Mitchell Park Horticultural Conservatory

Presented to:
Milwaukee County

January 4, 2017

GRĀEF

Current Conditions

GRĀEF

Current Conditions

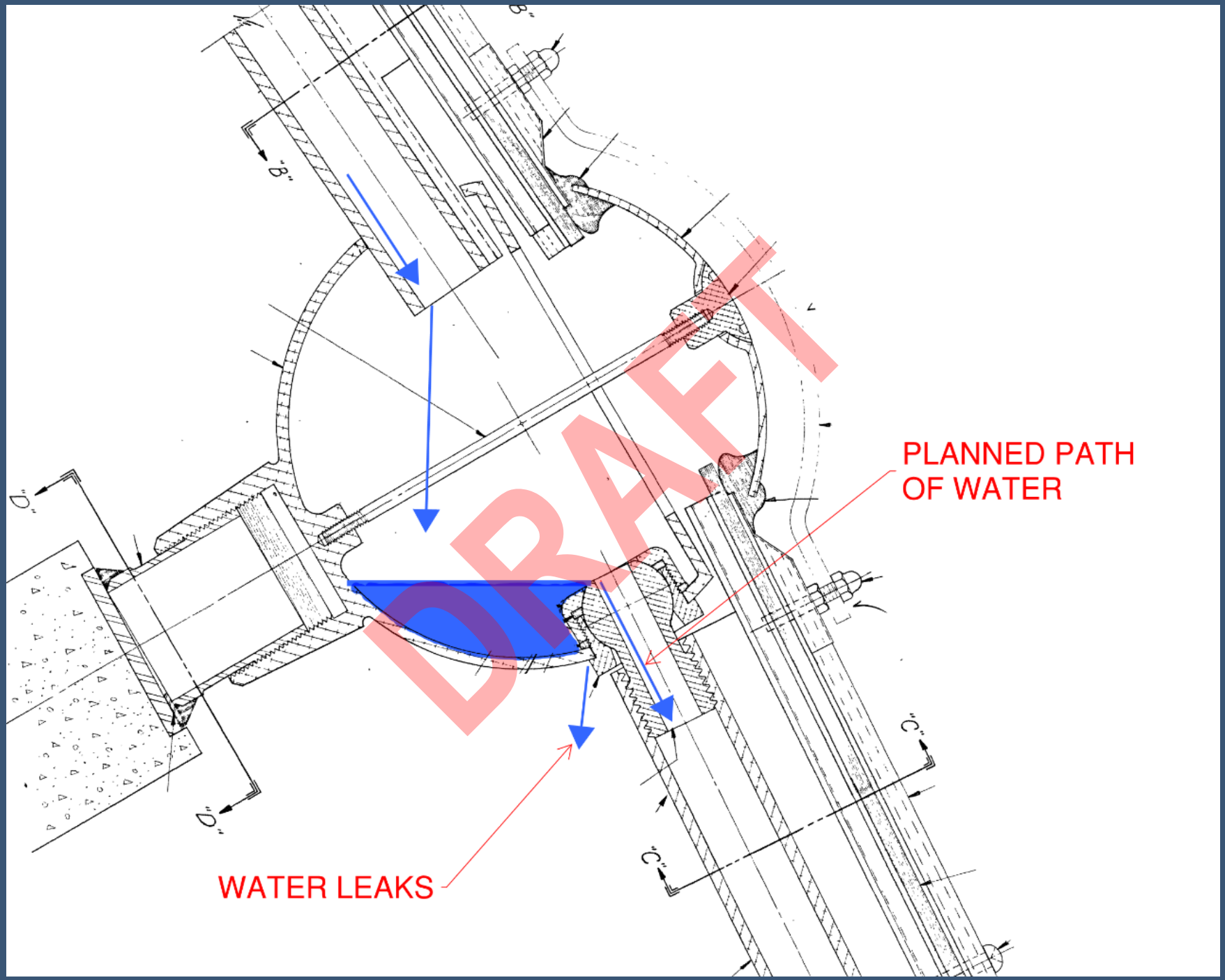
Construction

- Concrete frame with steel plates at window attachment
- Aluminum hubs and window system

Current Conditions

Window System Condition

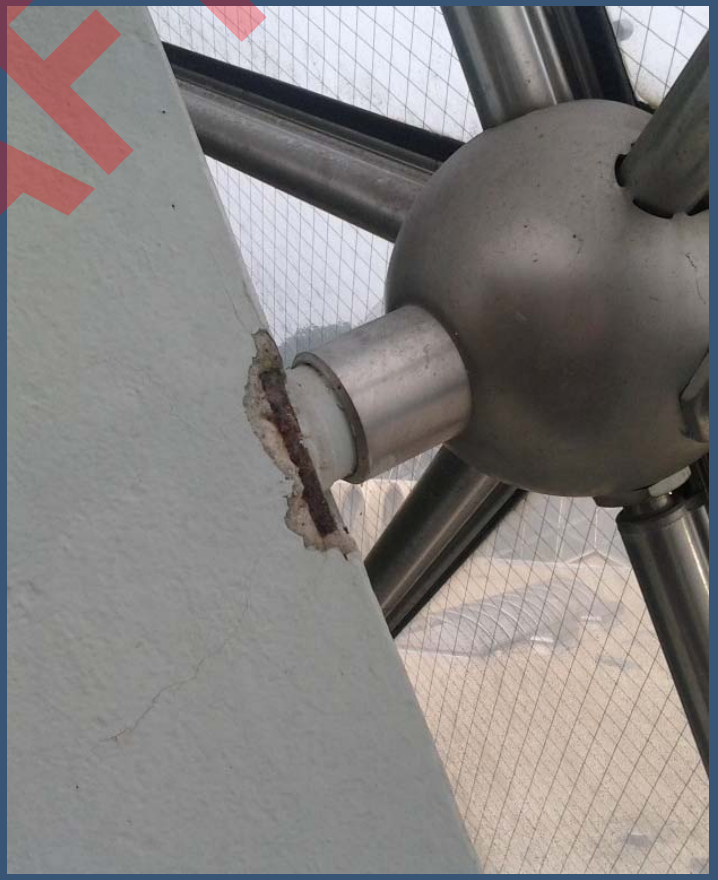
- Cracked panes of glass
- Leaks within window system


"B"
"B"
"D"
"D"
"C"
"C"
PLANNED PATH
OF WATER
WATER LEAKS
DRAFT

Current Conditions

Concrete System Condition

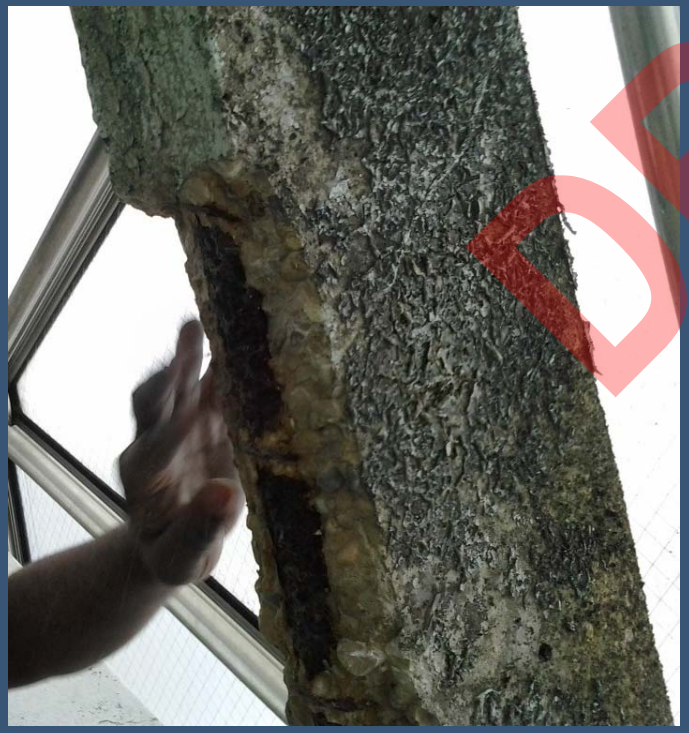
- Cracking concrete at edge of embedded plate

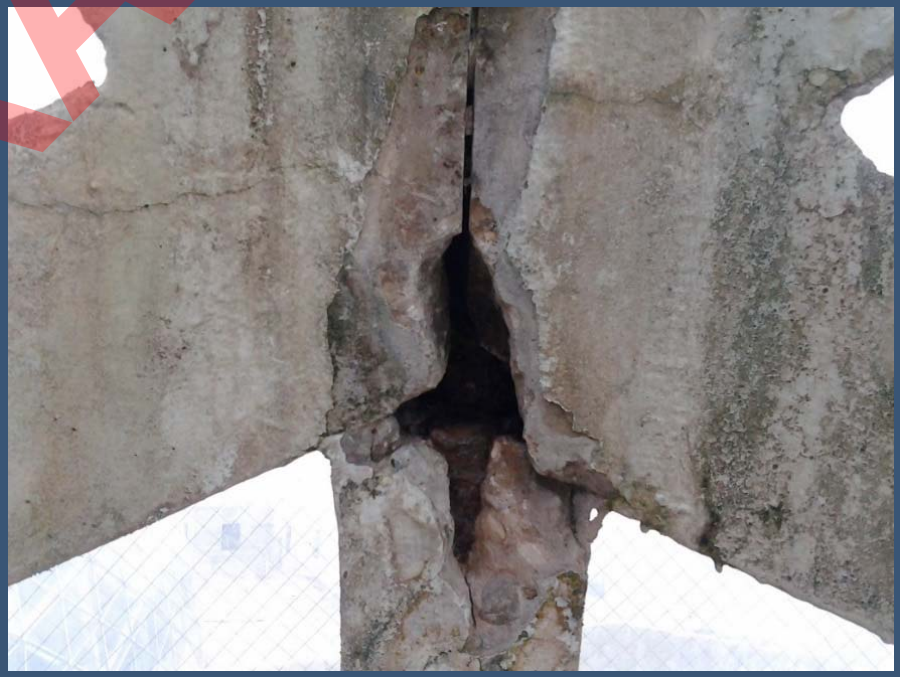


Current Conditions

Concrete System Condition

- General condition is good at this time, but will deteriorate with continued exposure to water
- Isolated areas of rebar deterioration





