MASTER PLAN DIGEST

FEBRUARY 2022

Goddard
SPACE FLIGHT CENTER

CONTENTS

purpose

MASTER PLAN PURPOSE AND PRIORITIES

The Goddard Space Flight Center (GSFC) Master Plan encompasses planning actions for the entire GSFC land and facilities portfolio. It provides a long-term vision (planning horizon from 2017-2037) and a guide to the orderly, phased implementation of that vision. The Master Plan is governed by the following three priorities:

1 Maintain Mission Capability

GSFC advances NASA's mission by leading scientific research, and by building, launching, and operating instruments and spacecraft. As a science center, GSFC seeks to understand the Earth and to explore the universe through a robust program of scientific research in Earth science, astrophysics, heliophysics, and planetary science.

As a spaceflight center, GSFC is NASA's only rocket launch range. In close collaboration with partners, GSFC utilizes its core technical and programmatic expertise and facility capabilities to execute a broad range of flight missions and field campaigns. GSFC is committed to enabling innovation and the creation of new technologies to advance NASA's capabilities and achieve its mission.

The GSFC Master Plan ensures that future real property development effectively and efficiently supports GSFC missions and is in alignment with its designated roles and responsibilities and its strategic management goals and objectives. The plan has concurrence from Headquarters Mission Directorates.

2 Envision the GSFC Campuses of the Future

The GSFC Master Plan integrates the mission, planning vision, goals, planning considerations, program elements and development strategies to create a future vision and development framework for each of GSFC's six campuses. It details the desired future condition and outlines specific facilities and projects to be implemented in phases.

Protecting and preserving the natural environment is a primary consideration in the master planning process and one of the guiding principles of this Master Plan. The plan carefully considers the value of environmental resources and avoids impacts to the extent possible.

Space projections for this Master Plan are based on mission requirements, affordability strategies, stakeholder input, and work space concepts related to the Future of Work. Facility function, age, condition and location contribute to the identification of facilities to be divested, demolished, or renovated.

3 Meet Affordability Goals

The GSFC Master Plan is in alignment with the reduction requirements as outlined in the Office of Strategic Infrastructure Memo: Affordability Requirement for Center Master Plans, dated April 24, 2018.

GSFC developed a series of strategies focused around policy and business practices, demolitions and divestments, cost sharing, and energy. Implementation of these strategies results in a center-wide gross square foot (GSF) reduction of 25.1 percent by 2037.

Achieved Agency approvals:

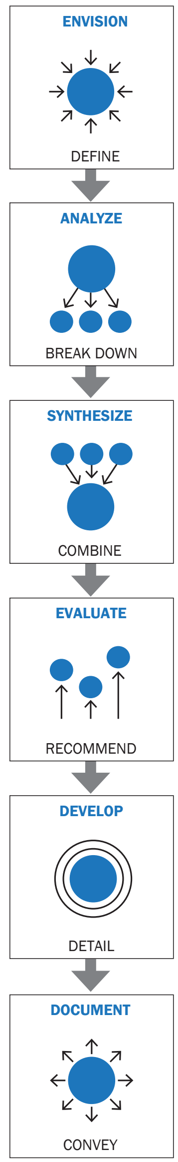
Mission Support Council
Strategic Infrastructure Board

process

FROM VISION TO FINAL DEVELOPMENT PLANS

The planning process (outlined to the right) followed a logical path from development of an overarching vision to the depiction of that vision in an Illustrative Plan for each site.

Stakeholder engagement is a critical component in understanding issues and opportunities, determining future needs, and establishing consensus around master planning principles. For each site, the planning process included multiple rounds of stakeholder interviews, a campus-wide survey and collaborative workshops. Tenants, partners and surrounding communities were included in the process and will continue to be engaged throughout the duration and implementation of the plan.



Identify the vision, goals, and measurable planning objectives.

Collect data to identify and understand constraints, opportunities and development program.

With campus stakeholders, conduct strengths, weaknesses, opportunities, and threats (SWOT) analysis and develop planning alternatives.

Evaluate alternatives against goals and objectives; recommend best alternative to Center leadership.

After leadership approval, add layers of detail to create a complete plan and create other associated reports.

After leadership approval, combine all GSFC sites into a single consolidated center-wide document.

GSFC PLANNING VISION Each Campus has a specific planning vision based on the GSFC vision below:

Develop sustainable campuses with resilient facilities and infrastructure that accommodates NASA's mission needs and requirements promoting collaboration and excellence in scientific discoveries.

GSFC PLANNING GOALS Each Campus has specific planning objectives for the GSFC planning goals listed below:

Mission Readiness and Capability: Develop suitable (right capacity, condition and configuration) facilities and infrastructure to enhance current and future mission capability and capacity.

Partnerships: Enhance existing and explore new partnerships that reinforce GSFC's vision.

Optimize Facilities and Their Operations: Improve supporting infrastructure and facilities to ensure maximum functionality, efficiency, adaptability, and collaboration.

Affordability: Provide a plan that includes strategies that enable GSFC to be a more affordable Center to operate.

Campus and Work Environment: Create an integrated campus and work environment that promotes innovation and collaboration while also fostering strong recruiting and retention initiatives.

Mobility, Circulation and Wayfinding: Provide a circulation framework emphasizing pedestrian connectivity in support of a more collaborative and integrated campus.

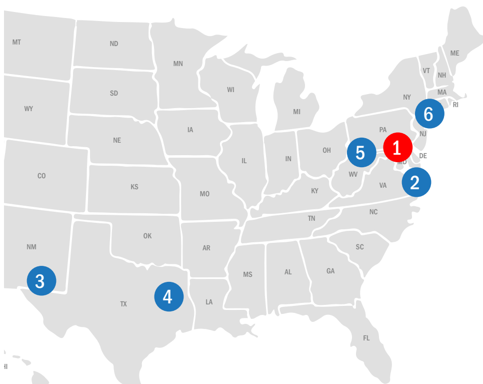
Sustainability and Environmental Stewardship: Promote conservation, sustainability, and environmental stewardship while balancing operational efficiencies.

Safety and Security: Implement measures supporting a safe and secure campus.

campus profiles

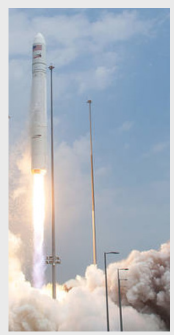
GSFC SITES

GSFC's study area includes six campuses and dozens of remote sites that contribute to the GSFC mission. Together, the six locations comprise nearly 8,400 acres with approximately 5,775,000 gross square feet (GSF) of facilities that house 10,385 employees.

