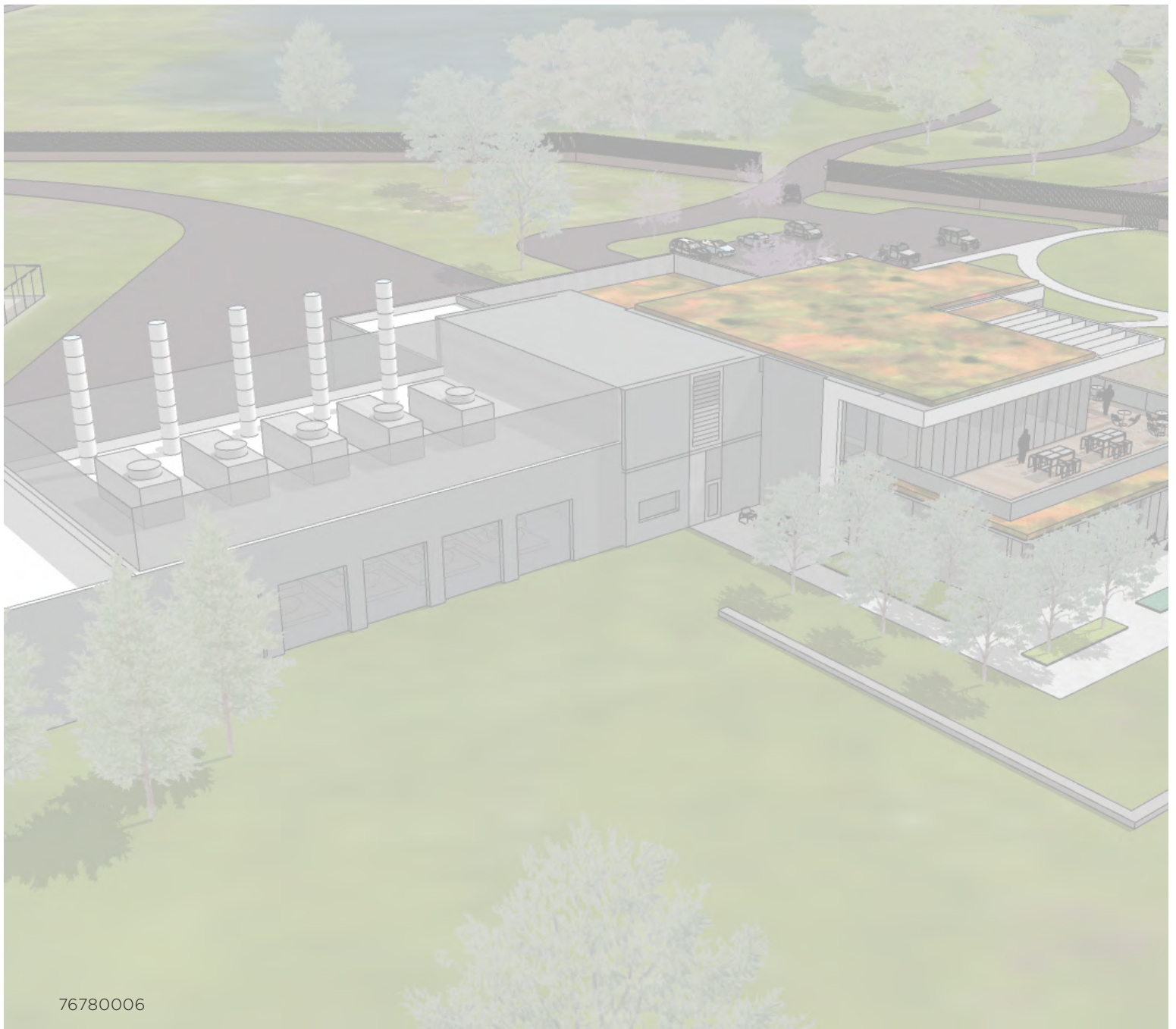


Sims Site Redevelopment

Master Plan and Program Statement

SEPTEMBER 2020 – GRAND HAVEN, MICHIGAN



76780006

CREATIVE PEOPLE. STRATEGIC SPACES.

Performance Based Design is a fundamental philosophy that design drives performance. It is not just about the building or the site; it's about unleashing the potential of people, process, systems and financial performance within.

Progressive AE is committed to validating organizational performance. To do this, we hold ourselves accountable to establishing specific design measures before the project even begins. These measures are foundational, driving every move throughout the project and thereafter.

TABLE OF CONTENTS

P 05	SECTION 1 - INTRODUCTION <ul style="list-style-type: none">Executive SummaryIntroductionPerformance, Power, and PlaceProject PartnersMethodologyRecommendations
P 13	SECTION 2 - HIGHEST & BEST USE <ul style="list-style-type: none">What is Harbor IslandExisting Harbor IslandSite Redevelopment ConstraintsStakeholder RelationshipsHighest & Best Use
P 26	SECTION 3 - SIMS SITE & HARBOR ISLAND MASTER PLANNING <ul style="list-style-type: none">BLP Site RequirementsCommunity Site Availability
P 30	SECTION 4 - SYSTEMS OPERATION AND TECHNOLOGY CENTER <ul style="list-style-type: none">Design PrinciplesProgramConceptual Plans
P 34	APPENDIX <ul style="list-style-type: none">Existing ConditionsProposed Site PlanSite ContextConceptual Massing & Site DevelopmentOpinion of Probable Cost

SECTION 1

Introduction

Executive Summary

The Grand Haven Board of Light and Power (BLP) made a strategic choice in 2019 to close and dismantle the J.B. Sims Generating Station (Sims). Continuing to use this coal fired baseload plant was not cost effective – BLP can provide less expensive power to its customer-owners by other means.

Initially, a gas fired peaking plant of 36 mW capacity and other buildings and facilities were considered as a follow-on to Sims to supplement and compliment a diversified portfolio of power projects and purchases from outside Grand Haven. Studied in depth by engineering firm Burns and McDonnell, this project including demolition, remediation, system upgrades, and new facilities was estimated to cost \$100M and was judged to be not economically feasible. Instead, the Burns and McDonnell Project Development Report recommended transitioning to a diversified power portfolio and considering a smaller local generating facility.

Diversifying its power portfolio will change the BLP's needs for facilities. A large central plant is no longer in our future but expanded distribution and control capabilities will be necessary. Personnel formerly housed at Sims are without workspaces, and important multi-functional spaces will be removed with the plant. The existing facilities at Eaton Drive are inadequate to place the people and functions required.

Progressive AE was engaged to clarify facilities and space needs for the Grand Haven Board of Light and Power after the closure and demolition of the J.B. Sims Generating Station. This report presents Progressive AE's methodology and findings

In brief, Progressive's recommendations are as follows.

- Progressive AE recommends that the Grand Haven Board of Light and Power re-develop approximately half of the existing Sims site.
- The new site arrangement will include the existing Substation with upgrades, reserved space for future Substation improvements, land area for local renewable energy generation and battery storage, and a new Systems Operation and Technology Center serving as the center of the distribution operations.
- In addition, the site is the proposed location of a new, 12.5 mW gas fired combined heat and power (CHP) facility as recommended under separate study by Power Engineering Collaborative, PLC.
- The balance of the current site may be ceded back to the public for natural parklands or other use.

Coupled with already expended amounts for demolition, remediation, and substation upgrades, this program results in a capital project cost estimated at \$46.6M.

Introduction

Harbor Island is getting a fresh start, a chance at reclamation. Long ago regarded as waste land, adapted for heavy industrial use, and then worked hard for decades, The island can now again become a place of progress, recreation, and pride

The Island has been associated with the Board of Light and Power for almost 60 years. Reclaiming portions of the City dump and previous coal yard and using the strategic proximity of the Grand River, the Board developed and operated the coal fired JB Sims Generating Station. This plant has returned on its initial investment and served the community well for nearly 60 years. The JB Sims Generating Station’s time has passed; through wear, depreciation, and alternate energy options available to the community. Changing energy markets demand a new approach to serving Grand Haven’s electricity needs.

The GHBLP is far more than the coal plant. As the BLP pre-dated the JB Sims Station, it will exist long after Sims is gone. The essence of the GHBLP is its people, its distribution systems, and its commitment to providing safe, reliable, and affordable energy for the community through excellence in operations and management. Just as the JB Sims Station was a state-of-the-art planet when built, as was the Diesel Plant on South Harbor, so too will be the BLP facilities proposed as part of the Harbor Island redevelopment.

