

JST

SECOND QUARTER 2023 PROJECT STATUS OVERVIEW

CUNNINGHAM-LIMP

28970 Cabot Dr.

Suite 100

Novi, MI 48377

Phone: 248.893.2309

www.cunninghamlimp.com



Cunningham-Limp
BUILDING BETTER COMMUNITIES

THE TEAM



Cunningham-Limp
BUILDING BETTER COMMUNITIES

RAA
RYUICHI ASHIZAWA
ARCHITECT & associates

arcari iovino
+ ARCHITECTS PC



LAGO



ROCKY MOUNTAIN
JOINERY CENTER

Owner

JST, Owner

Project Initiation & Visionary

- Owner & Operator of the finished campus & facilities

Construction Manager

Cunningham-Limp, Construction Manager

*Sam Ashley, Matt Sportel, Jacob Gardner,
Josh Muxlow, Stephen Guidos, Owen Kipke, Ryon Barker, Natalie Tynan*

- Project Management, Pre-Construction, Construction, Estimates,
Professional Services

Design Team

RAA

Ryuichi Ashizawa, Gordon Evans

- Design Architect

Arcari + Iovino

Edward Arcari, Tania Moustafa

- Architect of Record

ATWELL

Eric Lord

- Civil Engineer, Landscape Architect, Surveyor

MPP Engineers, LLC

MPP Engineers, LLC

- Structural Engineer

Princeton Engineering Group, LLC

Princeton Engineering Group, LLC

- MEP Engineer

Key Consultants

LAGO CO., LTD

Hiroaki Nishikawa, Tomohiro Hamada

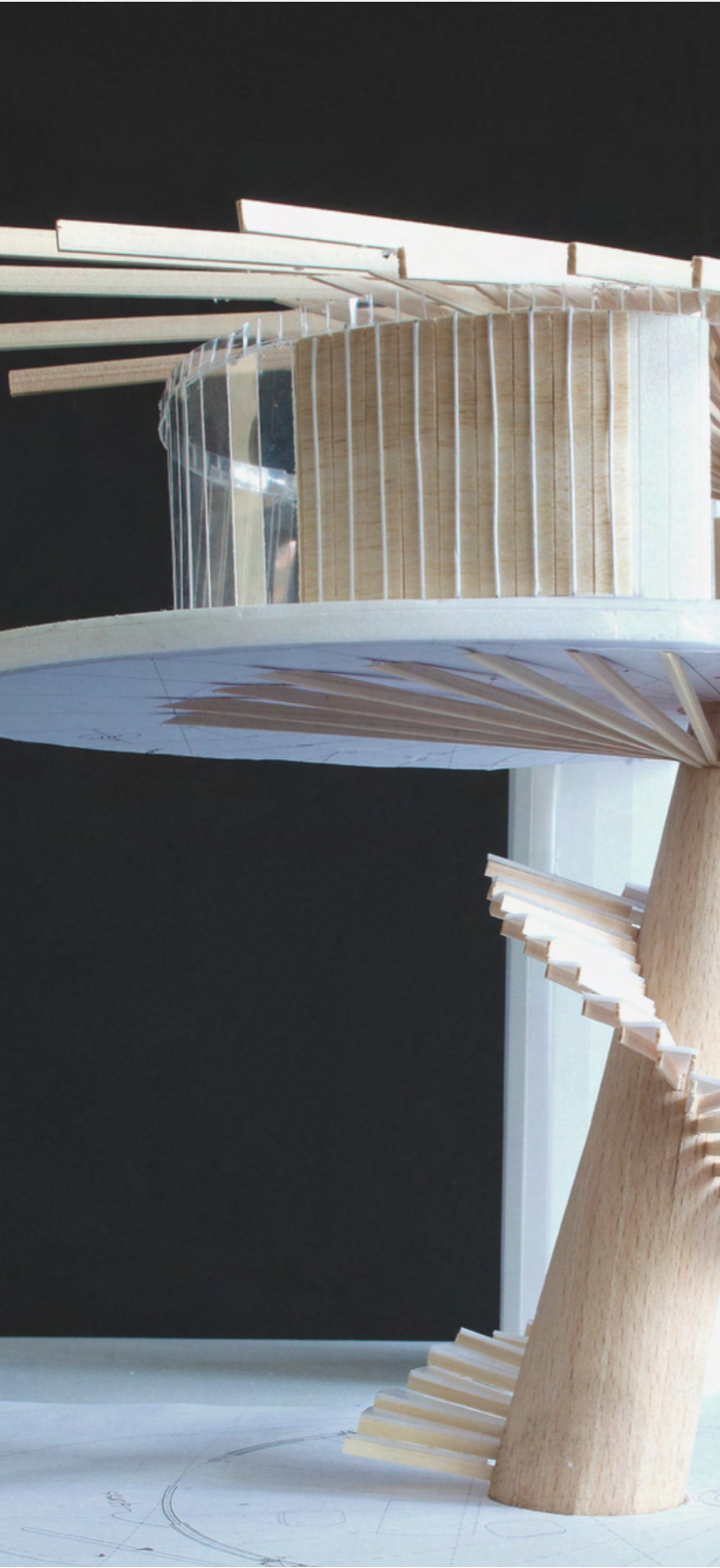
- Ecological Design & Environmental Research