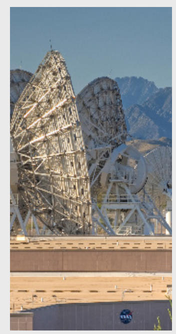


1 — GREENBELT CAMPUS
MARYLAND
Executing NASA's most complex science missions.
(ESTABLISHED 1959)

2 — WALLOPS FLIGHT FACILITY (WFF)
VIRGINIA
Launching payloads for NASA and the Nation.
(ESTABLISHED 1945)



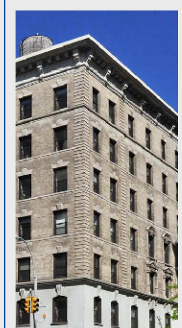
3 — WHITE SANDS COMPLEX (WSC)
NEW MEXICO
Communicating with assets in Earth's orbit.
(ESTABLISHED 1963)



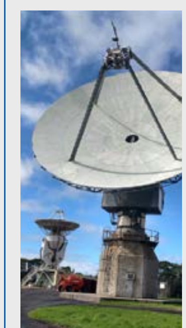
4 — COLUMBIA SCIENTIFIC BALLOON FACILITY (CSBF)
TEXAS
Launching research balloons.
(ESTABLISHED 1963)

5 — KATHERINE JOHNSON INDEPENDENT VERIFICATION AND VALIDATION FACILITY (IV&V)
WEST VIRGINIA
Providing software assurance.
(ESTABLISHED 1993)

6 — GODDARD INSTITUTE FOR SPACE STUDIES (GISS)
NEW YORK
Understanding our Planet.
(ESTABLISHED 1961)



REMOTE SITES
GLOBAL LOCATIONS
Supporting communications and launches with partners worldwide.



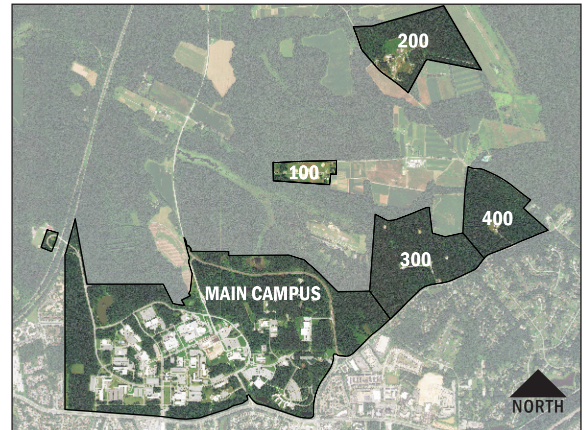
COMPONENT	GSFC OVERALL	GREENBELT	WFF	WSC	CSBF	IV&V	GISS	REMOTE SITES
FACILITIES (GSF)	5,775,000	4,113,000	1,134,000	200,000	111,000	87,000	43,000	87,000
LAND SIZE (ACRES)	8,400	1,270	6,580	50	488	12	NA	NA
PERSONNEL CIVIL | OTHER | CONTRACTORS	10,385 32% | 7% | 61%	8,200 35% | 7% | 58%	1,200 26% | 4% | 70%	380 2% | 1% | 97%	70 0% | 0% | 100%	275 20% | 0% | 80%	130 21% | 53% | 26%	130 5% | 35% | 60%

GREENBELT CAMPUS

Transformation of the central campus into a dynamic walkable area

The Greenbelt Campus executes NASA's most complex science missions. It is home to the nation's largest organization of scientists, engineers and technologists who build spacecraft, instruments and new technology to study Earth, the sun, our solar system and the universe. The Campus, located in Greenbelt, Maryland, is convenient to NASA HQ and other allied professional organizations and universities. It consists of 1,270 acres within five distinct land areas, situated in a natural setting marked by gently rolling topography and woodlands. With 8,200 employees and 4,113,000 GSF of buildings, much of which were built in the 1960's, the Greenbelt Campus accommodates the largest population and building inventory of all of GSFC's six sites. Primary features of the Greenbelt Main Campus Plan are described below:

- Mission operations and efficiencies are improved with the construction of 9 new facilities, renovation of 10 facilities, divestment or partial divestment of 12 facilities, and the demolition of 61 facilities.
- The campus core becomes denser with the most populated buildings and a commons building organized along central connected pedestrian greenways.
- Potential partnership areas have been designated along the south perimeter and in the northwest quadrant of the campus.
- The main entrance, visitor and badge processing and on-campus/off-campus transit transfer hub are relocated to ICESat Road.
- Roads are upgraded with bike lanes, sidewalks and trees to improve pedestrian and cyclist experiences. Parking is located outside of the campus core.
- Focal points and monument areas have been designated to serve as navigation landmarks.
- Several areas have been designated for potential sustainability initiatives (areas where solar or geothermal could be implemented).
- There are increased recreation opportunities at the Recreation Center and additional trails around the pond and in naturalized areas.
- GSFC will continue to manage stormwater impacts from future development through low impact development and environmental site design.



AREA	PRIMARY FUNCTION
Main Campus	Flight Projects Development
Area 100	Protective Services Training and Morale
Area 200	Goddard Geophysical and Astronomical Observatory
Area 300	Magnetic Test Facility
Area 400	Cryogenics and Propulsion

GREENBELT CAMPUS

GREENBELT MAIN CAMPUS ILLUSTRATIVE PLAN

LEGEND

- SUSTAINMENT BUILDING
- NEW BUILDING
- FUTURE CAPACITY/BEYOND 2037 BUILDING
- RENOVATION/RENEWAL BUILDING
- DEMOLISHED BUILDING/BEYOND 2037
- DIVESTED BUILDING/AREA
- CAMPUS BOUNDARY (OWNED LAND)
- CAMPUS BOUNDARY (LEASED LAND)
- POTENTIAL PARTNERSHIP AREA
- POTENTIAL SUSTAINABILITY INITIATIVE AREA

NEW BUILDINGS

A. Plant Operations & Construction Support
B. Utility Plant / Combined Heat & Power
C. Mission Operations Center (beyond 2037)
D. Administration Building
E. Lab/Technical Building (future capacity)
F. Payload Processing Facility
G. Commons Support Building
H. Lab/Technical Building (future capacity)
I. Instrument Development Facility 1
J. Optical & Cryogenics Development Center
K. Instrument Development Facility 3
L. Detector Development Lab
M. Integrated Logistics & Processing Complex

GREENBELT CAMPUS ADJACENT AREAS ILLUSTRATIVE PLAN

Located north and west of the Main Campus, Greenbelt's adjacent areas range in size from 28 acres to 152. Areas 100 and 200 are leased; Areas 300 and 400 are owned. Primary features of the Greenbelt Campus Adjacent Areas Plan are described below:

- Mission operations and efficiencies are improved with the construction of 3 new facilities in Area 200 and the demolition of 28 facilities throughout all Adjacent Areas.
- Area 400 is to be completely divested.

