled to Vizag on November 16th, 2014, to study the storm-induced damages. This thesis presents the outcomes of a preliminary assessment of the damaged structures investigated. A basic rating approach is devised and performed on more than 150 structures. A few structures were eliminated in the analysis due to a lack of sufficient

close observations of the structure and associated problems. As a result, a damage distribution analysis was performed on 114 structures. The structures consist of both commercial (warehouses, shopping malls, school buildings, auditoriums, stadiums and government offices) and residential structures. The rating technique is based on visual observations made on the structures using photos and data collected.

The important lesson learned includes a ground truth evidence of sustained wind force that is unique for VSC Hudhud. The documentation of the damaged structures from this storm event should increase our understanding of the damaging forces of the storm and it should help enhance the resilient design of coastal structures. Many of the observations and contributions from the forensic investigation groups can help enhance the post-disaster performance of the infrastructure and the built-environment.

1.1 Thesis Objective

The goals of this thesis are to document the study methodology, the analysis results and to report the state of understanding of the cyclonic storm Hudhud event.

1.2 Thesis Outlines

The structure of this thesis consists of six chapters: Chapter 1 introduces the project; Chapter 2 summarized the genesis and history of the cyclone Hudhud; Chapter 3 described the general observation and structures studied. It also describes the assessment of the damaged states of the 114 structures using a basic rating technique; Chapter 4 discusses the rating results from the 114 structures; Chapter 5 concludes the findings from this study; Chapter 6 suggests future studies that may be derived from the current thesis.



Figure 1: Study areas in Visakhapatnam

CHAPTER II: VERY SEVERE CYCLONE HUDHUD

2.1 Very Sever Cyclone Hudhud – Genesis and History

Like most tropical storms (TS) in southern Asian monsoon system, Hudhud originated as a low pressure center in the Tenasserim coast and northern Andaman Sea on the 6th of October, 2014. The localized depression harnessed the energy from subsurface turbulent heat flux and upper-ocean cooling plays, quickly gained strength and upgraded from TS into a severe cyclonic storm on October 10th, 2014 (Warner et al. 2016). It crossed northern part of Andhra Pradesh coast over the city of Vizag during 11:00 and 13:00 IST (Indian Standard Time) of 12th of October with a maximum, 3-minute sustained wind speed of 180 km/h (112 mph) and estimated lowest central pressure of 950 hPa (Douluri et al. 2016).

The strong wind brought about significant amount of energy in the sea current and generated waves that caused damages to the coast line (Kennedy et al. 2016). Murty et al. (2016) conducted post-storm analysis and modeling of the storm surge scenarios for Hudhud and suggested that the maximum height of storm surge at Vizag is about 1 m (3.2 ft) (October 12, 2014). In a later study (2017), they updated their forecast model and reported that the storm surge at Vizaf is near 1.2 m (4.0 ft), which is slightly lower than the tide gauge observation of nearly 1.4 m (4.6 ft). Volvaiker et al. (2017) also confirmed a maximum surge of 1.2 m (4.0 ft) using a modeling technique that includes wave-current interactions. Lakshmi et al. (2017) used WRF-ARW model and confirmed the storm surge height of 1 m (3.2 ft) in Vizag during Hudhud.

The storm surge and inundation scenario for the VSC Hudhud is critically dictated by the coastal topography and bathymetry, and the storm forcing characteristics including

surface wind field and pressure field. Vizag is the largest city in the Andhra Pradesh and is situated at the west end of the Bay of Bengal. The city is naturally endowed by the beautiful coast line on the east and the surrounding of the Eastern Ghats rolling hills. Vizag has been classified as a high-risk zone for cyclonic activities (Mohapatra et al. 2012, Matta et al. 2015). Figure 2 shows the damaged coastal area in Vizag including significant rock erosions (Figure 2a). However, the city and most of its infrastructure had been protected by the steep bathymetric slopes and the wide-span, beach roadway (Beach Road in Vizag, see Figure 2b); thus, water damages in the city were not significant.

In fact, the beach front area of Vizag is followed by a steep hill, where Andhra University (AU) campus presides. The highest point of the campus is around 70 m (229.7 ft) above sea level. The campus experienced several structural failures and trees down. The original green campus is almost exposed losing almost half its tree population. Figure 3 shows several campus structures damaged due to the storm event including multiple-story structure (Figure 3a) and single-story work shop (Figure 3b). Figure 3c and 3d shows the damages to the old auditorium that include portion of the roof damaged and damages to the interior partitions.

Further away from the city, several fisherman colonies encroaching on the beach were nearly whipped out. Structures include straw huts (Figure 2c) and very simply constructed single story masonry buildings (Figure 2d). Both structures are in an encroachment area on the beach in Chepalappada.

Wind damage due to Hudhud tells a different story: Vizag is a coastal city with ridges and valleys. The rolling terrains have provided protections to previous storms. However, Hudhud is an unprecedented storm event with unique wind pattern, which allowed the

cyclone to travel much deeper in-land. Figure 4 shows a large steel structure (Building No. I05-001) located in Autonagar, which is located approximately 1 Km (3,280 ft) away from the coastline and experienced severe wind damages. Notably, the front and back sides of the structure experienced significant damage with almost nominal damages to the side of the building. This is consistent with the witnesses of several local personnel suggesting there were two separate wind gusts hours apart that caused the damages to the structure, first the front (a southwestern-ward gust) then the back (a northeast-ward gust). The steel structure is approximately four to five stories tall and sits in an 11-degree angle from the north direction. Also shown in Figure 4 is the general entry direction of the Hudhuad storm path.

A meteorological analysis of the history of the storm event, Kumar et al. (2015) described two very strong gusts recorded at 11:30 hour and at 16:30 hour IST by different weather stations in Vizag. These data seem to validate the local observations. Nonetheless, additional studies are needed to further understand this extraordinary storm event.

The storm event eventually weakened to a depression on 13th of October. However, the storm carried significant amount of moisture and eventually moved north to higher latitude and more inland.



a) Damages to Vizag Coastal Area



b) Beach Road Barricaded the Waves (Distance to Nearest Structures ~40 m)



c) Damages to Fisherman's huts



d) Beach Area Erosions and Downed Masonry Buildings

Figure 2: Water Damage Scenarios in Vizag and Surrounding Areas: a) Rock Erosion and Debris Showing Strong Wave Forces; b) The Wide-Span Beach Road Protected the Structures within the City Vizag; c) Huts Damaged in Krishna Nagar; and d) Small Masonry Structures Damaged in Jelari Peta.



a) Damages to AU Guest House (a Six-Story Structure)

b) Single-Story Work Shop without Its Roof

c) Damages to the Interior Partitions in the Old AU Auditorium

d) Partial Roof Collapses in the Old AU Auditorium

Figure 3: Damages at the Andhra University Campus: a) Exterior Damages of AU Guest House; b) Roof Down of a Single-Story Work Shop; c) AU Old Auditorium with Interior Partition Damages; and d) Roof Damages of AU Old Auditorium.

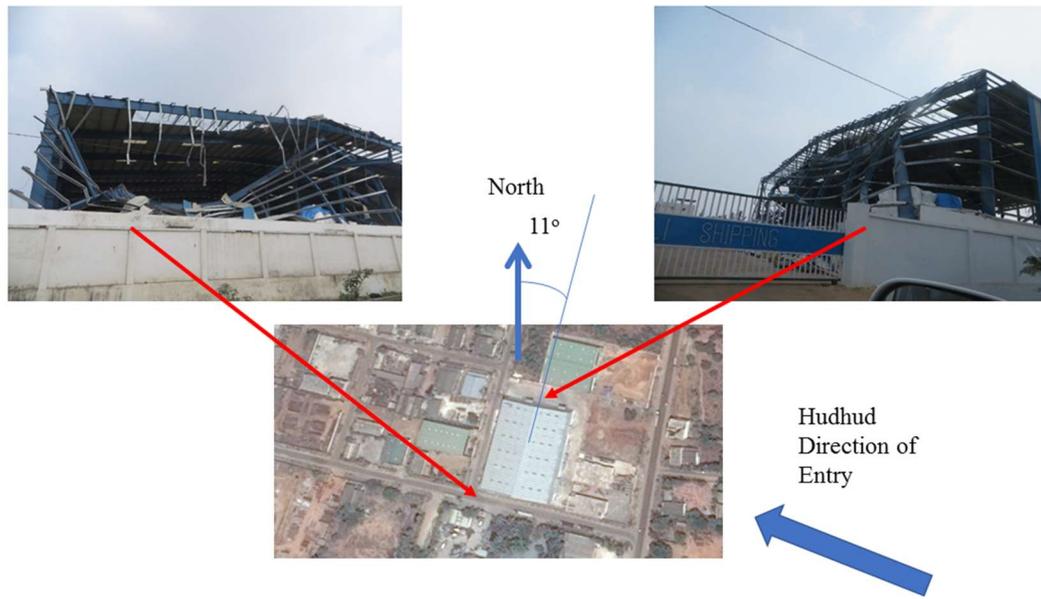


Figure 4: Wind Damaged Steel Storage Structure at 1 Km (3,280 ft) Distance Away in Autonagar, India

CHAPTER III: ANALYSIS

3.1 Structures Studied and General Observations

The selected structures include single to ten-story tall structures. Commercial large-span structures such as warehouses and in-door auditoriums and stadiums are considered single story structure, even though the structure height can be more than several stories tall. This classification is because the inter-story frames may strengthen the structure system and resulting in different failure modes, which may not be the case for open structures with high ceilings. Table 1 shows a summary of the structure types based on stories and functions (commercial or residential). The construction types in the selected structures varied in some aspects, but also share many features, for example, framing and cladding.