The subject of redevelopment comes about naturally – what is next after Sims is gone? What essential spaces, equipment, and functions must be replicated? How best can existing environmental issues and related liabilities be resolved safely? Multiple issues exist in the wake of the JB Sims Station. While a smaller portion of the island still holds a strong value for electric utility purposes, what value can the remaining portion of the island offer to provide the highest and best use to the public in to the future? How does the GHBLP improve and advance as the power market transitions away from large, central generating facilities primarily using fossil fuel? These questions require serious consideration, and the GHBLP has worked over the past 8 years toward the answers. Progressive AE and PEC were asked to synthesize this research and insights gained to conclude these efforts. This report highlights our findings to date. Our work can be summed up in three categories; Performance, Power, and Place.

Performance, Power, and Place

PERFORMANCE – SYSTEMS OPERATION AND TECHNOLOGY CENTER

The post-Sims GHBLP will need to be a flexible and agile organization, attracting and retaining new talent. Tasks will be broad ranging, requiring a well-trained workforce with a supportive environment for planning, control, and optimization of wholesale power purchases and multi-locational generation assets and distribution. New and exciting opportunities for renewable and distributed energy generation require a higher level of metering and control systems. Serving not just power but also specific community needs such as the downtown snow melt system requires a presence on Harbor Island. The proposed Systems Operation and Technology Center meets these requirements while providing a new image of GHBLP to the community.

POWER – COMBINED HEAT AND POWER (CHP) PLANT

The future of local power generation for GHBLP will no longer be a large baseload plant. The new power portfolio will be based primarily on transmission service from the Midcontinent Independent System Operator (MISO) and a jointly managed power supply from the Michigan Public Power Agency (MPPA) but may also include local capacity as economically and strategically justified. A combination of local renewables, energy storage, and peak demand-shaving generation can provide flexibility, lower risk, and improved resilience to the community. The first identifiable step in this progression is the proposed 12 MW combined heat and power (CHP) plant. This plant, based upon efficient standard power blocks, will integrate well with snow melt and be a multi-purpose tool in the GHBLP portfolio, contributing to stability and operations flexibility.

PLACE – HARBOR ISLAND RE-DEVELOPMENT

The JB Sims Generating Station has been a towering presence for half a century. Removal of the plant and remediation of its environmental history will make a profound difference to Grand Haven. The new GHBLP facilities – System Operations and Technology Center and CHP Plant – will occupy a smaller footprint on the site, making land available for new community uses. The resulting opportunity is expected to attract significant community support and result in an expanded natural area and recreation adjacent to downtown Grand Haven.

Project Partners

GRAND HAVEN BOARD OF LIGHT AND POWER DIRECTORS

- Jack Smant, Chairperson
- Gerald Witherell, Vice Chairperson
- Todd Crum, Board Member
- Larry Kieft, Board Member
- John Naser, Board Member

GRAND HAVEN BOARD OF LIGHT AND POWER

- Dave Walters, General Manager
- Erik Booth, Power Supply Manager

PROGRESSIVE AE

- David Shull, Principal in Charge
- John Eberly, Program Manager
- Amanda Elliott, Interior Designer
- Robert Ferguson, Design Architect
- Pete Lazdins, Planner
- Nolan Miller, Landscape Architect
- Brandon Yancharas, Project Architect

POWER ENGINEERS COLLABORATIVE, LLC.

- Anthony Chmielewski, Professional Engineer

Study Methodology

Progressive AE was charged with identifying BLP’s facilities needs and providing a conceptual design that answered these needs. This design was to meet immediate and future demands for BLP operations while providing the best value in services to the customer-owners and the community. Progressive AE’s approach evaluated three aspects of this question and combined results for our final recommendation.

BLP OPERATIONS NEEDS

Progressive engaged the BLP operations management and staff using our Frame – Aspire – Create (FAC) methodology, meeting several times for directed factfinding. We investigated past operations, current challenges, and conducted a guided discussion of future potentials. Additionally, we pulled forward relavant insights from 8 years of integrated resource planning efforts. This effort clarified the operation, functions, and facilities that the community’s electrical utility needs for its future.

The FAC effort led to a conceptual plan for a new facility for the Power Supply Operations and Technology Services; facilitating continued and improved service for customer-owners and the community. This facility is defined by the Design Principles, Building Program, and Concept Design elements of this report.

SITE POTENTIAL

Progressive looked at the Sims site as demolition and remediation plans continue to evolve. Final condition and contours of the site are unknown. Our approach was to identify areas likely to remain above the flood plain and determine highest and best use of the land. Since the land is dedicated to the Board under provision of the City charter, re-use by the BLP was our basic premise unless such use was determined unnecessary. Any other use of the land is indeterminate, but we did consider stakeholders and scenarios for other potential options.

The product of this effort is a Master Plan for the site; included in this report. This plan is specific on the portions of the site that are necessary to the Board’s future, and aspirational on the portions that may be returned to public ues and managed by others.

CHP INTEGRATION

Retaining some local generation capabilities has been a consistent desire from the community in the planning of post-Sims operations for the BLP. The current concept, developed and recommend by Power Engineering Collaborative (PEC), calls for a 12.5 megawatt combined heat and power plant (CHP) using natural gas engine-generators. This technology directly compliments the increasing amount of intermittent resources the utility is purchasing as part of its diversified power supply portfolio. This concept represents an economical solution providing the best option available to the community.

Progressive AE worked with PEC to understand the requirements of the proposed CHP application to ensure the site and building concepts accommodated them. The addition of the proposed CHP application requirements are documented in this report.

SYNTHESIS AND INTEGRATION OF RESULTS

The results of these three efforts were used to develop overall recommendations and cost opinions for the project, intended to be a reliable guide for BLP decision making.

BLP Facilities Study Recommendations

Progressive AE has completed a facilities and site study to assist the Grand Haven Board of Light and Power to plan for facilities requirements in the aftermath of the closure and demolition of the J.B. Sims Generating Station. Findings and recommendations of this study are:

The Board of Light and Power should construct a new Systems Operation and Technology Center.

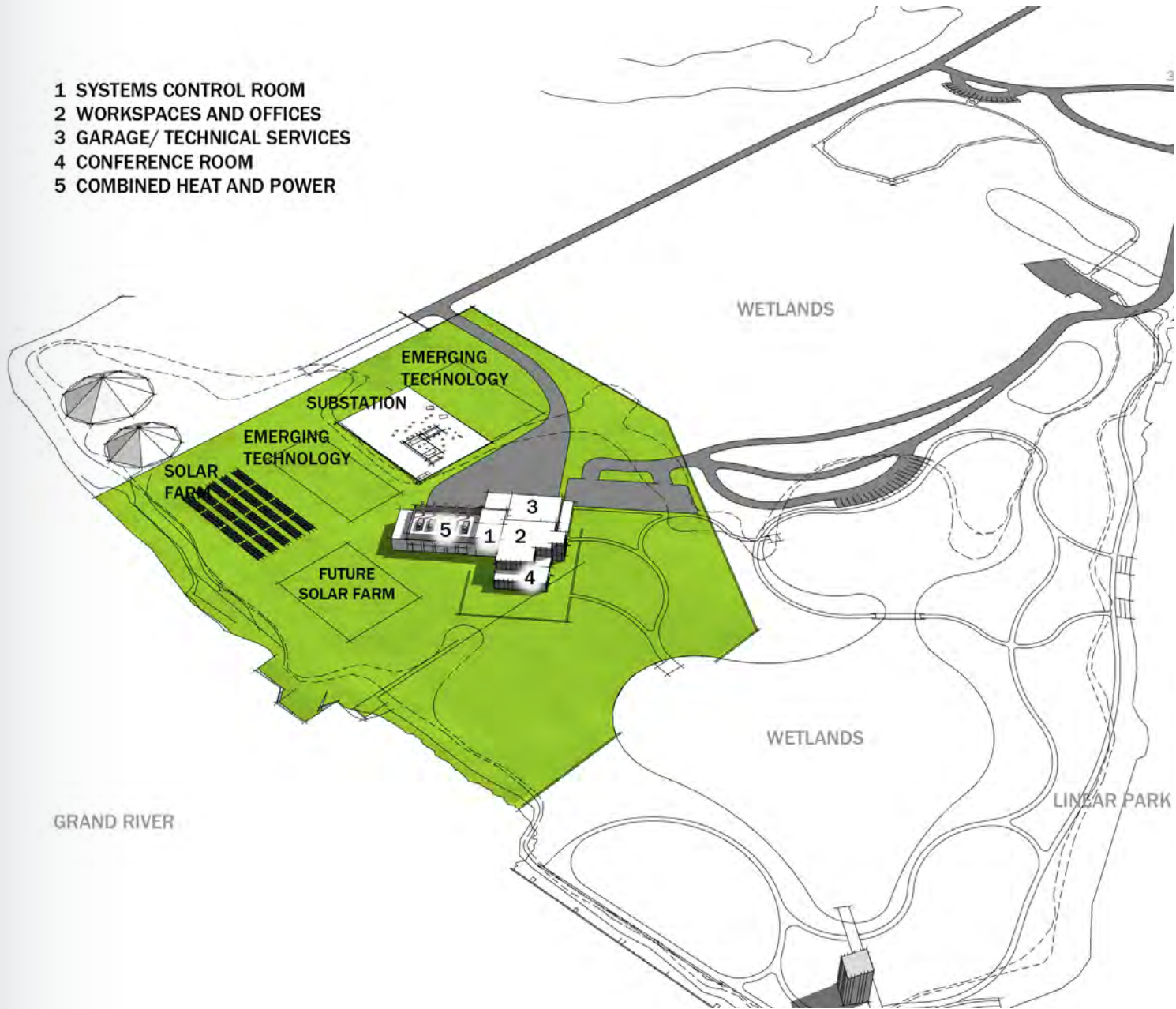
- 1. This facility will facilitate control and monitoring of the advanced distribution systems being installed post-Sims to optimize transmission, distributed generation, and renewable energy integration.
- 2. This facility will house spaces for functions displaced with the Sims demolition including offices, meeting and training spaces, and records storage.
- 3. This facility will provide the functional redundancy necessary to support a solid business continuity plan to avoid systems failure due to weather, fire, or other natural disaster.