LEGEND

- SUSTAINMENT BUILDING
- NEW BUILDING
- DIVESTED BUILDING/AREA
- CAMPUS BOUNDARY (OWNED LAND)
- CAMPUS BOUNDARY (LEASED LAND)

NEW BUILDINGS

N. Geodesic Domes
O. Low Cost Optical Terminal Facility (LCOT)
P. Area 200 Operations Center

Development of a Main Base town center and consolidation of functions

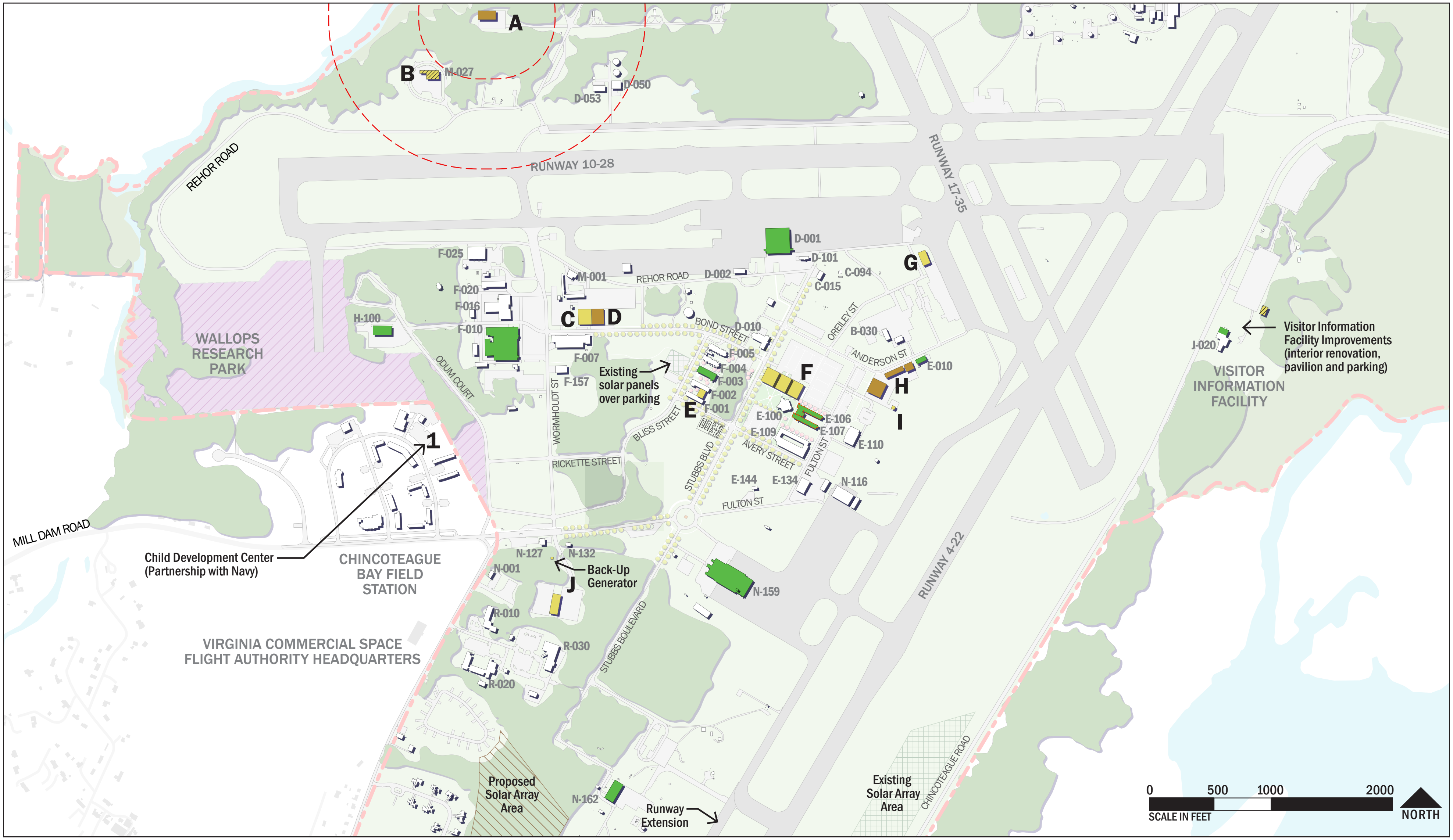
The Wallops Flight Facility (WFF) Campus provides launch capability for NASA and other U.S. Government and commercial partners. WFF maintains a diverse tenant agency population consisting of scientific research, commercial industry, and military mission activities. The Campus is located in Accomack County on the Eastern Shore of Virginia, where its natural setting allows access to open oceanic areas compatible with its operational role. It consists of 6,580 acres within three distinct land areas. The majority of its large inventory of facilities (1,134,000 GSF) was built in the 1940s and 1950s.

The Main Base is home to most of WFF's administrative, engineering, fabrication, testing, and project management activities, as well as the Research Airport and Range Control Center. Primary features of the WFF Main Base Plan are described below:

- Mission operations and efficiencies are improved with the construction of 6 new facilities, renovation of 10 facilities, and the demolition of 31 facilities.
- Administrative work space and amenities are consolidated into a pedestrian-oriented Town Center.
- Existing partnerships are maintained and expanded through a Navy-owned Child Development Center (CDC) located adjacent to the WFF Campus.
- A new shipping and receiving facility enables the processing of deliveries at the installation perimeter with appropriate safety distances.
- The Visitor Center building is improved and parking is expanded to support launch viewing.
- The area south of the runway is reserved for potential runway extension.
- The primary campus intersection becomes a traffic circle for better circulation and increased safety.
- Roads are upgraded with multi-use paths, sidewalks and trees to improve pedestrian and cyclist experiences.
- Areas have been designated for potential sustainability initiatives (solar array locations).

AREA	PRIMARY FUNCTION
Main Base	Flight Facility, Airfield
Mainland	Launch Range Support
Island	Launch Range

WALLOPS FLIGHT FACILITY CAMPUS



WFF MAIN BASE ILLUSTRATIVE PLAN

LEGEND

- SUSTAINMENT BUILDING
- NEW BUILDING
- NEW PARTIALLY ENCLOSED STRUCTURE
- FUTURE CAPACITY/BEYOND 2037 BUILDING
- RENOVATION/RENEWAL BUILDING
- DEMOLISHED BUILDING/BEYOND 2037
- CAMPUS BOUNDARY
- PARTNERSHIP AREA
- POTENTIAL SUSTAINABILITY INITIATIVE AREA
- SAFETY ARC

NEW BUILDINGS

A. Storage Facility (beyond 2037)
B. Transfer Facility (non-enclosed structure)
C. Quality and Safety Laboratory Building
D. Balloon Research and Development Lab (beyond 2037)
E. IT Testing Lab Expansion
F. Wallops Town Center
G. Air Traffic Control Tower and Fire Station
H. Range Control Facility Complex (beyond 2037)
I. Relocate Radar 18
J. Shipping and Receiving Facility