The most common construction methods in the eastern India are either reinforced masonry or reinforced concrete frames with concrete slab-on-grade foundations that featured metal roofing panels attached to predominantly steel roof frames. Residential structures tend to have masonry or concrete frames with metal roofing, but usually featured wood roof trusses instead of steel. Commercial structures are more typical of reinforced concrete frame with steel roof truss. Some older school structures used wood roof truss systems. Roof systems studied include both sloped and flat roofs. Most commercial structures or taller residential structures have flat roofs may have additions in the form of metal framed structures. Many of these additions are damaged during the storm and in most cases, the damages are more severe than the main building structures. As an example, Figure 5 shows a two-story automobile dealership building (Building No.

B06-001, Sai Nagar) with an elaborately constructed roof extension, which is a steel frame supporting a truss roof of its own. The main building only sustained façade damages but the additional roof structure was near completely damaged. Figure 5c shows the roof addition has a concrete footing support attached to the main building and was damaged due to collapse of the steel framing. A leaning tree may have contributed to the failing of the roof structure. Figure 6 shows other example (Building No. B02-005) where roof additions using steel tubing constructions have failed under wind loads. In this case, the building is located next to the Beach Road, Vizag.

Another structure showed the unique, two-gust wind (southwestern-ward gust and northeast-ward gust) impacts is the Gandhi Family Museum (Building No. B02-002), which is situated on the beach front about 100 m from the coastline in Chinna Waltair and has a 68-degree tilt towards the true north. Figure 7 shows the glass covered structure has the most facade damages in the front and back of the structure and the actual sea-facing side of the building has only sustained nominal damages.

Table 1: Building Type by Stories

| Number of Stories | No. of Structures |
|-------------------|--------------------------------------|
| Single Story | 59 (55 commercial and 4 residential) |
| Two Stories | 9 (5 commercial and 4 residential) |
| Three Stories | 11 (9 commercial and 2 residential) |
| Four Stories | 8 (6 commercial and 2 residential) |
| Five Stories | 11 (9 commercial and 2 residential) |
| Six Stories | 7 (5 commercial and 2 residential) |
| Eight Stories | 1 (commercial) |
| Ten Stories | 1 (commercial) |



a) Main Building of a Auto Dealership



b) Roof Extension Structure



c) Damage to Extension Structure Support



d) Distorted Truss Frame

Figure 5: Wind Damaged Structure of an Automobile Dealership: a) Main Building with only façade damages; b) Roof Addition with Steel Truss; c) Support Failure of the Roof Addition with Concrete Column and Half-Filled Walls; and d) Distorted Roof Truss and Steel Frame



Figure 6: Roof Addition Failure on Beach Road, Vizag.



Figure 7: Damaged Gandhi Family Museum in Chinna Waltair Showing Significant Glass Damages in the front and End Sides of the Building

3.2 Structural Rating Technique

The basic structural rating technique is derived from ATC-45 “Safety Evaluation of Buildings after Windstorms and Floods” (2004) for the intent of characterizing storm damages (damage level and damage patterns) (Chen et al. 2015). Table 2 shows the condition assessment chart with six condition categories: Condition categories 1 and 2 describe the global condition of the structure and distinguish between total collapses (1a), partial collapse (1b) portion of a structure collapse (1c) and moving off the foundation failure (2a). Condition category 3 focuses on member and wall level failures. Condition category 4 addressed mostly the superstructure conditions. Condition category 5 addressed the sub-structure and foundation conditions. Finally, condition category 6 describes trees leaning against the structure and projectile/debris impacts on a structure. These six categories summarized the damage scenarios described in ATC-45 manual.

Figure 8 shows six different failure modes of structures including: a) translation or sliding of structure against the foundation; b) rotation motion of structure against the foundation; c) racking or lateral collapse of the structure; d) component failures of structure such as roof damage, wall damage; e) inward racking where structure failed under gravity effect; and f) building envelop failure and only the structural components remained. The structures studied do not necessarily satisfy all the failure modes, but the failure modes are integrated into the rating scheme.

The rating technique assigns a quantitative value of severity of 0 to 3 where 0 means no damage and 3 means severe to complete damage. Due to each failure condition may not have the same effect to the structure, an importance factor was also assigned to each condition. The importance factor represents the effect of the condition on the building as

a system. As each condition defined may not necessarily have the same level of effect on a structure, hence, different importance factor (or significance factor) is defined. For example, condition 1a) defines a structure either completely collapsed or partially collapsed and has an importance factor of 3, whereas, condition 1b) represents a portion of the structure collapsed – meaning only components may failed, i.e. Figure 8d or 8f, hence, has an importance factor of 2. As most houses considered are reinforced concrete structures, trees leaning against structure (condition 6a) and projectile impact on structures (condition 6b) typically would not cause instability of a structure, therefore, have importance factor of 1. The importance factors are specified in Table 2.

Once the evaluation is completed, the overall rating of the structure can be calculated as:

$$\text{Overall Rating} = \frac{\sum x \cdot I}{\sum I} \quad (1)$$

where x is the individual rating for each condition and I is the importance factor as defined in Table 2. Any condition rated as 0 (no damage or minimal damage) will not be considered in the overall rating calculation. If any condition not known (i.e. not visible from any pictures), then it must be acknowledged and not considered in the calculation. Hence, the denominator of the equation only considers the conditions that are ranked 1 to

As established in previous section, the predominant building damage causes are associated with the wind forces, hence, focuses will be placed on wind damaged structures. As an example, despite of their physical distances to the beach, Building No. I05-001 of Autonagar has received a rating of 3, whereas the Gandhi Family Museum (Building No. B02-002) has a rating of 1. The auto dealer ship building (Building No. B06-001) has received a rating of 2 because the damages to the structure would not have

resulted in a complete collapse of the structure. On the other hand, Building No. B-02-005 shown in Figure 6 received a rating of 0 because the roof structure constructed using steel tube members is deemed with little to no effect to the actual structure, hence, has very little importance to the actual three-story building system.

Table 2: Basic Structural Rating

| Condition | Scale (0 to 3: 1-minor, 2-moderate, 3-severe) |
|---|---|
| 1a) building total collapsed or partially collapsed (I=3) | |
| 1b) a portion of the building has collapsed (I=2) | |
| 1c) The building has moved off its foundation (I=2) | |
| 2a) building (any story) or foundation is significantly out of plumb (I=3) | |
| 2b) gaps exist between walls, ceilings or roof (I=2) | |
| 3a) obvious severe damage to primary members (I=2) | |
| 3b) severe bowing or racking of walls (I=2) | |
| 4a) serious falling hazards such as loosened roofing or wall cladding (I=2) | |
| 4b) roof damage (I=2) | |
| 5a) foundation undermined by scour or erosion (I=3) | |
| 5b) Building threatened by slope instability (I=3) | |
| 6a) neighboring structure/trees leaning against structure (I=1) | |
| 6b) projectiles/debris impact on structure (I=1) | |

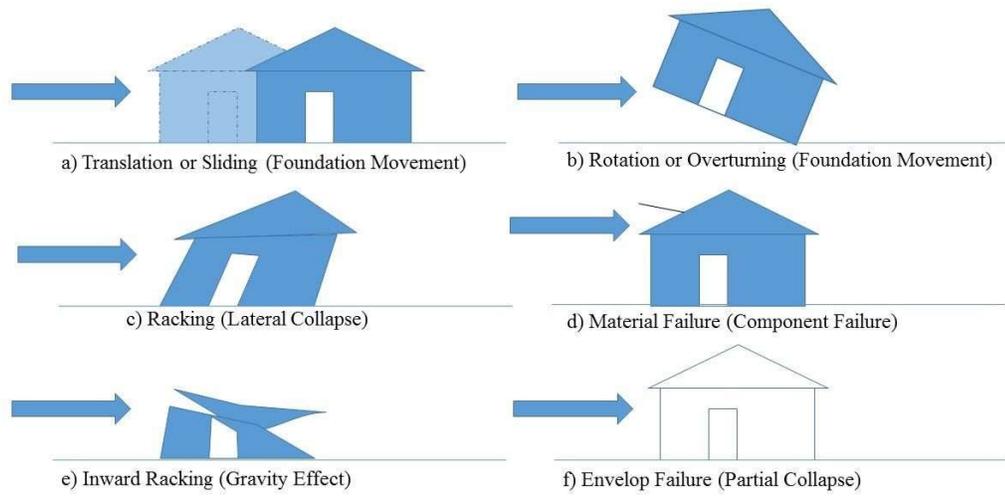


Figure 8: Global Failure Modes of Structures

CHAPTER IV: RESULTS AND DISCUSSION

4.1 Rating Outcomes

Figure 9 shows a summary of the rating of the structures studied. Predominant damaged structures received a rating of 0 meaning only superficial damages occurred to the structures. Forty eight of the inspected structure received a rating of 0 and about 6 structures received a rating of 3 (severely damaged). Structures received a rating of 1 (minor damages) accounts for 31 structures and 29 structures received a rating of 2. The primary mode of failure in buildings found in the studied areas are material/component failures and there is no translation or sliding of structures (Figure 8a) and overturning (Figure 8b) occurred. This indicates that most of the structures have foundations sufficient to survive during the storm.

The most common destruction modes of commercial structures are roof and façade damages, but there is no complete collapse of entire structure (column failures). The individual condition ranking is shown in Figure 10. The most common condition is roof failures (24%) indicating wind effects. Because of roof damages, there are also several cases of falling object hazards (14%). Finally, because of connection design, roof damage also resulted in damages in primary members such as wall beams and columns. The resulting damages to primary members is about 13%.

