



AECOM

VI Damage Assessments

DISASTER

Damage assessment information included in this document does not include Energy and Telecommunications Sectors

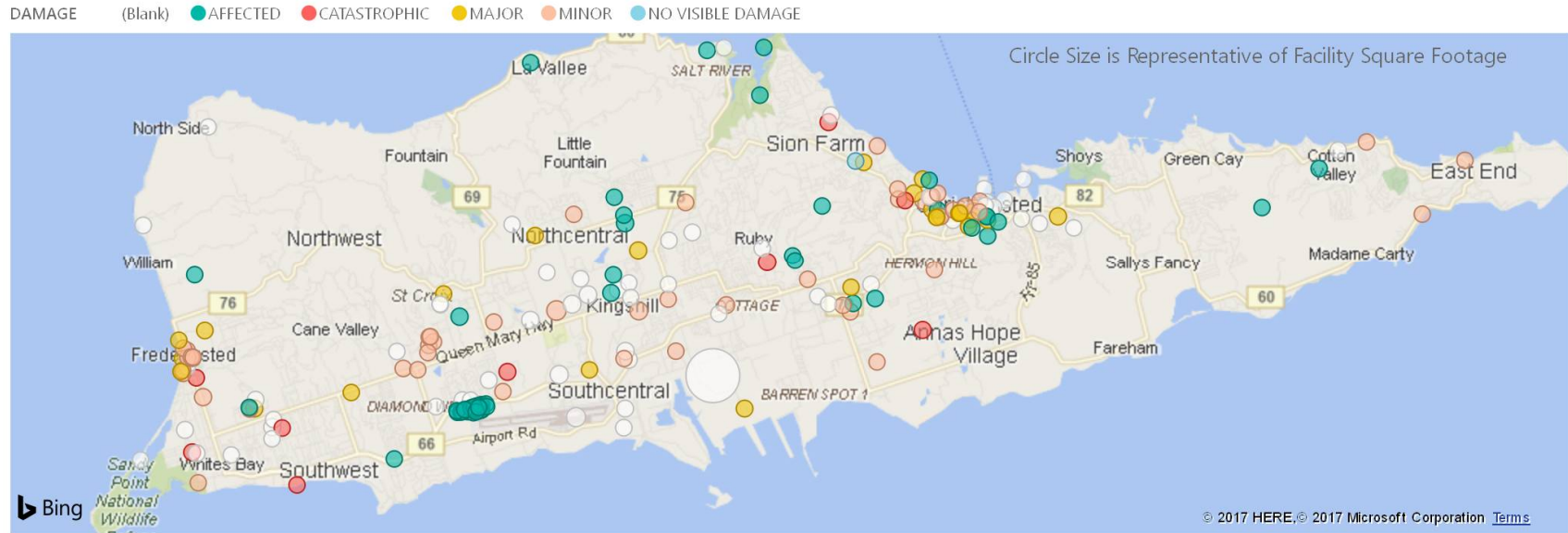
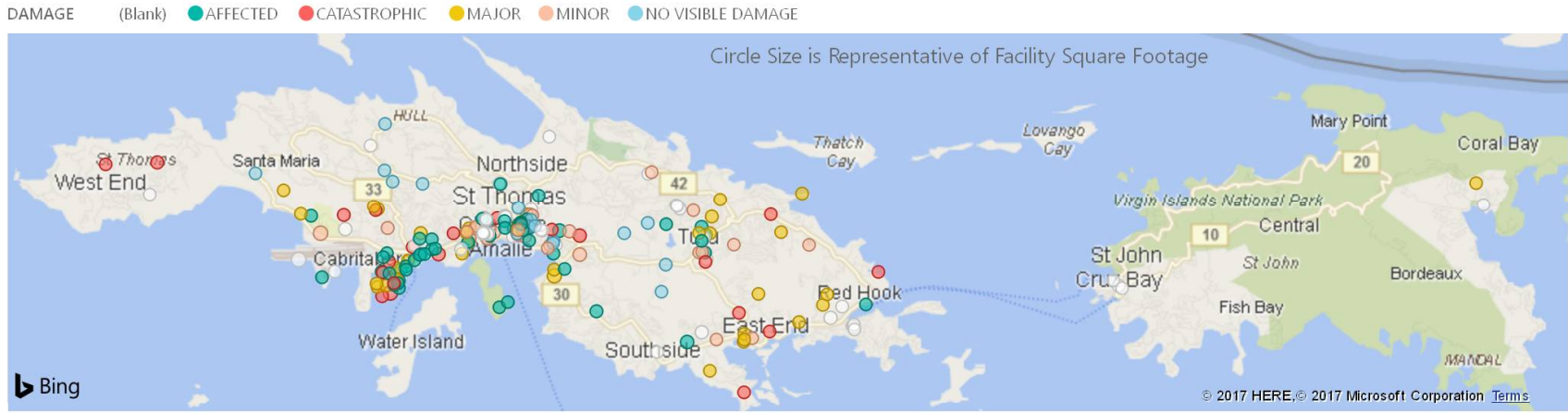
Summary of Preliminary Damage Assessments
For Task Orders 001 thru 004
November 13, 2017

USVI Recovery Program Cost Summary

\$7,490 M **AECOM**

Sum Total of Repair Cost Across All Sectors

- SECTOR
- Education
 - Government Facilities
 - Hospitals and Healthcare
 - Housing
 - Other Government Sectors
 - Transportation



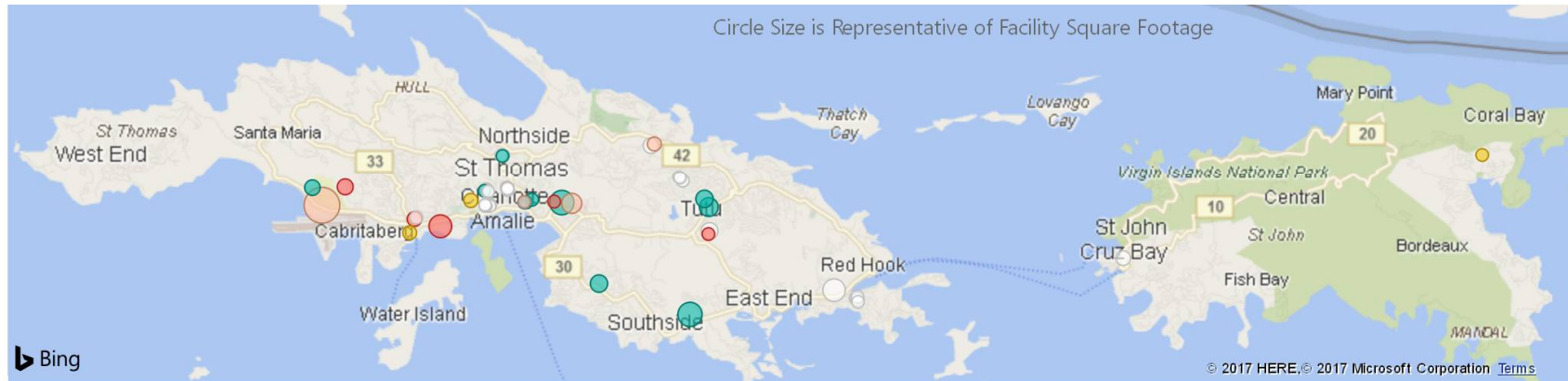
Note: this damage summary report does not include assessments of the Energy or Telecommunications sectors. However, the total estimate of \$7,490 M does include the costs associated with both of those sectors.