Current Conditions

Access for Inspection and Repair

- Interior – Special lift, requires Dome closure, affects plants
- Exterior – Crane for window pane replacement

2016 Update on Costs and Options for Domes

GRĀEF

2016 Update on Costs and Options for Domes

2008 Cost Study Options

- Replace only damaged glass
- Replace all glass
- Replace all glass – install new aluminum façade
- Install new glass and new self-supporting aluminum façade
- Install new glass and new self-supporting aluminum façade and remove concrete frame

2016 Update on Costs and Options for Domes

Previous Studies and Repairs

1965-1992	Minor Repairs and Glass Replacement
1993-1999	Inspection and Repairs
2006-2008	Study and Report
2012-2014	Glass Repairs in Tropical Dome
2013-2014	Inspection and Removal of Loose Concrete
2015-2016	Inspection and Installation of Mesh

2016 Update on Costs and Options for Domes

Changes since 2008

- Physical
- Horticultural
- Lessons Learned
- Market Changes
- Changes in Scope of Project

2016 Update on Costs and Options for Domes

Physical Changes *(since 2008)*

- Continued leakage causes rusting of embedded plates
- Rusting plates cause cracking of concrete
- Leakage threatens reinforcing in the concrete ribs
- 1,150 out of over 9500 panes of glass have been replaced
- Minor shifting of aluminum framework
- Stainless steel mesh installed in 2016

2016 Update on Costs and Options for Domes

Horticultural Changes *(since 2008)*

- Leaking has impacted plant layout and plant health
- Temperature control is difficult and affects plant health
- Some plants are rare, difficult to move or replace
- New greenhouse provides an opportunity to store plants

2016 Update on Costs and Options for Domes

Lessons Learned *(since 2008)*

- Access to exterior surfaces improved with customized work platforms
- Access to interior surfaces improved with new articulated lift
- Cost of access more defined
- Shifting aluminum framework
- Brittleness of wire glass

2016 Update on Costs and Options for Domes

Market Changes *(since 2008)*

- Inflation of construction costs
- Revised budgetary estimates from suppliers
- Local / regional competition
- Economic climate has improved

2016 Update on Costs and Options for Domes

Changes in Scope of Project

- Code compliance
- ADA upgrades
- Variable project contingency
- Project soft costs adjusted to current conditions

2016 Update on Costs and Options for Domes

2016 Cost Update Caveats

- Comparative study – not a project cost or budgetary estimate
- 2019 project construction
- Foundations assumed to be in good condition
- Operating costs may vary substantially
- Horticultural impacts may vary
- Revenue and revenue flexibility will vary
- All options to meet code and ADA requirements

2016 Update on Costs and Options for Domes

Option R

- Complete replacement (in kind) on existing foundation
- New aluminum and glass façade
- Remove concrete frame, replace with new concrete frame
- New mechanical system
- Code / ADA upgrades

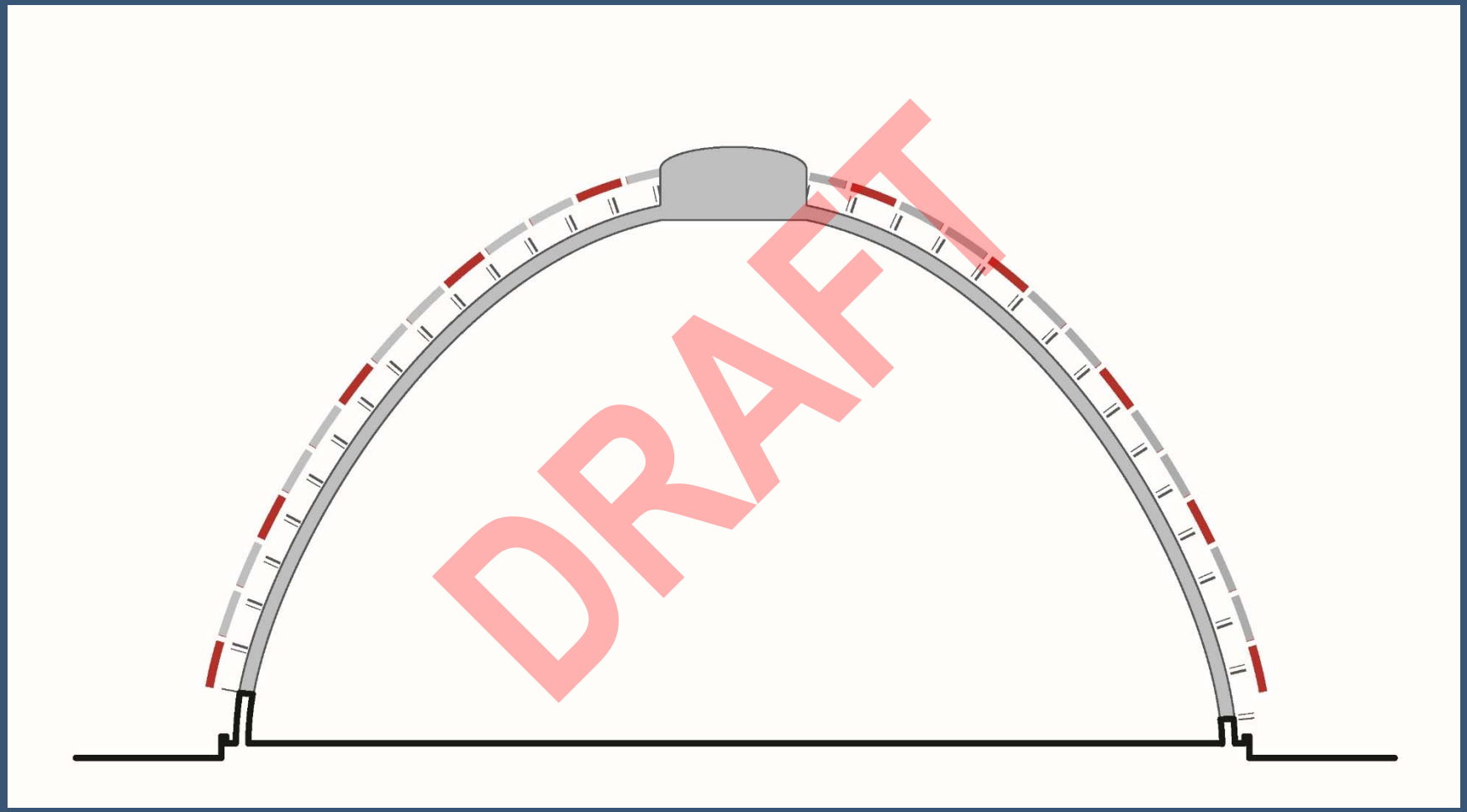
Estimated Cost = $64 million

Estimated Life = 50 years

Maintenance is Normal for a New Facility

Wire Mesh is Removed

2016 Update on Costs and Options for Domes



Option 1 – Replace Broken Glass

2016 Update on Costs and Options for Domes

Option 1

- Replace only broken glass
- Replace all gaskets for all glass
- Clean, repair, re-coat concrete frame
- Partial replacement of mechanical equipment

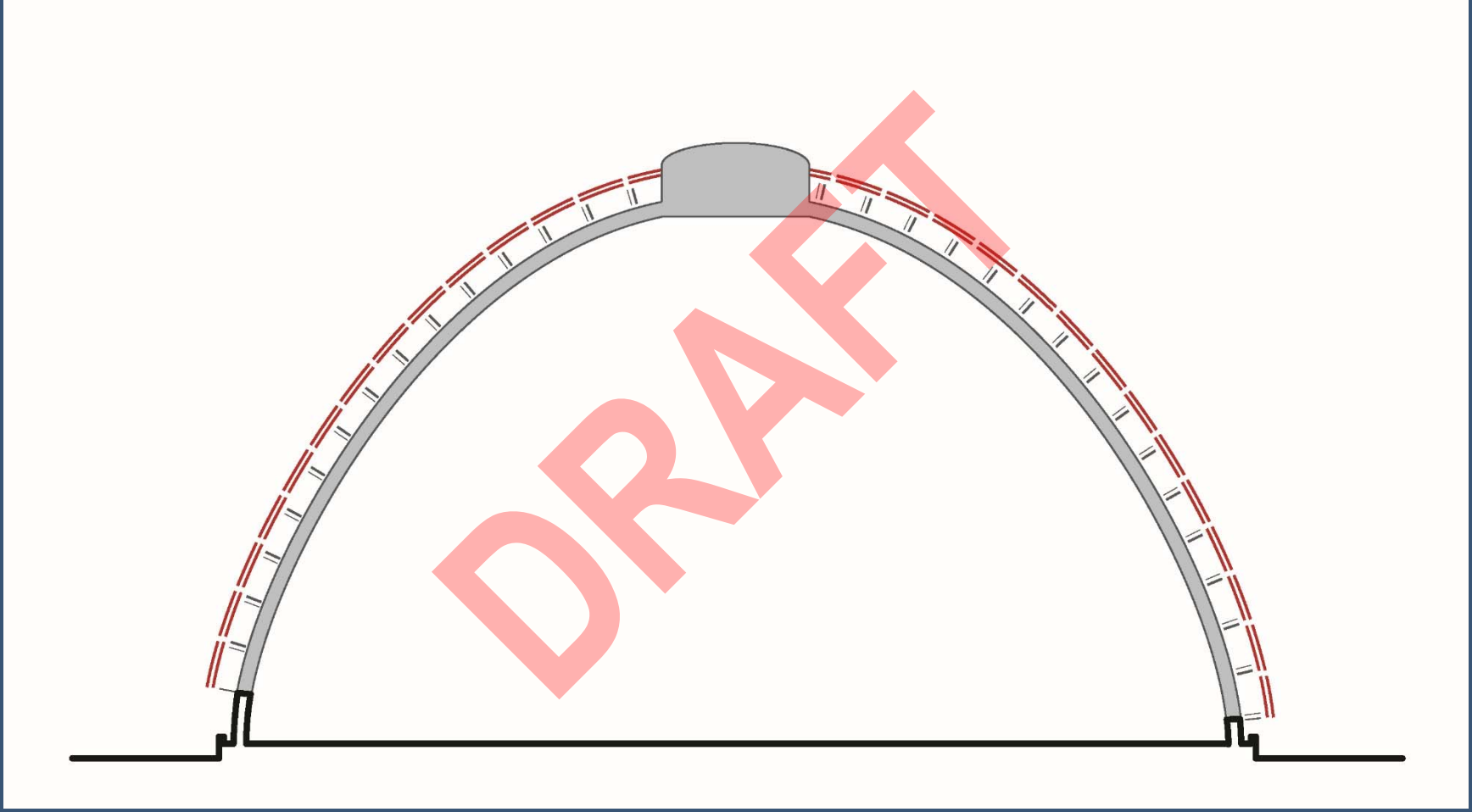
Estimated Cost = $14 million

Estimated Life = 5-10 years

Very High Level of Maintenance Required

Wire Mesh Remains

2016 Update on Costs and Options for Domes



Option 2 – Replace All Glass

2016 Update on Costs and Options for Domes

Option 2

- Replace all glass with insulated glass
- Replace all gaskets for all glass
- Clean, repair, re-coat concrete frame
- Partial replacement of mechanical equipment