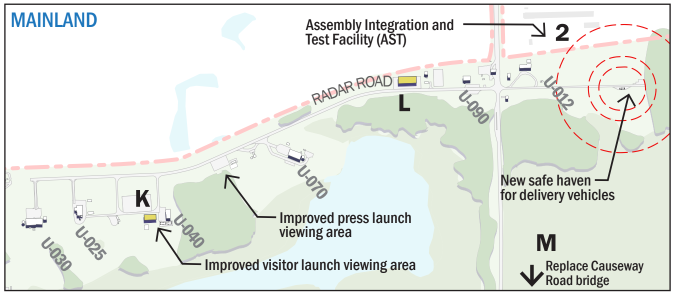
NEW PARTNERSHIP BUILDINGS

1. Child Development Center (CDC)

Optimization of Mainland and Island to support launches and partnering

The Mainland and the Island areas are located approximately seven miles to the south of the Main Base, adjacent to the Atlantic Ocean. Roughly seven miles of public road (State Highway 679) facilitate access between the Main Base and Mainland. The Island is accessed via NASA-built causeway (Causeway Road) and bridge facilities. Wallops Mainland houses long-range radar, communications, and optical tracking facilities. Wallops Island includes launch and testing facilities, rocket storage buildings, assembly and integration shops, fueling facilities, an Unmanned Aircraft Systems (UAS) runway, and other related support structures. Primary features of the WFF Mainland and Island Plans are described below:

- Mission operations and efficiencies are improved with the construction of 7 new facilities, renovation of 4 facilities, and the demolition of 22 facilities.
- Infrastructure is significantly upgraded with the replacement of the Causeway Bridge and periodic replenishment of the beach.
- Existing partnership areas are maintained while new partnership areas are designated both on and off Campus.
- Functions (radar, telemetry and warehousing) have been relocated from the Island to Mainland to ensure the limited land resources on the Island are used efficiently.
- Safe haven for deliveries needing a secure and distanced location for overnight stays is located on the Mainland.
- An additional expendable launch vehicle (ELV) facility is located on the south end of the Island.
- Mainland facilities and infrastructure used by visitors and press during launches are enhanced.
- Recreation and beach access on the northern end of the Island are improved.

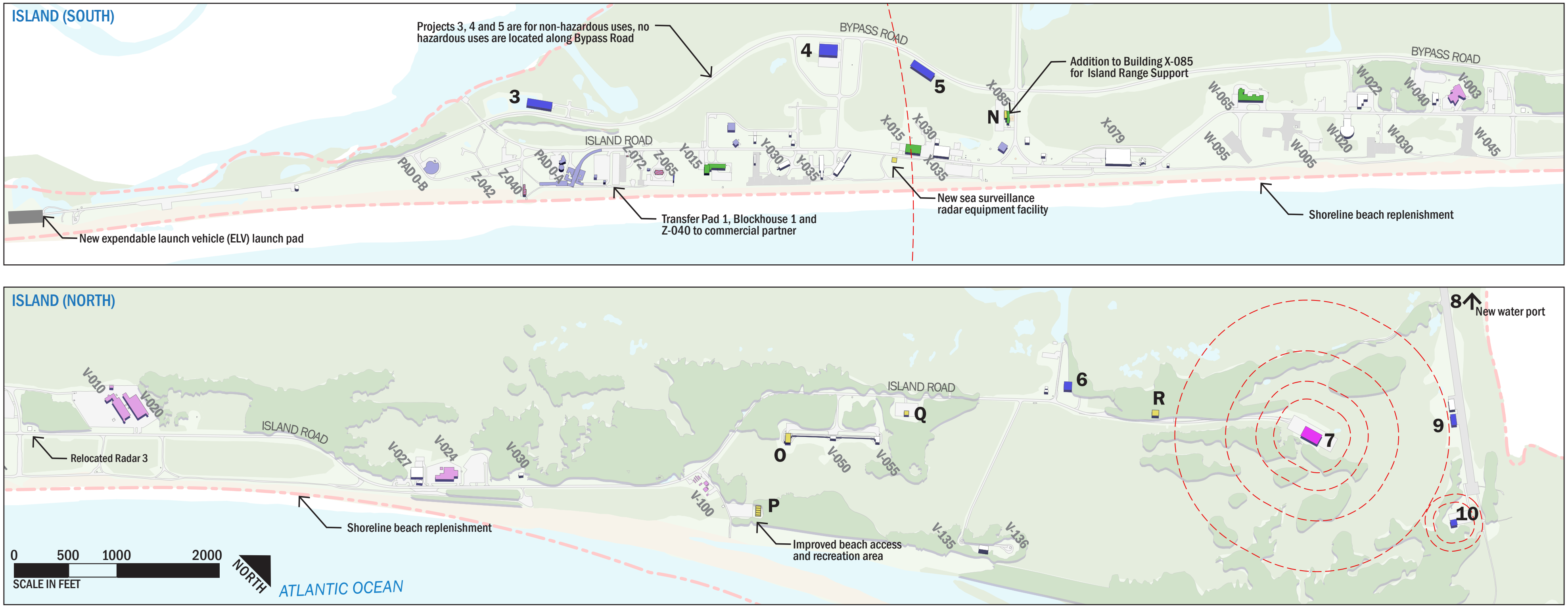


NEW FACILITIES

- **K.** Command Transmitter Facility & Air Surveillance Radar (ASR)
- **L.** Warehouse Facility
- **M.** Replace Causeway Bridge (located outside of area shown)
- **N.** Island Range Support
- **O.** Payload Processing Facility
- **P.** Beach Pavilion
- **Q.** Hypergolic Fuel Storage
- **R.** Hazardous Materials Storage Facility

NEW PARTNERSHIP BUILDINGS

- **2.** Assembly Integration and Test Facility (AST)
- **3.** Vehicle Processing Facility (non-hazardous)
- **4.** New Facility for Integration and Testing, Portable Radar, or Vehicle Processing (non-hazardous)
- **5.** Vehicle Processing Facility (non-hazardous)
- **6.** Project Support Facility
- **7.** Integrated Processing Facility (Minotaur)
- **8.** Water Port (located outside of area shown)
- **9.** Unmanned Aerial Vehicle (UAV) Hangar
- **10.** Hazardous Storage Bunker



WFF MAINLAND AND ISLAND ILLUSTRATIVE PLAN

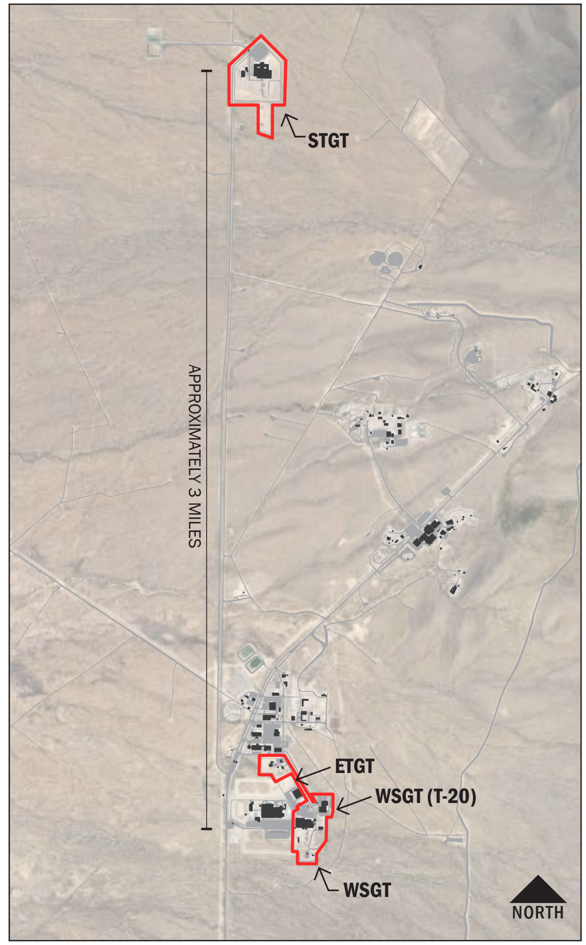
LEGEND

- SUSTAINMENT BUILDING
- FEDERAL PARTNERSHIP
- COMMERCIAL PARTNERSHIP
- NEW BUILDING
- NEW FEDERAL PARTNERSHIP
- NEW COMMERCIAL PARTNERSHIP
- RENOVATION/RENEWAL BUILDING
- DIVESTED BUILDING/AREA
- CAMPUS BOUNDARY
- SAFETY ARC