Rocky Mountain Joinery Center

Hemi Mund

- Timber Fabrication

CONTENTS



PAGE 1

ABOUT JST

PAGE 2

C-L'S ROLE

PAGE 3

GOALS OF THE PROJECT

PAGE 4

SITE PLAN

PAGE 5-12

SUSTAINABILITY

- *SITE RESEARCH*
- *ANIMAL STUDIES*
- *MATERIALS*
- *GEOHERMAL ENERGY*
- *TREE HARVESTS*
- *GREEN ROOF*

PAGE 13

SUMMARY

ADDITIONAL

JST PROJECT IN THE NEWS

AERIAL PHOTOGRAPHY

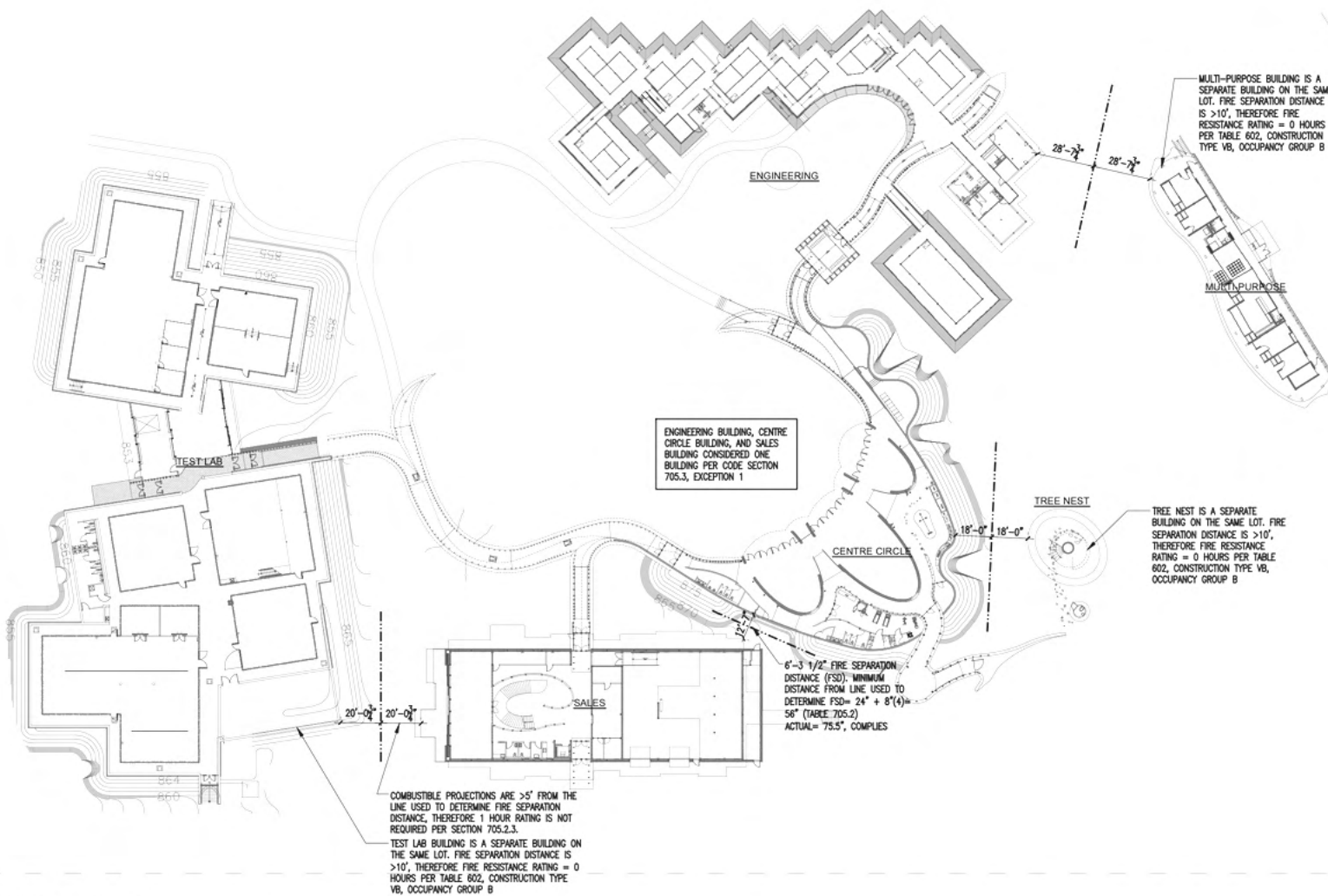
JST

OWNER

JST (Japan Solderless Terminals) is a Japanese privately held company whose focus is automotive engineering. Established in 1957, the company is headquartered in Osaka, Japan with a worldwide presence in 17 different countries.

The leaders of JST share a sustainable belief that the buildings which service their business should be in harmony with nature, and their expression of architecture is an art form.

The campus in Farmington Hills will have a total of 6 buildings woven throughout the forest which include a Test Lab, Sales Center, Tree Nest, Engineering Center, Annex, and the Center Circle Loop. Also included within the campus will be several other natural features.



CUNNINGHAM-LIMP

CONSTRUCTION MANAGER

Cunningham-Limp (C-L), the construction manager for this assignment, is integrating traditional Japanese architectural philosophies into the construction of the project.

The environmentally sensitive nature of JST has caused much of its focus to surround sustainable construction and design.

The buildings will lack drywall, structural steel, catch basins, storm pipes, paint, carpets, and other synthetic products. C-L's job has been to plan, resource, and construct the project around these missing materials and find natural alternatives. Cunningham-Limp will take full responsibility for the success of the project while committing to its mission of positive impact on people, communities, and companies. .

Unlike any project the team at C-L has done before, the JST campus will be constructed with priorities unique to the Western construction industry.

Project estimator, Ryon Barker, put it as:

"A unique opportunity that comes up once in a lifetime. I've learned more from this project than any other project I've worked on".

C-L President, Sam Ashley, and Project Director, Matt Sportel, have plans to travel to Japan in the near future to learn more about applying Japanese philosophies to their role for JST.

When the project is completed, C-L will have planned and constructed the campus for a decade. To put that in perspective, this job will have been active for nearly 25% of C-L's existence as a company.

"It is a job of perfection, not a job of production". - Jake Gardner, Project Manager



GOALS OF THE PROJECT

Simply put, the theme of this project is the forest.