Figure 11 summarizes the different failure modes in Vizag from Hudhud into wind and water damaged structures. The results indicate a predominant wind induced damages at about 96% of all studied structures, but results may be more as there are few cases of combined effect damages (4%). The study result regarding water damage can be misleading as some parts of the city have experienced flooding and inundation. Also

because of the heavy rain with some parts received over 34 cm of 24 hour accumulated rain fall (Rao et al. 2015), several structures received various degrees of water damages.

4.2 Discussion

Because the investigation was conducted one month after the disaster, several sites have already been cleaned up and with ongoing repair works. This allows the exposure of actual damages to the structure due to wind loading, especially in the design of roof connections. Observations of the construction of several damaged single-story buildings indicate that the roof cover connection technique (for sheet metal roofing and shingle or tile roofing) can vary from nailing, strip connection to weld and bolt connections. If roof trusses were used, the roof truss connection to the support member can vary from bolted connection to simply bending the extended rebars around the truss connection as support. Figure 12 shows different roofing designs and connections. It is evident that most damage mechanisms from the hurricane started with the failure of roof covers in most cases; however, there are also cases where gusty winds may have brought down partially the roof trusses. Hence, there is a need for further investigation of roof cover to roof support connection designs for the wind force due to Hudhud. If the building frame remained intact, a strong roofing design may provide some safety to the occupants within the structure. Determining the wind effect becomes a very important aspect in improving design methods for roof connections against such hurricane.

Roofing damages are also significant to even monumental structures such as the new auditorium (Building No. ACH-001) for AU, which is on the Beach Road near the coast. The auditorium had expensive aluminum metal roof sheets connected to roof trusses.

Figure 13 shows various shots of the auditorium under construction. Since the auditorium is a new construction, the wind force effects are not affected by the age of the structure.

The construction quality of the housing is a critical element in determining the survivability of the structures. The basic rating does not reflect directly the quality of the construction – one has to rely on more detailed analysis of the structures to establish the effect of construction quality. The basic rating technique helps identify the failure modes of the structures, which can then be used to determine the geospatial distributions of the damaged structures.

Other than building damages, the force of Hudhud also caused significant infrastructure and environment damages. The most significant environmental impact is trees down. Significant amount of trees were damaged due to the strong wind from Hudhud involving many different damage modes (Kotamrazu 2014). The city collected several million tons of downed trees in the form of solid wastes. Figure 14 shows different views of failed trees. Telltale signs of environmental damages may sometimes give away indicators of storm surge level and water damage effects. However, such observations require trained eyes and are highly empirical. Hudhud resulted in significant amount of downed trees that became solid wastes for the city, which took several months to remove for landfilling.

Buildings and structures are systems mandated to meet certain design requirements - an engineer involved in building construction has to perform many essential functions before approval. The design considerations focus on the safety of the people and reducing vulnerabilities to risks. The failure to uphold efficiency in constructions leads to loss of lives and properties as a result of the damages that occur as the end results. To ensure a building meets safety standards, safety loading code remains instrumental. Safety loading

code provides a guide to all building professionals covers different loads including; wind loads, imposed loads and dead loads, etc.

The Indian design codes have been changed and modified time to time to improve building standards. The wind loading analysis based on Indian national building code has a direct link to British standards but is amended to reflect the Indian condition. The design wind speeds vary from one geographical area to the other, and the Indian metrological department has been involved in determining wind speeds. Civil engineer then take the design speed of the wind at different heights in considerations. Wind speed increases from the ground to the surface affecting the construction of the tall building.

The wind speeds are typically expressed in design codes as wind pressure maps and Indian design code has set criteria for assessing wind loads. In India, wind speed is divided into different zones depending on its velocity for specific heights from the mean ground. In the absence of metrological data required in construction, the wind pressure is determined using the IS-875. Pressure coefficient of a given area change as the area becomes larger the measured value decreases while the area reduces the measured the value increases. For instance, an offshore wind speed cyclonic storm forms far away from the coast and gradually reduce wind speed on approaching the sea and extend about 60 km (196,850 ft) inland after striking the coast. In addition, wind speed of the coast region is much higher than recorded hence extends up to 200 km (656,168 ft). Guidelines are also outlined in the code for considerations including the probability of the risk occurrence, structure size, and terrain.

The code classified terrain in different categories basing on the characteristics of the ground surface irregularities. Indian road congress defines terrain in four categories which

include mainly the rolling, plain, mountainous and steep based terrain. The construction engineers must understand the type of road to construct since the terrain design speed varies. For example, design speed in a plain terrain can have any geometry. However, the same standard of construction in a hilly area needs to be reduced to terrain level.

In conclusion, wind load is a special load on the building since it can create different forces with different effects based on the height and shape of the building. Designer, architectures, and engineers should be very careful to ensure buildings are safe for human activity. The taller the building, the stronger the force since wind is less affected by friction with the earth and surrounding topography. Thus, making wind load negatively impact the tall building structure. Often for small houses within densely populated areas wind loads can even be ignored, while for high-rises wind load calculation is a necessity.

VSC Hudhud also resulted in large number of the regional population to lose power due to downed transmission structures (Soonee et al. 2015). Several transmission truss structures are found collapsed due to strong wind impact. Figure 15 shows a downed transmission structure where several members of the truss tower experienced buckling. More than fifty such transmission towers (either 400 kV or 200 kV lines) collapsed.

The recording of the structure position coordinates enabled the determination of the geospatial distribution of wind effects on structures. The interest is to determine the damage level as a function of distance to the coast. Figure 16 show plots of number of structures damaged versus distance to the coast for wind damage. Also included in the figure are trend lines for each rating using logarithmic curves. The log curves fit better than straight lines and indicate that the wind effects can extend to very far away from the coast – a clear indication of sustained storm wind force.

The trendiness are counterintuitive as they indicate increased number of damaged structures with the increase in distance, which contradicts to most storm events where a weakening of wind force would result in less damages away from the coast line. This observation is consistent for all three ratings shown in Figure 16. This observation also seems to support that the observation that VSC Hudhud carries significant amount of energy and moisture after landfall enabling it to travel to the Himalayans and caused heavy snowstorm (13th to 15th October, 2014) in the mountain range (Neckel et al. 2015).

VSC Hudhud follows after another extreme cyclonic storm event Phailin which occurred a year before. Phailin is classified as an Extremely Severe Cyclone (ESC) and had a three-minute sustained wind speed of 215 km/h. Based on the experiences from Phailin, the local government of India was able to effectively predict the arrival time of Hudhud and evacuated more than half a million people from Vizag (Meduri 2016,); thus, avoided significant loss of human lives.

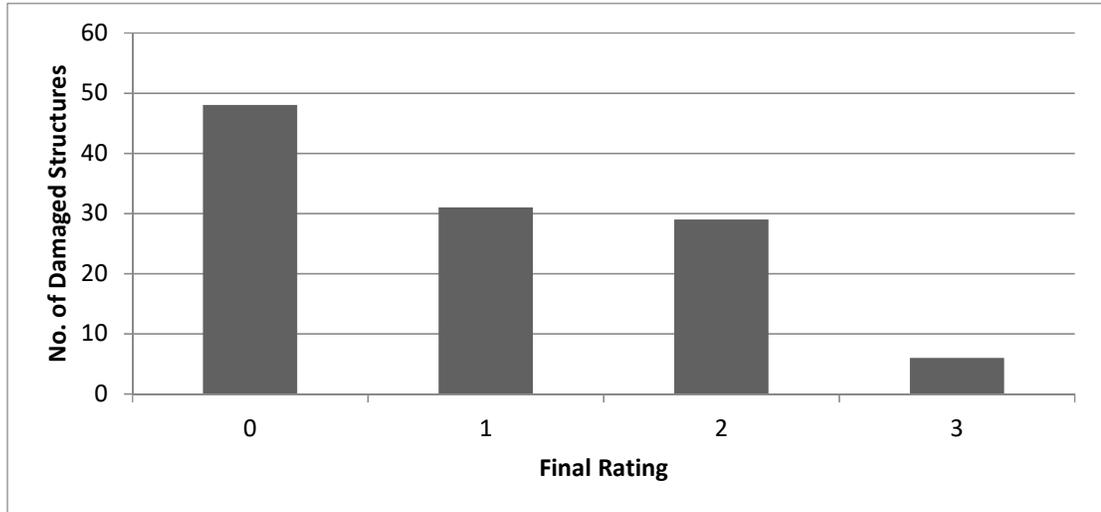


Figure 9: Overall Rating Distribution

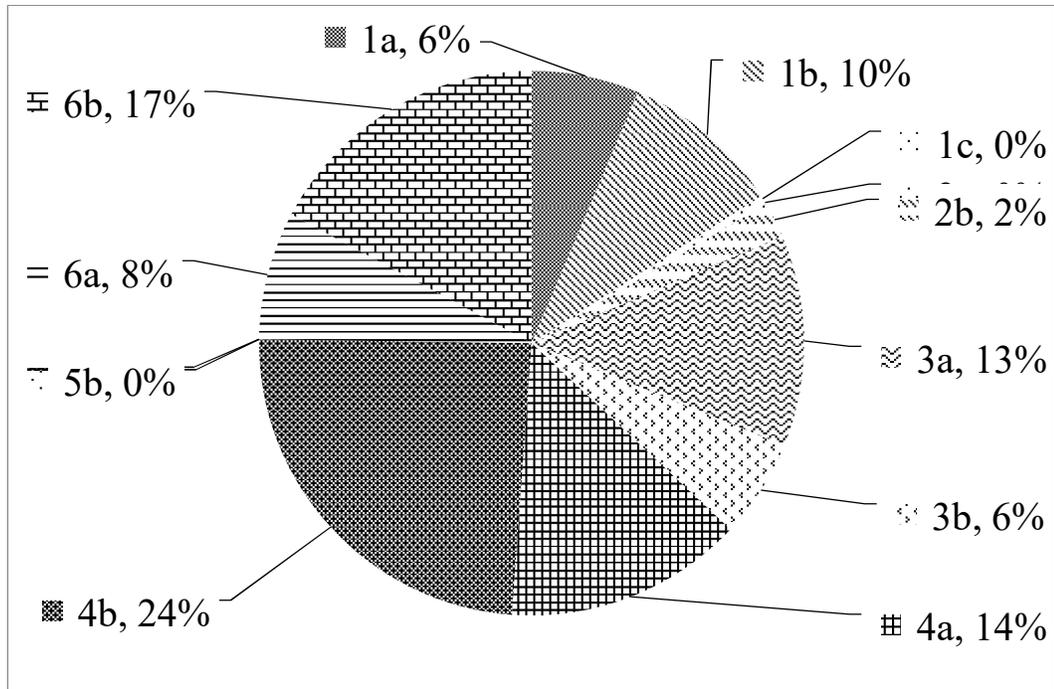


Figure 10: Statistics of Damage Condition Rankings (Key to Numbers in the Pie Chart: Condition Number, Number of Structures and the Percentage to Overall Structures)