Enhanced partnering opportunities and employee amenities

The mission of the White Sands Complex (WSC) is to communicate with NASA assets in the Earth's orbit. Scientific data is relayed from orbiting satellites to the tracking and data relay satellites, to the WSC ground terminals. From there, the data is transmitted to various scientific Mission Operation Control (MOC) Centers. WSC is a tenant of the Johnson Space Center White Sands Test Facility (WSTF) in New Mexico which in turn is a tenant of the Department of Defense (DOD), U.S. Army White Sands Missile Range (WSMR). WSC consists of two sites. Site one, the White Sands Tracking and Data Relay Satellite (TDRS) Ground Terminal (WSGT), includes Technical Support Building (T- 20) and the Extended TDRS Ground Terminal (ETGT). Site two, the Second TDRS Ground Terminal (STGT), is located approximately three miles north of WSGT. The two sites encompass 50 acres and house 200,000 GSF of facilities that accommodate over 380 staff. Primary features of the White Sands Complex Plan are described below:

- Mission operations and efficiencies are improved with one facility addition, renovation of 4 facilities, construction of 4 outdoor pavilions, and demolition of 6 facilities.
- An area outside of the WSC fence is established to accommodate non-secure work. Building T-20 retains the warehouse function while the office/ lab portion is converted to support work with the technology development and learning center, universities, other agencies, and students/interns.
- Capacity is created at the ETGT area for future testing of direct to earth systems.
- The perimeter fence at WSGT and STGT is extended to the south to accommodate additional antenna pads.
- The perimeter security road at both WSGT and STGT is enhanced to also function as a walking trail.
- Covered outdoor gathering places (cell areas and pavilions) are constructed at both WSGT and STGT.
- The water system infrastructure on STGT is upgraded.

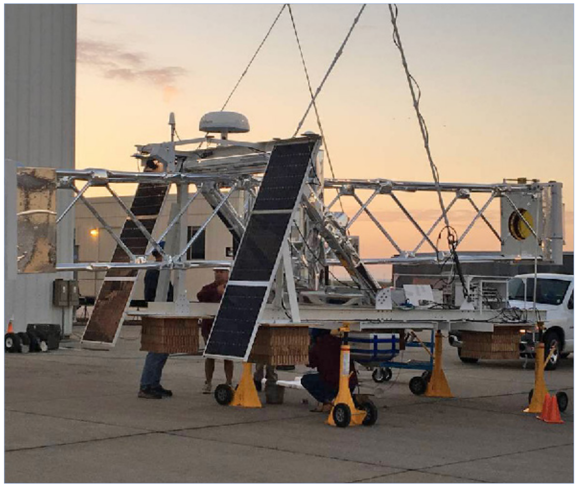


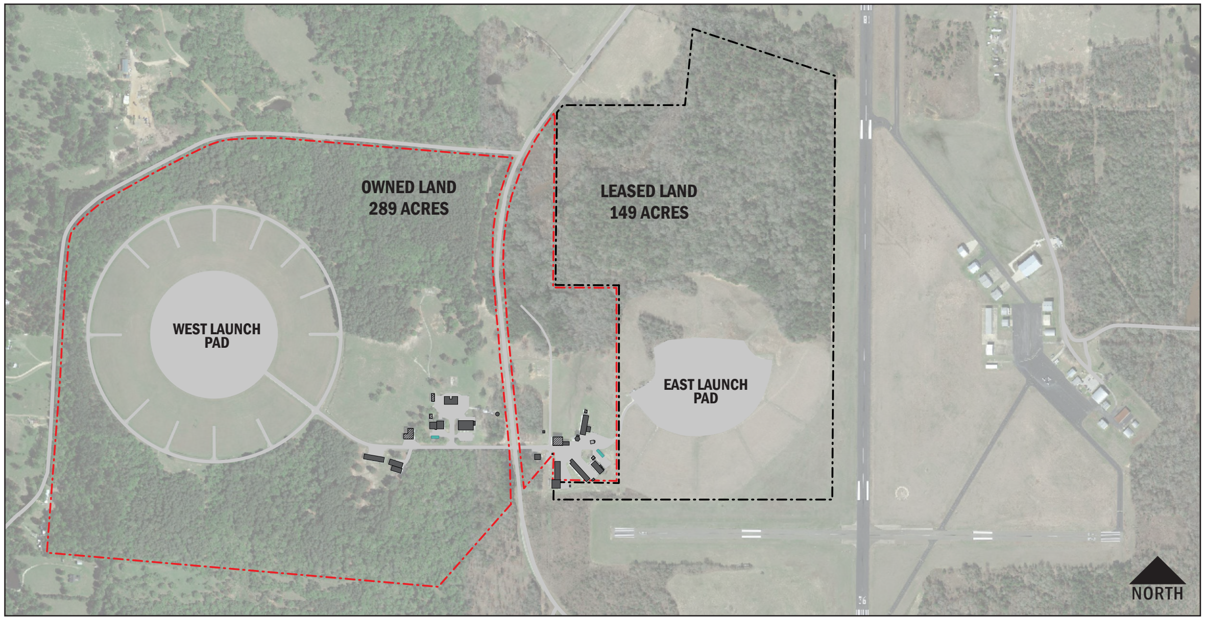
WHITE SANDS COMPLEX CAMPUS

Co-location of Palestine facilities optimizes operations and campus safety

The Columbia Scientific Balloon Facility (CSBF) supports the GSFC Balloon Program through launching, tracking and recovering large, unmanned, high altitude research balloons. The Palestine Campus, located in Palestine, Texas, occupies 438 acres with 69,000 GSF of facilities that support over 70 employees. A portion of CSBF site, primarily the area designated as the East Launch Range, is leased from the City of Palestine. Primary features of the CSBF Palestine Campus Plan are described below:

- Mission operations and efficiencies are improved with the construction of 13 new facilities, renovation of 3 facilities, and the demolition of 15 facilities.
- Campus facilities are consolidated on the western side of Farm to Market Road (FM) 3224; this significantly improves safety by eliminating operational interactions with public roadway traffic.
- The NASA-owned land east of FM 3224 is reserved for potential partnership areas where supporting agencies may be located; the lease is maintained to provide an operational/encroachment buffer.
- New visitor center and shipping/receiving facilities provide visitor badging and delivery processing outside the gate.
- The existing orthogonal arrangement of roads and buildings on the west side is maintained and expanded.
- Outdoor gathering places are enhanced for visitors and campus personnel.