A primary goal is to utilize the existing natural landscape with minimum disruptions to the current ecosystem. The buildings will be functional for corporate use and sustainable in regard to the forest. With 10 acres of land that features woodlands, wetlands, and a stream running through, the idea is to disturb as little of this natural landscape as possible.

"To carry out daily life while preserving the forest represents a profound example of the coexistence between man and nature." - Ryuichi Ashizawa

Major factors that have gone into the planning and pre-construction for JST had to do with tree preservation, nature studies, and historical analysis of the site dating back nearly 300 years. (See "Sustainability Factors" section).

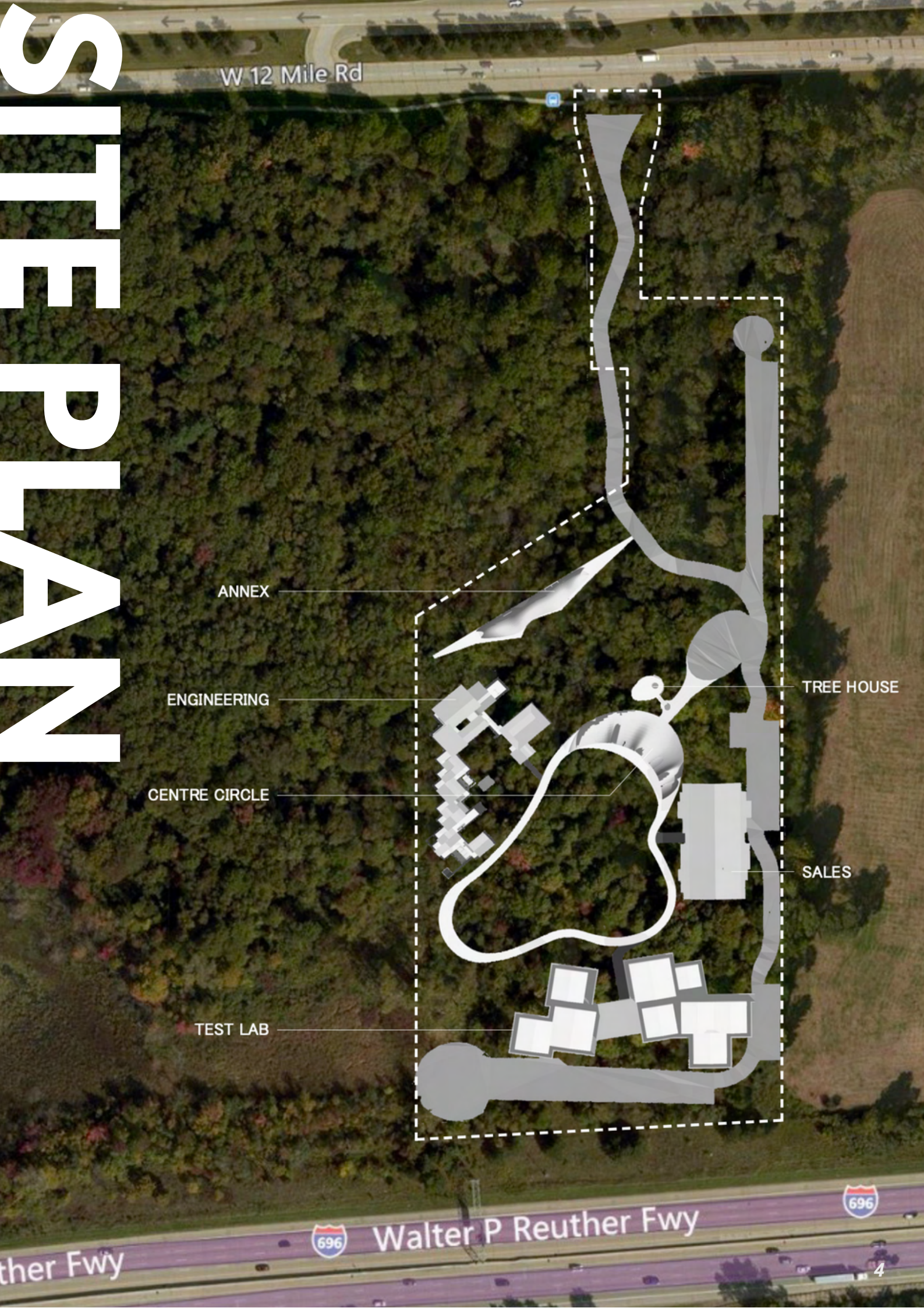
This will be the most holistically sustainable project that will have taken place in Michigan.

"I hope the harmony which coexists with this natural environment will weave the story of the forest for thousands of years"

-Ryuichi Ashizawa, JST Architect



SITE PLAN



W 12 Mile Rd

ANNEX

ENGINEERING

CENTRE CIRCLE

TEST LAB

TREE HOUSE

SALES

ther Fwy



Walter P Reuther Fwy



SUSTAINABILITY FACTORS | SITE RESEARCH

Lago Co., LTD, is a team of ecological specialists and historians who've studied the JST site since 2015. The images featured represent a small portion of their extensive research.

The table of contents shown below provides a general idea of the detail that went into the ecological investigation. It extends from studies of rare plants originating from 25,000 years ago to an outline of the forests' present-day ecosystem and so much more. Aerial photos discovered examine the site from 80+ years ago to this present day and show the different forms it has taken. Dating back further, they found traces of Native American settlements through their vegetation studies. The cultural philosophies held by these former residents will be reinforced within this project that exemplifies harmony with nature.