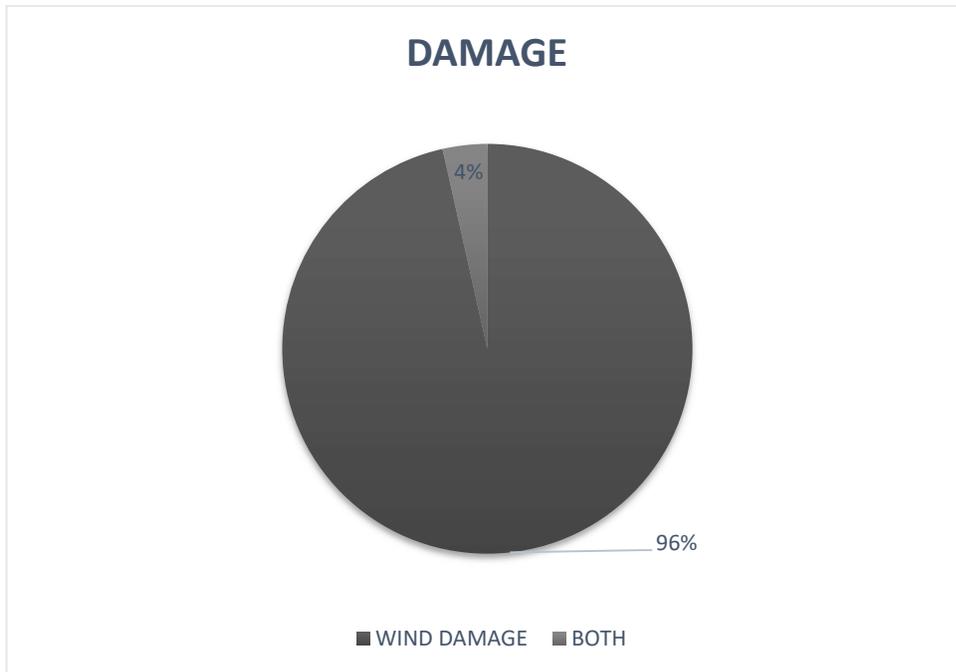


Figure 11: Damage Causes Differentiating Wind and Both Damages



a) Tubular Truss Roofing System for Metal Sheet Roofing



b) Truss and Frame Support for Tile and Shingle Roofing



c) Bolt Connection for Roof Truss Support



d) Hook Connection of Sheet Metal Roofing

Figure 12: Typical Roofing Designs for Single Story Structures in Vizag.



a) Front View



b) Side View



c) Roofing Reconstruction



d) Distance View

Figure 13: Damaged Roof System of the AU New Auditorium – Structure Facing Directly the Ocean.



a) AU Guest House Prior to Hudhud



b) AU Guest House After Hudhud



c) Damages to Coconut Trees



d) Accumulation of Tree Debris

Figure 14: Very Severe Cyclone Hudhud Damages to Trees: a) Trees surrounding AU Guest House prior to Hudhud; b) Trees Damaged at AU Guest House after Hudhud; c) Damages to Coconut Trees in Vizag; and d) City Collection of Tree Debris.



a) Downed Transmission Tower



b) Buckling of Members

Figure 15: VSC Hudhud Resulted in Massive Power Losses and Transmission Structure Failures: a) Downed Transmission Truss Tower; and b) Detail of Buckled Truss Members

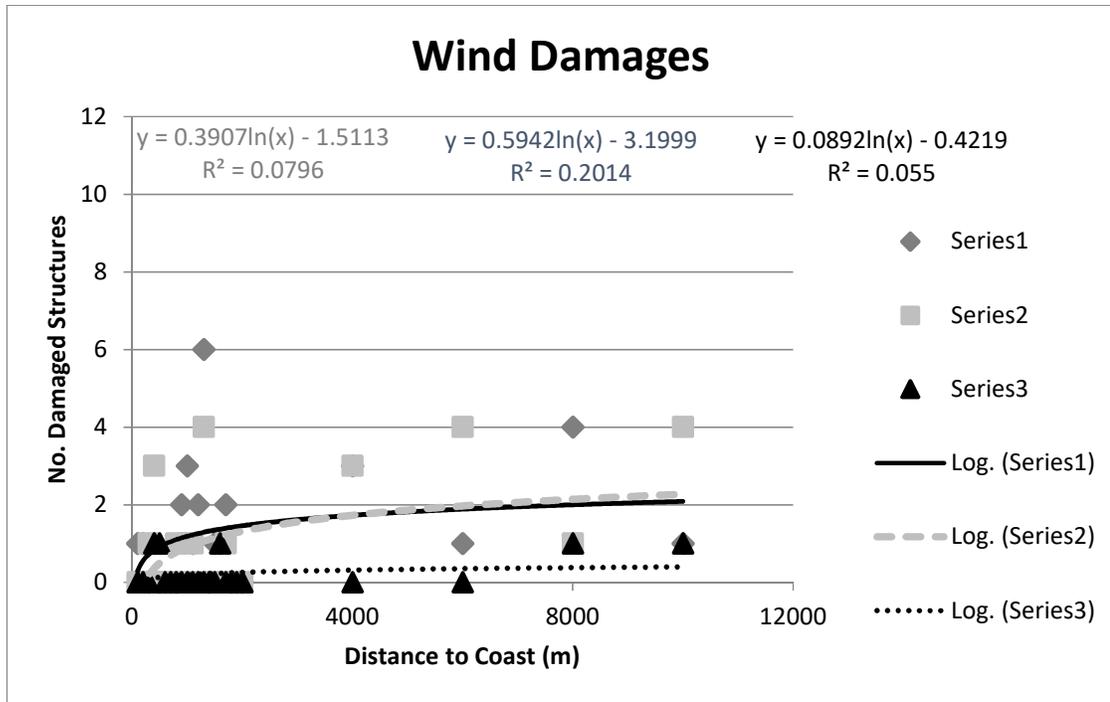


Figure 16: Damage Rating versus Distance to the Coast for Wind Damage Only with Trend Lines (Logarithmic Curves)

CHAPTER VI: CONCLUSION

The Very Severe Cyclone (VSC) Hudhud in eastern India during October 2014 is the strongest storm event to hit any Indian city and also the most costly cyclone in Indian history thus far. The storm made landfall at the coastline of Visakhapatnam (Vizag) of Andhra Pradesh resulting in massive loss of powers and economic. Due to effective evacuation plan, the loss of human lives were limited.

This thesis summarizes the overall ratings of 114 structures investigated during recent Very Severe Cyclone (VSC) Hudhud in the eastern Indian using a basic damage rating technique. The basic rating technique is intended to provide an overall assessment of a structure damaged during hurricanes and is applied to the storm scenario. From the 114 structures, wind damage was the predominant failure causes (96% for wind damage only) with only 4% both wind and water damages to the structures. The most critical damage mode is roof system failures.

Hudhud demonstrated unique climate phenomenon that resulted in massive snow dump in Nepal (1,200 km away from the Bay). The outcomes indicate unique wind damage distributions in Vizag showing higher number of damaged structures for further distance from the coastline, which shows likely indication of sustained wind force that carried its water contents further inland.

CHAPTER VII: RECOMMENDATIONS FOR FUTURE STUDIES

The Very Severe Cyclone (VSC) Hudhud in eastern India during October 2014 is the strongest storm event to hit any Indian city. It is only after years that we finally grasp the complete story of what happened in the Bay of Bengal and beyond (the Himalaya mountains range). This storm signifies the effect of climate change and may be an implication of future storms to come. Hence, it is very important to study this storm and develop a full appreciation of its effects and impacts to coastal cities. Specific recommendations for future studies would include:

1. Further analysis of the structure damages to understand the load path effects.
2. To determine ways to strengthen the structure against such wind force.
3. To study the residency of the Visag city and the recovery process after Hudhud.