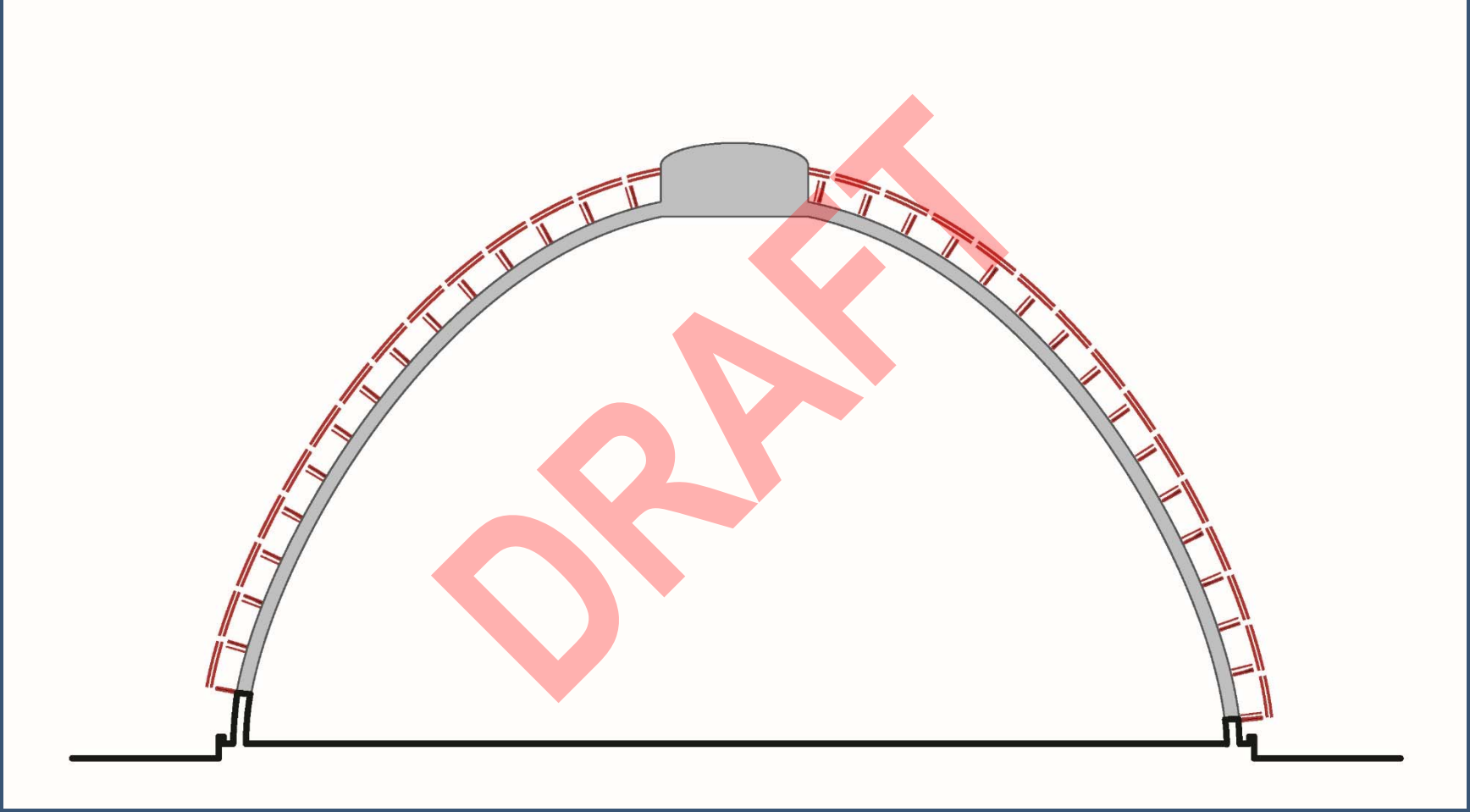
Estimated Cost = $38 million

Estimated Life = 15-20 years

High Level of Maintenance Required

Wire Mesh Remains

2016 Update on Costs and Options for Domes



Option 3 – New Façade

2016 Update on Costs and Options for Domes

Option 3

- Replace all glass with insulated glass
- Complete replacement of aluminum framework
- Clean, repair, re-coat concrete frame
- Partial replacement of mechanical equipment

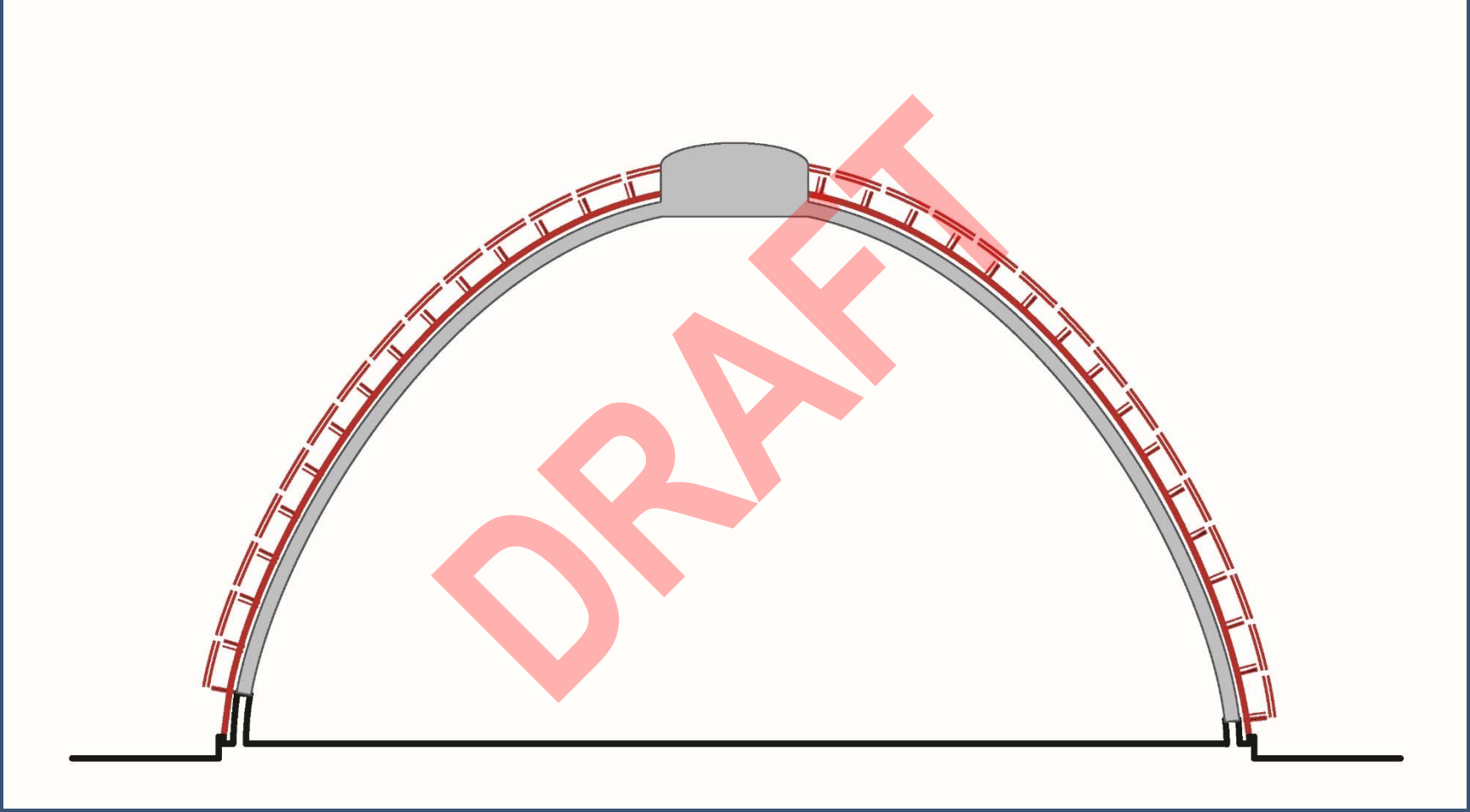
Estimated Cost = $47 million

Estimated Life = 25-30 years

High Level of Maintenance Required

Wire Mesh Remains

2016 Update on Costs and Options for Domes



Option 4 – New Self-Supporting Façade

2016 Update on Costs and Options for Domes

Option 4

- Replace all glass with insulated glass
- Complete replacement of façade with new self-supporting aluminum framework
- Clean, repair, re-coat concrete frame
- Partial replacement of mechanical equipment