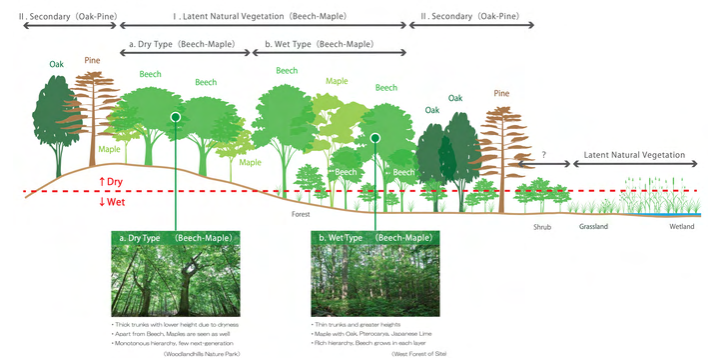
These elements of research and their findings are paramount to the design of the JST campus and its construction.

on Map of the Site and its' Surroundings

- The aerial photo from the 1940s showed that most of the site and its' neighbors were plantation, whereas the wetlands around the site and the waterway remained natural
- It is estimated that the plantations were forested in about three to four plots
- Judging from the succession of aerial photos, the plantations are thought to be abandoned and its' vegetation transition gradually progressed along with the changes on the structure of the forest, until the site reached its' current state.



■ Schematic Section of Major Vegetation Around the Site



- [POINT]
- Two types of Beech (Fagus Grandifolia) and Sugar Maple (Acer Saccharum) were observed in Farmington Hills, dry and wet
 - Confirmed wet types were in a relatively good condition, found about 400 meter west of the site Fagus grandifolia, Acer saccharum, Quercus rubra, and other species. The abundance of natural wetland vegetation were present in abundance.
 - Dry types were previously confirmed at Woodlands Nature Park.

■ Plant Research Results

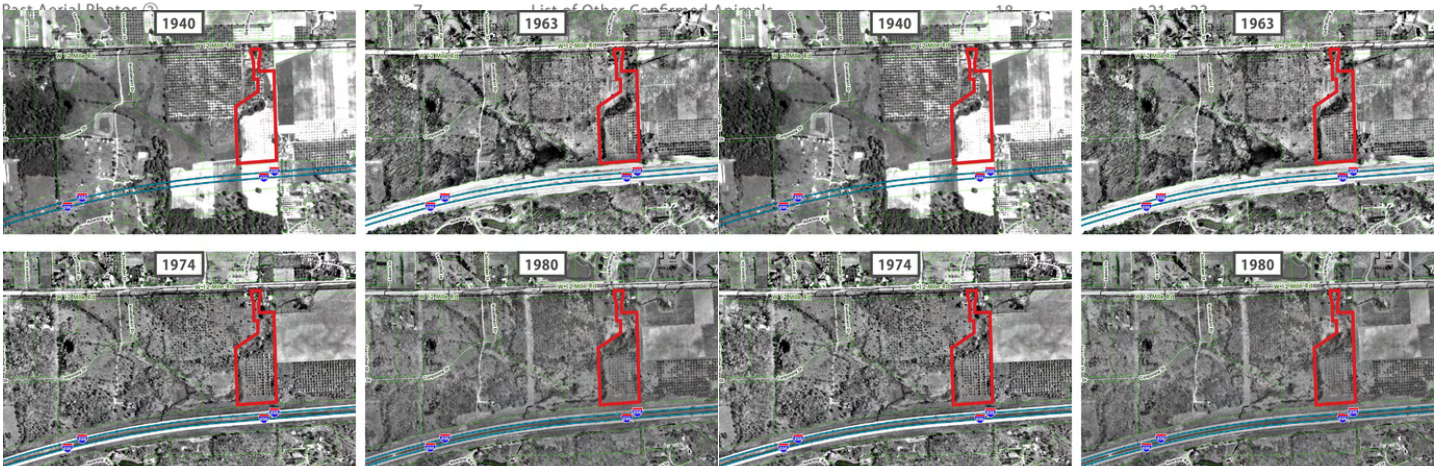
	page
Aerial Photos of the Site and its' Surroundings	1
Vegetation Map of the Site and its' Surroundings	2
Map of Vegetation Naturalness	3
Schematic Cross Section of the Neighboring Site	4
Rare Plant Species Confirmed Position	5
Past Aerial Photos ①	6
Past Aerial Photos ②	7

■ Animal Research Results

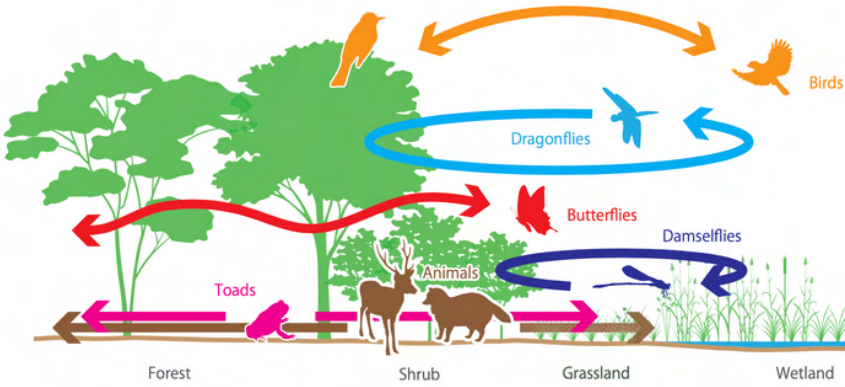
	page
List of Confirmed Birds	12
Pictures of Confirmed Birds	13
Eco-tone Seen from the Habitat of Birds	14
Range of Usage based on Hierarchical Structure of Birds	15
Range of Usage based on Birds' Breeding Season	16
List of Confirmed Mammals	17
List of Other Confirmed Animals	18