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APPENDIX: STRUCTURAL RATING SHEETS

| STRUCTURE IDENTITY | | : A01-001 | | |
|-----------------------------------|---|--------------------------------------|--------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL, EDUCATIONAL, TWO STORY | | |
| LOCATION | | : 17.724662,83.325278 | | |
| DISTANCE FROM THE OCEAN | | : 981 METERS | ELEVATION : | 61 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-18-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table A2: A01-002 structural rating sheet

| STRUCTURE IDENTITY | | : A01-002 | | |
|-----------------------------------|---|---------------------------|-----------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY | | |
| LOCATION | | : 17.724904,83.324014 | | |
| DISTANCE FROM THE OCEAN | | 1068 : METERS | ELEVATION : | 65 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-18-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 1 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 2 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 2 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



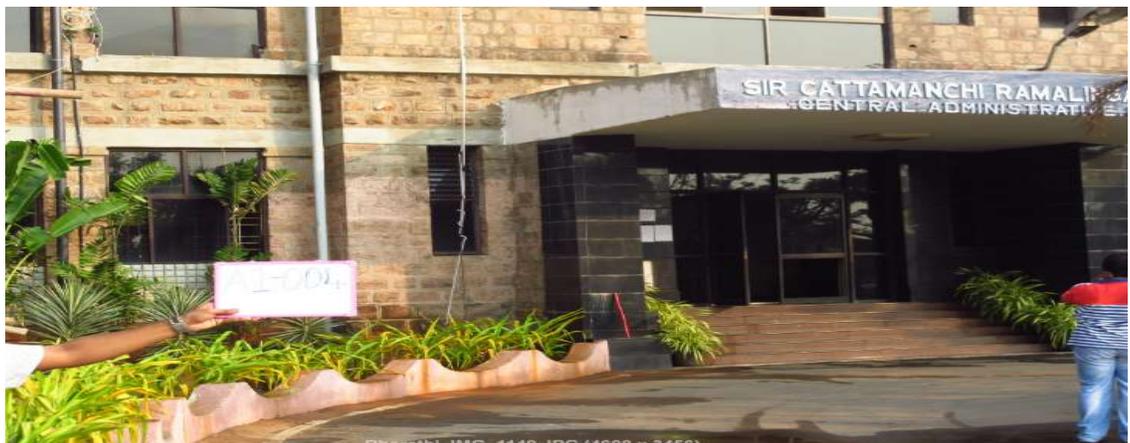
Table A3: A01-003 structural rating sheet

| STRUCTURE IDENTITY | | : A01-003 | | |
|-----------------------------------|---|-------------------------|------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL, TWO STORY | | |
| LOCATION | | : 17.725349,83.324042 | | |
| DISTANCE FROM THE OCEAN | | 1125 METERS | ELEVATION | 66 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-18-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table A4: A01-004 structural rating sheet

| STRUCTURE IDENTITY | : | A01-004 | | |
|-----------------------------------|---|--------------------------------|------------------|----------------|
| TYPE OF STRUCTURE | : | COMMERCIAL, STORAGE, TWO STORY | | |
| LOCATION | : | 17.726025,83.323952 | | |
| DISTANCE FROM THE OCEAN | : | 1201 METERS | ELEVATION | 69 METERS |
| DATE OF DAMAGE | : | Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | : | Nov-18-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 1 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



| | | | | | |
|-----------------------------------|---|------------------------------------|----------------------------|---------------|-----------------------|
| STRUCTURE IDENTITY | : | A01-005 | | | |
| TYPE OF STRUCTURE | : | COMMERCIAL, EDUCATIONAL, TWO STORY | | | |
| LOCATION | : | 17.725300,83.325086 | | | |
| DISTANCE FROM THE OCEAN | : | 1054 METERS | ELEVATION: | 64 METERS | |
| DATE OF DAMAGE | : | Oct-09-2014 | | | |
| DATE OF PICTURES COLLECTED | : | Nov-18-2014 | | | |
| CONDITION | | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | | 2 | 0 | |
| 4b | Roof damage | | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | | 1 | 0 | |



Table A6: A01-006 structural rating sheet

| STRUCTURE IDENTITY | | : A01-006 | | |
|-----------------------------------|---|---|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL, EDUCATIONAL BUILDING, TWO STORY | | |
| LOCATION | | : 17.721556,83.322349 | | |
| DISTANCE FROM THE OCEAN | | : 802 METERS | ELEVATION: | 54 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-18-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table A7: A01-007 structural rating sheet

| STRUCTURE IDENTITY | | : A01-007 | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL, TWO STORY | | |
| LOCATION | | : 17.7279877,83.319678 | | |
| DISTANCE FROM THE OCEAN | | : 1601 METERS | ELEVATION: | 70 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-18-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 2 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table A8: A01-008A structural rating sheet

| | | | |
|-----------------------------------|--|-------------------|-----------|
| STRUCTURE IDENTITY | : A01-008A | | |
| TYPE OF STRUCTURE | : COMMERCIAL, PARKING SHED, SINGLE STORY | | |
| LOCATION | : 17.726993,83.319721 | | |
| DISTANCE FROM THE OCEAN | : 1541 METERS | ELEVATION: | 70 METERS |
| DATE OF DAMAGE | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | : Nov-18-2014 | | |

| CONDITION | | Significance Factor | Rating | Overall Rating |
|-----------|---|---------------------|--------|----------------|
| 1a | Building Collapsed Or Partially Collapsed | 3 | 3 | 3 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 3 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 3 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 3 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 2 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table A9: A01-008B structural rating sheet

| STRUCTURE IDENTITY | | : A01-008B | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL, PARKING SHED, SINGLE STORY | | |
| LOCATION | | : 17.727215,83.319561 | | |
| DISTANCE FROM THE OCEAN | | : 1545 METERS | ELEVATION: | 70 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-18-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 1 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 1 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 1 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 2 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table A10: A01-009 structural rating sheet

| STRUCTURE IDENTITY | | : A01-009 | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : AUDITORIUM, SINGLE STORY | | |
| LOCATION | | : 17.728375,83.319530 | | |
| DISTANCE FROM THE OCEAN | | : 1673 METERS | ELEVATION: | 71 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-18-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table A11: A01-010 structural rating sheet

| STRUCTURE IDENTITY | | : A01-010 | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL, TWO STORY | | |
| LOCATION | | : 17.728429,83.318699 | | |
| DISTANCE FROM THE OCEAN | | : 1698 METERS | ELEVATION: | 67 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-18-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 2 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table A12: A01-011 structural rating sheet

| STRUCTURE IDENTITY | | : A01-011 | | |
|-----------------------------------|---|------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL, ,2 STORY | | |
| LOCATION | | : 17.729011,83.319050 | | |
| DISTANCE FROM THE OCEAN | | : 1709 METERS | ELEVATION: | 68METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-18-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 1 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table A13: ACH-001 structural rating sheet

| STRUCTURE IDENTITY | | : ACH-001 | | |
|-----------------------------------|---|-----------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : CONVENTION CENTER | | |
| LOCATION | | : 17.717930,83.328451 | | |
| DISTANCE FROM THE OCEAN | | : 150 METERS | ELEVATION: | 16 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-18-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table B1: B01-001 structural rating sheet

| | | | | |
|-----------------------------------|---|-------------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B01-001 | | |
| TYPE OF STRUCTURE | | : RESIDENTIAL, TWO STORY ,RCC | | |
| LOCATION | | : 17.713511,83.317832 | | |
| DISTANCE FROM THE OCEAN | | : 312 METERS | ELEVATION: | 27 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-17-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 3 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 3 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 1 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 3 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 3 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 3 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 3 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B2: B01-002 structural rating sheet

| STRUCTURE IDENTITY | | : B01-003 | | |
|-----------------------------------|---|-------------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : RESIDENTIAL, TWO STORY ,RCC | | |
| LOCATION | | : 17.713282,83.317609 | | |
| DISTANCE FROM THE OCEAN | | : 308 METERS | ELEVATION: | 26 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-17-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 2 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B3: B01-003 structural rating sheet

| STRUCTURE IDENTITY | | : B01-004 | | |
|-----------------------------------|---|-------------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : RESIDENTIAL, TWO STORY ,RCC | | |
| LOCATION | | : 17.713282,83.317609 | | |
| DISTANCE FROM THE OCEAN | | : 292 METERS | ELEVATION: | 26 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-17-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 3 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B4: B01-004 structural rating sheet

| | | | | |
|-----------------------------------|---|-------------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B01-004 | | |
| TYPE OF STRUCTURE | | : RESIDENTIAL, TWO STORY ,RCC | | |
| LOCATION | | : 17.713282,83.317609 | | |
| DISTANCE FROM THE OCEAN | | : 292 METERS | ELEVATION: | 26 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-17-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 3 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B5: B02-002 structural rating sheet

| STRUCTURE IDENTITY | | : B02-002 | | |
|-----------------------------------|---|---|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,TWO STORY, RAJEEV GANDHI MEMORIAL BUILDING | | |
| LOCATION | | : 17.717204,83.328322 | | |
| DISTANCE FROM THE OCEAN | | : 88 METERS | ELEVATION: | 10 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-17-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B6: B02-003 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B20-003 | | |
| TYPE OF STRUCTURE | | : RESIDENTIAL, FIVE STORY, | | |
| LOCATION | | : 17.718695,83.331142 | | |
| DISTANCE FROM THE OCEAN | | : 13 METERS | ELEVATION: | 102 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-17-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B7: B02-004 structural rating sheet

| | | | | |
|-----------------------------------|---|---------------------------|----------------------------|---------------|
| STRUCTURE IDENTITY | | : B02-004 | | |
| TYPE OF STRUCTURE | | : RESIDENTIAL, SIX STORY, | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 14 METERS | ELEVATION: | 125 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-17-2014 | | |
| CONDITION | | | Significance Factor | Rating |
| 1a | Building Collapsed Or Partially Collapsed | | 3 | 0 |
| 1b | A Portion Of The Building Has Collapsed | | 2 | 0 |
| 1c | The Building Has Moved Off Its Foundation | | 2 | 0 |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | | 3 | 0 |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | | 2 | 1 |
| 3a | Obvious Severe Damage To Primary Members | | 2 | 0 |
| 3b | Severe Bowing Or Racking Of Walls | | 2 | 0 |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | | 2 | 0 |
| 4b | Roof damage | | 2 | 0 |
| 5a | Foundation Undermined By Scour Or Erosion | | 3 | 0 |
| 5b | Building Threatened By Slope Instability | | 3 | 0 |
| 6a | Neighboring Structure/Trees Leaning Against Structure | | 1 | 0 |
| 6b | Projectiles/Debris Impact On Structure | | 1 | 1 |
| | | | | 1 |