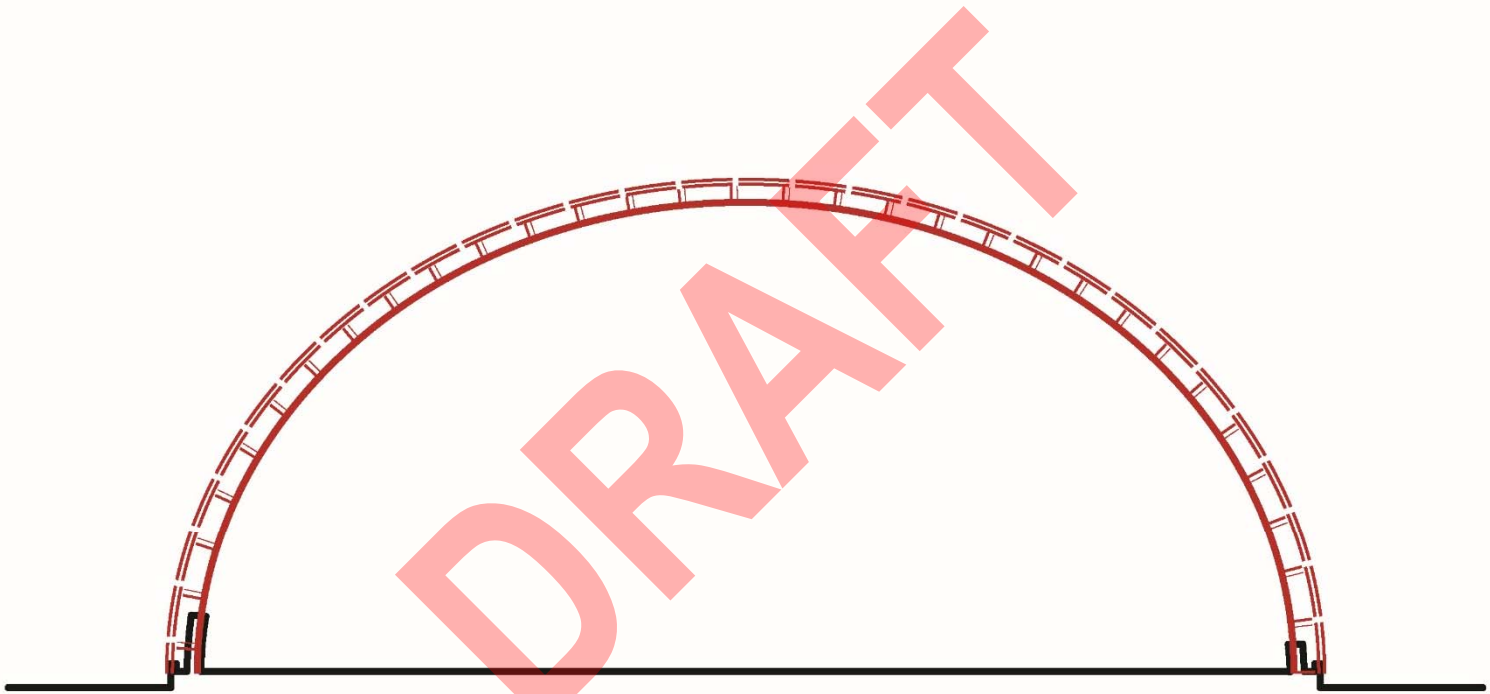
Estimated Cost = $54 million

Estimated Life = 25-30 years

High Level of Maintenance Required

Wire Mesh Remains

2016 Update on Costs and Options for Domes



Option 5 – New Self-Supporting Façade and Remove Concrete Frame

2016 Update on Costs and Options for Domes

Option 5

- Replace all glass with insulated glass
- Complete replacement of façade with new self-supporting aluminum framework
- New geodesic profile 10-15 ft. lower than current
- Remove concrete frame
- Replace all mechanical equipment

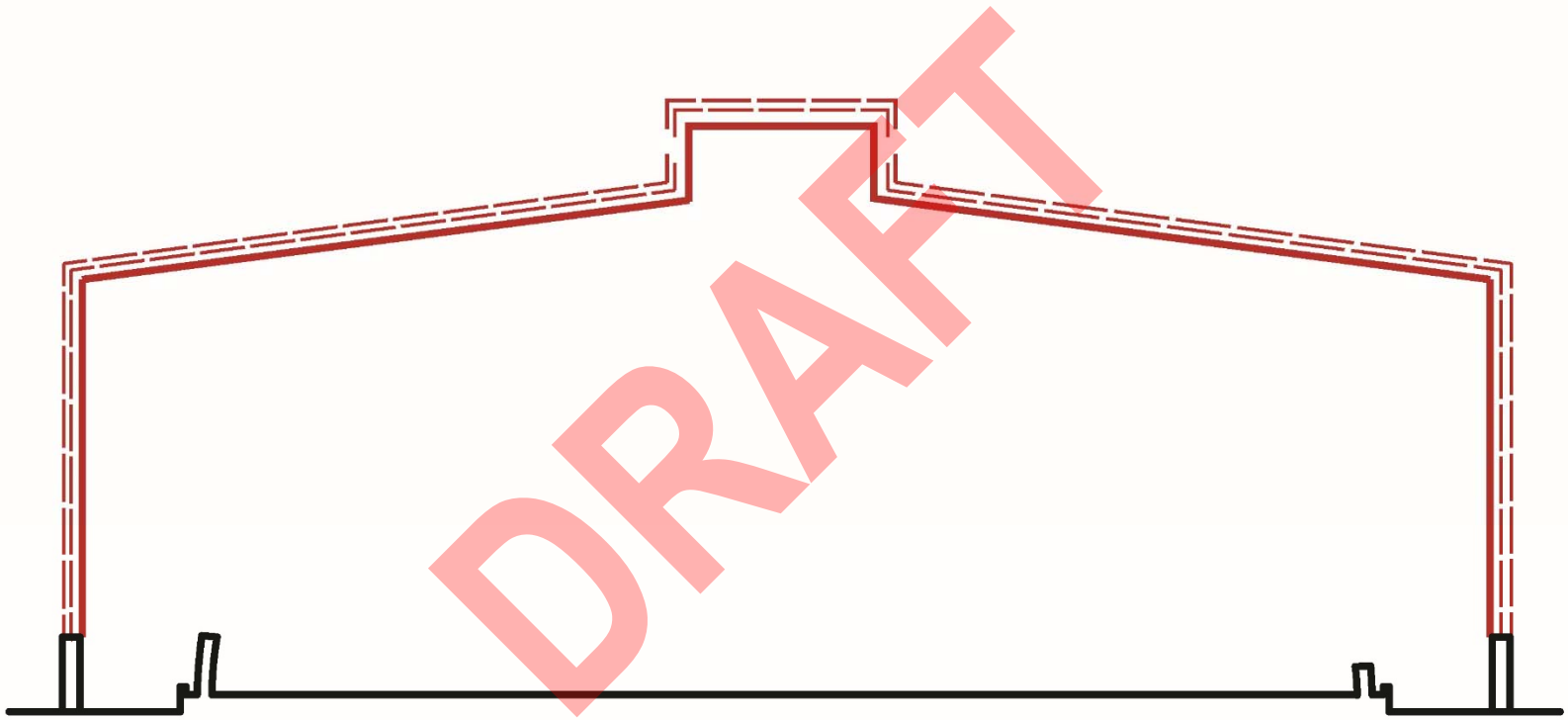
Estimated Cost = $50 million

Estimated Life = 50 years

Maintenance is Normal for a New Facility

Wire Mesh is not Necessary

2016 Update on Costs and Options for Domes



Other Options – New Facility

2016 Update on Costs and Options for Domes

Other Options

- General comparative cost only
- Excludes cost of infrastructure
- Demolition of existing domes is included
- Display space assumed to be the same as current
- Support spaces modified to address current shortcomings

Estimated Cost = $50-$70 million

Estimated Life = 50 years

Maintenance is Normal for a New Facility

Wire Mesh is not Necessary

2016 Update on Costs and Options for Domes

Summary

- Option R – New Façade – Rebuild Concrete Frame = $64 million
- Option 1 – Replace Broken Glass = $14 million
- Option 2 – Replace All Glass = $38 million
- Option 3 – New Façade = $47 million
- Option 4 – New Self-Supporting Façade = $54 million
- Option 5 – New Self-Supporting Façade and Remove Concrete Frame = $50 million
- Other Options – New Facility = $50-$70 million

CASE STUDIES

What can we learn from other facilities?

Structure & Functionality	Programming & Operations	Revenue, Finance, & Management	Social & Economic Impact

FRAMEWORK OF ISSUES & OPTIONS

Structure & Functionality	Programming & Operations	Revenue, Finance, & Management	Social & Economic Impact
▪ Historic value	▪ Attendance	▪ Expenses	▪ Community identity
▪ Type of structures	▪ Plant value	▪ Revenue	▪ Community engagement
▪ Functionality	▪ Staff size	▪ Donations	▪ Architectural value
▪ Organization	▪ Exhibits	▪ Fee	▪ Tourism impact
▪ Size	▪ Shows	▪ Ownership	▪ Economic benefits
▪ Costs	▪ Education	▪ Site control	
▪ Integration of uses	▪ Track record		

MITCHELL PARK CONSERVATORY

Structure & Functionality

- Historic recognition
- 3 “unique” (conoidal) domes
- 46K sf plants
- 100K sf +/- other
- Inflexible layout
- Does not meet codes
- Small non-plant areas
- High costs: repair, maintenance, and renovation
- Inefficient energy systems

Programming & Operations

- 200-300k attendance
- Limited hours
- Plants @ $3.2M
- 10 +/- conservatory staff
- Strong potential
  - ✓*“Friends” group*
  - ✓*track record*
  - ✓*education program*
  - ✓*events program*
- Limited park integration
- No outdoor programs
- Facility shortage

Revenue, Finance, & Management

- $1.4M expense
- $0.8M earned revenue
- Limited donations
- Low fee $7
- Mission support
- Public ownership
- Dual site management

Social & Economic Impact

- Community icon
- Limited area impact
- Neighborhood potential
- Attracts visitors
- Minimal direct economic impact