■ Appendix

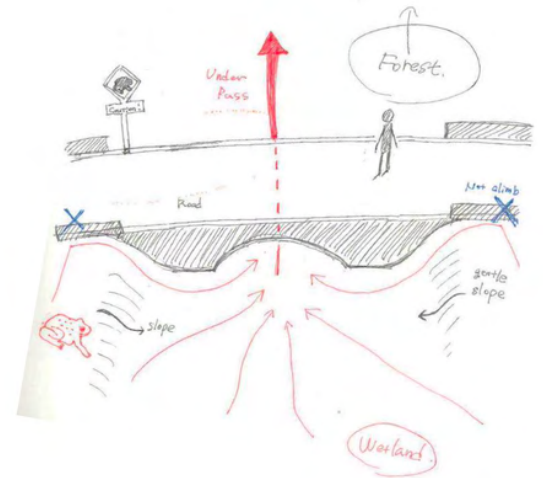
List of Confirmed Plants Species
Map of Survey Spots on Site and Surrounding Areas
Table of Community Composition of Forest
Table of Community Composition of Wetland
Vegetation Survey Form
st.18-st.20
st.21-st.23



SUSTAINABILITY FACTORS | ANIMAL STUDIES



How to Reduce the Effect of Division by Underpass



[POINT]

- The Forest Edge is an Entrance that connects the Forest with Grasslands and Wetlands
- Sunlight reaches the area and plants tend to be diversified
- Populated with plants producing fruits eaten by Insects and Animals
- When continuity is divided by Roadway or Structure, reduce the impact on small terrestrial animals, especially ones that are of low mobility

ECOSYSTEM



1. Hawks • Predates on other Animals • Its' scope of activity spans several kilometers



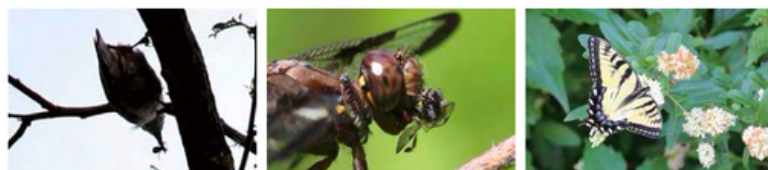
3. Foxes • Other Animals Made Use of their Nest 5. Raccoons 6. Herons • Connect land's water and material circulation



9. Woodpeckers • Use Dead Trees for Nesting and Feeding • Other Animals Made Use of their Nest



13,15. Mammals and Birds eat Fruits • Carry Plant Seeds • Beginning from Sprouts into a Forest



15. Birds eat Insects 19,21. Dragonflies, Mantises, etc eat Insects 23. Butterflies, Moths, Beetles carry pollen



Decomposers • Decompose Decaying Trees and Fallen Leaves, Enriching Forest Soil

Lago Co., (JST's ecological designers), defined a list of every confirmed animal native to the site and how each micro-environment impacted the property as a whole.

The list went as far as examining insects that roamed the dirt, fishes in the stream, and birds that migrated across the treetops. They confirmed the position of these animals and their routes of movement.

The creative minds of Cunningham-Limp, JST, and the Design Team, have found ways to work around these micro-environments to ensure the man-made buildings would not interfere with the natural habitats and migration patterns of these native creatures. Once the project is complete, the baseline health of the forest and its ecosystem should be returned to normal if not improved.

To accomplish this, many of the buildings will feature animal crossing paths, natural shelters, and be in tune with the ecological network within the property. The specificity examined in their research is impossible to demonstrate within a few paragraphs. All in all, their work exemplifies a general objective of this project: coexistence.

SUSTAINABILITY FACTORS | FOREST

Typically, a developer will clean out the trees of a job site in a way that is most convenient to their project. This job has required the opposite. After identifying the species of each tree in the forest, pathways were surgically carved throughout to promote maximum tree preservation. Certain hardwood species of trees that were removed out of necessity, will be repurposed to the highest degree.

During the groundbreaking ceremony, nuts and seeds from the logged trees were collected and taken to a nursery in Genessee County. The saplings will be later transported back to the site and **replanted in the approximate area in which the tree of origination was taken from.** (See page 11).

Some trees were first taken to a dry kiln in New Mexico and will soon be transferred to Colorado for milling. When returned to the JST site, they will be incorporated into the superstructure of the building or used for natural landscaping features. This specific process is aimed to repurpose the trees that were "given [to us] by the land".

JST FOREST NEWS LETTER

"WHY ARE NATIVE PLANTS IMPORTANT?"

Botanical technologist / plant recorder Ms. Carolyn J. Miller from Michigan State University came to our 5th workshop as a special guest. Ms. Miller gave us an informative and important presentation titled "Native Plants", to which she explained why native plants growing in the area are important. It was a very well organized, structured and presented lecture leading each of us to appreciate the importance, through the examples, of how animals and plants depend on each other, and how they affect our lives.



We had fieldwork with Ms. Miller in the JST Forest in the afternoon, and observed native and non native species in the forest. She instructed us what we should be careful about from the plant conservation point of view.

Alien species quickly invade as soon as the land is cleared. Japanese knotweed has already started to spread in the Forest's provisional road, which we need to be alert.



Japanese knotweed



Mr. Ashley (Cunningham-Limp), Mr. Lord (Atwell) and Mr. Ruehle (Arrow-Wood) explaining to their children about the project of constructing buildings while

JST staff, engineers on construction and their families had fieldwork with us the next day. We collected acorns, felt the warmth of the trees, listened to the sound of water, and heard birds chirping. Through those experiences, we realized and shared the importance of forest. We will keep holding workshops, as we are doing our very best to conserve and nurture the forest for continued and sustainable future growth.



ARCHITECTURE & MATERIALS

The Japanese-influenced architecture will be abundant throughout the property. In Japanese culture, buildings are more than just functional but are an expression of art. The peaceful design intends to improve everyday work life and refresh one's relationship with nature.