Table B8: B02-005 structural rating sheet

| STRUCTURE IDENTITY | | : B02-005 | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : RESIDENTIAL,THREE STORY, | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 91 METERS | ELEVATION: | 10ETERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-17-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B9: B02-006 structural rating sheet

| STRUCTURE IDENTITY | | : B02-006 | | |
|-----------------------------------|---|-----------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : RESIDENTIAL,SINGLE STORY, | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 65 METERS | ELEVATION: | 07 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-17-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table B10: B02-007 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B02-007 | | |
| TYPE OF STRUCTURE | | : RESIDENTIAL,FOUR STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 96 METERS | ELEVATION: | 15 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-17-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 1 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B11: B02-008 structural rating sheet

| STRUCTURE IDENTITY | | : B02-008 | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : RESIDENTIAL,FOUR STORY, | | |
| LOCATION | | : 17.423850,83.185682 | | |
| DISTANCE FROM THE OCEAN | | : 118 METERS | ELEVATION: | 17 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-17-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table B12: B03-001 structural rating sheet

| | | | |
|----------------------------|--------------------------|------------|------|
| STRUCTURE IDENTITY | : B03-001 | | |
| TYPE OF STRUCTURE | : RESIDENTIAL, FIVESTORY | | |
| LOCATION | : | | |
| DISTANCE FROM THE OCEAN | : METERS | ELEVATION: | feet |
| DATE OF DAMAGE | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | : Nov-17-2014 | | |

| CONDITION | | Significance Factor | Rating | Overall Rating |
|-----------|---|---------------------|--------|----------------|
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 0 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B13: B03-002 structural rating sheet

| | | | | |
|-----------------------------------|---|---|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B03-002 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,HEALTH CENTER | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-18-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 1 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B14: B04-001 structural rating sheet

| STRUCTURE IDENTITY | | : B04-001 | | |
|-----------------------------------|---|-----------------------------|---------------|-----------------------|
| TYPE OF STRUCTURE | | : PARKING SHED,SINGLE STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : ELEVATION: | | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-17-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 3 | 3 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 3 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 3 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 3 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table B15: B04-002 structural rating sheet

| | | | |
|-----------------------------------|--|-------------------|--|
| STRUCTURE IDENTITY | : B04-002 | | |
| TYPE OF STRUCTURE | : Commerical, SINGLE STORY,STEE ROOF TRUSS, open meeting stage | | |
| LOCATION | : | | |
| DISTANCE FROM THE OCEAN | : METERS | ELEVATION: | |
| DATE OF DAMAGE | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | : Nov-18-2014 | | |

| CONDITION | | Significance Factor | Rating | Overall Rating |
|-----------|---|---------------------|--------|----------------|
| 1a | Building Collapsed Or Partially Collapsed | 3 | 3 | 3 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 3 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 3 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 3 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B16: B05-001 structural rating sheet

| | | | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B05-001 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL, SINGLE STORY, STEEL ROOF | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 2 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table B17: B05-002 structural rating sheet

| STRUCTURE IDENTITY | | : B05-002 | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL, SINGLE STORY, STEEL ROOF | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table B18: B05-003 structural rating sheet

| STRUCTURE IDENTITY | | : B05-003 | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL, SINGLE STORY, STEEL ROOF | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 1 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 3 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 2 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 2 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 3 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 3 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 2 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B19: B05-004 structural rating sheet

| STRUCTURE IDENTITY | | : B05-004 | | |
|-----------------------------------|---|---|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL, SINGLE STORY,METEL ROOF TRUSS | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 1 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 1 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B20: B06-001 structural rating sheet

| | | | | |
|-----------------------------------|---|---|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B06-001 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL, SINGLE STORY,RENAULT CAR SHOWROOM | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 2 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 2 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 2 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 1 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 3 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 1 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B21: B06-002 structural rating sheet

| STRUCTURE IDENTITY | | : B06-002 | | |
|-----------------------------------|---|--|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL, FOUR STORY, CAR SHOWROOM | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B22: B06-003 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B06-003 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL, SINGLE STORY, shop | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B23: B06-004 structural rating sheet

| | | | | |
|-----------------------------------|---|--------------------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B06-004 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL, SINGLE STORY, SHOWROOM | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 3 | 3 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 3 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 3 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 3 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 3 | |



Table B24: B07-001 structural rating sheet

| | | | | |
|-----------------------------------|---|------------------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B07-001 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL, FIVE STORY, SHOWROOM | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B25: B07-002 structural rating sheet

| STRUCTURE IDENTITY | | : B07-002 | | |
|-----------------------------------|---|------------------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : Commercial Single Story Facility | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 6794 METERS | ELEVATION: | 37 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 1 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B26: B07-003 structural rating sheet

| STRUCTURE IDENTITY | | : B07-003 | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : Commercial, factory | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 6483 METERS | ELEVATION: | 35 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 2 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B27: B08-001 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B08-001 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL, AIR-PORT | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 2 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B28: B09-001 structural rating sheet

| STRUCTURE IDENTITY | | : B09-001 | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL, AUDITORIUM | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 2 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 1 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B29: B09-002 structural rating sheet

| STRUCTURE IDENTITY | | : B09-002 | | |
|-----------------------------------|---|--------------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL, TWO STORY ,HOTEL | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B30: B09-003 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B09-003 | | |
| TYPE OF STRUCTURE | | : RESIDENTIAL, SIX STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B31: B09-004 structural rating sheet

| STRUCTURE IDENTITY | | : B09-004 | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B32: B10-001 structural rating sheet

| STRUCTURE IDENTITY | | : B10-001 | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,Four STORY, METEOROLOGICAL DEPARTMENT | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 0 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B33: B10-002 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B10-002 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,TWO STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B34: B11-001 structural rating sheet

| STRUCTURE IDENTITY | | : B11-001 | | |
|-----------------------------------|---|---|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,FISHER MAN COLONY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 2 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B35: B11-002 structural rating sheet

| STRUCTURE IDENTITY | | : B11-002 | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : RESIDENTIAL, SINGLE STORY, FISHER MAN COLONY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 1 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 2 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 2 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 1 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 1 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B36: B11-003 structural rating sheet

| STRUCTURE IDENTITY | | : B11-003 | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : RESIDENTIAL,SINGLE STORY,FISHER MAN COLONY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 2 | 3 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 3 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 2 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 3 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 3 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 3 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 2 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 2 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B37: B11-004 structural rating sheet

| | | | | |
|-----------------------------------|---|---|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B11-004 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,FISHER MAN COLONY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 3 | 3 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 3 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 3 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 3 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 3 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 1 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 3 | |



Table B38: B12-001A structural rating sheet

| | | | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B12-001A | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,EDUCATIONAL BUILDING | | |
| LOCATION | | : 17.725728,83.321945 | | |
| DISTANCE FROM THE OCEAN | | : 1232 METERS | ELEVATION: | 73 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 1 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B39: B12-001B structural rating sheet

| | | | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B12-001B | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,EDUCATIONAL BUILDING | | |
| LOCATION | | : 17.725617,83.321835 | | |
| DISTANCE FROM THE OCEAN | | : 1232 METERS | ELEVATION: | 73 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B40: B12-001C structural rating sheet

| STRUCTURE IDENTITY | | : B12-001C | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,EDUCATIONAL BUILDING | | |
| LOCATION | | : 17.725582,83.321773 | | |
| DISTANCE FROM THE OCEAN | | : 1232 METERS | ELEVATION: | 73 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table B41: B12-001D structural rating sheet

| | | | |
|-----------------------------------|--|-------------------|-----------|
| STRUCTURE IDENTITY | : B12-001D | | |
| TYPE OF STRUCTURE | : COMMERCIAL,SINGLE STORY,EDUCATIONAL BUILDING | | |
| LOCATION | : 17.725540,83.321693 | | |
| DISTANCE FROM THE OCEAN | : 1232 METERS | ELEVATION: | 73 METERS |
| DATE OF DAMAGE | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | : Nov-19-2014 | | |

| CONDITION | | Significance Factor | Rating | Overall Rating |
|-----------|---|---------------------|--------|----------------|
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table B42: B12-001E structural rating sheet

| | | | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B12-001E | | |
| TYPE OF STRUCTURE | | : COMMERICAL,SINGLE STORY,EDUCATIONAL BUILDING | | |
| LOCATION | | : 17.725698,83.321835 | | |
| DISTANCE FROM THE OCEAN | | : 1232 METERS | ELEVATION: | 73 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B43: B12-001F structural rating sheet

| STRUCTURE IDENTITY | | : B12-001F | | |
|-----------------------------------|---|--|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,EDUCATIONAL BUILDING | | |
| LOCATION | | : 17.725800,83.321733 | | |
| DISTANCE FROM THE OCEAN | | : 1232 METERS | ELEVATION: | 73 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 1 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B44: B12-001G structural rating sheet