SELECTED CASE STUDIES

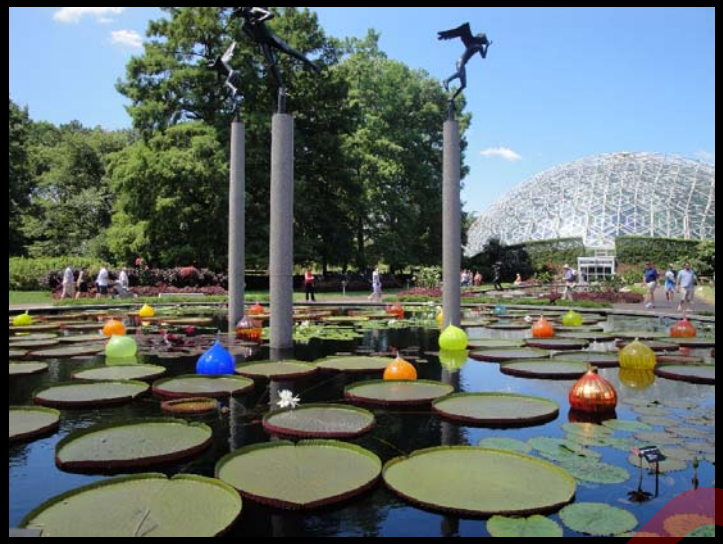
Missouri Botanical Garden (St. Louis, MO)

Phipps Conservatory and Botanical Gardens (Pittsburgh, PA)

Lucile Halsell Conservatory at the San Antonio Botanical Garden (San Antonio, TX)

MISSOURI BOTANICAL GARDEN

St. Louis



MISSOURI BOTANICAL GARDEN – St. Louis

Structure & Functionality	Programming & Operations	Revenue, Finance, & Management	Impact
▪ Geodesic dome 1960	▪ Teacher development	▪ Exp: $43M	▪ Historical structures
▪ 23K sf; 79 acres	▪ Therapeutic horticulture	▪ Rev: $45M	▪ Community outreach and education
▪ 380K sf of exhibitions, research, and offices	▪ Master gardeners	▪ Net Rev: $2.6M	▪ Benefits from larger tax district
▪ Attend: 1.04M	▪ Community gardening	▪ Zoon & Museum District provide tax-based revenue	▪ Public-private partnerships
▪ Victorian District & Grove House 1849	▪ Center for Conservation & Sustainable Development	▪ Corporate sponsors with naming rights	
▪ Founded in 1859	▪ Cafés	▪ Donations: $8M	
▪ National Historic Landmark;	▪ 435 staff	▪ Not-for-profit trust	
▪ National Register of Historic Places		▪ independent of local gov't	

PHIPPS CONSERVATORY & BOTANICAL GARDENS
Pittsburgh

PHIPPS CONSERVATORY & BOTANICAL GARDENS Pittsburgh

Structure & Functionality

- Original Victorian-style conservatory built in 1893 (43.5K sf)
- Additional 229K sf: Welcome Center, Production Greenhouse, Tropical Conservatory, Lecture Hall, & special education spaces
- Founded in 1893

Programming & Operations

- Monthly programming and specialty shows
- Art collections, certificate classes, seasonal camps, internships
- Teacher Advisory Committee
- Homegrown healthy food initiative
- Phipps Research Institute for Biophilia and Science Engagement
- Café

Revenue, Finance, & Management

- Exp: $9.5M; Rev: $10.1M
- Net Rev: $642K
- Grants & donations: $6.5M
- Program revenues: $2.3M
- Non-profit organization manages ongoing operations
- Park, facility, & collections owned by City
- 199 staff
- National Register of Historic Places; local historic designation

Social & Economic Impact

- Historical, classic conservatory structure
- Neighborhood outreach and involvement
- Ongoing research

LUCILE HALSELL CONSERVATORY – San Antonio

LUCILE HALSELL CONSERVATORY – San Antonio

Structure & Functionality

- Conservatory located within San Antonio Botanical Garden
- Opened in 1988
- Features five rooms and pavilions with 40K sf of space
- Additional facilities supplemented by Daniel J. Sullivan Carriage House (dated to 1896)

Programming & Operations

- Exhibitions and special programming
- Classes: flower arranging, photography, rainwater harvesting, waterwise gardening
- Children's Vegetable Garden Program, Nature Camp, Animal Botanical Classes
- WaterSaver Garden and Lane

Revenue, Finance, & Management

- Exp: $1.2M; Rev: $5.1M
- Net Rev: $3.4M
- Program Revenues: $769K
- Non-profit organization manages ongoing operations
- 39 acres
- 31 staff, 1,000 volunteers

Social & Economic Impact

- Linkages to larger botanical gardens
- Unique architecture
- Sustainability initiatives
- Large volunteer base

MITCHELL PARK CONSERVATORY

Structure & Functionality

- Historic recognition
- 3 “unique” (conoidal) domes
- 46K sf plants
- 100K sf +/- other
- Inflexible layout
- Does not meet codes
- Small non-plant areas
- High costs: repair, maintenance, and renovation
- Inefficient energy systems

Programming & Operations

- 200-300k attendance
- Limited hours
- Plants @ $3.2M
- 10 +/- conservatory staff
- Strong potential
  - ✓*“Friends” group*
  - ✓*track record*
  - ✓*education program*
  - ✓*events program*
- Limited park integration
- No outdoor programs
- Facility shortage

Revenue, Finance, & Management

- $1.4M expense
- $0.8M earned revenue
- Limited donations
- Low fee $7
- Mission support
- Public ownership
- Dual site management

Social & Economic Impact

- Community icon
- Limited area impact
- Neighborhood potential
- Attracts visitors
- Minimal direct economic impact

CASE STUDY TAKEAWAYS: "Compared to the Domes…"

Structure & Functionality

- Integrated with botanical gardens
- One admission to view all gardens
- Promotion of historic structures

Programming & Operations

- Larger operations: staff, programming
- Other revenue sources (cafés, special events, etc.)
- Leverage assets and personnel
- Public-private partnerships
- Operational efficiencies

Revenue, Finance, & Management

- Operated by private non-profits
- Admission fees and revenue are higher
- Extensive inside and outside gardens
- Full-time fund development staff
- Annual giving and capital campaigns

Social & Economic Impact

- "Critical mass"
- Integrated programming
- Broad spectrum of revenue sources
- Neighborhood engagement and educational programs

ALL LONG-TERM PLANNING STRATEGIES SHOULD EMBODY FOUR GOALS:

Structure & Functionality	**Programming & Operations**	**Revenue, Finance, & Management**	**Social & Economic Impact**
Apply a process that clearly addresses strengths and weaknesses (including historic value).	*Find a solution that expands programs, events and associated earned revenue.*	*Develop an organizational and financial structure that enhances earned revenue and donations, expands program and staff capacity, and ensures public accountability.*	*Create a combined facility that serves as a valued, community-wide cultural asset.*

Action: Create a contemporary conservatory that becomes a year-round education and entertainment destination….

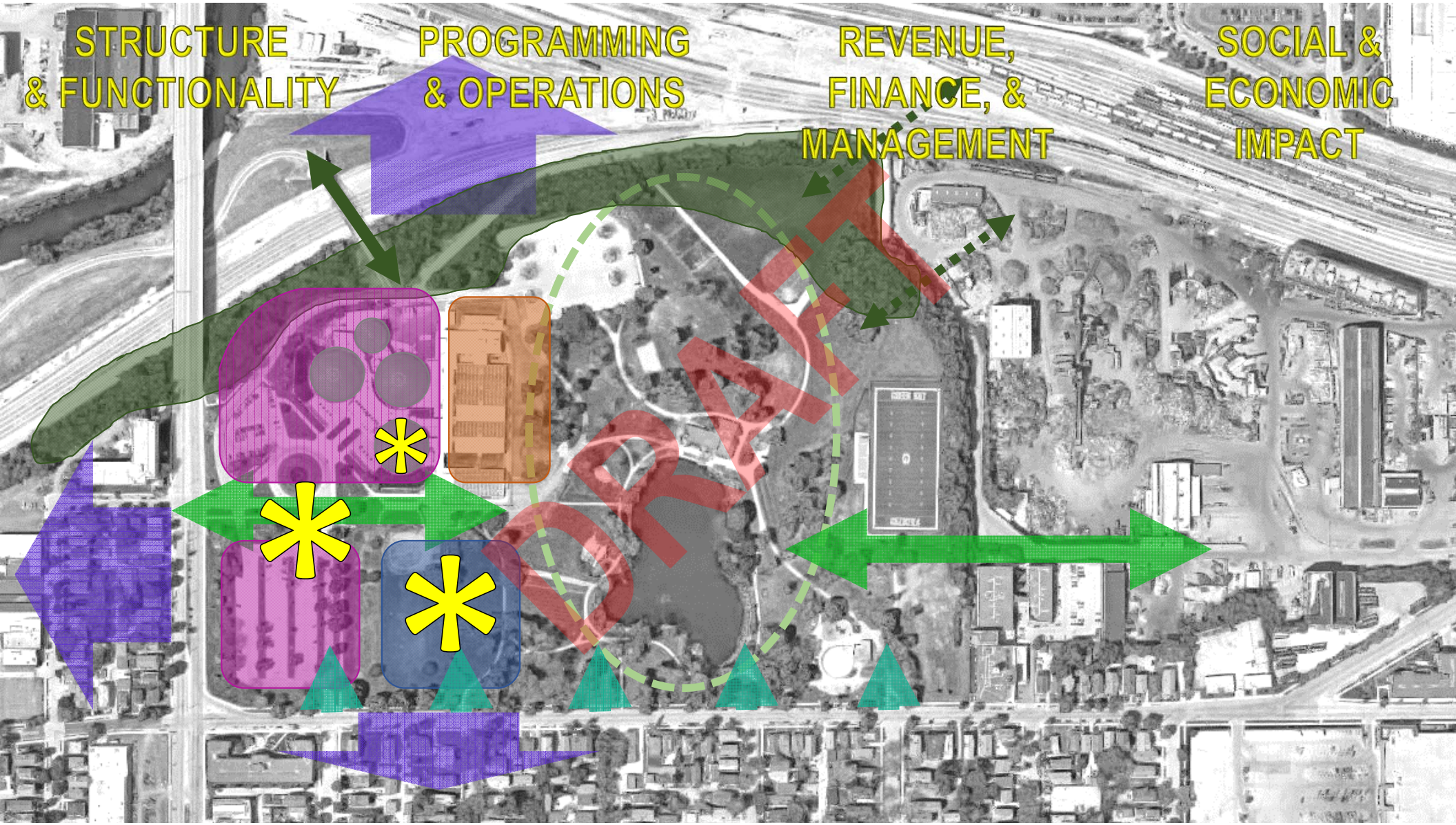
1. RESTORE ALL DOMES NOW, NEW FACILITY COMES LATER WHEN REVENUE AVAILABLE

Structure & Functionality	Programming & Operations	Revenue, Finance, & Management	Social & Economic Impact
Preserves or replicates structures and landscape, meets codes, improves functionality	*Limits programs to current capacity, delays program expansion*	*Funding from County is highly limited, limited likelihood of finding major donors*	*Maintains status quo at best*