Education

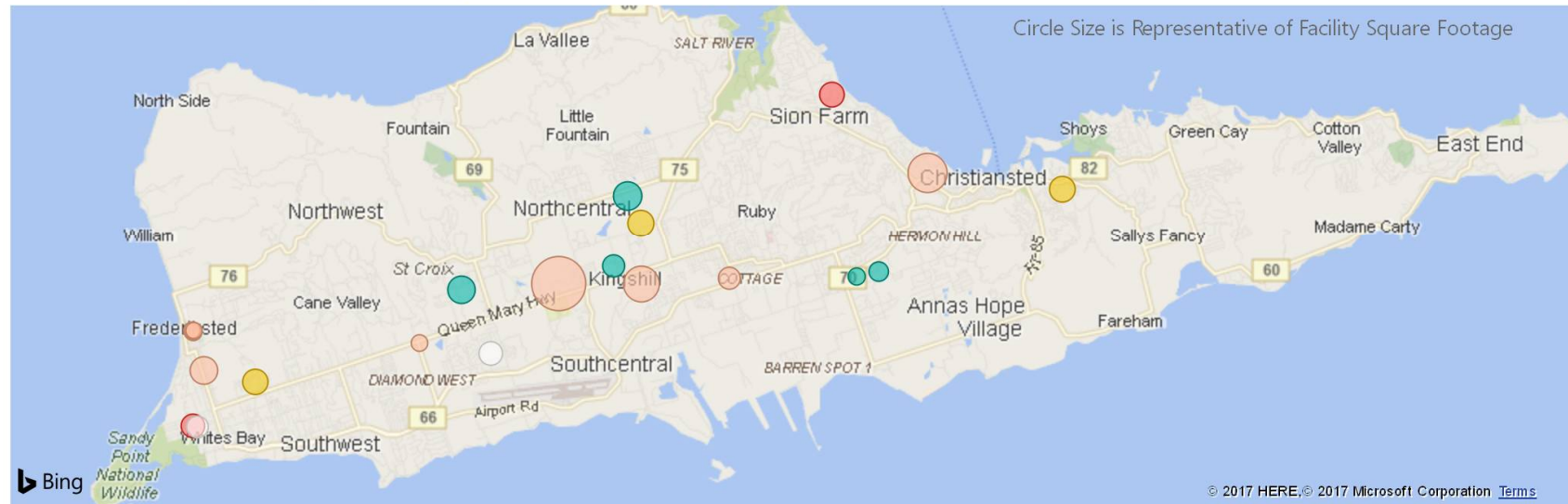
\$715,000,000

Estimated Cost

DAMAGE (Blank) ● AFFECTED ● CATASTROPHIC ● MAJOR ● MINOR ● NO VISIBLE DAMAGE



DAMAGE (Blank) ● AFFECTED ● CATASTROPHIC ● MAJOR ● MINOR ● NO VISIBLE DAMAGE



Estimate Includes:

Replacement of 9 destroyed schools with 6 new schools

Replacement of damaged equipment including buses, IT equipment, etc

Government Facilities

\$475,000,00

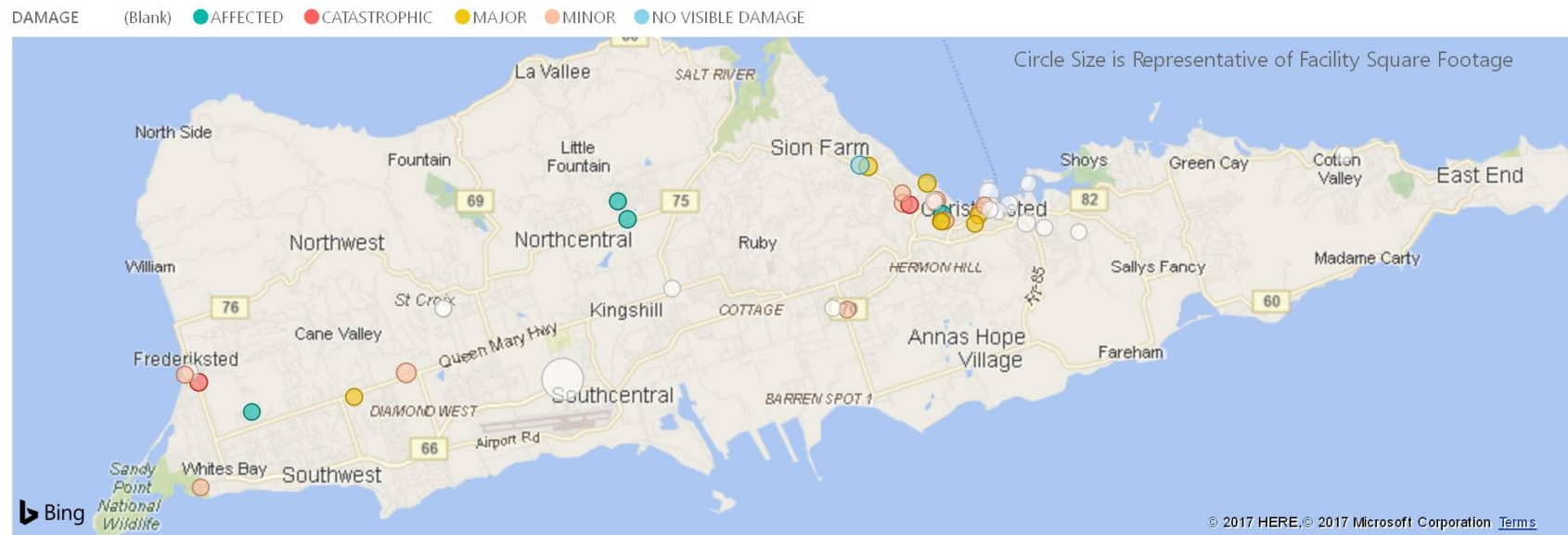
Estimated Cost



Estimate Includes:

Repair/replacement of government facilities including:

- Key government offices
- Judicial facilities
- Wastewater infrastructure
- Public safety facilities
- Univ of VI



Transportation

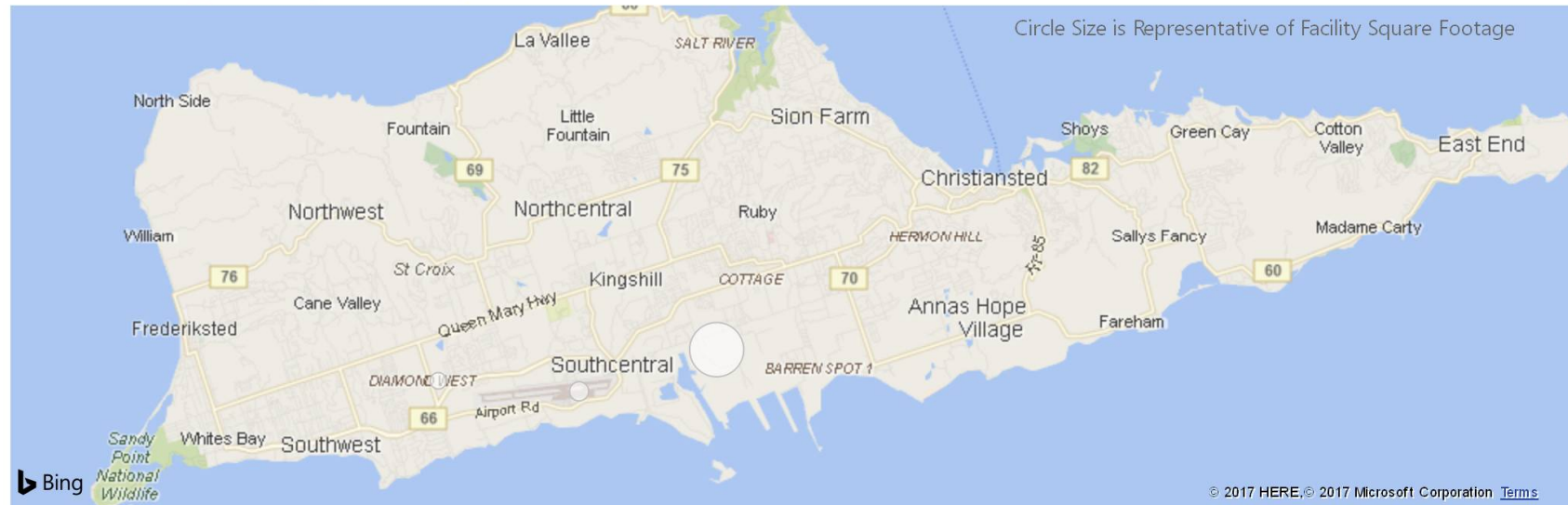
\$425,000,00

Estimated Cost

DAMAGE (Blank) ● AFFECTED ● CATASTROPHIC ● MAJOR



DAMAGE (Blank) ● AFFECTED ● CATASTROPHIC ● MAJOR



Estimate Includes:

Road infrastructure repairs

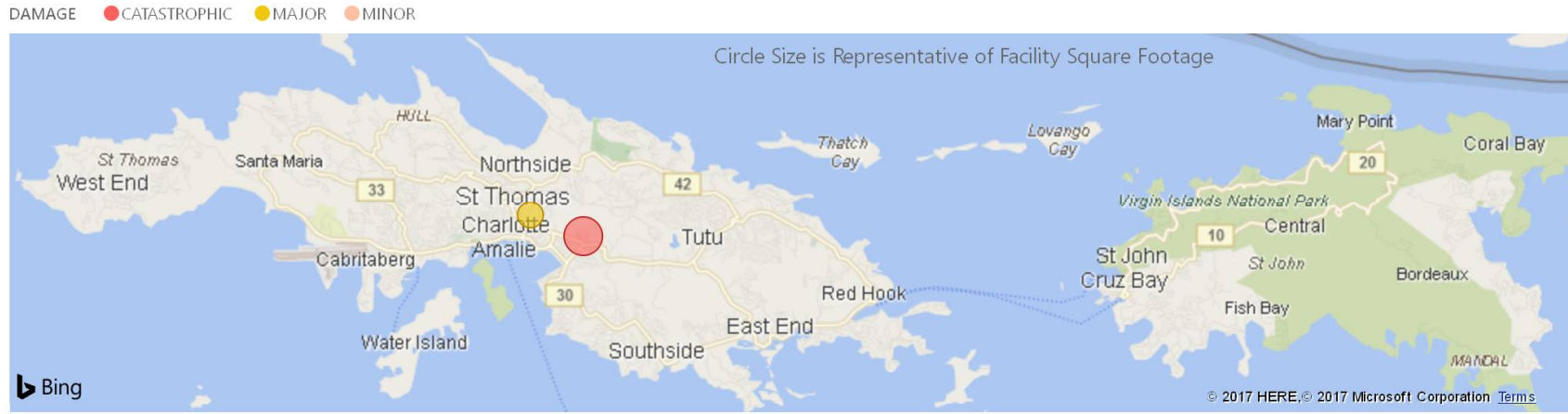
Airport terminal and tower repairs

Port/harbor and cruise ship terminal repairs

Hospitals and Healthcare

\$575,000,000

Estimated Cost

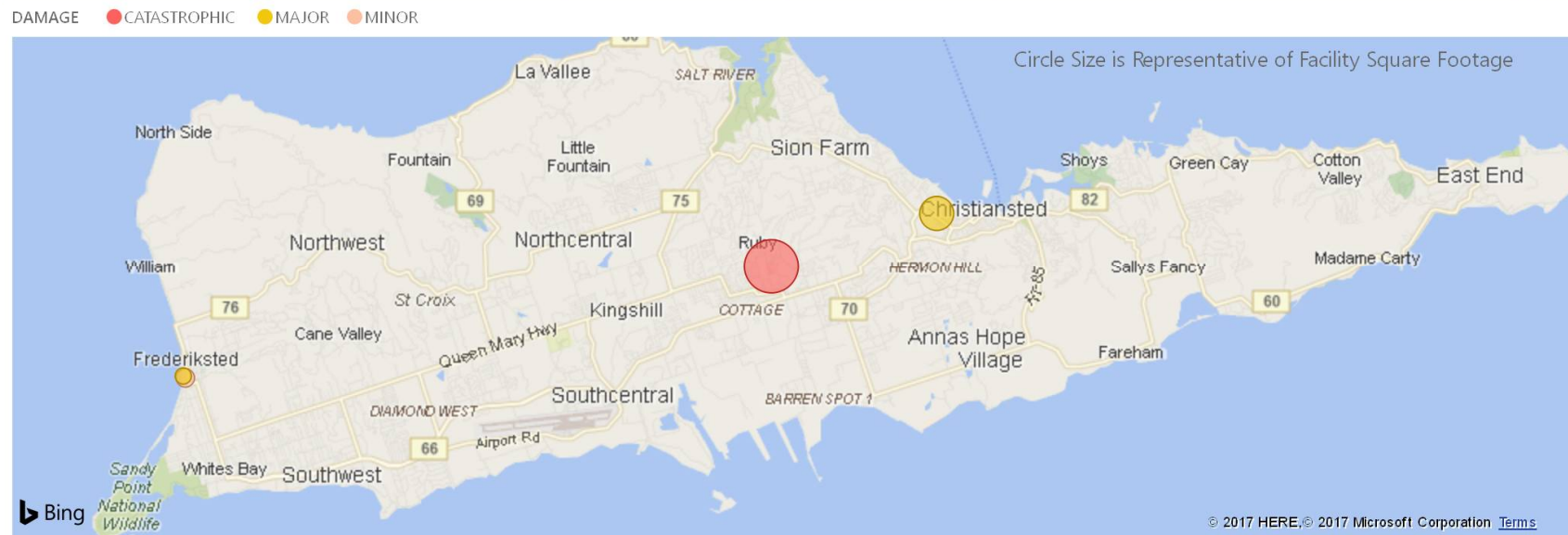


Estimate Includes:

Replacement of Juan Luis Hospital

Replacement of Schneider Regional Medical Center

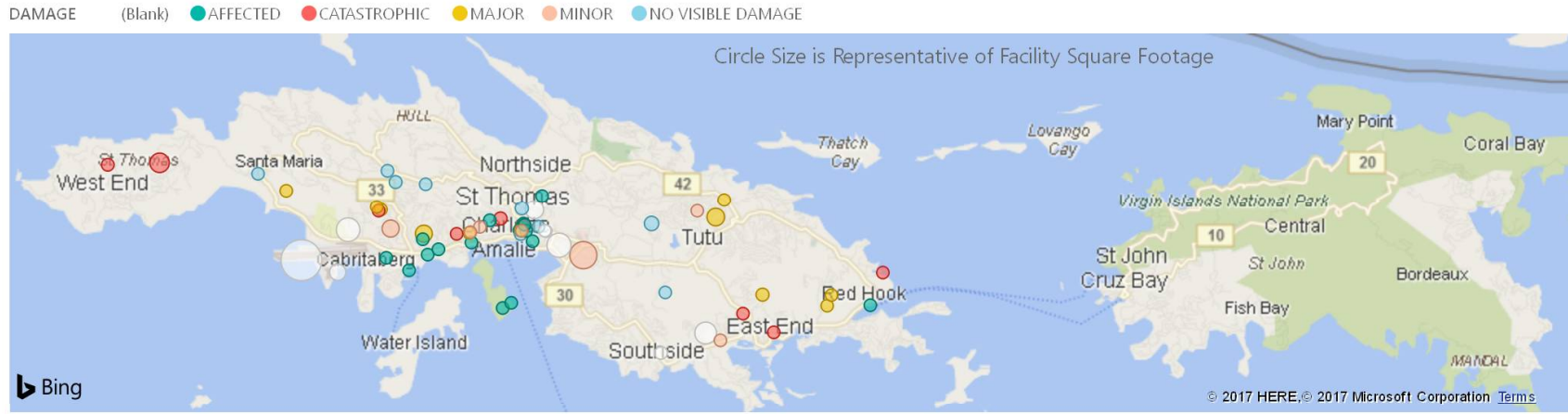
Replacement of Myrah Keating Health Clinic



Housing

\$1,802,000,000

Estimated Cost

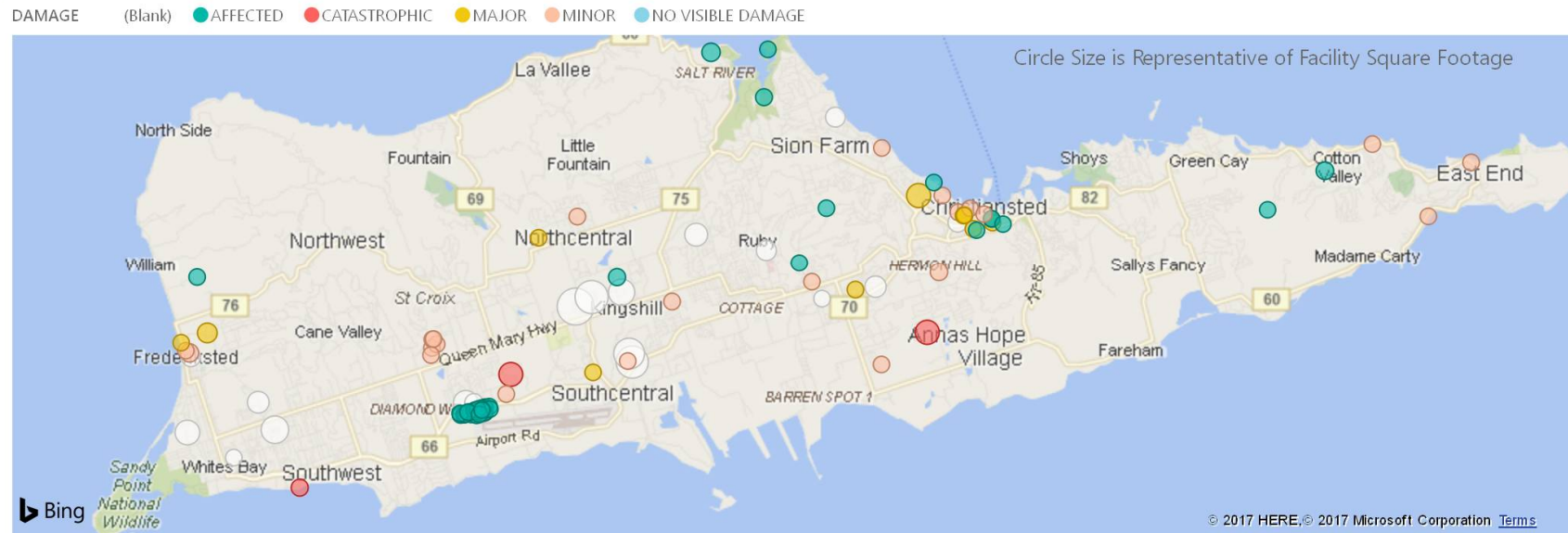


Estimate Includes:

STEP Program
Temporary Repairs

CDBG-DR Permanent
Repairs

VIHA Facility
Repair/Replacement

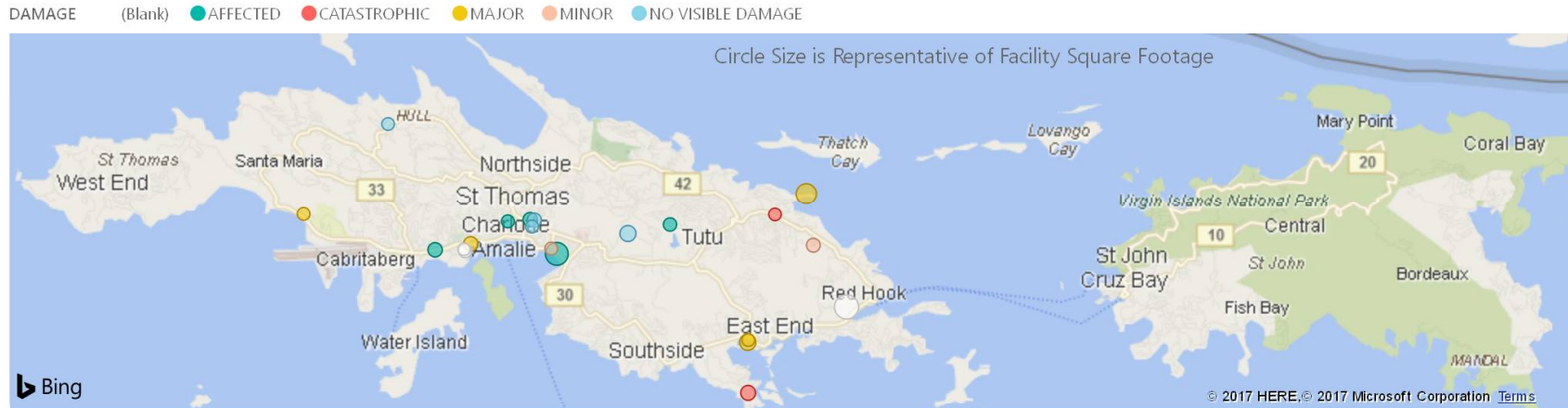


Other Government Sectors



\$125,000,00

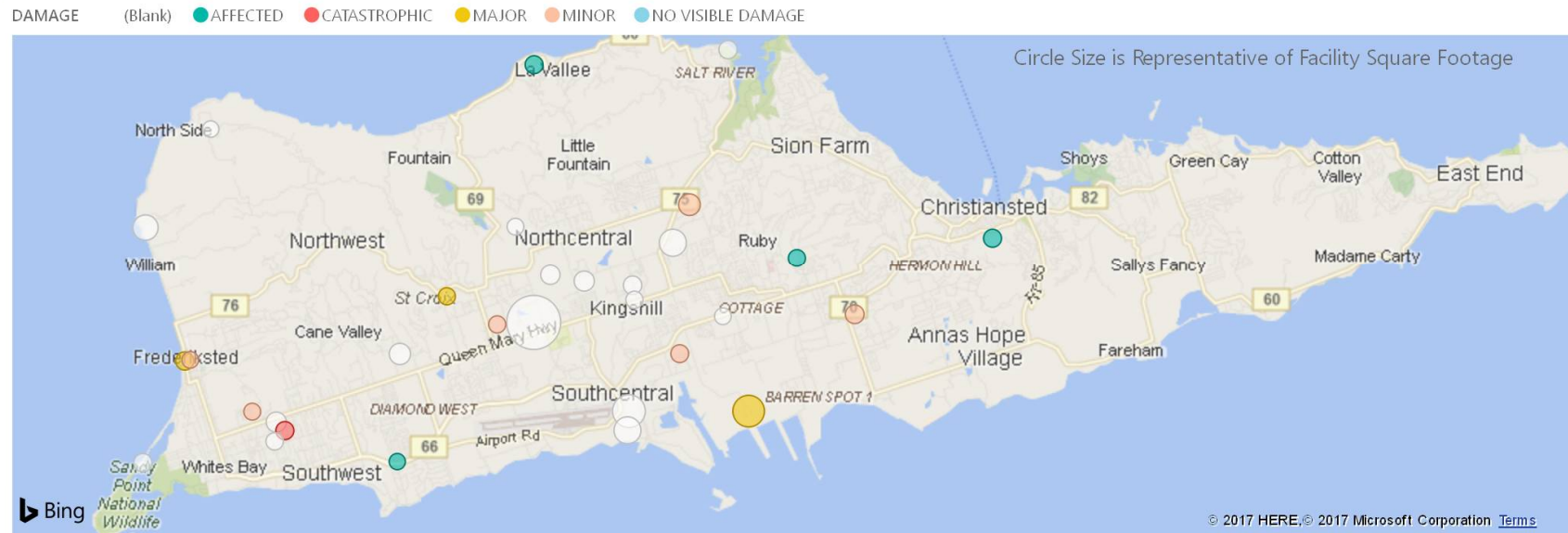
Estimated Cost



Estimate Includes:

Repair/Replacement of water system components

Repair/Replacement of waste water system components



Juan F. Luis Hospital

\$81M



4007 Estate Diamond Ruby
Christiansted, St. Croix 00820 ...

Total Cost to Repair

Before Storm

After Storm

Catastrophic

Damage Rating

1982

Year Built

**Non-Flood: Wind Driven Rain,
Roof Damage, Water Intrusion**

Disaster Damage

**Steel Structure with
Exterior Insulation Finish Syst...**

Building Materials

240,000

Square Footage



\$63,600,000	\$155,000,000
Repair Cost	Replacement Cost
\$16,000,000	\$16,000,000
Swing Space Cost	Swing Space Cost
\$1,100,000	
FFE	

\$80,700,000	\$171,000,000
Total Cost to Repair	Total Cost of Replace...

Cost to Repair vs. Cost of Replacement

\$81M

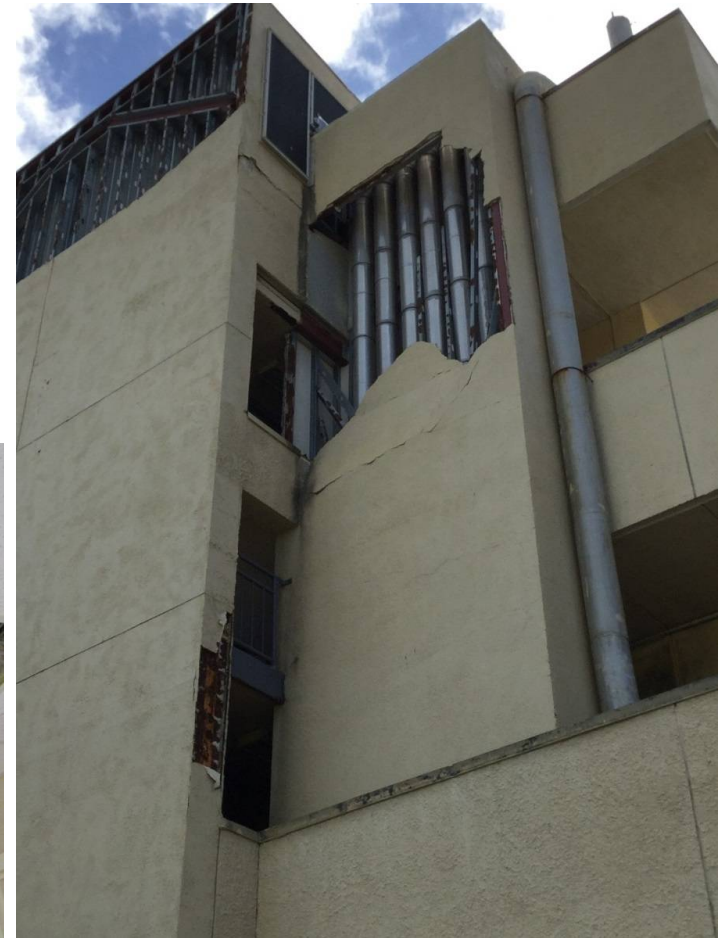
\$0M

\$171.00M



Preliminary Assessments by Discipline

Facility Name	Architecture	Structure	Site_1	Mechanical/Plumbing	Electrical / Comm/ Security	Fire Protection	Overall Narrative Rating
Juan F. Luis Hospital	Catastrophic Damage to roofing and roof insulation causing mold remediation in ceiling plenums and replacement of spray-on fireproofing. -Minor damage to EIFS siding and louvers. -Minor to moderate damage to ceilings, walls and floors from water damage.	Moderate Damage, only limited structural systems damaged. - Multiple large openings, especially louvers, which failed now require reinforcing around the rough openings. - Some long span steel stud walls which failed require intermediate members to support the walls	Minor to Moderate Damage. Majority of site infrastructure is in useable condition, some debris is present from elements of the building, Majority of exterior lighting damaged.	Moderate to significant damage, multiple exterior equipment including pumps, fans, condensing units, and exterior piping and duct insulation has sustained significant to major damage on the roof and exterior locations. Variable refrigerant system serving the OR area has been destroyed. Insulation within the building on duct and piping that has water damage has to be removed and replaced.	Moderate to significant damage, Main electrical concerns are automatic transfer switches not automatic but operating manually and almost half of the interior lighting is nonoperational. Main communications damage is public address system has very poor sound quality	Significant damage- FA devices on level 3 damaged, moderate FA device issues on level 2, and on level 1.	Catastrophic- Remediation efforts that will be necessary as a result of roof damage will require replacement of a significant portion of all partitions and building systems within the building.