The Board of Light and Power should construct a new Combined Heat and Power Plant.

- 1. This plant will consist of (5) 2.5 MW natural gas powered reciprocating internal combustion engine generators.
- 2. Process heat will be captured for heating of the proposed Systems Operating and Technology Center, engine heat, the current downtown snow melt system, as well as snow melt system for the proposed site improvements if implemented.
- 3. The CHP plant will be integrated at the on-site Substation for direct operation of the power supply distribution circuits for most of the Grand Haven community.

The Board of Light and Power should continue occupancy and use of the north western portion of the JB Sims Generating Station site.

- 1. Retain the existing Substation and the surrounding land for future Substation additions.
- 2. Retain and develop space for the Systems Operation and Technology Center as outlined in the design report.
- 3. Retain and develop space for the Combined Heat and Power Plant as outlined in the design report.
- 4. Retain the balance of the buildable portion of the Sims site for installation of future renewable energy infrastructure, potential battery storage, and future emerging technologies.



SECTION 2

Highest & Best Use

What is Harbor Island?

Harbor Island has experienced a long history of utilitarian use and environmental pollution. A river delta island disconnected but nearby to the downtown, this low-value property met multiple community needs for a century as trash disposal, coal distribution, and most recently power generation operations.

Viewed from today's perspective these uses may appear unfortunate, but the choices made met the needs of the community at the time.

The closure of the J.B. Sims Generating Station offers a unique opportunity to bring the island property to its highest and best use value to the community through more sustainable land use.

Recognizing the challenges and responsibilities involved, the GHBLP has developed a plan for beneficial re-use of the J.B. Sims site, maintaining about 50% of the existing Sims site for continued electric utility use and restoring the remaining half for public use.





Trash Burning at Harbor Island



Mechanics shipyard at Harbor Island



J.B Sims Generation Station



Harbor Island as city dump

Existing Harbor Island



Existing J,B, Sims Site Conditions

Site Redevelopment Constraints

ENVIRONMENTAL

1. Brownfield redevelopment dollars and environmental clean-up grants may be available with eligibility dependent on the property holder and use.
2. Only a portion of the property will remain above the 100-year floodplain after site environmental and wetlands mitigation amounting to approximately 10-12 acres of the current approximate Sims property size of 25 acres.
3. Site previously used as City dump with open dumping and burning of trash pre-1960.
4. Site previous uses include a coal-fired power plant with coal and coal ash handling and storage concerns and coal distribution yard before it was a power plant site.
5. Brownfield site with substantial environmental issues (contamination from years of use as City dump, coal-fired power plant, and other industrial uses) and site includes protected/regulated wetlands areas.

INFRASTRUCTURE

1. Some infrastructure from the Sims power plant may be able to be reused such as gas system interconnections, electric distribution substation and high voltage interconnections, building pilings, snowmelt piping, egress and ingress roads.
2. The site is not connected to City sewer and the existing water service is degraded. This lack of site utilities needs to be addressed with a new water service and new sewer line, complicated by the island setting and requiring boring new lines under the channel.
3. Road access to the site has degraded pavement and roadway and bridge limitations. Improvement of roads will be necessary for any new development.

COST

1. Cost to relocate existing necessary electrical system components (facilities and equipment) has been determined by the BLP to be cost prohibitive for customer-owners. Substation relocation would need to be funded by an alternative site developer to make the site available for other use. The on-site substation is a critical component/element of providing service to most of the customer-owners in the City of Grand Haven. An alternate site is not readily available and would require substantial relocation efforts and require time, money, and public acceptance in relocating high voltage transmission infrastructure to a new site.

Site Redevelopment Constraints

SURROUNDING COMMUNITY

1. Lake vessel access, dock, and material storage area may be reusable with additional investment and proper permitting, however trucking from this site is limited and restricts this site’s potential future use. Dust control, given close proximity to Chinook Pier is another problem for this use.
2. A large portion of the property is natural wetlands, suitable for park development or similar post-industrial use. The site’s environmental legacy and presence of city dump materials and remaining coal ash used as fill in the 1960s and 1970s will require appropriate due diligence and will preclude some other uses.
3. Proximity to downtown, significant residential development, Chinook Pier, and adjacent parks presents considerations in use and design. Smaller, less industrial uses seem most appropriate.
4. Linear Park has experienced significant damage due to recent high water levels and has become unusable. Site demolition and wetlands remediation will cause additional impacts to the park.

POWER DISTRIBUTION

1. The most important locational feature to the BLP representing the highest cost to replicate elsewhere is that the Sims site is at the center of the BLP’s electric distribution system. This is where most of the City of Grand Haven’s electric distribution circuits start and then feed the majority of BLP system customers. Additionally, double circuited (from the north and south) high voltage electric transmission lines, interconnect with the regional power grid here (one of three BLP system substations on this site). The BLP’s electric system was built over the years around the connection to J.B. Sims as this was the generation source of most of the power sold by the BLP over the last 60 years. The Sims plant has effectively been replaced by the transmission lines to the regional grid, but the remainder of the substation and distribution equipment must stay in operation within the City.
2. Natural gas supply to the island has been determined to only allow for 12.5 MW of generation without a substantial investment in the local natural gas distribution system of Michigan Gas Utilities. The cost of these gas supply upgrades would be borne by the BLP and its customer-owners if a larger plant is constructed.

Stakeholder Relationships

The Grand Haven Board of Light and Power commenced operations 125 years ago and was validated 90 years ago when a public referendum affirmed the decision to create and expand utility operations under local control. As a locally owned and controlled municipal utility, BLP has different governance, opportunities, and responsibilities compared to an investor-owned regulated utility.