Some features include:

- Eawga (wrap-around balcony)
- Lattice paneling
- Musical tree-house
- Meditation Space
- Large windows for natural illumination

A notable building within JST will consist of a lifted dome with no electricity or furniture. The timber frames will have piano strings tightly wound throughout them so as the wind blows, music will be echoed throughout the property.

The materials used in this project were selectively chosen to blend in with the forest. All resources used are naturally occurring and have as few alterations as possible. From a builder's perspective, the rough installation is the finished installation.

Some features include:

- Exposed wood
- Naturally harvested stone
- Thatched roof
- Green roof
- Bonderized metal
- Geothermal A/C & heating elements

Instead of typical storm pipes and catch basins, there are stone trenching and natural irrigation paths to allow the rain to flow where nature had intended it. The few trees removed will also be used in part for these natural irrigations.



SUSTAINABILITY FACTOR: GEOTHERMAL ENERGY

What is Geothermal Energy?

Most buildings use natural gas from forced-air systems to maintain temperatures. While extremely common, these traditional systems take a toll on the environment with extensive greenhouse gas emissions. In fact, oil-burning furnaces consume more fossil fuels than diesel trucks and come second only to automobiles when it comes to air pollution.

A greener alternative source of temperature control can come from Geothermal energy. These systems are rated number one in energy efficiency because they can deliver more than five units of energy for every one unit of electrical energy used. Additionally, The closed-loop circuit can last up to 100 years with little to no maintenance. Having this complex system in place at the JST site is a major contribution to the site's advanced sustainability efforts.

According to the EPA and Department of Energy, Geothermal Heating & Cooling is the world's most energy-efficient temperature system



SUSTAINABILITY FACTOR: GEOTHERMAL ENERGY

JST | Geothermal

The entire JST campus will use a complex Geothermal System to regulate the buildings' temperatures. Although this alternative energy system is a proven solution for increased longevity and sustainability, the installation process is not without complications. Beginning in January 2022, the system has come a long way with many obstacles throughout. Here's a brief summary:

Not only is the process of installing 72 wells 450 feet into the ground extremely messy, but there are literal obstacles as well. Including (but not limited to) the hundreds of trees that are being preserved throughout the site, the wildlife traversing freely down Animal Road, and the 2-foot mud trenches that contractors must stand in for the duration of the installation process. Additionally, installing this sort of system entails a lengthy approval process and large up-front costs.

Fortunately, Cunningham-Limp has great relations with many Michigan Municipalities that help expedite the approval process. More importantly, the C-L team are experts in custom builds that require innovative solutions to serve our client's values.

All in all, the installation of this system will be complete before the temperatures drop this fall, **on schedule, within budget, and with added value.**



SUSTAINABILITY FACTOR: HARVESTED TREES RETURN

About three years ago, the trees seen here, along with several others from the JST job site, were selectively chosen to be harvested and repurposed back into the approximate locations they were taken from. **November 2022 saw the first trees return home!**

Shown here, are trees tagged #3755 (L) & #3448 (R), which have been installed as structural elements of the building. As stated before, the rough installation is the finished installation throughout this project and these trees, placed in their original locations, will be untouched throughout the remainder of JST's construction.

This process of tree harvesting & restoration is symbolic in its perfect alignment with this project's mission: to tell the story of the forest for generations to come.



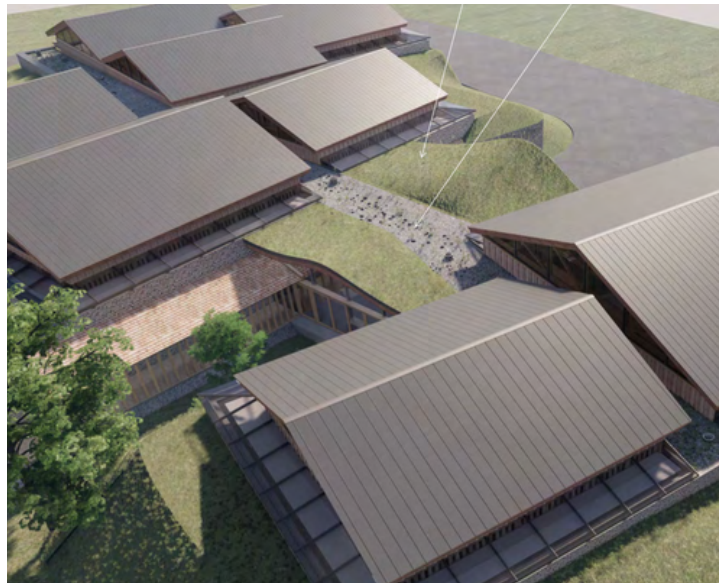
(Left) Pin Oak #3755 - 19 years old, 20" circumference

(Right) Black Cherry #3448 - 29 years old, 18" circumference



SUSTAINABILITY FACTOR: GREEN ROOF

Traditional corporate roofs are made out of asphalt and rubber membranes. While convenient and affordable, this typical method ignores the surrounding ecosystems that could benefit from an extension of its habitat. Considering the eco-friendly design of the JST campus, it is no surprise that the construction of a green roof is currently underway.



Green roofs are covered with vegetation, soil, and other growing mediums. They have many benefits for the environment, including reducing the urban heat island effect, improving air quality, and reducing stormwater runoff. Green roofs act as natural insulators, reducing heat transfer from the sun and keeping buildings cooler. By providing shade, green roofs can also reduce the demand for electricity needed to cool buildings, which in turn reduces carbon dioxide emissions.

Additionally, green roofs also help to improve air quality by absorbing carbon dioxide and other pollutants from the atmosphere. They can also act as a natural filter for rainwater, absorbing and holding onto it, which reduces the amount of stormwater runoff. This helps to prevent flooding and erosion, as well as reduce the number of pollutants that end up in rivers and lakes. Green roofs also provide habitat for wildlife and can help to increase biodiversity in urban areas.