Schneider Regional Medical Center

\$106M



9048 Sugar Estate Rd.
Charlotte Amalie, St. Thomas ...

Total Cost to Repair

Before Storm

After Storm

Catastrophic

Damage Rating

1982 and 2005

Year Built

Non-Flood: Wind Driven Rain,
Roof Damage, Water Intrusion

Disaster Damage

Steel and Concrete Structure
with Exterior Insulation
Finish System

Building Materials

294,453

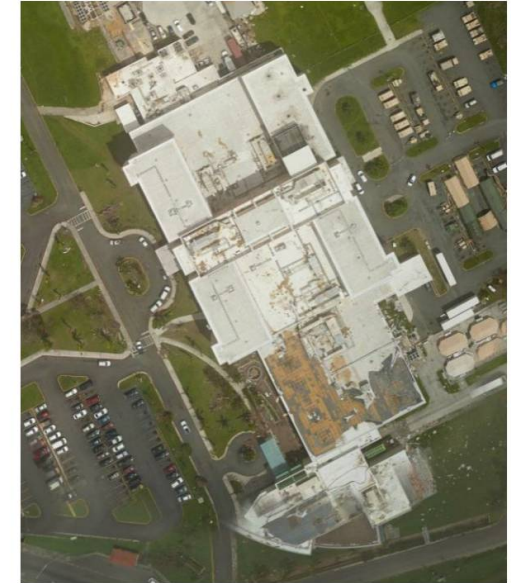
Square Footage



\$78,000,000	\$160,000,000
Repair Cost	Replacement Cost
\$16,000,000	\$16,000,000
Swing Space Cost	Swing Space Cost
\$12,354,400	
FFE	

\$106,354,400	\$176,000,000
Total Cost to Repair	Total Cost of Replace...

Cost to Repair vs. Cost of Replacement



Preliminary Assessments by Discipline

Facility Name	Architecture	Structure	Site_1	Mechanical/Plumbing	Electrical / Comm/ Security	Fire Protection	Overall Narrative Rating
Schneider Regional Medical Center	Catastrophic Damage to roofing an roof insulation causing mold remediation in ceiling plenums and replacement of spray-on fireproofing. -Minor damage to EIFS siding and louvers. -Moderate damage to ceilings, walls and floors from water damage.	Moderate Damage, only limited structural systems damaged. - Multiple large openings, especially louvers, which failed now require reinforcing around the rough openings. - Some long span steel stud walls which failed require intermediate members to support the walls	Minor to Moderate Damage, Majority of site infrastructure is in useable condition, some debris is present from elements of the building, all exterior lighting damaged.	Catastrophic damage to the HVAC roof top equipment is missing or dislodged from roof curbs or original locations. Roof experiencing ponding and leaking into lower levels. Insulation and equipment on upper levels has been compromised with water from leaking. Cancer Center - HVAC moderate damage throughout, domestic water shutdown due to leaks in the system.	Catastrophic damage. The interior lighting and branch wiring suffered moderate to significant damage estimated at approximately half.	Moderate damage. FA Devices appear to be damaged by water infiltration. Sprinkler System does not appear to show any damage.	Catastrophic- Remediation efforts that will be necessary as a result of roof damage will require replacement of a significant portion of all partitions and building systems within the building.



Estate Catherineberg

\$2M



Catherineberg Rd., Charlotte
Amalie, St Thomas 00802, US...

Total Cost to Repair

Before Storm

After Storm

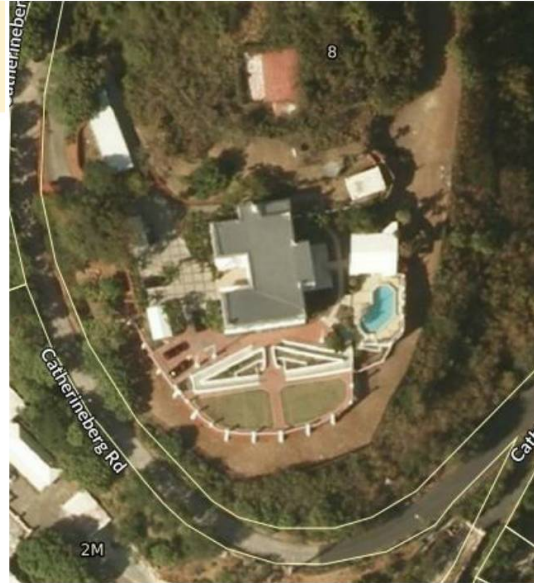
Major
Damage Rating

1830
Year Built

Non-Flood: Wind Driven, Water Intrusion.
Disaster Damage

Brick and stone masonry construction with plaster/stucco...
Building Materials

7,900
Square Footage



\$1,297,727
Repair Cost

\$790,000
Swing Space Cost

\$259,545
FFE

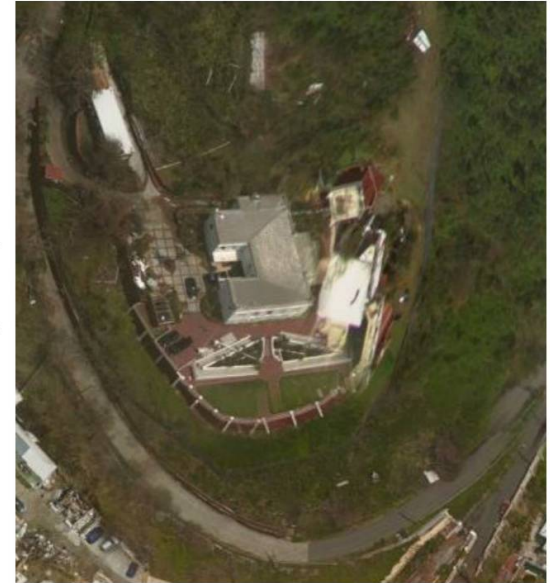
\$6,320,000
Replacement Cost

\$790,000
Swing Space Cost

\$2,347,272
Total Cost to Repair

\$7,110,000
Total Cost of Replace...

Cost to Repair vs. Cost of Replacement



Preliminary Assessments by Discipline

Facility Name	Architecture	Structure	Mechanical/Plumbing	Electrical / Comm/ Security	Overall Narrative Rating
Estate Catherineberg	Significant damages. The storm breached/blew out several exterior shutters/windows. Wind and rain damage to interiors. Damage to historic plasterwork and floors, and damage to wood tray ceiling in the parlor. The building also exhibits widespread mold growth.	Significant Damage. - Exterior two flag poles yielded at base. - All windows and shutter broken. - Ceiling Damage due to water intrusion. - Significant damage to building exterior and gazebo.	Mechanical equipment has moderate to catastrophic damage. Outdoor condensing units were dislodged and destroyed. Some indoor units sustained water damage as well.	Electrical conduits and wiring of branch have been affected. The generator is operational but further inspection and maintenance is required. Almost half of Exterior lighting fixtures have been affected, further inspection is required. Some interior lighting fixtures have been affected. Some Comm/Security and public address devices have been affected.	Severe but repairable - Remediation efforts that will be necessary as a result of water intrusion will require replacement of a significant portion of all partitions and building systems within the building.

Estate Catherineberg



Government House, St. Croix, Christiansted

\$18M



1105 King Street, Christiansted,
St. Croix 00820 USVI

Total Cost to Repair

Major
Damage Rating

1742
Year Built

Non-Flood: Wind Driven, Water Intrusion.
Disaster Damage

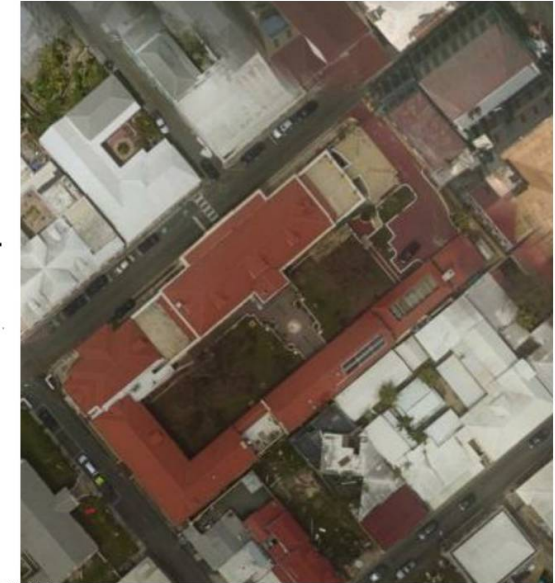
Brick and stone masonry construction with plaster/stucco...
Building Materials

66,170
Square Footage

Before Storm



After Storm



\$9,702,410	\$52,936,000
Repair Cost	Replacement Cost
\$6,617,000	\$6,617,000
Swing Space Cost	Swing Space Cost
\$1,940,482	
FFE	

\$18,259,892	\$59,553,000
Total Cost to Repair	Total Cost of Replace...