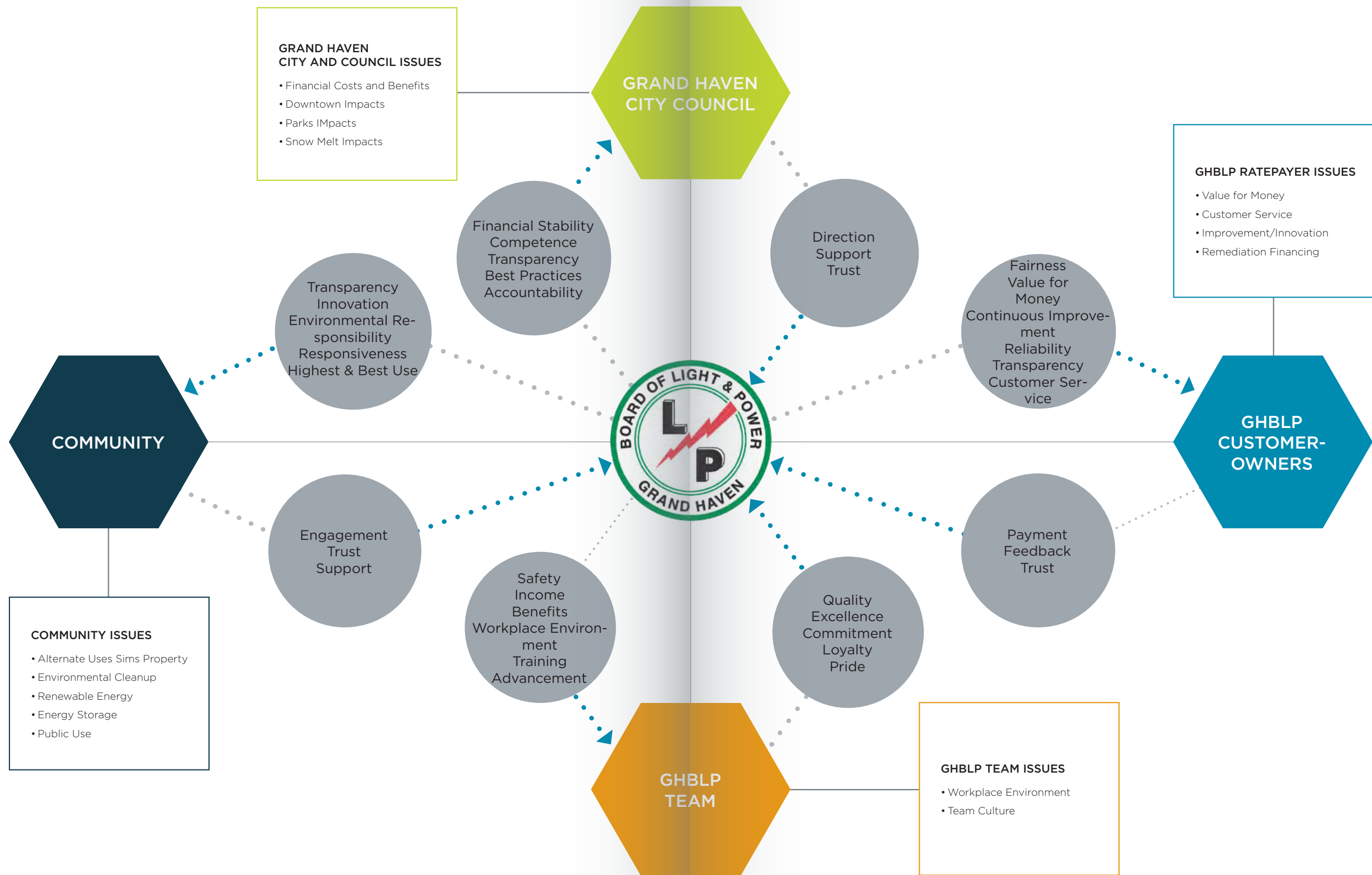
The BLP is deeply integrated into the Grand Haven Community. As a municipal utility it is positioned to pro-actively pursue the common good and bring value to its customer-owners. The BLP recognizes its responsibilities and has charged Progressive AE with identifying the highest and best use of the J.B. Sims site.

Progressive AE identified stakeholder groups in the community based upon the roles that they play. The stakeholders considered are the City of Grand Haven, the Board of Light and Power, the utility’s customers and owners, the utility’s employees, and the community at large. These groups are obviously not mutually exclusive as persons are often members of more than one stakeholder group. Each stakeholder group is related to all of the others, but for our evaluation we considered the two-way relationships between the BLP and each of the other stakeholder groups.

Each of these relationships consist of binding, legal components as well as goodwill considerations. These relationships are diagrammed in the following pages. This diagram sets out expectations between the BLP and each other stakeholder and summarizes potential considerations of each group regarding the J.B. Sims re-development.

The BLP tasked Progressive AE to identify the best possible outcome for the Sims site while remaining within its legal responsibilities and obligations as a municipal utility. The board is charged in the City charter to use “best practices” for utility operations. Goodwill considerations are very important, and the BLP is in a unique position to make its operations beneficial across the board for stakeholders. Our analysis does show that conflicts exist between the BLP’s responsibilities and some of the stakeholder perspectives,

Stakeholder Relationships



Highest & Best Use

SIMS SITE SCENARIOS

There are many publicly stated opinions regarding aspirations for the Sims site. The BLP and Progressive AE agreed that a framework was needed to clarify the potential impacts of redevelopment of the Sims site. Progressive AE studied these questions as described below.

Progressive AE identified four (4) potential scenarios for the re-use of the Sims site. These scenarios were evaluated in the light of the stakeholder considerations identified in the previous section. The four scenarios are expanded with further detail on the considerations of each stakeholder group in the attached chart.

- Sims site reverts to City control, BLP operations on-site are limited to Substation, distribution, and transmission easements and rights-of-way.
- Sims site is re-purposed for private development, BLP operations are relocated elsewhere including Substation, transmission, and distribution.
- BLP remains and re-develops the Sims site constructing a new Systems Operations and Technology Center.
- BLP remains, re-develops the Sims site, and constructs both a Systems Operation and Technology Center and 12.5 megawatt Combined Heat and Power (CHP) plant.

When each scenario is evaluated for the considerations of each stakeholder group it becomes clear that there are significant risks in some scenarios. The greatest risks are associated with scenarios where the BLP does not maintain a presence on and responsibility for the Sims site.

Scenarios

	BLP		City	Community	BLP Team
1 - BLP LEAVES SITE	Remediation of ash ponds, coal storage Relocate operations Property acquisition for Eaton Drive expansion Securing and maintaining distribution on site Limits options for hedging costs through generation Must relinquish right to use site permanently Impacts ability to develop and retain workforce	Demolition and remediation costs not capitalized, may negatively impact rates Limits offering of future renewables, energy storage Limits potential for improved services	Assume responsibility and cost for snow melt, loss of the ability for cost-sharing Assume maintenance of Harbor Island Existing easements for BLP Substation and overhead lines remain May have to assume remediation of trash dump as future uses emerge Assume responsibility for planning of site	No catalyst for development of the public uses of the island Brownfield site has limited private development potential No sewer service to island Water service to island requires replacement/upgrade Roads and bridges in poor condition Linear park in poor condition Potential long-term vacancy Indeterminate responsibility for re-development	Loss of training, office, workspaces Compromised working environment Missed opportunity to build culture and capability Loss of site use guaranteed in charter Loss of opportunity for attracting, developing, and retaining talent
2 - PRIVATE DEVELOPMENT	Remediation of ash ponds, coal storage Relocate operations Property acquisition for Eaton Drive expansion Limits options for hedging costs through generation Reduces ability to develop and retain workforce Disruption and cost of relocating substation Must relinquish right to use site permanently	Demolition and remediation costs not capitalized, may negatively impact rates Limits offering of future renewables, energy storage Limits potential for improved services Costs for relocation of substation No ability for backup power downtown	Assume responsibility and cost for snow melt, loss of the ability for cost-sharing Assume maintenance of Harbor Island Must attract and manage developer relationship Likely infrastructure cost contribution Indeterminate partner and schedule for project Indeterminate funding mechanism Tax revenue to be determined	Potential loss of local control and/or public use Unknown developer, proposed use, and funding Industrial/port use is most viable, may be least desirable May lose opportunity for connection to downtown Potential long-term vacancy	Loss of training, office, workspaces Compromised working environment Missed opportunity to build culture and capability Loss of site use guaranteed in charter
3 - BLP STAYS, BUILDS OPERATIONS CENTER	Remediation of ash ponds, coal storage Continuing involvement in remediation Build System Operations and Technology center Re-construct roads Upgrade utilities to site City/BLP partnership potential for public part of Harbor Island BLP update and maintain snow melt	Capitalized costs spread payments, stabilizes rates, and avoids increases Allows for future renewables, energy storage, and generation Allows for future generation connected direct to downtown Facilitates improved services	Committed partner for redevelopment Snow melt remains BLP responsibility BLP is co-user of snowmelt plant offering cost-sharing opportunities Infrastructure improvements part of project Continuing presence after 60 years of BLP occupancy Funding mechanism in place	Maintains local control and facilitates public use Proposed project defined and funded Reduced BLP footprint and visibility Enhanced connection to downtown Partner for development of public uses Clear designation of areas for natural parks use	Improved facilities for training, office, workspaces Improved culture and training Improved job satisfaction Improved advancement from innovative organization Opportunity for attracting, developing, and retaining talent
4 - BLP STAYS, BUILDS OPERATIONS CENTER AND CHP	Remediation of ash ponds, coal storage Continuing involvement in remediation Build System Operations and Technology center Build 12.5 mW CHP plant Re-construct roads Upgrade utilities to site City/BLP partnership potential for public part of Harbor Island BLP update and maintain snow melt	Capitalized costs spread payments, stabilizes rates, and avoids increases Allows for future renewables, energy storage, and emerging technology investments Hedge on capacity costs to stabilize rates Ability to peak-shave and control a portion of energy cost Generation connected direct to downtown Facilitates improved services	Committed partner for redevelopment Snow melt remains BLP responsibility Infrastructure improvements part of project Continuing presence after 60 years of BLP occupancy Annual snow melt operating costs reduced Tax revenue identifiable Capital cost-sharing of snow melt system	Maintains local control and facilitates public use Proposed project defined and funded Reduced BLP footprint and visibility Proposed CHP plant design minimizes impact on area Enhanced connection to downtown Partner for development of public uses Clear designation of areas for natural parks use Supports community desire to increase renewable energy portfolio	Improved facilities for operations efficiency Improved culture and training Improved job satisfaction Improved advancement from innovative organization Enables advanced operations and skills Opportunity for attracting, developing, and retaining talent