| STRUCTURE IDENTITY | | : B12-001G | | |
|-----------------------------------|---|--|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,EDUCATIONAL BUILDING | | |
| LOCATION | | : 17.725728,83.321577 | | |
| DISTANCE FROM THE OCEAN | | : 1232 METERS | ELEVATION: | 73 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B45: B12-001H structural rating sheet

| | | | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B12-001H | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,EDUCATIONAL BUILDING | | |
| LOCATION | | : 17.726065,83.321774 | | |
| DISTANCE FROM THE OCEAN | | : 1232 METERS | ELEVATION: | 73 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 1 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B46: B12-001J structural rating sheet

| STRUCTURE IDENTITY | | : B12-001J | | |
|-----------------------------------|---|--|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,EDUCATIONAL BUILDING | | |
| LOCATION | | : 17.726140,83.321631 | | |
| DISTANCE FROM THE OCEAN | | : 1232 METERS | ELEVATION: | 73 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 1 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B47: B13-001 structural rating sheet

| STRUCTURE IDENTITY | | : B12-001J | | |
|-----------------------------------|---|--|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,EDUCATIONAL BUILDING | | |
| LOCATION | | : 17.726140,83.321631 | | |
| DISTANCE FROM THE OCEAN | | : 1232 METERS | ELEVATION: | 73 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 1 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B48: B13-002 structural rating sheet

| STRUCTURE IDENTITY | | : B13-002 | | |
|-----------------------------------|---|------------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERICAL,THREE STORY,RCC | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 437 METERS | ELEVATION: | 35 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B49: B13-003 structural rating sheet

| | | | | |
|-----------------------------------|---|-------------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B13-003 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL, FOUR STORY, RCC | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 460 METERS | ELEVATION: | 37 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 0 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 2 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B50: B13-004 structural rating sheet

| | | | | |
|-----------------------------------|---|-----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B13-004 | | |
| TYPE OF STRUCTURE | | : COMMERICAL,FOUR STORY,RCC | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 450 METERS | ELEVATION: | 39 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B51: B13-005 structural rating sheet

| STRUCTURE IDENTITY | | : B13-005 | | |
|-----------------------------------|---|------------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : RESIDENTIAL,FIVE STORY,RCC | | |
| LOCATION | | : 17.722503,83.330529 | | |
| DISTANCE FROM THE OCEAN | | : 524 METERS | ELEVATION: | 36 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 1 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B52: B13-008 structural rating sheet

| | | | | |
|-----------------------------------|---|-------------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B13-008 | | |
| TYPE OF STRUCTURE | | : RESIDENTIAL,THREE STORY,RCC | | |
| LOCATION | | : 17.721136,83.330328 | | |
| DISTANCE FROM THE OCEAN | | : 365 METERS | ELEVATION: | 34 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 0 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B53: B14-001 structural rating sheet

| STRUCTURE IDENTITY | | : B14-001 | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SIX STORY,RCC | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 2235 METERS | ELEVATION: | 43 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B54: B14-002 structural rating sheet

| STRUCTURE IDENTITY | | : B14-002 | | |
|-----------------------------------|---|-----------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,FIVE STORY,RCC | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 1077 METERS | ELEVATION: | 47 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B55: B14-003 structural rating sheet

| STRUCTURE IDENTITY | | : B14-003 | | |
|-----------------------------------|---|-----------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,FIVE STORY,RCC | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 1120 METERS | ELEVATION: | 58 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 0 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table B56: B14-004 structural rating sheet

| STRUCTURE IDENTITY | | : B14-004 | | |
|-----------------------------------|---|-----------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,FIVE STORY,RCC | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 1120 METERS | ELEVATION: | 47 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 0 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B57: B14-005 structural rating sheet

| | | | | |
|-----------------------------------|---|---|----------------------------|---------------|
| STRUCTURE IDENTITY | | : B14-005 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,FIVE STORY,RCC,CAR SHOW ROOM | | |
| LOCATION | | : 17.7344891,83.314969 | | |
| DISTANCE FROM THE OCEAN | | : 2588 METERS | ELEVATION: | 38 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| | | CONDITION | Significance Factor | Rating |
| 1a | Building Collapsed Or Partially Collapsed | | 3 | 0 |
| 1b | A Portion Of The Building Has Collapsed | | 2 | 0 |
| 1c | The Building Has Moved Off Its Foundation | | 2 | 0 |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | | 3 | 0 |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | | 2 | 0 |
| 3a | Obvious Severe Damage To Primary Members | | 2 | 0 |
| 3b | Severe Bowing Or Racking Of Walls | | 2 | 0 |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | | 2 | 0 |
| 4b | Roof damage | | 2 | 1 |
| 5a | Foundation Undermined By Scour Or Erosion | | 3 | 0 |
| 5b | Building Threatened By Slope Instability | | 3 | 0 |
| 6a | Neighboring Structure/Trees Leaning Against Structure | | 1 | 0 |
| 6b | Projectiles/Debris Impact On Structure | | 1 | 1 |
| | | | | 1 |



Table B58: B15-001 structural rating sheet

| STRUCTURE IDENTITY | | : B15-001 | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMRCIAL,SINGLE STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 9797 METERS | ELEVATION: | 107 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 2 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 1 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B59: B16-001 structural rating sheet

| STRUCTURE IDENTITY | | : B16-001 | | |
|-----------------------------------|---|----------------------------|---------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMRCIAL,THREE STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | ELEVATION: | | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 1 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B60: B16-002 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|---------------|-----------------------|
| STRUCTURE IDENTITY | | : B16-002 | | |
| TYPE OF STRUCTURE | | : RESIDENTIAL,SINGLE STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | ELEVATION: | | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table B61: B16-004 structural rating sheet

| STRUCTURE IDENTITY | | : B16-004 | | |
|-----------------------------------|---|----------------------------|---------------|-----------------------|
| TYPE OF STRUCTURE | | : RESIDENTIAL,FOUR STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : ELEVATION: | | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 1 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B62: B16-005 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|---------------|-----------------------|
| STRUCTURE IDENTITY | | : B16-005 | | |
| TYPE OF STRUCTURE | | : RESIDENTIAL,FIVE STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : | | ELEVATION: |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 0 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B63: B17-001 structural rating sheet

| STRUCTURE IDENTITY | | : B17-001 | | |
|-----------------------------------|---|---------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : RESIDENTIAL,THREE STORY | | |
| LOCATION | | : 17.25620,83.298497 | | |
| DISTANCE FROM THE OCEAN | | : 2600 METERS | ELEVATION: | 23 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 2 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B64: B18-001 structural rating sheet

| STRUCTURE IDENTITY | | : B18-001 | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,FOUR STORY | | |
| LOCATION | | : 17.725500,83.299608 | | |
| DISTANCE FROM THE OCEAN | | : 2491 METERS | ELEVATION: | 23 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 2 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B65: B18-002 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B18-002 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL, FOUR STORY | | |
| LOCATION | | : 17.725488, 83.301872 | | |
| DISTANCE FROM THE OCEAN | | : 2387 METERS | ELEVATION: | 28 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 1 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |

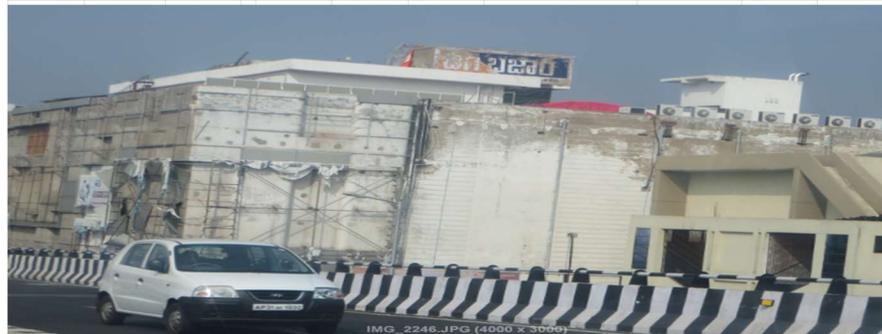


Table B66: B18-003 structural rating sheet

| | | | | |
|-----------------------------------|---|-----------------------------|-------------------|----------------|
| STRUCTURE IDENTITY | | : B18-003 | | |
| TYPE OF STRUCTURE | | : COMMERICAL,FIVE STORY,RCC | | |
| LOCATION | | : 17.724915,83.320135 | | |
| DISTANCE FROM THE OCEAN | | : 1268 METERS | ELEVATION: | 66 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 0 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table B67: B18-004A structural rating sheet

| STRUCTURE IDENTITY | | : B18-004A | | |
|-----------------------------------|---|------------------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,FIVE STORY,RCC,SATYAM | | |
| LOCATION | | : 17.733248,83.313568 | | |
| DISTANCE FROM THE OCEAN | | : 2579 METERS | ELEVATION: | 43 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 0 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table B68: B18-004B structural rating sheet

| STRUCTURE IDENTITY | | : B18-004B | | |
|-----------------------------------|---|-----------------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SIX STORY,RCC,SATYAM | | |
| LOCATION | | : 17.733248,83.313568 | | |
| DISTANCE FROM THE OCEAN | | : 2579 METERS | ELEVATION: | 43 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 0 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table B69: B18-005 structural rating sheet

| STRUCTURE IDENTITY | | : B18-005 | | |
|-----------------------------------|---|-----------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,FIVE STORY,RCC | | |
| LOCATION | | : 17.714738,83.303543 | | |
| DISTANCE FROM THE OCEAN | | : 1256 METERS | ELEVATION: | 29 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 1 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 3 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B70: B18-006 structural rating sheet