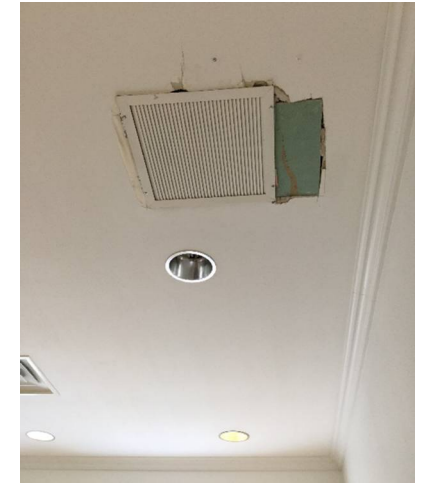
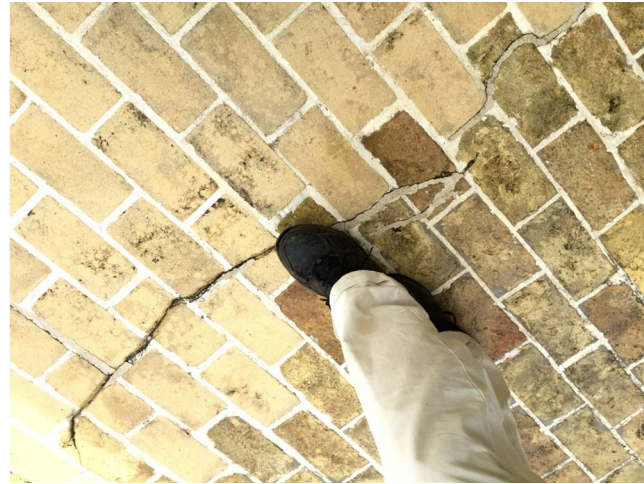
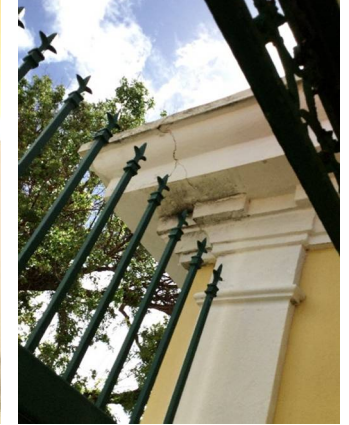
Cost to Repair vs. Cost of Replacement



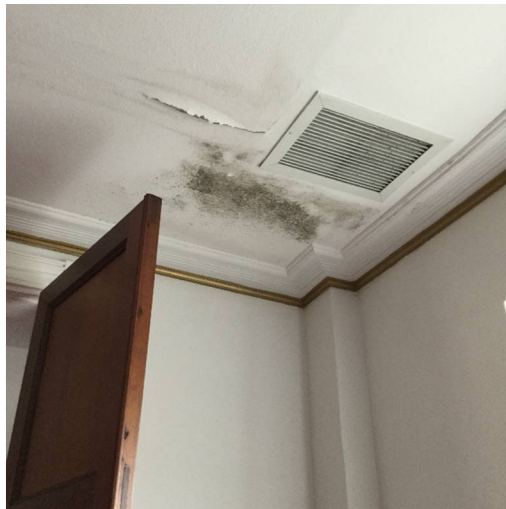
Preliminary Assessments by Discipline

Facility Name	Architecture	Structure	Mechanical/Plumbing	Electrical / Comm/ Security	Fire Protection	Overall Narrative Rating
Government House, St. Croix, Christiansted	Exterior: Overall minor damage. Roofing-Portion of gutter and downspout drainage system. Resealing of all roof corrugated metal deck laps joints. HAZMAT materials verification recommended prior to any scope of work performance. Wall(s)-Damage requires crack and stucco repairs (chimney and walls). Repainting of exterior facade/ walls areas required. Interior moderate damages. Plaster, wood trim and paint damaged by water penetration, some mold is present.	Moderate Damage. Exterior cracks to column capitals, Exterior walkway slab cracks due to possible foundation settlements, ceiling damage, and minor wall cracking at third floor kitchen wall.	Mechanical equipment has minor to significant damage. exterior louvers sustained a majority of the damage ranging from blockage and screen damage to bent louver blades. Exterior condensing units had moderate coil damage. Plumbing equipment suffered moderate to catastrophic damage. Roof drains and gutter systems were significantly impacted causing leaks and other damage. Corrosion on plumbing fixtures was also noted in a few areas.	Electrical conduits and wiring of branch circuits have been affected due to roof leaking. One of two generator is not operational. The elevator is not working. Almost half of all exterior lighting fixtures have been affected.	Fire alarm system damaged. Fire alarm devices suffered moderate to catastrophic damage in the Inner Courtyard.	Severe but repairable - Remediation efforts that will be necessary as a result of roof damage will require replacement of a significant portion of all partitions and building systems within the building.

Government House, St. Croix, Christiansted



Government House, St. Croix, Christiansted



Government House, St. Croix, Fredricksted

\$7M



315 Prince Street, Frederiksted,
St. Croix, 00840

Total Cost to Repair

Before Storm

After Storm

Major
Damage Rating

1799
Year Built

Non-Flood: Wind Driven, Roof Damage, Water Intrusion.
Disaster Damage

Brick and stone masonry construction with plaster/stucco...
Building Materials

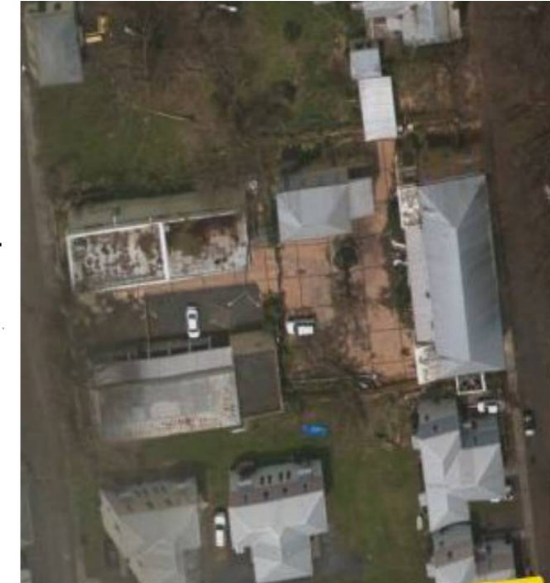
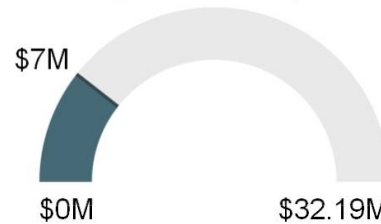
35,770
Square Footage



\$2,698,874 Repair Cost	\$28,616,000 Replacement Cost
\$3,577,000 Swing Space Cost	\$3,577,000 Swing Space Cost
\$539,775 FFE	

\$6,815,649 Total Cost to Repair	\$32,193,000 Total Cost of Replace...
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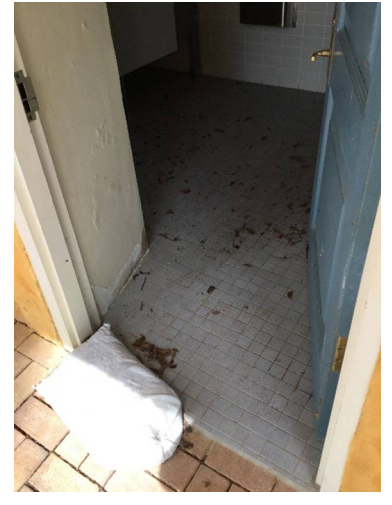
Cost to Repair vs. Cost of Replacement



Preliminary Assessments by Discipline

Facility Name	Architecture	Structure	Mechanical/Plumbing	Electrical / Comm/ Security	Fire Protection	Overall Narrative Rating
Government House, St. Croix, Fredricksted	Exterior: Overall significant damage. Roofing- majority of gutter and downspout drainage system have been damaged or blown-off due to high wind event. Resealing of all existing roof corrugated metal deck laps joints and flashings required. HAZMAT materials verification recommended prior to any scope of work performance. Wall(s)-portion of existing stucco has been damaged or blown-off due to high wind event Repainting of exterior facade/ walls areas required. Recommendation for crack/stucco/ waterproofing/ paint for exterior building envelope walls. Replacement of existing broken window/glazing required. Interior minor damages. Plaster, wood trim and paint damaged by water penetration, some mold is present.	Minor Damage. Minor wall cracks in second floor and meeting house. Some minor water damage to architectural finishes due to roof leaks.	Plumbing systems have moderate to catastrophic damage. Plumbing fixtures require moderate repairs or replacement but roof gutter system has substantial damage and leaks. Mechanical has moderate damage to generator exhaust.	Electrical conduits and wiring of branch circuits have been affected. Exterior lighting fixtures have been affected. Exterior disconnect Switches have been affected, all need complete replacement.	Some damaged, require further inspection.	Severe but repairable Remediation efforts that will be necessary as a result of roof damage will required replacement of a significant portion of all partitions and building systems within the building.