SECTION 3

SIMS SITE & HARBOR ISLAND MASTER PLANNING

BLP Site Requirements

CONCEPTUAL SITE CONTEXT

1. The current and future land uses of the surrounding area make it possible to leverage numerous amenities and will provide both vehicular and pedestrian connectivity to the GHBLP site. The visibility of the proposed facilities and the potential of the adjacent property will demonstrate to the community how important of an investment the GHBLP is making. The remaining land outside of the GHBLP proposed development will provide others the opportunity to complete the vision of this master plan.

BUILDING SITING

1. GHBLP conveyed their preference for the building being located relatively similar to the existing structure to reuse existing piling, but oriented toward the downtown. The building is rotated approximately 45 degrees to capture desirable views down the Grand River and the proposed wetlands, while also capturing optimal sun patterns throughout the year.
2. GHBLP facilities were kept to the north with public access allowed to the south and east portions of Harbor Island. Security/access perimeter is required and defined by a combination of fencing, wall and natural features such as wetland pond and meadow.

PEDESTRIAN PATHS

1. Pedestrian paths are located throughout the southern portion of the site, providing access to the wetlands, Grand River, overlooks and meadow open spaces.

VEHICULAR ACCESS

1. The existing regulated pond east of the substation will be filled and road access is required to the north end of the site. The south road crosses a bridge that is not adequate for heavy hauling.
2. The north road will have separate gates for GHBLP and Meekhof Docks.
3. The existing public parking lot will remain in place near the original entry to the to BLP site.
4. A modified access road will include a landscaped and natural median, splitting the directional lanes to the point of gate entry at BLP. A turnaround at the entry gate will provide visitors the opportunity to exit the site or loop into a public parking lot for access to the park and amenities.

INFRASTRUCTURE

1. Existing and proposed snowmelt piping runs will be kept in nominally accessible locations for future maintenance. The existing lines were directionally bored to their destination and run under the river, but any lines on Harbor Island should be routed to not run below ponds.
2. The snowmelt equipment will be relocated and the existing structure removed in any scenario where the GHBLP builds new on the site.
3. The existing 48" outfall piping line from the plant to the southwest outfall structure will be filled and abandoned in place. Depth of proposed ponds or contours must accommodate this.
4. Existing reclaim foundations are abandoned in place below the existing coal pile. Depth of new ponds or contours should consider this.
5. Coal pile removal will follow GHBLP auger samples to determine depth of coal. Expectation is that removal of coal and re-distribution of earthen berm will leave a majority of the south portion of the site below the 100 year flood plain.
6. Solar installation is proposed west of the existing substation; future energy storage can be provided at filled in former ash impoundment on the north portion of the site.

PARK AMENITIES

1. Tiered steps to observation point to the west, expand areas for seating.
2. Parking is provided off 3rd Street access for access to existing wetland.
3. A boardwalk will allow accessibility over the existing north wetland, looping to pedestrian paths throughout the park.
4. Boat access utilizes existing seawall.



SECTION 4

SYSTEMS OPERATION & TECHNOLOGY CENTER

Planning Principles

ESTABLISHING SUCCESS MEASURES

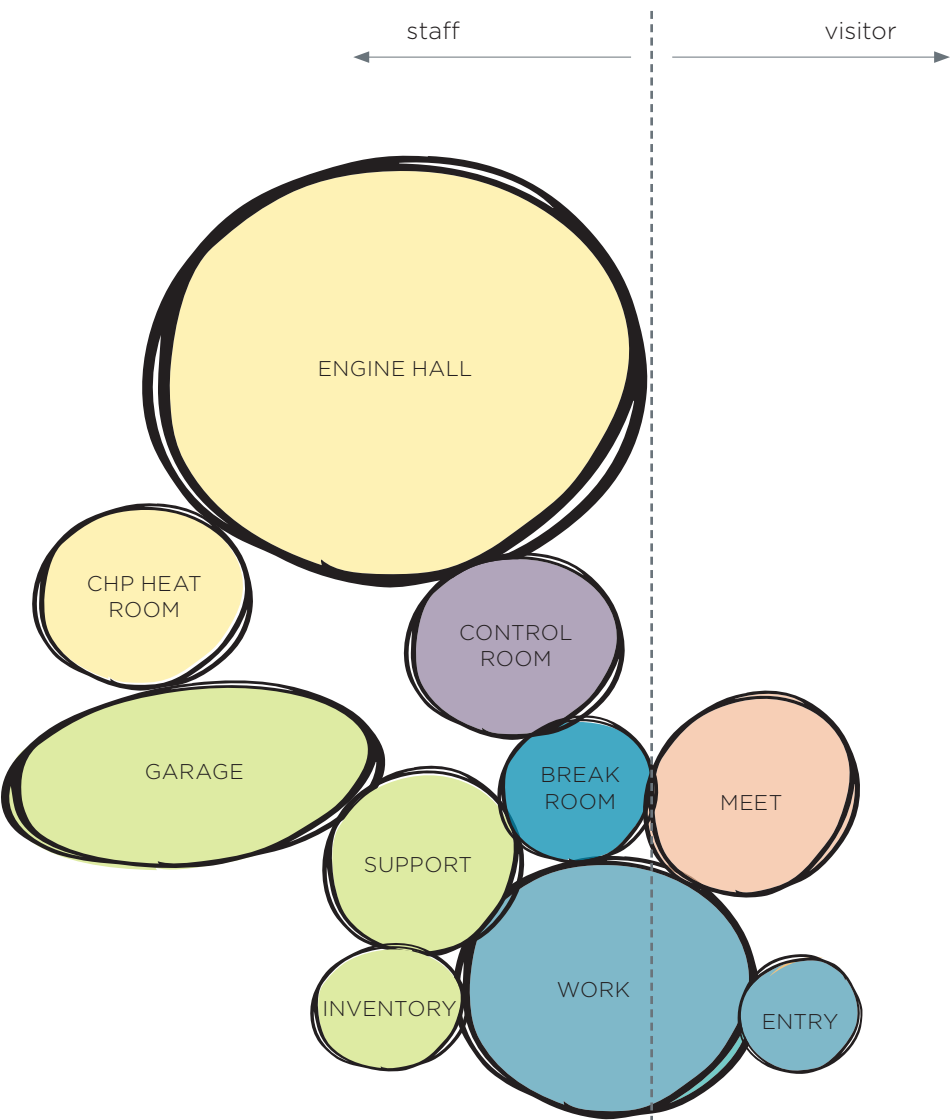
Planning Principles are clearly articulated statements rooted in Grand Haven Board of Light and Power’s strategic vision. Inspired by future-state, Planning Principles provide insight and direction as we establish success measures for your project.