STRUCTURE
& FUNCTIONALITY
PROGRAMMING
& OPERATIONS
REVENUE,
FINANCE, &
MANAGEMENT
SOCIAL &
ECONOMIC
IMPACT
DRAFT

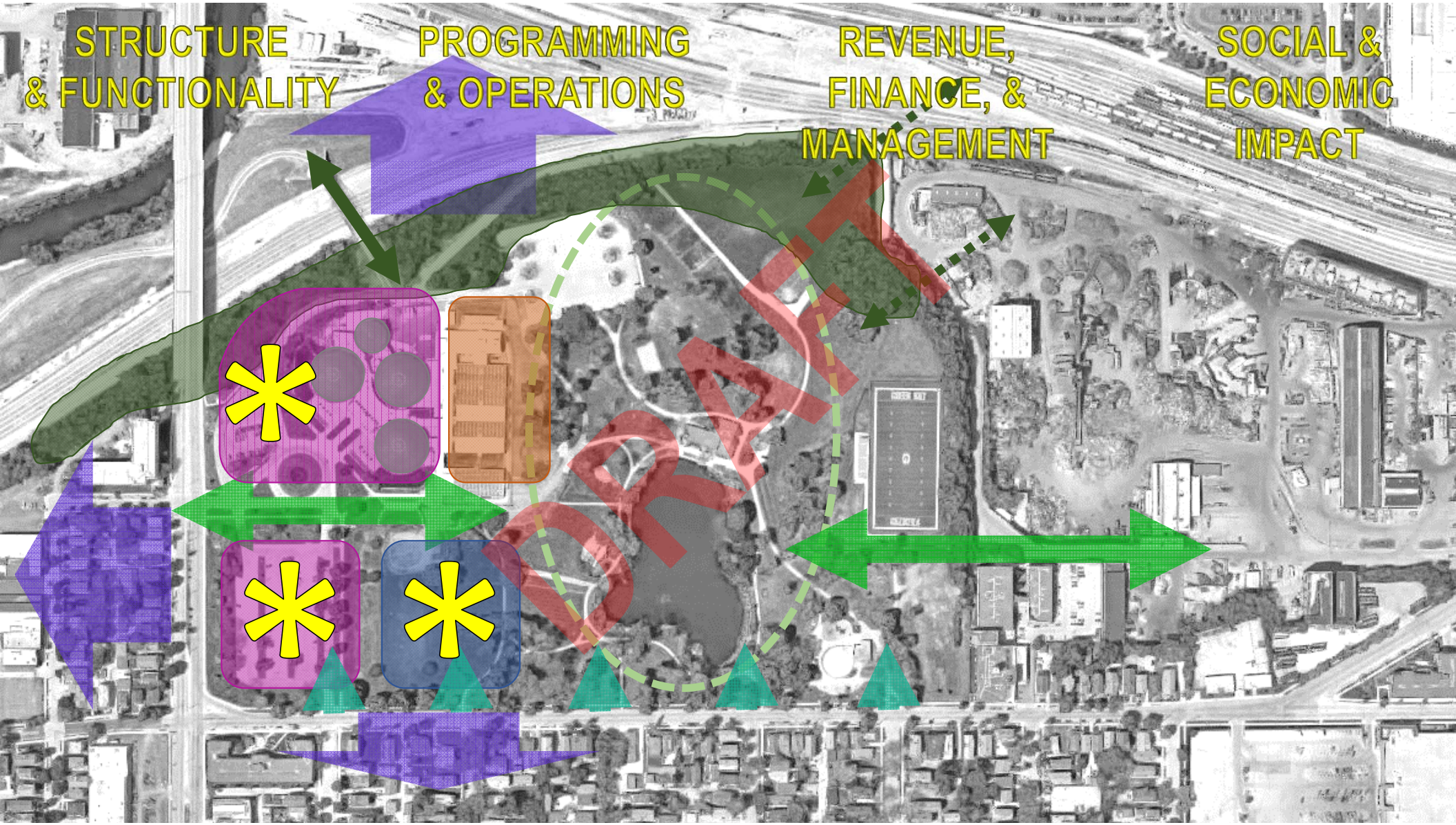
2. BUILD NEW FACILITY ON SITE, RESTORE ONE DOME NOW

Structure & Functionality	Programming & Operations	Revenue, Finance, & Management	Social & Economic Impact
Long-term continuation of 1 dome, 2 others have short-term fix	*Some new additional facilities allow for more programs and earned revenue*	*Front end funding from County lessened, expanded programs engage more donors, new private not-for-profit entity facilitates funding for preservation and special projects*	*Starts to increase social value of the Domes and generates larger economic impact*


STRUCTURE
& FUNCTIONALITY
PROGRAMMING
& OPERATIONS
REVENUE,
FINANCE, &
MANAGEMENT
SOCIAL &
ECONOMIC
IMPACT
DRAFT

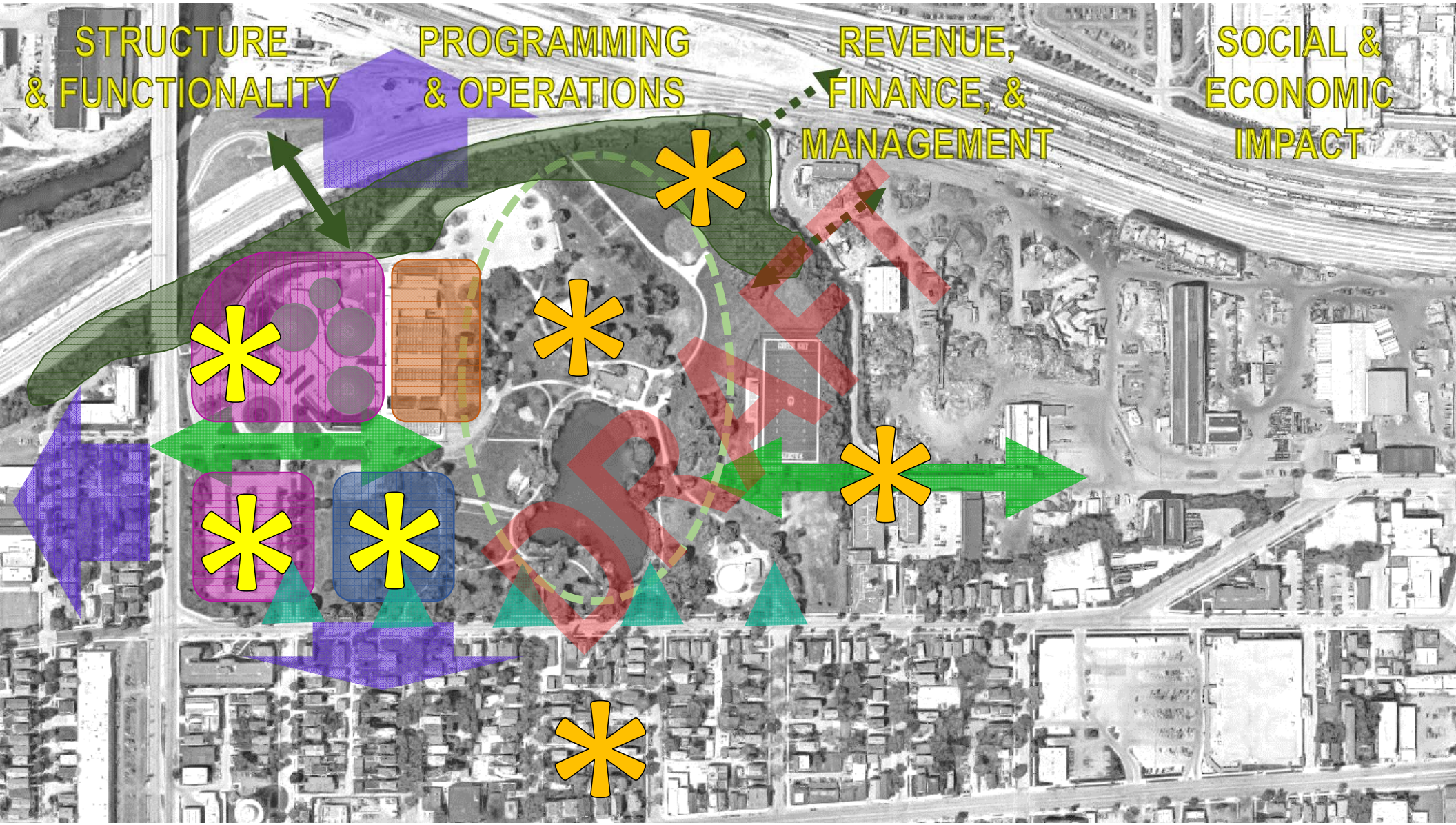
3. BUILD NEW FACILITY ON SITE

Structure & Functionality	Programming & Operations	Revenue, Finance, & Management	Social & Economic Impact
3 domes get short-term fix pending funding	*Substantial new facilities allow for major new programs, maximizing earned revenue, expanding social/economic impact*	*Front end funding from County lessened, expanded programs engage more donors, new private not-for-profit entity facilitates funding for preservation and special projects*	*Significant increase in social and economic value of entire facility*