The installation process involves several steps. First, the roof must be assessed for its load-bearing capacity and any necessary structural modifications made to support the additional weight of the green roof system. Next, a waterproof membrane is installed to protect the building from water damage. A layer of insulation may also be added to improve energy efficiency.

Once the base layers are in place, a drainage layer is installed to allow excess water to drain away from the vegetation. This is followed by a filter layer to prevent the soil and growing medium from clogging the drainage layer. Finally, the growing medium and vegetation are added, which can include a variety of plants such as sedum, grasses, and even trees. Irrigation and maintenance systems are also installed to ensure the health and longevity of the green roof. The process requires careful planning, design, and installation to ensure a successful and sustainable system.

SUMMARY

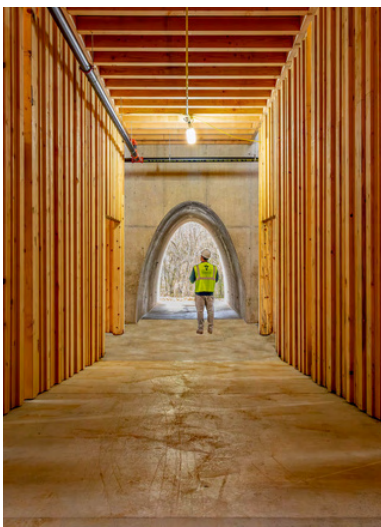
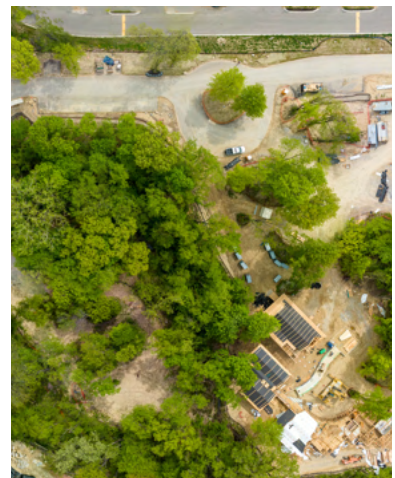
JST is a culturally significant project that crafts a humbling perspective of our relationship with nature. The intricate designs will create a mutually beneficial space for those who occupy the buildings and the wildlife existing around them.

With completion expected in the year 2025, JST is a beautifully diverse take on corporate construction. It is challenging, detailed, and out of this industry's standards. However, the elements of this project will prove revolutionary for years to come.

CURRENT PROGRESS

The Test Lab is the first building in active construction following years of research and planning. It is currently in the process of being fully enclosed and will be finished by the end of this year.

Consistent with the expected schedule, construction on the Engineering building has begun, and the timber framing is underway. The Center Circle Loop is the next active project which is breaking ground this month. The Sales building and Tree House, are still in pre-construction & design phases.



IN THE NEWS

CLICK ON THE ARTICLES BELOW TO READ ABOUT JST IN THE REJOURNALS, DBUSINESS NEWS, WWJ NEWS RADIO 950, DAILY COMMERCIAL NEWS, HOMETOWN LIFE, THE DETROIT NEWS, AND CONSTRUCTION BUSINESS OWNER (CBO) MAGAZINE.



Construction Business Owner

Jacob Gardner Preserves Forest, Protects Ecosystem During Building Project

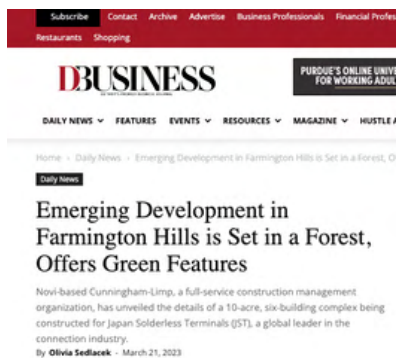
Project Manager, Jake Gardner shines in a featured editorial for the Construction Business Owners' 2023 Sustainability VIPS. "When Jacob Gardner graduated from Eastern Michigan University in 2009 with a bachelor's degree in construction management, he could hardly have imagined the kinds of building projects he would one day help lead."



The ReJournals

The most sustainable project ever built in Michigan? Cunningham-Limp might be building it now.

"A focus on sustainability? That's a key feature of a 10-acre, six-building U.S. headquarters project that Cunningham-Limp is now building for electrical-connection maker Japan Solderless Terminals in the Detroit suburb of Farmington Hills, Michigan."



DBusiness News

Emerging Development in Farmington Hills is Set in a Forest, Offers Green Features

Novi-based Cunningham-Limp, a full-service construction management organization, has unveiled the details of a 10-acre, six-building complex being constructed for Japan Solderless Terminals (JST), a global leader in the connection industry.



WWJ News Radio

WWJ News Radio interviews C-L President Sam Ashley on the most sustainable project in Michigan.

"It's Michigan's best-kept secret."



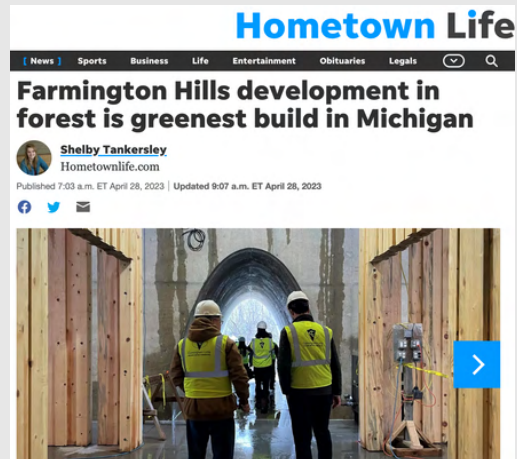
IN THE NEWS

CLICK ON THE ARTICLES BELOW TO READ ABOUT JST IN THE REJOURNALS, DBUSINESS NEWS, WWJ NEWS RADIO 950, DAILY COMMERCIAL NEWS, HOMETOWN LIFE, THE DETROIT NEWS, AND CONSTRUCTION BUSINESS OWNER (CBO) MAGAZINE.