	The design of the new Systems Operation will create:	
Operational Excellence	1	<div>Build and implement a mindset of proactive scenario planning, anticipation, and resolution by interaction with data and knowledge on demand in this new technology driven utility</div> <div>Cross-disciplinary growth and development encouraging resiliency in operations and career satisfaction</div>
Talent Attraction and Succession Planning	2	<div>Shifting from task-oriented to mission-oriented empowerment</div> <div>Nimble and progressive operators with defined pathways to development & growth</div> <div>Adaptable and responsive to emerging technologies</div>
Community Presence	3	<div>Enhance the opportunity to develop a new community experience in a familiar place</div> <div>Make the work of the utility visibly accessible to and within this community asset. The operations center is embedded within the community’s culture, flow, and life.</div>
Integrated Generation	4	<div>Power generation will be integrated within this project development in a way that supports a diversified power supply portfolio</div> <div>Compliments and supports increased renewable energy options</div> <div>CHP systems will be integrated within this project development in a way that capture process heat for the facility, site snow melt, and the downtown snow melting system.</div>

Program

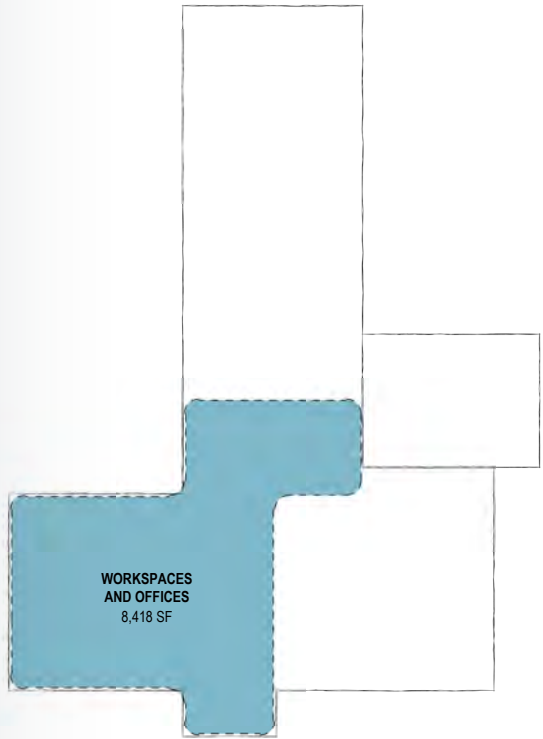
PROJECT SPACE REQUIREMENTS

The proposed program is derived from an in-depth analysis of Grand Haven Board of Light & Power’s current conditions and strategic planning for the ideal future state work environment. Quantities and square footages are future thinking recommendations and projections.

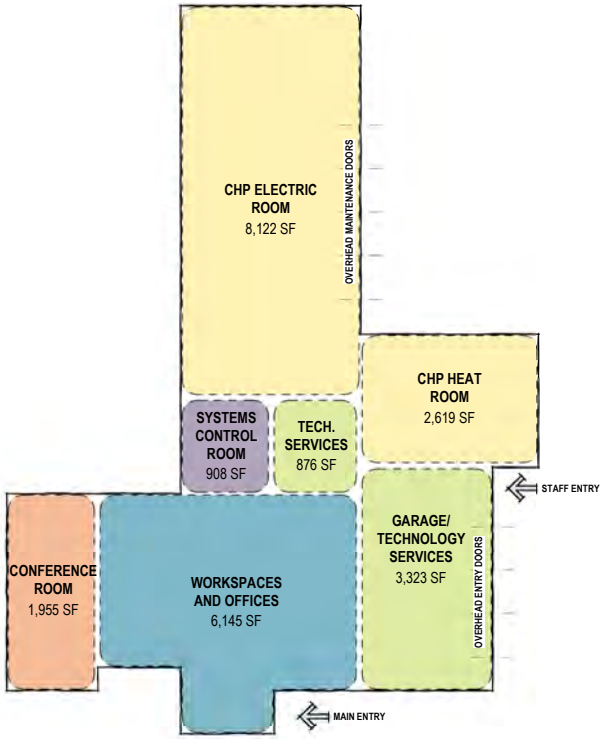


ADJACENCY DIAGRAM
Adjacency Diagrams use scaled bubbles to illustrate scale and relationships between spaces. Spaces that are touching have a critical relationship. The diagram does not indicate a floor plan.

Proposed Diagrammatic Plan



CONCEPTUAL FLOOR PLAN
1" = 20'-0"



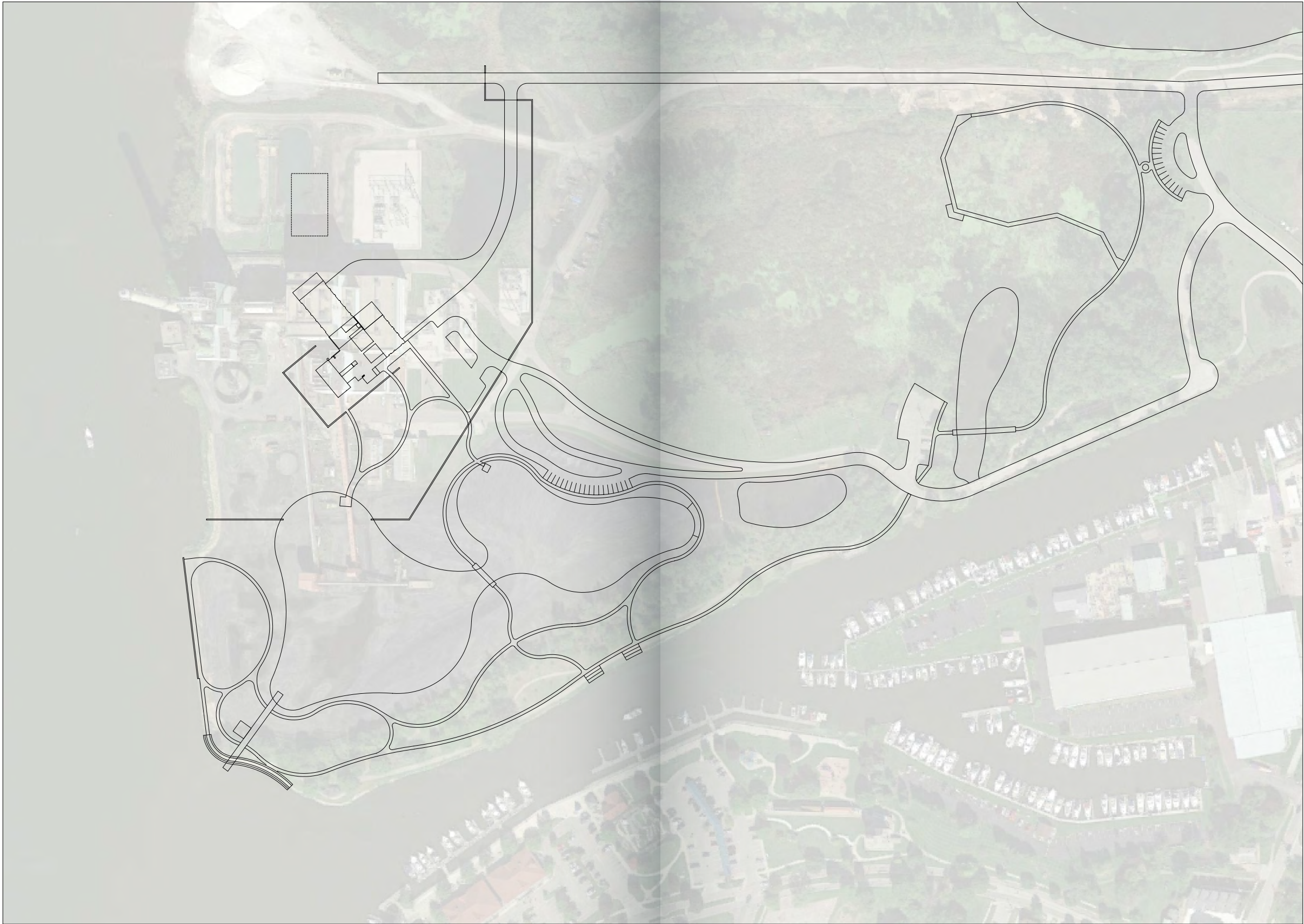
CONCEPTUAL FIRST FLOOR PLAN
1" = 20'-0"