CSBF PALESTINE CAMPUS

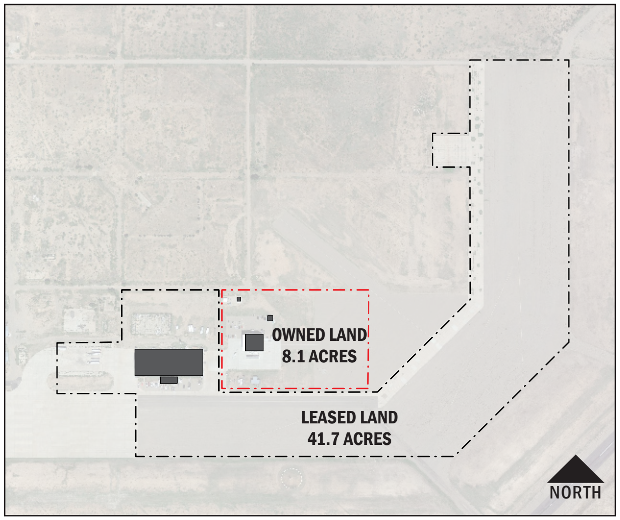
CSBF PALESTINE CAMPUS ILLUSTRATIVE PLAN

LEGEND

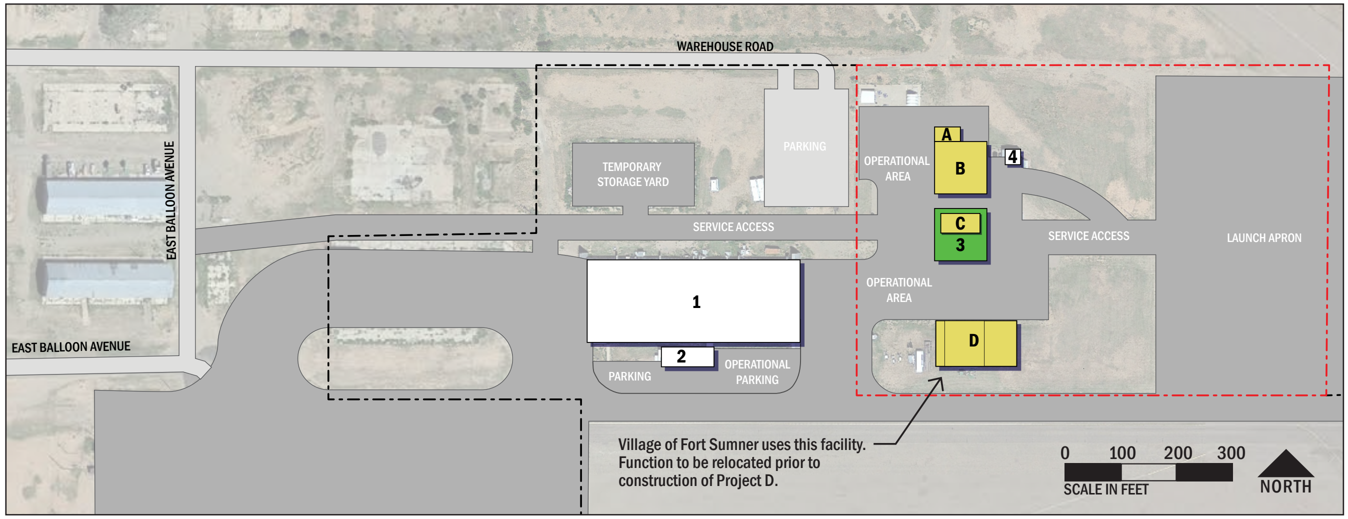
- SUSTAINMENT BUILDING
- NEW BUILDING
- FUTURE CAPACITY/BEYOND 2037 BUILDINGS
- SUSTAINMENT PARTIALLY ENCLOSED STRUCTURE
- NEW PARTIALLY ENCLOSED STRUCTURE
- RENOVATION/RENEWAL BUILDINGS
- SUSTAINMENT COVERED PARKING
- NEW COVERED PARKING (CONSTRUCTED)
- CAMPUS BOUNDARY (OWNED LAND)
- CAMPUS BOUNDARY (LEASED LAND)

NEW BUILDINGS

A. Visitor Center
B. Shipping/Receiving
C. Battery Storage
D. Battery Shop
E. Ordnance Storage
F. Fuel Storage
G. Fork Lift Storage
H. Rigging, Mission Support, and Storage
I. Operational Facility (beyond 2037)
J. Mission Support
K. Storage 2
L. Hazardous Storage
M. Storage 1



CSBF FORT SUMNER CAMPUS



CSBF FORT SUMNER CAMPUS ILLUSTRATIVE PLAN

The Fort Sumner Campus is located on the Fort Sumner Municipal Airport in eastern New Mexico. The site, comprised of nearly 50 acres and 42,000 GSF of facilities, is located along the northern edge of the east-west runway. NASA owns about 20 percent of the site and leases the remaining acreage. There are no permanent staff at the Fort Sumner location; approximately 175-225 personnel use the facilities each year. Primary features of the CSBF Fort Sumner Campus Plan are described below:

- Mission operations and efficiencies are improved with the construction of 3 new facilities, expansion of 1 facility, renovation of 1 facility, and the demolition of 1 facility.
- NASA maintains the lease of areas/hangar.
- Functions in the building currently occupied by the Village of Fort Sumner will be relocated and the facility will be demolished to allow for the construction of Building D - Mission Support, Balloon Storage, Electronics and Conference Room.
- Operational vehicles are separated from personal vehicles through relocation of employee parking lots and improving a designated truck delivery road.
- Pedestrian circulation is improved through the delineation of walkways that occur within operational surfaces and by adding walkways to access new facilities and employee parking areas.
- Campus amenities are increased with the addition of outdoor gathering spaces, a new kitchen and new mission support building.

LEGEND

- SUSTAINMENT BUILDING
- NEW BUILDING
- RENOVATION/RENEWAL BUILDINGS
- CAMPUS BOUNDARY (OWNED LAND)
- CAMPUS BOUNDARY (LEASED LAND)

NEW BUILDINGS

A. Kitchen
B. Staging Building
C. Roof Ops Equipment Storage
D. Mission Support, Balloon Storage, Electronics and Conference Room

Fort Sumner balloon launch capabilities are improved

KATHERINE JOHNSON INDEPENDENT VERIFICATION AND VALIDATION FACILITY

The Katherine Johnson Independent Verification and Validation Facility (IV&V) provides assurance that safety and mission-critical software will operate reliably and safely, advancing the systems and software engineering disciplines. The IV&V Campus, located in Fairmont, West Virgina, consists of 87,000 GSF distributed between two facilities, one of which is leased. It employs 275 people. Primary features of the IV&V Campus Plan are described below:

- The leased building is divested.
- A gate and fence to secure the rear parking area and side and rear building entrances are planned.
- The NASA-owned building is renovated to incorporate Future of Work workspaces, improve mission operations and efficiencies, and accommodate uses from the divested facility.