STRUCTURE
& FUNCTIONALITY
PROGRAMMING
& OPERATIONS
REVENUE,
FINANCE, &
MANAGEMENT
SOCIAL &
ECONOMIC
IMPACT
DRAFT

4. BUILD NEW FACILITY ON SITE AND WORK ON NEIGHBORHOOD REDEVELOPMENT

Structure & Functionality	Programming & Operations	Revenue, Finance, & Management	Social & Economic Impact
3 domes get short-term fix pending funding	*Substantial new facilities allow for major new programs, maximizing earned revenue, expanding social/economic impact, larger park experience engages wider community*	*Front end funding from County lessened, expanded programs engage a wider range of donors, new private not-for-profit entity facilitates funding for preservation and special projects, possible TIF subsidy*	*Significant increase in social and economic value of entire facility, neighborhood improvement, broader appeal and reputation*


STRUCTURE & FUNCTIONALITY
PROGRAMMING & OPERATIONS
REVENUE, FINANCE, & MANAGEMENT
SOCIAL & ECONOMIC IMPACT
DRAFT

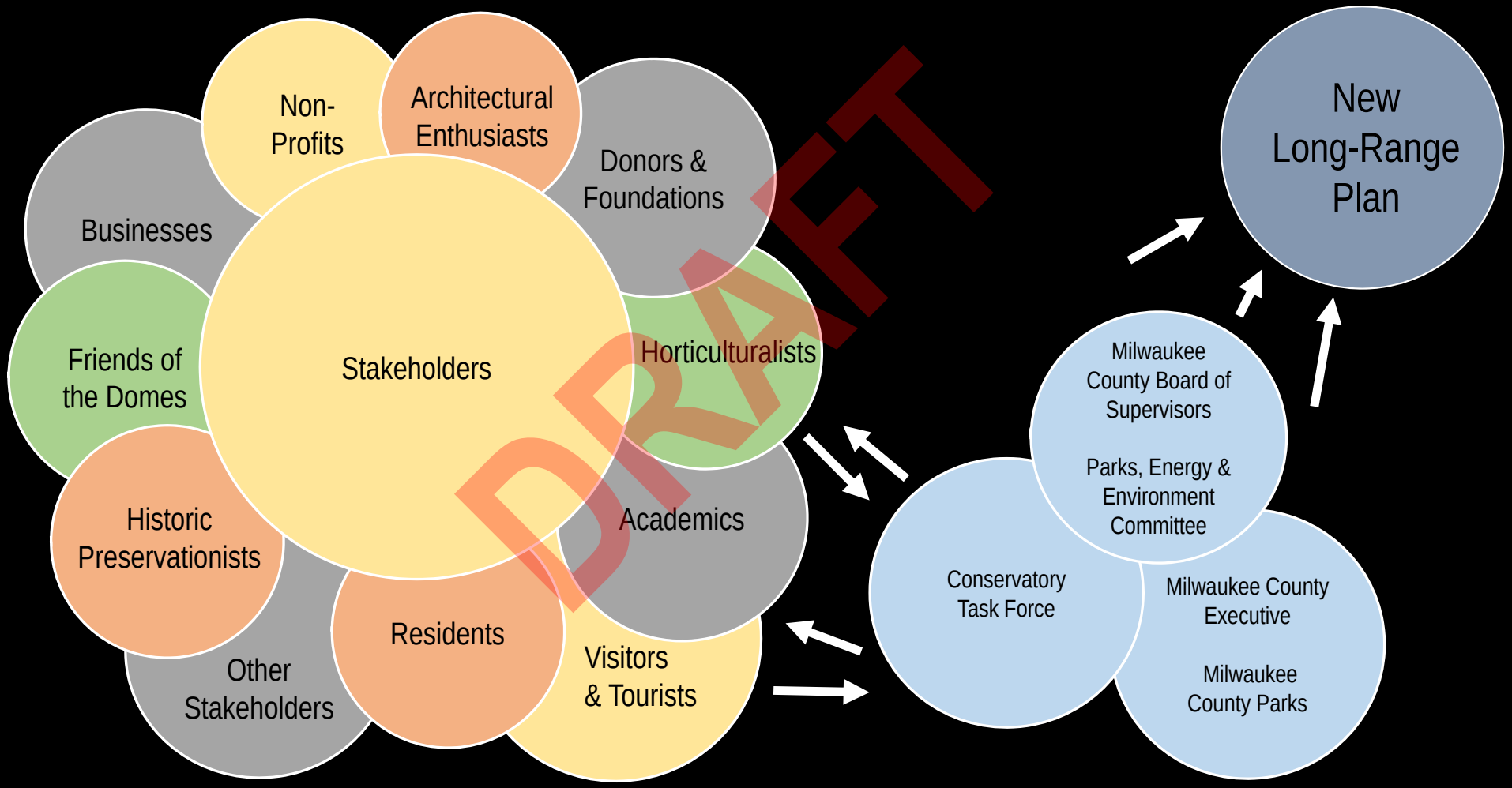
COMMUNITY ENGAGEMENT WORK TO DATE

- Website: http://county.milwaukee.gov/Domes
- Open House at Show Dome Opening (April 30)
- Meetings with Friends of the Domes (May 14 & June 12)
- Public Discussion at NEWaukee Night Market (September 14)
- Community Survey (ongoing since Summer 2016) http://county.milwaukee.gov/DomesSurvey

Upcoming:

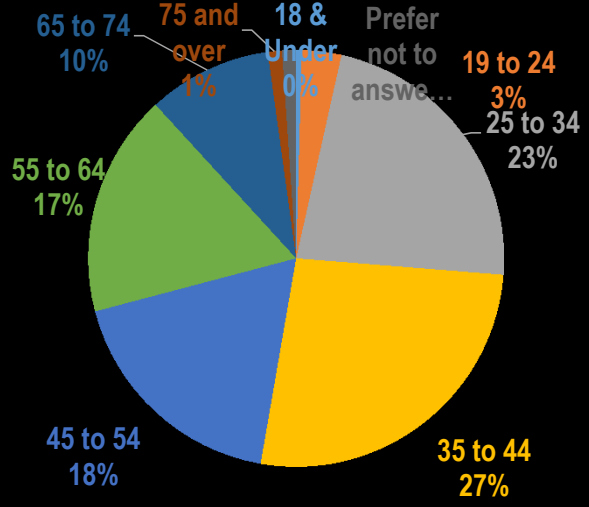
- "Meeting in a Box" Presentations by County staff
- Community Open House & Hearing