APPENDIX

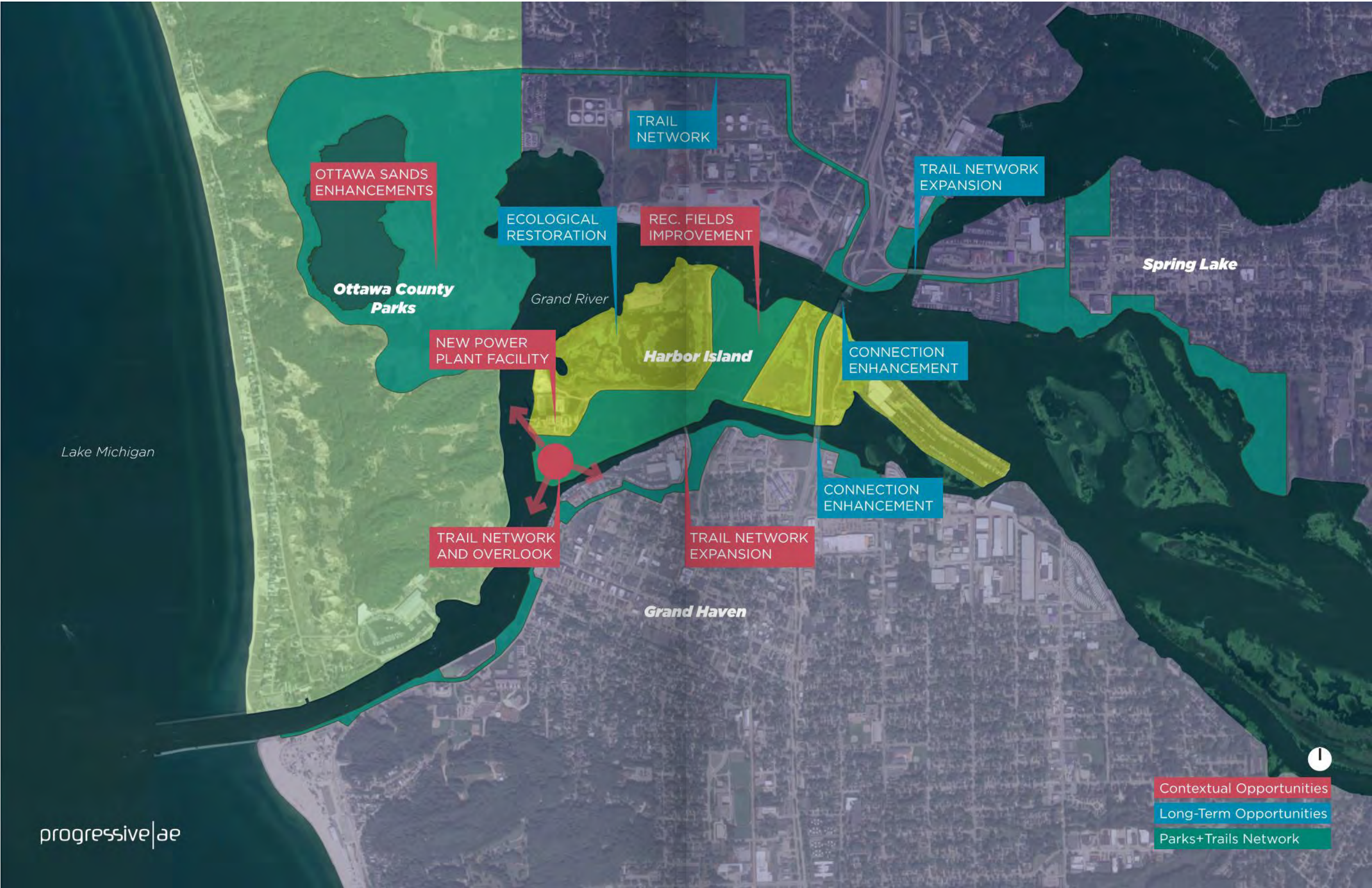
Existing Site Conditions



Proposed Site Plan



Site Context



Conceptual Massing & Site Development



Conceptual Massing & Site Development



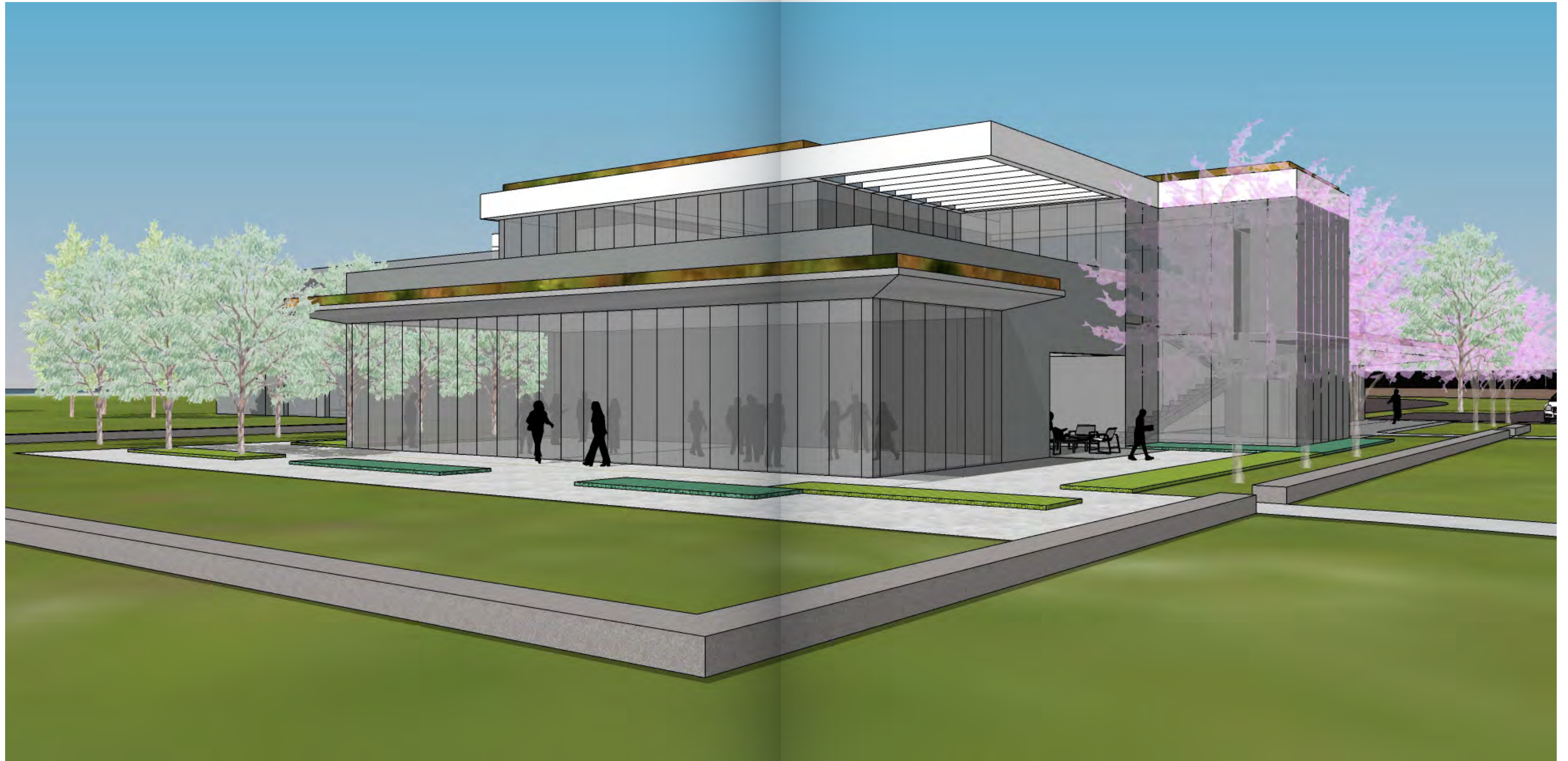
Conceptual Massing & Site Development



Conceptual Massing

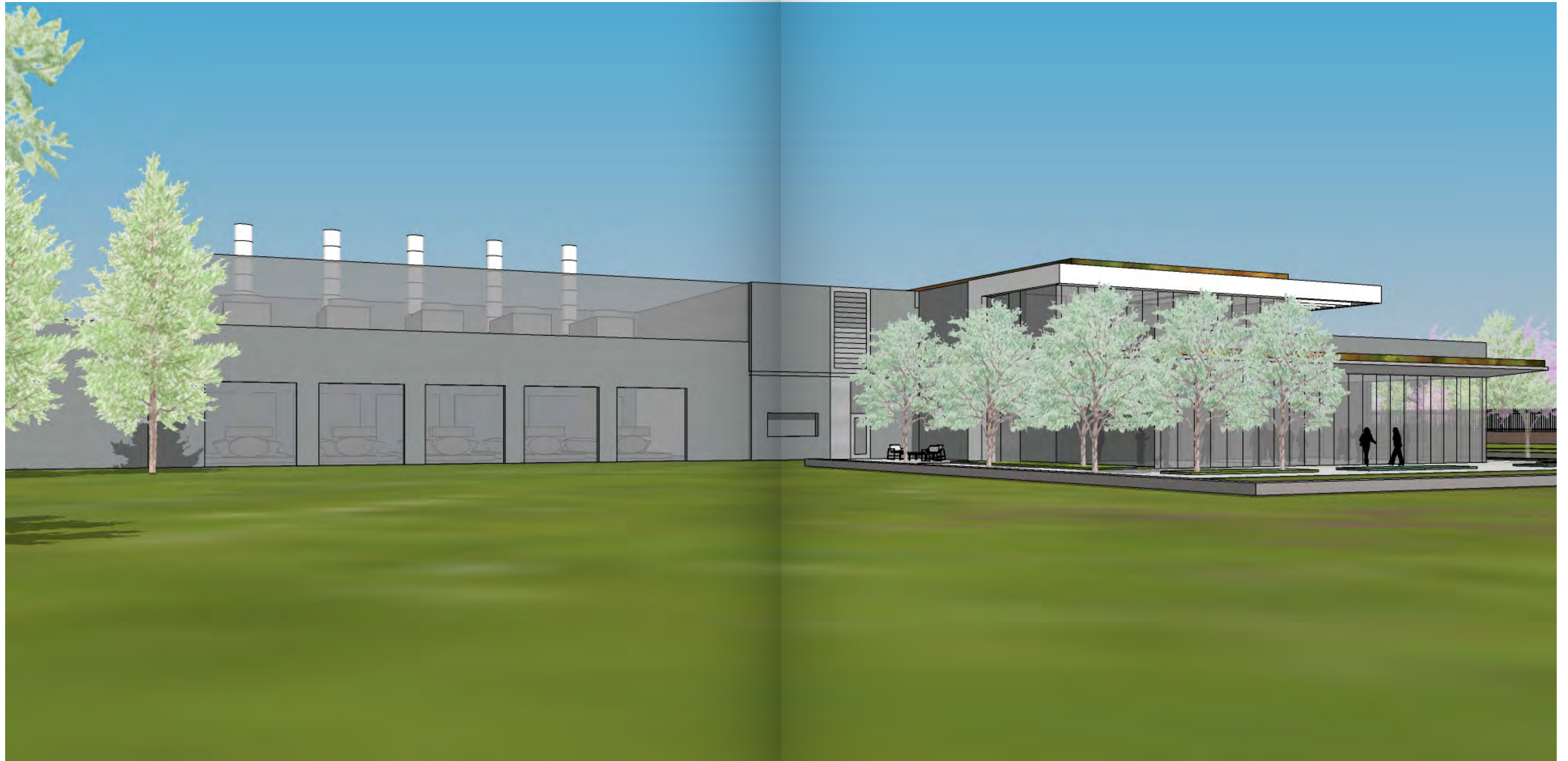


Conceptual Massing



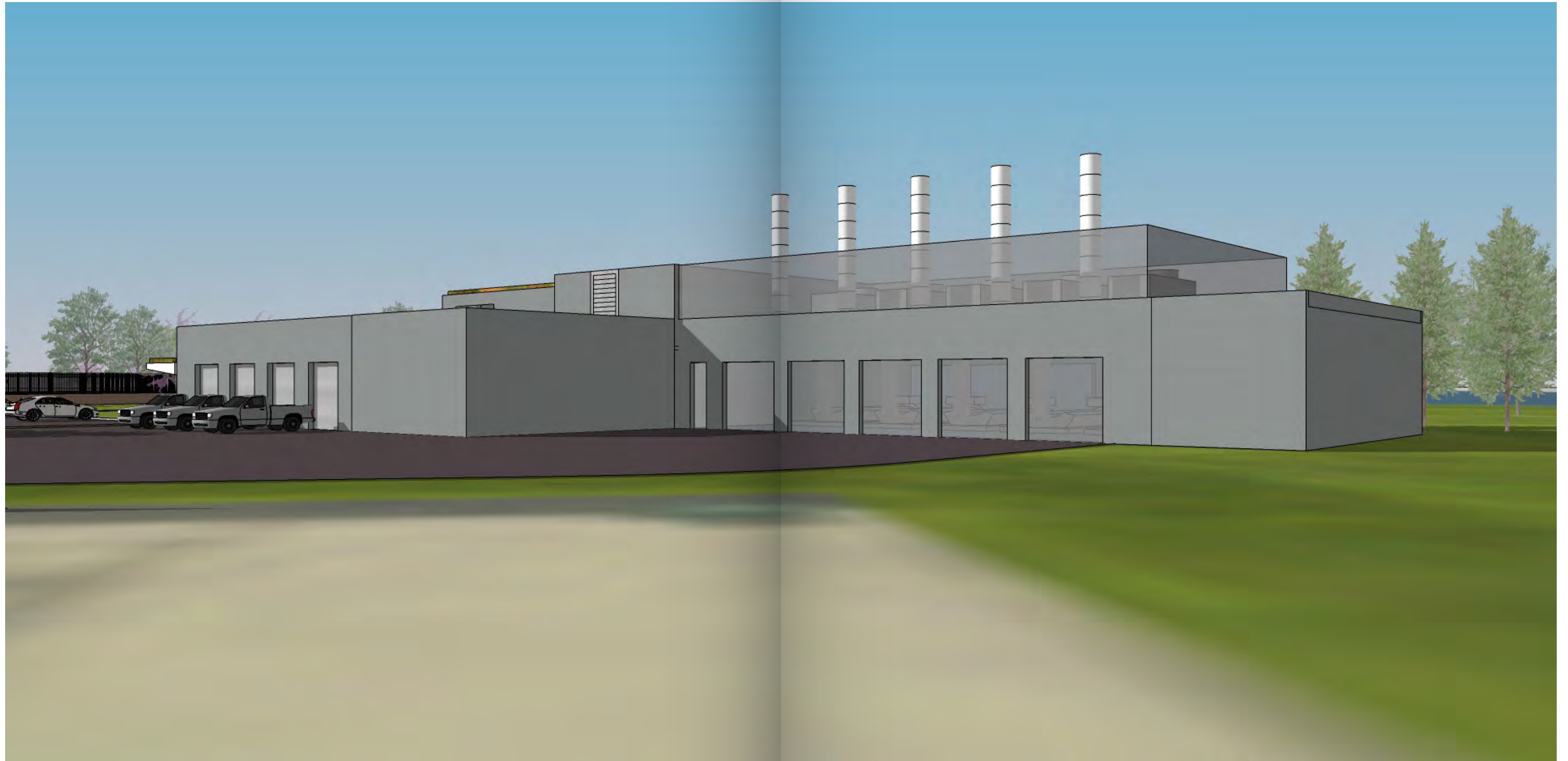
MEETING ROOMS AND TERRACE

Conceptual Massing



ENGINE HALL AND MEETING ROOMS

Conceptual Massing



ENGINE HALL

Opinion of Probable Cost

GHBLP Sims Site Bond Program Elements

APPROVED COMPONENTS		
	Scope	Cost Estimate
JB Sims Plant Demolition	GHBLP	\$5,200,000.00
Snowmelt Equipment Installation	GHBLP	\$1,000,000.00
Coal Ash Remediation Phase I	GHBLP	\$3,000,000.00
Substation Improvements	GHBLP	\$4,000,000.00
AMI	GHBLP	\$2,000,000.00
		\$15,200,000.00

PROJECT COMPONENTS IN CONSIDERATION		
Coal Yard Remediation	GHBLP	\$1,700,000.00
Coal Yard Wetands Restoration	GHBLP	\$800,000.00
Phase II/III Potential Ash Remediation	GHBLP	\$2,500,000.00
		\$5,000,000.00
Systems Operations and Technology Facility		
Building	PAE	\$7,400,000.00
Site Development	PAE	\$1,200,000.00
Site Utilities	PAE	\$800,000.00
		\$9,400,000.00
Combined Heat and Power		
Building Enclosure	PAE	\$3,200,000.00
Generation Equipment and Extended Costs w/ 15% contingency	PAE	\$13,800,000.00
		\$17,000,000.00

TOTAL PROJECT	\$46,600,000.00
---------------	-----------------



Contact Us

Michigan Offices

Phone: 616.361.2664

North Carolina Office

Phone: 704.731.8080

Read Our Blog

progressiveae.com/strategic-insights

Watch Our Testimonials

progressiveae.com/testimonials