Hometown Life

Farmington Hills development in forest is greenest build in Michigan

"The JST Corporation office park being built in Farmington Hills has been in the works for seven years, and staff with Cunningham-Limp Development Co. expect their crews to be on site for at least three more."



The Detroit News

In Farmington Hills, a manufacturer's Japanese-inspired campus takes shape

"Novi-based Cunningham-Limp is the construction firm for the project. Jake Gardner, project manager for Cunningham-Limp, said he's never worked on a project of its kind."



Canada Construct, Connect

Japanese-themed business campus brings tranquility to bustling area

"In the far northwest corner of metropolitan Detroit, in the suburb of Farmington Hills bordering the voluminous Walter P. Reuther Freeway, a small tranquil campus of industrial buildings is nearing completion"



AERIAL PHOTOGRAPHY

MARCH 2022



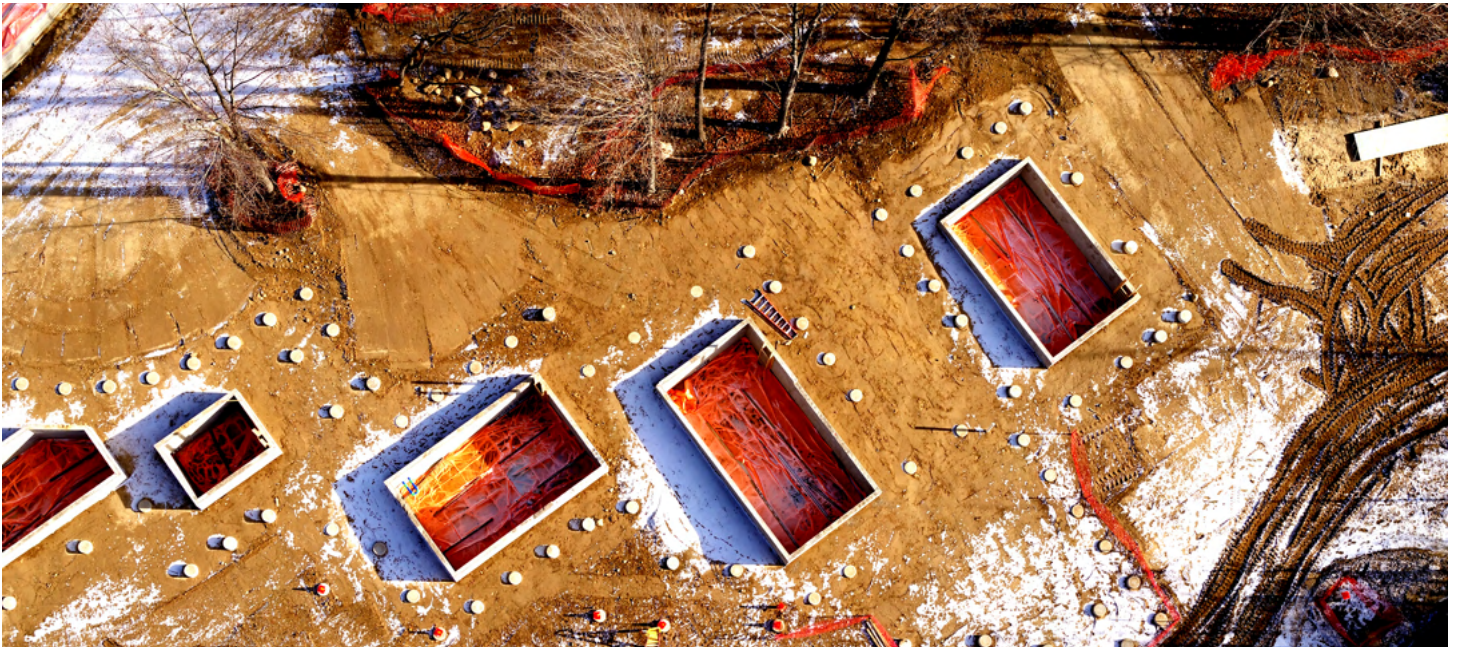
AERIAL PHOTOGRAPHY

JUNE 2022



AERIAL PHOTOGRAPHY

DECEMBER 2022



AERIAL PHOTOGRAPHY

MARCH 2023



AERIAL PHOTOGRAPHY

JUNE 2023



SOURCE MATERIALS

"Cutting-Edge Electrical Connectors: JST Sales America." JST, 26 July 2021, <https://www.jst.com/>.

Ashizawa, Ryuichi. "Raa: Ryuichi Ashizawa Architect & Associates." RAA | RYUICHI ASHIZAWA ARCHITECT & Associates, <https://www-r--a--architects-com>

Ashizawa, Ryuichi. Design Development | SITE MODEL . 2 May 2017.

Ashizawa, Ryuichi. Design Development | CONSTRUCTION DRAWINGS . 25 February 2021.

Ashizawa, Ryuichi. Design Development | TEST LAB OUTSIDE VIEWS . 15 January 2015.

Lago Co., Ltd. JST Detroit Engineering Center Report of Plant & Animal Research. 4 November 2016.

Lago Co., Ltd. JST Detroit Engineering Center Report of Plant & Animal Research. 7 May 2017.

Lago Co., Ltd. JST Detroit Engineering Center Report of Plant & Animal Research. 5 August 2016.

JST, et al. "JST Forest News Letter." Lago & RAA, Oct. 2018.

Atwell, LLC, et al. JST Detroit Engineering Center Commercial Park Construction Plans. City of Farmington Hills, 28 June 2019.