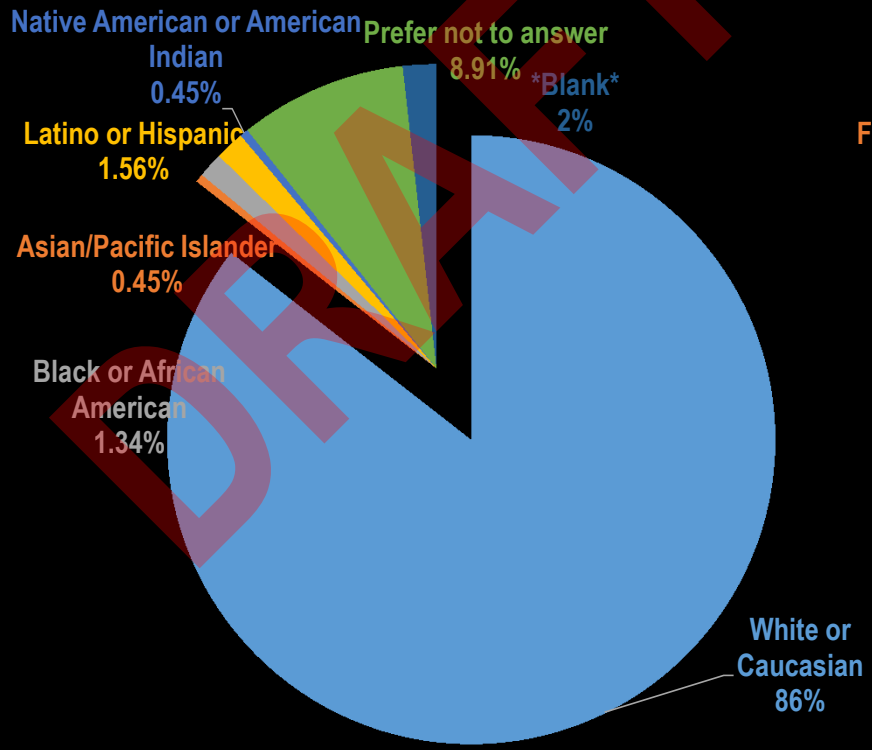
KEY ELEMENTS OF COMMUNITY ENGAGEMENT

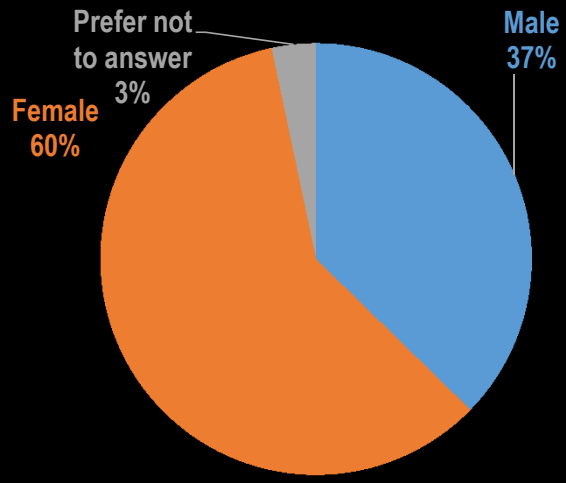


SHOW DOME OPENING: April 30

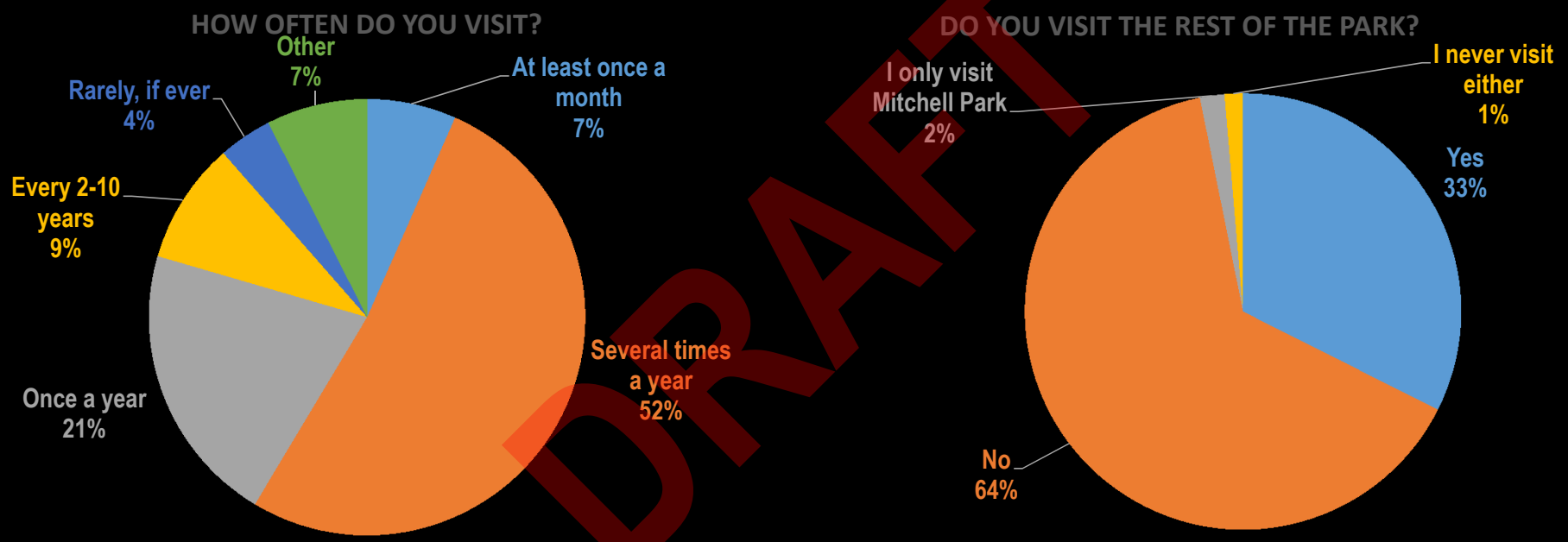
ONLINE SURVEY RESULTS:
Demographics of Respondents





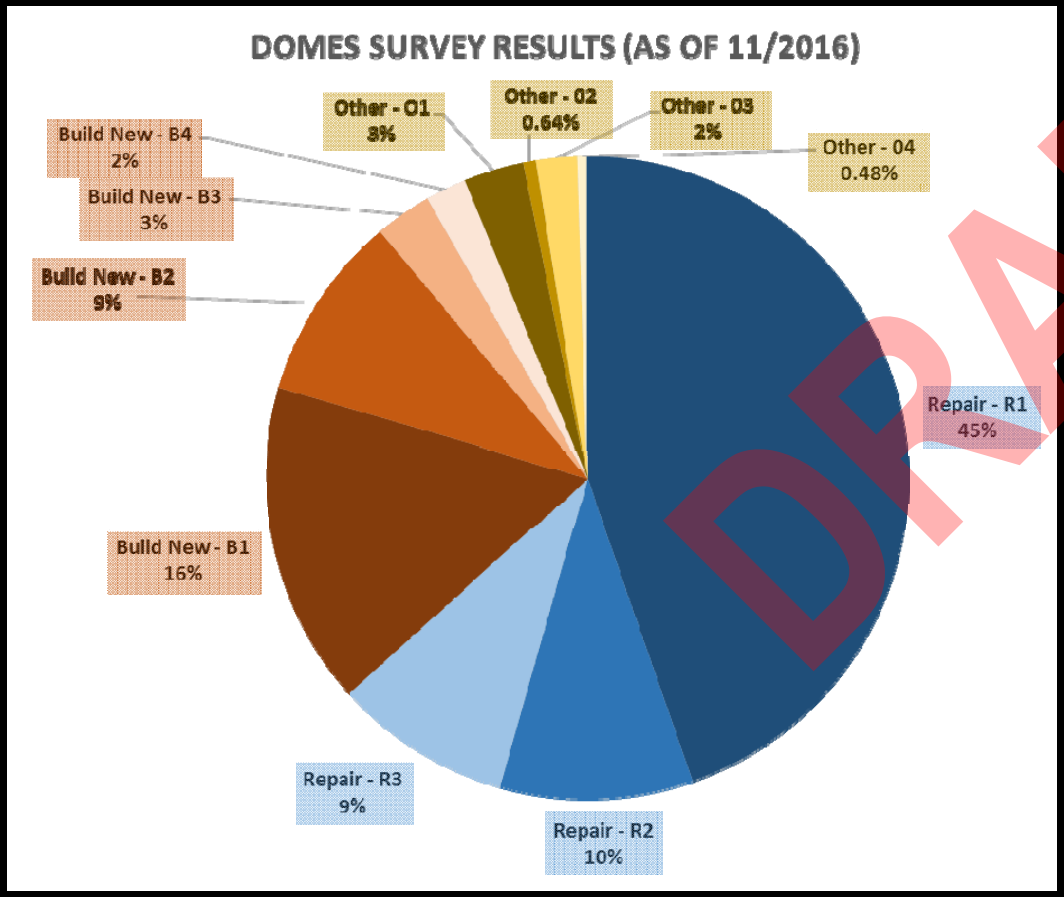


ONLINE SURVEY RESULTS: SUMMARY



ONLINE SURVEY RESULTS

Respondents selected their preferred option for the Conservatory:



Survey Options → Cost Options

Repair Option (R)

Cost Option 1, 2, 3, 4, 5

Remove & Build New (B)

Cost Option R, 6

Other Remove & Reinvest

Cost Option 6

COMMENTS & FEEDBACK

“I love the domes, but if a different glass structure is more practical and easier to maintain, then that sounds viable to me.”

“These are my domes don't destroy them.”

“The Domes are iconic and a one of a kind cultural amenity that is enjoyed by many.”

“…All done with green intentions and energy efficiency.”

COMMENTS & FEEDBACK

"…Maintain, repair, and improve a cultural landmark in the city."

"Sell to a private company and remove the tax burden."

"It is a location that holds meaning to my family."

"…Make it a membership deal to get a little discount for the residents of Milwaukee."

"The domes are unique amongst location and help to define something that is uniquely Milwaukee."

"… A nostalgic sentiment of a limited group"

ENGAGEMENT: Working Draft of Potential Groups

Open Houses & Hearings
Focus Groups & Listening Circles

Adjacent Neighborhood Groups

- Clarke Square Neighborhood Initiative / Journey House
- Layton Boulevard West Neighbors
- Silver City District (National Avenue businesses)
- Sixteenth Street Community Health Centers
- Southside Organizing Committee
- 27th Street BID
- Walker's Point Youth & Family Center

Commerce & Tourism

- African American Chamber of Commerce
- Greater Milwaukee Committee
- Hispanic Chamber of Commerce
- Hmong Wisconsin Chamber of Commerce
- Metropolitan Milwaukee Association of Commerce
- Potawatomi Casino
- Public Policy Forum
- Rotary Club
- Visit Milwaukee

Who else should we include?

Can Task Force members help sponsor these?

ENGAGEMENT: Potential Groups

Education & Youth

- Journey House
- Milwaukee Public Schools
- Urban Ecology Center
- Green Schools Consortium of Milwaukee
- Kids, teachers, parents

General Community & Civic Groups

- Neighborhood Leadership Institute
- Neighborhoods funded by:
  - Greater Milwaukee Foundation
  - Zilber Family Foundation
  - Northwestern Mutual Foundation
- NEWaukee
- Milwaukee County Board
- City of Milwaukee Alders
- City of Milwaukee Department of City Development

Who else should we include?

Can Task Force members help sponsor these?

ENGAGEMENT: Potential Groups

Health

- Aurora Health Care
- Froedtert & the Medical College
- Sixteenth Street Community Health Centers
- Wheaton Franciscan Healthcare

Historic Preservation

- Historic Milwaukee, Inc.
- Milwaukee County Historical Society
- Milwaukee Preservation Alliance
- Wisconsin Historical Society

Park & Horticultural Groups

- Friends of the Domes
- MATC
- UW-Extension Master Gardeners
- Preserve Our Parks
- Park People
- Rotary Club Environment & Ecology Committee

Who else should we include?

Can Task Force members help sponsor these?

NEXT STEPS

1. GRAEF:
   Complete report on case studies and recommendations. Submit report to Park Staff, Task Force, and Parks Committee.

2. Task Force and Milwaukee County:
   Conduct final round of civic engagement using “Meeting in a Box.” Speak to general public, key user groups, and support groups.

3. Task Force and Milwaukee County:
   Based on reports and public input, recommend next steps for each part of the proposed framework:

   - Structure & Functionality
   - Programming & Operations
   - Revenue, Finance, & Management
   - Social & Economic Impact

4. Milwaukee County:

   Based on reports, civic input, Task Force, and additional knowledge, draft an initial operations and revenue plan for future action. This may include actions such as:

   - Consultation with American Public Gardens Association (APGA) and other experts: historic structures, programming, fundraising, financing, and social and economic impact
   - Attendance at conference on fundraising for public gardens (February)
   - Facilitating discussions with local donors, foundations, and cultural facilities' leaders
   - Site evaluation and infrastructure cost estimates
   - Consideration of neighborhood potential
   - Write a program statement with plan for: operations, earned revenue and financing, organizational control and management, life cycle costing, and infrastructure analysis and needs

5. Milwaukee County:

   Design the "design process" including a Request for Qualifications (RFQ), Request for Proposals (RFP), Charrette, Competition

   - Propose a project timeline, budget, and selection process for consultant(s)
   - Review with key stakeholders
   - Seek approval from Parks Committee, County Board, and County Executive