Government House, St. Croix, Fredricksted



Government House, St. Croix, Fredricksted



Government House, St. John

\$3M



Henry Samuel street, Cruz Bay,
St. John, 00831

Total Cost to Repair

Catastrophic

Damage Rating

1825

Year Built

**Non-Flood: Wind Driven, Roof
Damage, Water Intrusion.**

Disaster Damage

**Brick and stone masonry
construction with plaster/stucco...**

Building Materials

4,776

Square Footage

Before Storm



\$1,743,644

Repair Cost

\$477,600

Swing Space Cost

\$348,729

FFE

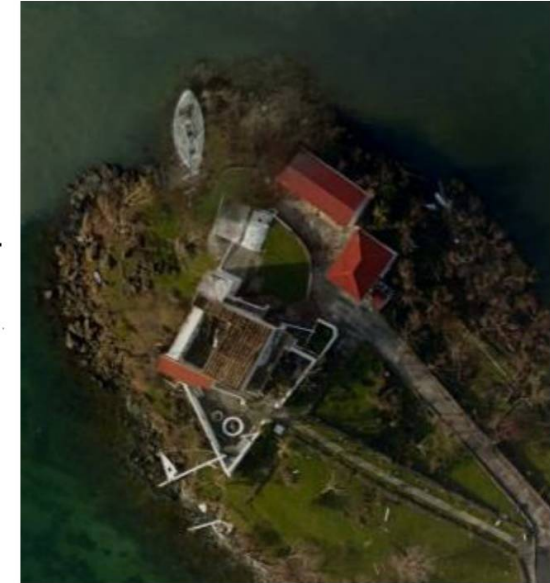
\$3,820,800

Replacement Cost

\$477,600

Swing Space Cost

After Storm



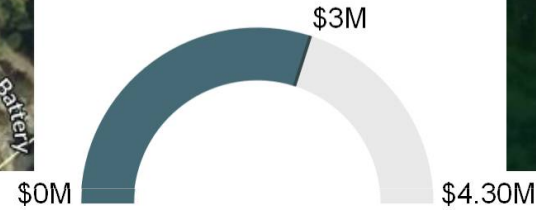
\$2,569,972

Total Cost to Repair

\$4,298,400

Total Cost of Replace...

Cost to Repair vs. Cost of Replacement



Preliminary Assessments by Discipline

Facility Name	Architecture	Structure	Mechanical/Plumbing	Electrical / Comm/ Security	Fire Protection	Overall Narrative Rating
Government House, St. John	Exterior: Overall catastrophic damage. Roofing-Entire roof system at Main Bldg. including gutter and downspouts and structural wood T & G/ beam assembly failure in high wind event. Wall(s)-portion of existing stucco has been damaged or blown-off. Repainting of exterior facade/ walls areas required. Recommendation for crack/stucco/ waterproofing/ paint for exterior building envelope walls and concrete spalling conditions. Replacement of existing broken window/glazing required. Extensive water damage to all exterior finishes. Overall minor damage. At Secondary Bldg. portion of gutter and downspout drainage system. Resealing of all roof corrugated metal deck laps joints. HAZMAT materials verification recommended prior to any scope of work performance. Wall(s)-Damage requires crack and stucco repairs (chimney and walls).	Significant damage to catastrophic damage in some items. - Complete roof was blown away - Cracked balcony beams - Pool ornaments broken - Boat mast broken and damaged support retaining wall - 2nd floor ceilings and slab damage - Licensing building gutter blown away on one side	Mechanical systems suffered significant to catastrophic damage, most split systems were destroyed or damaged. Some ductwork damage was also documented. Plumbing systems experienced significant to catastrophic damage. Roof gutter system was completely destroyed on the main building and the sewage system is rusted and broken in	Electrical conduits and wiring of branch circuits have been severely damaged. Half of interior lighting has been severely damaged. The exterior lighting is a total loss. All low voltage systems are down, we recommend the entire electrical system to be replaced.	Almost all of the fire alarm system damaged.	Severe to catastrophic Remediation efforts that will be necessary as a result of roof damage will required replacement of a significant portion of all partitions and building systems within the building.

Government House, St. John



Government House, St. Thomas

\$5M



21-22 Kongens Gade, Charlotte Amalie, St Thomas 00804

Total Cost to Repair

Catastrophic

Damage Rating

1867

Year Built

Non-Flood: Wind Driven, Roof Damage, Water Intrusion.

Disaster Damage

Brick and stone rubble masonry, stucco finish, corrugated metal...

Building Materials

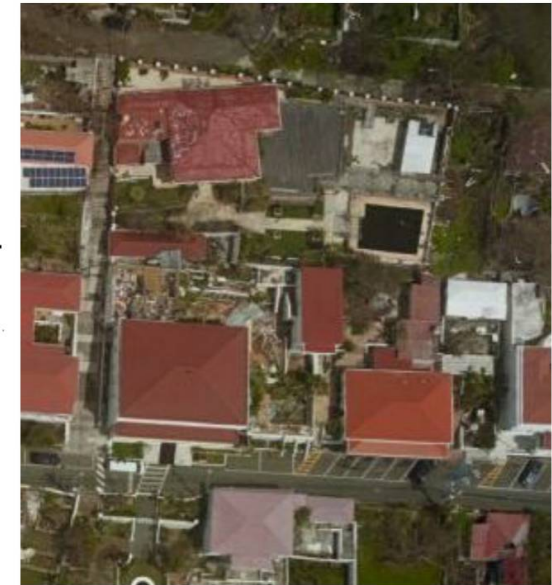
14,600

Square Footage

Before Storm



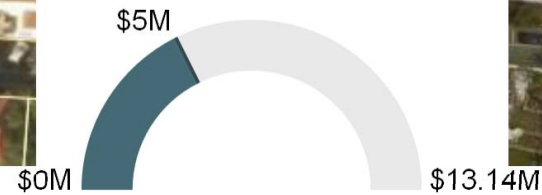
After Storm



\$2,649,748	\$11,680,000
Repair Cost	Replacement Cost
\$1,460,000	\$1,460,000
Swing Space Cost	Swing Space Cost
\$529,950	
FFE	

\$4,639,697	\$13,140,000
Total Cost to Repair	Total Cost of Replace...

Cost to Repair vs. Cost of Replacement



Preliminary Assessments by Discipline

Facility Name	Architecture	Structure	Mechanical/Plumbing	Electrical / Comm/ Security	Fire Protection	Overall Narrative Rating
Government House, St. Thomas	Exterior: Overall catastrophic damage. Roofing-Main Bldg. roof and accessories damaged during high wind event. watertight intergity compromised roof assembly system recommendation for replacement. Wall(s)-Repainting of exterior facade/ walls areas required. Recommendation for crack/stucco/ waterproofing/ paint for exterior building envelope walls and concrete spalling condions. Replacement of existing broken window/glazing / shutters required. Extensive water damage to all exterior finishes. HAZMAT materials verification recommended prior to any scope of work performance. Wall(s)-Damage requires crack and stucco repairs. Plaster damaged or fallen off, wood trim and paint damaged by water penetration, mold in ballroom, water damage to wood floors, water damage to ceiling, ceiling tiles are water stained, ceiling tiles are damaged.	Moderate Damage. - Roof over addition portion collapsed. Entire roof structure to be replaced there. - Water damage to ceilings. No floor slab structural damage noticed. - Significant cracking in stair brick wall. Needs repair. - Guard booth completely damage. - site retaining wall to be replaced.	Mechanical equipment suffered minor to catastrophic damage. Minor damage was an electrical connection at a unit and a number of units were completely destroyed and must be replaced. Plumbing systems had no obvious damage.	Almost half of interior lighting has been severely damaged, so for this resport it must be considered catastrophic damage. The exterior lighting is a total loss, catastrophic damage. Comm/Security systems remain funtional, but have been affected by water filtration. Even all electrical systems remain funtional, it seems to be exceeded its useful life, so we recommend the entire electrical system to be replaced.	The Fire alarm System is operational but has been partially affected by watter filtration.	Catastrophic Remediation efforts that will be necessary as a result of roof damage will required replacement of a significant portion of all partitions and building systems within the building.