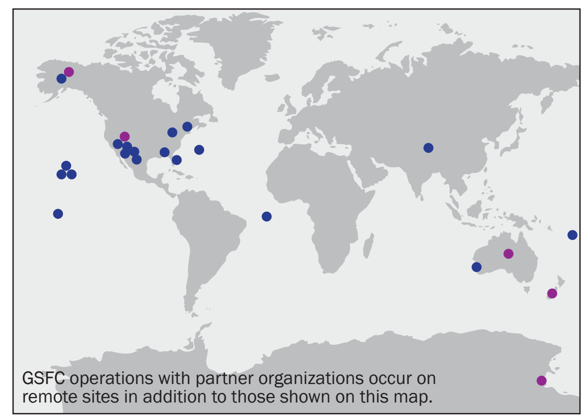
GODDARD INSTITUTE FOR SPACE STUDIES

The Goddard Institute for Space Studies (GISS) undertakes research to provide an understanding of our Planet. The research combines analysis of comprehensive global datasets with global models of atmospheric, land surface, and oceanic processes. GISS employs 130 people. The GISS facility is located in New York, New York. It consists of 43,000 GSF of space distributed over five floors within one building. Since 2017, this building has been undergoing renovations which are expected to be complete in 2022. Following the stabilization phase at the conclusion of the renovation (approximately two years) a cross-agency team will convene to analyze and recommend the best affordability path forward (lease reduction vs. Columbia University preferred customer rate, etc.) balanced with Mission needs for NASA.

REMOTE SITES AND LEASES

Remote sites are an important part of GSFC's mission to manage space communication and conduct launch operations. They include satellite ground terminal sites, instrumentation sites, and launch sites located over 6 continents, in 12 countries and 12 states/territories. GSFC does not own the properties identified as remote sites. They are part of NASA's real property portfolio through legal arrangements with partner organizations. GSFC typically owns the buildings and structures located on remote sites that are dedicated to the NASA mission. Only a small number of remote sites maintain a permanent staff.

Primary changes planned for GSFC's Remote Sites portfolio include construction of one hangar to support balloon launches from New Zealand and the reduction of seven leases.



REMOTE SITE LOCATIONS

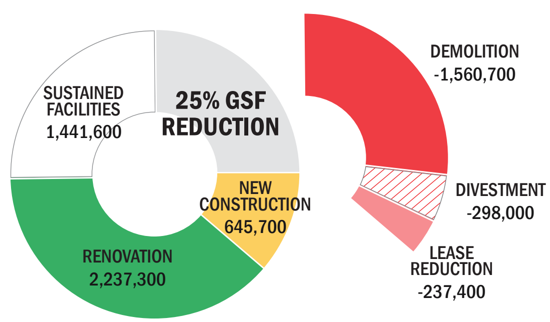
LEGEND
- REMOTE SITE
- REMOTE LAUNCH SITE

affordability

GSFC developed a series of affordability strategies focused around policy and business practices, demolitions and divestments, cost sharing, and energy. Implementation of the GSFC affordability strategies results in a center-wide gross square feet (GSF) reduction of 25.1 percent by 2037.

AFFORDABILITY METRICS	METRIC
BUILDING GSF REDUCTION	1.4 M (25.1%)
CURRENT REPLACEMENT VALUE (NON-BLDG) REDUCTION/COST DIVERSION	$159.6 (14%)
ANNUAL OPERATIONS AND MAINTENANCE COST DIVERSION	$8.8 M
ANNUAL LEASE/RENT BENEFITS	$4.3M
DEFERRED MAINTENANCE REDUCTION	$41.6M
ACREAGE REDUCTION	98 ACRES

2037 PROJECTED GSF



Baseline Inventory (GSF)	5,775,000
2037 Projected Inventory (GSF)	4,324,600
Net Increase/Reduction (GSF)	-1,450,400

POLICY & BUSINESS PRACTICE	DIVEST	COST SHARING	ENERGY
Affordability strategies that require a modification to Center policies or operational practices.	Affordability strategies that pertain to demolishing buildings or divesting buildings and land.	Affordability strategies that relate to obtaining equitable cost-sharing for land that is used by other agencies and re-evaluating the Center's leases.	Affordability strategies that relate to cost-saving that can be obtained by reducing energy use and providing more efficient energy systems.
• Most Efficient Design and Use of Space & Land to Maximize Facility Investment • Future of Work Impacts to Center GSF • Business Strategy will Drive the Reduction of Contractors Housed in Goddard-owned Buildings • Better Position all Center Leases to Maximize Cost Avoidance • Business Services Reduction per MAP	• Demolish Buildings • Divest Area 400 Cryogenics & Propulsion	• Develop Equitable Cost Sharing Model for Shoreline Protection, Wallops Runways, and other Shared Infrastructure • Negotiate GISS Lease for Equitable Cost-Sharing • Develop a Privatization Business Model for Facilities that a Partner will Own and Operate • Allocate Full Cost of Facilities to Organizations Using Goddard Space	• Reduce High Energy Consumption Through Demolition and Renovation of Old Buildings • Secure Third Party Financing to Replace Greenbelt's Central Plant • Implement Energy Projects

CATEGORIES AND STRATEGIES WITHIN CATEGORIES ARE LISTED BY HIGHEST AFFORDABILITY IMPACT

sustainability

GSFC's sustainability priorities are to advance efficiency and achieve cost savings in operations and to meet or exceed sustainability goals and requirements in the NASA Sustainability Plan; they include:

- Effectively using energy projects to reduce utility costs, carbon footprint and reliance on traditional carbon-based energy sources and increasing infrastructure resilience.
- Reducing GSFC's footprint by demolishing old, inefficient buildings and replacing them, where necessary, with sustainable, high efficiency buildings.
- Instituting sustainable acquisition procurements and using greener products and materials that are less harmful to the environment and/or use less natural resources.
- Improving waste disposal diversion and recycling rates.
- Implementing energy-efficiency outreach campaigns to increase awareness and support implementation of sustainability initiatives.
- Increasing low impact development through stormwater management and sustainable landscaping (filtration plantings, bio swales, stream restoration), to reduce impervious surfaces and improve stormwater quality.
- Increasing pollinator habitat and carbon sequestration while reducing landscape maintenance costs through establishment of native meadows and forest conservation areas.

CAMPUS	ANNUAL ENERGY CONSUMPTION		ANNUAL WATER CONSUMPTION		2020-2040	
	(MMBTU/YR)	(MMBTU/GSF*YR)	(KGAL/YR)	(GAL/GSF*YR)	ENERGY SAVING (%)	WATER SAVINGS (%)
GREENBELT	1,034,000	265	12,090	3.1	23%	5%
WALLOPS FLIGHT FACILITY (WFF)	125,000	137	20,610	22.6	22%	N/A
WHITE SANDS COMPLEX (WSC)	60,600	395	3,520	23	20%	7%
COLUMBIA SCIENTIFIC BALLOON FACILITY (CSBF)	4,800	73	1,650	25	15%	4%

The Sustainability Component Plan (SCP) provides a roadmap to achieve GSFC's sustainability goals and addresses the main elements of the sustainability program: energy conservation, water conservation, waste management, and stormwater management. The SCP supports and responds to the GSFC Master Plan.