| STRUCTURE IDENTITY | | : B18-006 | | |
|-----------------------------------|---|-----------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,FIVE STORY,RCC | | |
| LOCATION | | : 17.725456,83.3166603 | | |
| DISTANCE FROM THE OCEAN | | : 1500 METERS | ELEVATION: | 71 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 1 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 3 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B71: B18-007 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B18-007 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,TEN STORY,RCC, vuda | | |
| LOCATION | | : 17.721649,83.318008 | | |
| DISTANCE FROM THE OCEAN | | : 1304 METERS | ELEVATION: | 56 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 0 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table B72: B18-008 structural rating sheet

| | | | | |
|-----------------------------------|---|------------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : B18-008 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,THREE STORY,RCC | | |
| LOCATION | | : 17.721161,83.314734 | | |
| DISTANCE FROM THE OCEAN | | : 1182 METERS | ELEVATION: | : 29 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table B73: B18-009 structural rating sheet

| | | | | |
|-----------------------------------|---|------------------------------|-------------------|----------------|
| STRUCTURE IDENTITY | | : B18-009 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,THREE STORY,RCC | | |
| LOCATION | | : 17.7149251,83.311632 | | |
| DISTANCE FROM THE OCEAN | | : 1162 METERS | ELEVATION: | 49 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 0 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table GS1: GS-001 structural rating sheet

| | | | | | | |
|-----------------------------------|---|---------------------------|-------------------|----------------------------|---------------|-----------------------|
| STRUCTURE IDENTITY | | : GS-001 | | | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY | | | | |
| LOCATION | | : | | | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | METERS | | |
| DATE OF DAMAGE | | : Oct-09-2014 | | | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | | | |
| CONDITION | | | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | | | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | | | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | | | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | | | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | | | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | | | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | | | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | | | 2 | 0 | |
| 4b | Roof damage | | | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | | | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | | | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | | | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | | | 1 | 1 | |



Table GS2: GS-002 structural rating sheet

| STRUCTURE IDENTITY | | : GS-002 | | |
|-----------------------------------|---|---------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table GS3: GS-003 structural rating sheet

| | | | |
|-----------------------------------|---|---------------------------|--------------------------|
| STRUCTURE IDENTITY | | : GS-003 | |
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY | |
| LOCATION | | : | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | |
| CONDITION | | | Significance Factor |
| | | | Rating |
| | | | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 |
| 4b | Roof damage | 2 | 0 |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 |
| 5b | Building Threatened By Slope Instability | 3 | 0 |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 |
| | | | 0 |



Table GS4: GS-004 structural rating sheet

| STRUCTURE IDENTITY | | : GS-004 | | |
|-----------------------------------|---|---------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 0 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table GS5: GS-005 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : GS-005 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL, SINGLE STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 6368 METERS | ELEVATION: | 40 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 0 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table GS6: GS-006 structural rating sheet

| STRUCTURE IDENTITY | | : GS-006(101-001) | | |
|-----------------------------------|---|---------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 4100 METERS | ELEVATION: | 40 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 3 | 3 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 3 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 2 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table GS7: GS-007 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : GS-007(I03-001) | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 2054 METERS | ELEVATION: | 53 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table GS8: GS-008 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : GS-008(103-003) | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 2058 METERS | ELEVATION: | 08 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 3 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 2 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table GS9: GS-009 structural rating sheet

| STRUCTURE IDENTITY | | : GS-009(107-001) | | |
|-----------------------------------|---|---|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,GAS MILLINIUM STATION | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 810 METERS | ELEVATION: | 51 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 1 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table GS10: GS-010 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : GS-010 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STOERY | | |
| LOCATION | | : 17.741074,83.327864 | | |
| DISTANCE FROM THE OCEAN | | : 1718 METERS | ELEVATION: | 20 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table GS11: GS-011 structural rating sheet

| STRUCTURE IDENTITY | | : GS-011 | | |
|-----------------------------------|---|----------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STOREY | | |
| LOCATION | | : 17.724247,83.312384 | | |
| DISTANCE FROM THE OCEAN | | : 1697 METERS | ELEVATION: | 67METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table II: I01-002 structural rating sheet

| STRUCTURE IDENTITY | | : I01-002 | | |
|-----------------------------------|---|-----------------------------------|---------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,THREE STORY,SR STEEL | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | ELEVATION: | | |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 1 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 1 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 3 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table I2: I01-003 structural rating sheet

| STRUCTURE IDENTITY | | : I01-003 | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERICAL,SINGLE STORY | | |
| LOCATION | | : 17.718388,83.281210 | | |
| DISTANCE FROM THE OCEAN | | : 314 METERS | ELEVATION: | 07 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table I3: I01-004 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : I01-004 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY | | |
| LOCATION | | : 17.718889,83.279882 | | |
| DISTANCE FROM THE OCEAN | | : 3161 METERS | ELEVATION: | 04 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 2 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table I4: I04-001 structural rating sheet

| | | | | |
|-----------------------------------|---|---------------------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : I04-001 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,CAR PARKING | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 5563 METERS | ELEVATION: | 28 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 1 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 3 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 3 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 2 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 1 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table I5: I05-001 structural rating sheet

| | | | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : I05-001 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,STORAGE BUILDING | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 3 | 3 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 3 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 1 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 3 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 3 | |
| 4b | Roof damage | 2 | 3 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 2 | |



Table I6: I05-002 structural rating sheet

| | | | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : I05-002 | | |
| TYPE OF STRUCTURE | | : COMMERICAL,SINGLE STORY,STORAGE BUILDING | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 8472 METERS | ELEVATION: | 23 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 1 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table I7: I05-003 structural rating sheet

| | | | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : I05-003 | | |
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,STORAGE BUILDING | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : METERS | ELEVATION: | METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table I8: I06-001 structural rating sheet

| STRUCTURE IDENTITY | | : I06-001 | | |
|-----------------------------------|---|--|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : COMMERCIAL,SINGLE STORY,STORAGE BUILDING | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 3938 METERS | ELEVATION: | 8 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table R1: R01-001 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : R01-001 | | |
| TYPE OF STRUCTURE | | : COMMERICAL, ROPE CAR | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 550 METERS | ELEVATION: | 157 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 1 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table R2: R01-001A structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : R01-001A | | |
| TYPE OF STRUCTURE | | : RAILWAY STATION TRACKS | | |
| LOCATION | | : 17.721430,83.82928 | | |
| DISTANCE FROM THE OCEAN | | : 2908METERS | ELEVATION: | 11 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 2 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table R3: R02-001B structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : R02-001B | | |
| TYPE OF STRUCTURE | | : RAILWAY STATION OUT SIDE | | |
| LOCATION | | : 1.721657,83.2900698 | | |
| DISTANCE FROM THE OCEAN | | : 2768 METERS | ELEVATION: | 11 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table S1: S01-001 structural rating sheet

| STRUCTURE IDENTITY | | : S01-001 | | |
|-----------------------------------|---|------------------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : COMMERCIAL, INDOOR STADIUM | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 720 METERS | ELEVATION: | 36 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table S2: S01-002 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : S01-002 | | |
| TYPE OF STRUCTURE | | : CRICKET STADIUM | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 3774 METERS | ELEVATION: | 56 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 0 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 0 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 2 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 0 | |



Table T1: T01-001 structural rating sheet

| STRUCTURE IDENTITY | | : T01-001 | | |
|-----------------------------------|---|----------------------|-------------------|----------------|
| TYPE OF STRUCTURE | | : TRANSMISSION TOWER | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 10632 METERS | ELEVATION: | 11 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 2 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 3 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 2 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table T2: T01-002 structural rating sheet

| STRUCTURE IDENTITY | | : T01-002 | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| TYPE OF STRUCTURE | | : TRANSMISSION TOWER | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 10113 METERS | ELEVATION: | 11 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 2 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 3 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 2 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table T3: T02-001 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : T02-001 | | |
| TYPE OF STRUCTURE | | : Cell TRANSMISSION TOWER | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 924 METERS | ELEVATION: | 173 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 2 | 2 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 2 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 0 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |



Table T4: T02-002 structural rating sheet

| | | | | |
|-----------------------------------|---|----------------------------|-------------------|-----------------------|
| STRUCTURE IDENTITY | | : T02-002 | | |
| TYPE OF STRUCTURE | | : Cell TRANSMISSION TOWER | | |
| LOCATION | | : | | |
| DISTANCE FROM THE OCEAN | | : 928 METERS | ELEVATION: | 173 METERS |
| DATE OF DAMAGE | | : Oct-09-2014 | | |
| DATE OF PICTURES COLLECTED | | : Nov-19-2014 | | |
| CONDITION | | Significance Factor | Rating | Overall Rating |
| 1a | Building Collapsed Or Partially Collapsed | 3 | 1 | 1 |
| 1b | A Portion Of The Building Has Collapsed | 2 | 2 | |
| 1c | The Building Has Moved Off Its Foundation | 2 | 0 | |
| 2a | Building (Any Story) Or Foundation Is Significantly Out Of Plumb | 3 | 0 | |
| 2b | Gaps Exist Between Walls, Ceilings Or Roof. | 2 | 0 | |
| 3a | Obvious Severe Damage To Primary Members | 2 | 1 | |
| 3b | Severe Bowing Or Racking Of Walls | 2 | 0 | |
| 4a | Serious Falling Hazards Such As Loosened Roofing Or Wall Cladding | 2 | 0 | |
| 4b | Roof damage | 2 | 0 | |
| 5a | Foundation Undermined By Scour Or Erosion | 3 | 0 | |
| 5b | Building Threatened By Slope Instability | 3 | 0 | |
| 6a | Neighboring Structure/Trees Leaning Against Structure | 1 | 0 | |
| 6b | Projectiles/Debris Impact On Structure | 1 | 1 | |