Government House, St. Thomas



Office of the Governor's Finance and Communication Building

\$3M



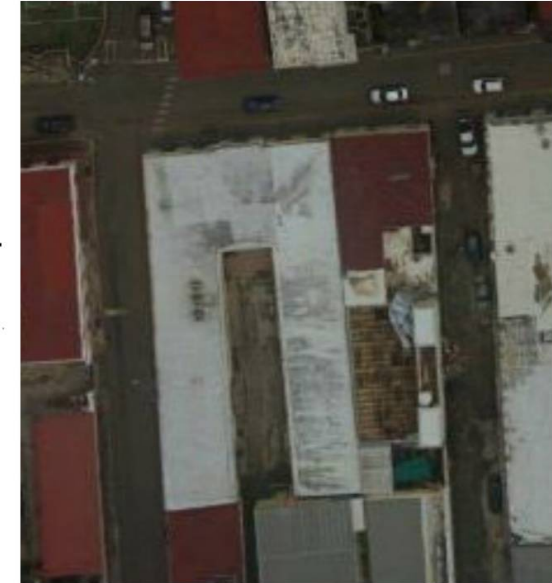
32-33 Kongens Gade, Charlotte
Amalie, St Thomas 00804

Total Cost to Repair

Before Storm



After Storm



Major

Damage Rating

1904

Year Built

Non-Flood: Wind Driven, Water Intrusion.

Disaster Damage

Brick and stone masonry construction with plaster/stucco...

Building Materials

8,000

Square Footage

\$1,567,559

Repair Cost

\$6,400,000

Replacement Cost

\$800,000

Swing Space Cost

\$800,000

Swing Space Cost

\$313,512

FFE

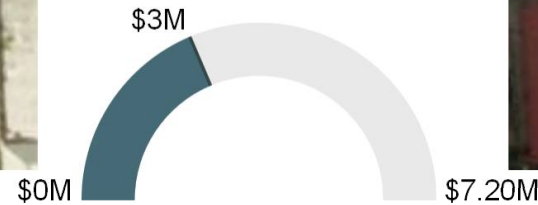
\$2,681,070

Total Cost to Repair

\$7,200,000

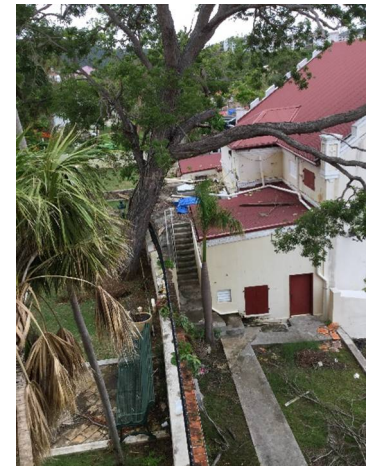
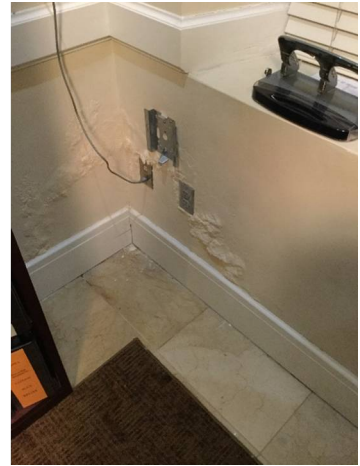
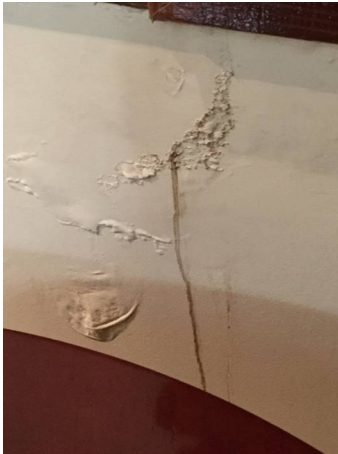
Total Cost of Replace...

Cost to Repair vs. Cost of Replacement



Preliminary Assessments by Discipline

Facility Name	Architecture	Structure	Mechanical/Plumbing	Electrical / Comm/ Security	Fire Protection	Overall Narrative Rating
Office of the Governor's Finance and Communication Building	Exterior: Overall Moderate damage. Roofing - Resealing of all existing roof systems including corrugated metal deck laps joints and flashings required. HAZMAT materials verification recommended prior to any scope of work performance. Wall(s) - Repainting of exterior facade/ walls areas required. Recommendation for crack/stucco/ waterproofing/ paint for exterior building envelope walls. Interior-Plaster, wood trim and paint damaged by water penetration, some mold is present.	Moderate Damage. - Warped wood flooring due to water infiltration. - Ceiling Damage. - 1st floor room exterior door and shutters do not open due to possible water damage. - Stair from 1st to 2nd floor have cracked stringer due to possible settlement of supporting slab/foundation. - portion of retaining wall damaged by	Mechanical equipment suffered catastrophic damage, many outdoor condensing units are severely damaged with a few still operating but not full capacity. Mold has been noticed due to the AC systems not working properly or at all. Plumbing at main building appears intact but plumbing to adjacent structures have moderate deficiencies, lack of cold water at sinks and leaks.	Electrical conduits and wiring of branch circuits have been affected, requires further inspection. Almost half or more of exterior lighting fixtures have been affected. Some interior lighting is affected. Comm/Security and public address systems are not	Some of the Fire alarm System has been affected.	Severe but repairable - Remediation efforts that will be necessary as a result of water intrusion will required replacement of a significant portion of all partitions and building systems and equipments within the building.



Randall Doc James Racetrack

\$4M



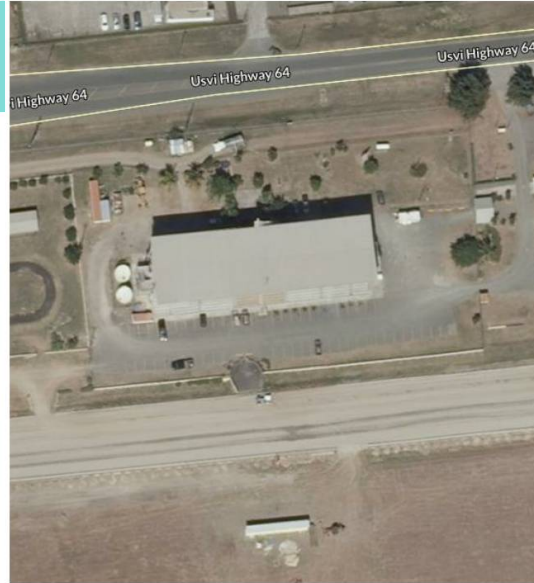
1 Havensight Way, St. Thomas,
VI 00802

Total Cost to Repair

Minor
Damage Rating

16,000
Square Footage

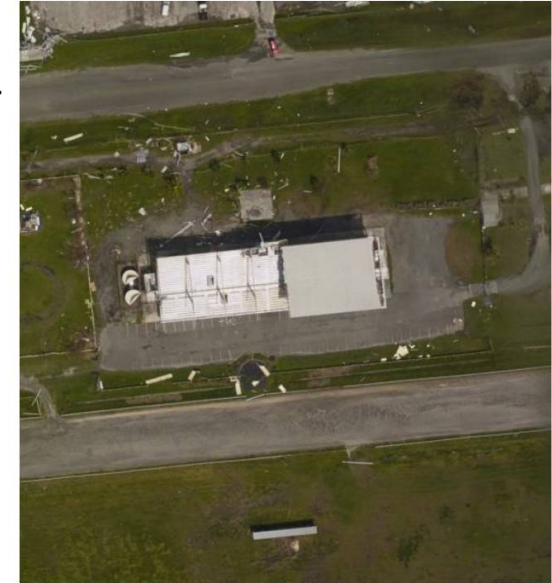
Before Storm



\$4,471,150
Repair Cost

\$4,471,150
Total Cost to Repair

After Storm



Preliminary Assessments by Discipline

Facility Name	Architecture	Structure	Site_1	Mechanical/Plumbing	Electrical / Comm/ Security	Fire Protection	Overall Narrative Rating
Randall Doc James Racetrack	Minor to to Moderate Damage. Damage found at Horse Stable, Gate, Bleachers, and Press box.	Moderate Damage- Portions of the roof is missing.	Minor Damage, Some debris is present. Chain link fencing needs to be replaced in several areas.	Not Applicable	Minor Damage, Satellite dish has been destroyed.	Not Applicable	Minor Damage to Canopy, Horse Stable, Gate, Bleachers, and Press box.

Randal Doc James Race Track



Randal Doc James Race Track