The SCP analyzed a comprehensive list of energy and water conservation measures to arrive at projected energy savings for the Greenbelt Campus, Wallops Flight Facility, White Sands Complex and the Columbia Scientific Balloon Facility.

The SCP lists reuse, diversion of construction and demolition debris from landfill disposal, and sustainable acquisition activities as methods to meet waste management goals.

The SCP stormwater management strategies are consistent with GSFC Master Plan in protecting NASA assets and meeting permit requirements. Stormwater management goals for the Greenbelt Campus include restoration of 20% of existing developed lands that have little or no stormwater management; goals for the WFF Campus include renovations to existing stormwater management infrastructure.

Ensured master plan compliance with the National Environmental Policy Act at all sites

STEERING COMMITTEE

Ray Rubilotta, Associate Center Director, 100

Trish Ryan, Chief Operations Officer, 100

Jay Pittman, Assistant for Technology and Research Investments, 100

Tim Mcghee, Lead, HR Specialist, Office of Human Capital Management, 130

Sheri Corbo, Office of Chief Financial Officer, 150

Ken Vorndran, IV&V Program Deputy Director, 180

Donna Ozburn, IV&V Program Support Office Lead, 180

Dave Reth, Director, Management Operations, 200

Stephanie Gray, Administrative Program Manager, 300

Dwight Norwood, Directorate Resources Manager, 300

Wanda Peters, Deputy Director for Planning and Business Management, 400

Bill Glenn, Mission Support Manager, 400

Cynthia Simmons, Deputy Director for Planning and Business Management, 500

Barry Green, Assistant Director for Engineering Operations, 500

Dann Brown, Asst. Director for Engineering Safety and Compliance Mgmt., 500

Alyssa Barlis, Optical Engineer, 510

Joanne Hill-Kittle, Deputy Director of Sciences and Exploration, 600

Marlo Maddox, Assistant Director, Heliophysics Science Division, 600

Robert Leahy, CIO and Director, Information Technology and Communications, 700

Roger Clason, Deputy CIO / Deputy Director, 700

Frank Bellinger, Technical Director, 800

Hope Garrison, Deputy Director for Business, 800

Roland Wescott, Project Support Manager, 850

Ted Swanson, MSD Asst. Chief for Technology [Sr Fellow], Retired

AD-HOC STEERING COMMITTEE (COMMUNICATIONS)

Phillina Tookes, Government and Community Relations Manager, 100

Janice Harmon, Government and Community Relations, 100

Lora Bleacher, Office of Communications Greenbelt, 130

Jeremy Eggers, Office of Communications WFF, 130

Jeff Northey, Office of Communications IV&V, 185

PLANNING TEAM

Paul Bull, Division Chief, Facilities Management Division, 220

Jermaine Xavier, Deputy Division Chief, Facilities Management Division, 220

Braulio Ramon, Planning Branch Head, Facilities Management Division, 221

Alexandra Peet, Facilities Master Planner, Facilities Management Division, 221

Susan Anderson, WFF Directorate Planner, Facilities Management Division, 221

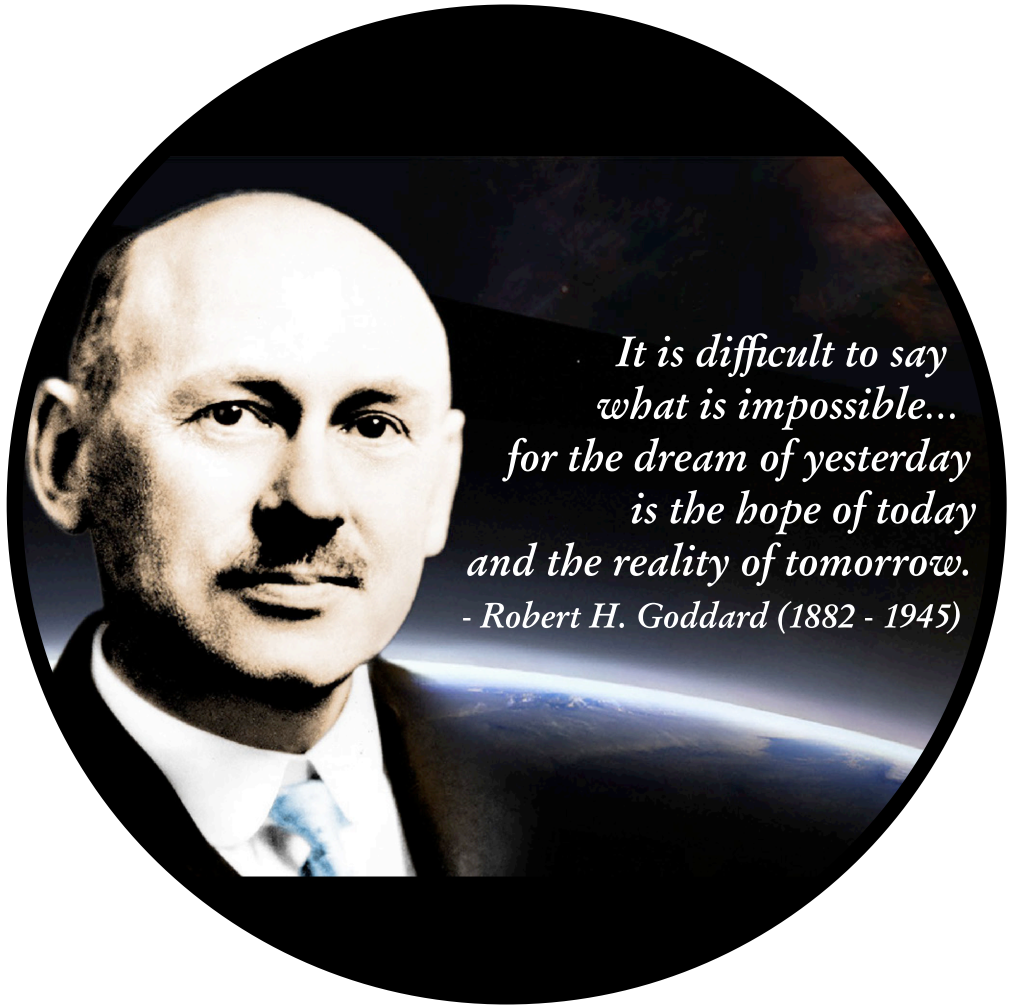
Patricia Komara, Consultant Team Project Manager/Planner, Jacobs

Gregory Tarker, Consultant Team Planner, Jacobs

Cecilia Gil, Consultant Team Facility Strategist, Jacobs

Kyle McCluskey, Consultant Team Facility Strategist, Jacobs

Ben Dombrowski, Consultant Team Utilities Lead, Jacobs


It is difficult to say
what is impossible...
for the dream of yesterday
is the hope of today
and the reality of tomorrow.
- Robert H. Goddard (1882 - 1945)