

Farmingdale State College

State University of New York

Department of Architecture & Construction Management

Capstone Project | CON 406

Professor Anderson

Starter Project - Conceptual Proposal - Part 2

Spring 2023

Project Members : Bryan Mendez Andrade, Jaskaran Singh & Jordan Korsiak

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Pre-Proposal Cover Letter

New Link Construction
408 Fleeks St
Neverland, NY 11706

February 9, 2023,

Erik Anderson and John Ballo
Client Representatives
Farmingdale State College

Supportive Housing and Serving Facility
3351 Route 112
Medford, New York 11765



Dear Mr. Anderson & Ballo;

New Link Construction is pleased to enclose here our final proposal on the Supportive Housing and Service Facilities project at Medford, NY. After reviewing all of the information provided by the client and the revision made from phase 1, our estimated cost to build this project is **\$8,934,907.93**. In this proposal, we have included a detailed schedule, estimate, schematic, site designs, a pollution prevention plan, a safety management plan, original design modifications, and bill d materials.

Our cost focuses on providing a quality living space for everybody in the units and also our site plan seeks to accommodate everyone to feel at home and help to create a natural environment where people can relax and enjoy. The location or placement of pods needed to be changed from phase 1 to optimize the free square footage that we have for construction. Placements of trees need to change to accommodate multiple pods in the area.

Thank you again for giving us the opportunity to bid on this project. We look forward to speaking with you about how our design and estimate is the best option for you to begin your project.

Enclosed you will find our company brochure. If you have any questions or concerns please do not hesitate to contact us at Team3_capstome@newlinkconstruction.com

Sincerely,
New Link Construction
Farmingdale State College

Evaluation of Dwelling Unit Energy Conservation Compliance

Our initial design for the dwelling unit's energy conservative compliance stayed the same as per phase 1 of the project. Our company believes that to have a high R-value for each dwelling unit is very important to conserve the sustainable concept. We based our R-Value on the 2018 International Energy Conservative Code (IECC), we need to have heavy insulation in the walls, roof, and subfloor. By adding more insulation into the Dwelling units, our dwelling units become more sustainable and obtain a Home Energy Rating Systems (HERS) score rating lower than 70% as required for the Brookhaven Code; 16-4.1 Energy Conservative Requirements.

We have submitted two wall sections in this report to show all of the measurements that we have been taking to meet the unit energy conservation compliance requirement. As we can see from our wall section, our walls are fully insulated using R-40 for the walls, R-50 for the roof; meeting and exceeding the minimum R-value requirements of the 2018 IECC (Table for minimum R-Values provided Below). The units provided as prototypes for this project presented a standard build construction with the required R-19 to R-22 value for the wall will be in danger of not meeting the dwelling unit's conservative compliance requirements. Therefore, by adding the extra insulation and using the double-glazed windows for the dwelling units we are increasing the R-value of our property and making sure that even if in the future the R-value is increased for any environmental regulation, our dwelling units are safe.

- Note - Thermal Envelope Insulation Component Minimum R-Value Method will be show in the below from the 2018 International Energy Conservative Code (IECC) and the REScheck

TABLE C402.1.3 OPAQUE THERMAL ENVELOPE INSULATION COMPONENT MINIMUM REQUIREMENTS, R-VALUE METHOD^{a, i}

CLIMATE ZONE	1		2		3		4 EXCEPT MARINE		5 AND MARINE 4		6		7		8		
	All other	Group R	All other	Group R	All other	Group R	All other	Group R	All other	Group R	All other	Group R	All other	Group R	All other	Group R	
Roofs																	
Insulation entirely above roof deck	R-20ci	R-25ci	R-25ci	R-25ci	R-25ci	R-25ci	R-30ci	R-30ci	R-30ci	R-30ci	R-30ci	R-30ci	R-30ci	R-35ci	R-35ci	R-35ci	R-35ci
Metal buildings ^b	R-19 + R-11 LS	R-19 + R-11 LS	R-19 + R-11 LS	R-19 + R-11 LS	R-19 + R-11 LS	R-19 + R-11 LS	R-19 + R-11 LS	R-19 + R-11 LS	R-19 + R-11 LS	R-19 + R-11 LS	R-19 + R-11 LS	R-25 + R-11 LS	R-25 + R-11 LS	R-30 + R-11 LS	R-30 + R-11 LS	R-30 + R-11 LS	R-30 + R-11 LS
Attic and other	R-38	R-38	R-38	R-38	R-38	R-38	R-38	R-38	R-38	R-49	R-49	R-49	R-49	R-49	R-49	R-49	R-49
Walls, above grade																	
Mass ^g	R-5.7ci ^f	R-5.7ci ^f	R-5.7ci ^f	R-7.6ci	R-7.6ci	R-9.5ci	R-9.5ci	R-11.4ci	R-11.4ci	R-13.3ci	R-13.3ci	R-15.2ci	R-15.2ci	R-15.2ci	R-25ci	R-25ci	R-25ci
Metal building	R-13 + R-6.5ci	R-13 + R-6.5ci	R-13 + R-6.5ci	R-13ci	R-13ci	R-13ci	R-13ci	R-13ci	R-13ci	R-13ci	R-13ci	R-13ci	R-13ci	R-13ci	R-13ci	R-13ci	R-13ci
Metal framed	R-13 + R-5ci	R-13 + R-5ci	R-13 + R-5ci	R-13 + R-7.5ci	R-13 + R-7.5ci	R-13 + R-7.5ci	R-13 + R-7.5ci	R-13 + R-7.5ci	R-13 + R-7.5ci	R-13 + R-7.5ci	R-13 + R-7.5ci	R-13 + R-7.5ci	R-13 + R-7.5ci	R-13 + R-7.5ci	R-13 + R-7.5ci	R-13 + R-7.5ci	R-13 + R-7.5ci
Wood framed and other	R-13 + R-3.8ci or R-20	R-13 + R-3.8ci or R-20	R-13 + R-3.8ci or R-20	R-13 + R-3.8ci or R-20	R-13 + R-3.8ci or R-20	R-13 + R-3.8ci or R-20	R-13 + R-3.8ci or R-20	R-13 + R-3.8ci or R-20	R-13 + R-3.8ci or R-20	R-13 + R-3.8ci or R-20	R-13 + R-3.8ci or R-20	R-13 + R-7.5ci or R-20 + R-3.8ci	R-13 + R-7.5ci or R-20 + R-3.8ci	R-13 + R-7.5ci or R-20 + R-3.8ci	R-13 + R-7.5ci or R-20 + R-3.8ci	R-13 + R-7.5ci or R-20 + R-3.8ci	R-13 + R-7.5ci or R-20 + R-3.8ci
Walls, below grade																	
Below-grade wall ^d	NR	NR	NR	NR	NR	NR	R-7.5ci	R-7.5ci	R-7.5ci	R-7.5ci	R-7.5ci	R-7.5ci	R-7.5ci	R-10ci	R-10ci	R-10ci	R-12.5ci
Floors																	
Mass ^g	NR	NR	R-6.3ci	R-8.3ci	R-10ci	R-10ci	R-10ci	R-10.4ci	R-10ci	R-12.5ci	R-12.5ci	R-12.5ci	R-15ci	R-16.7ci	R-15ci	R-16.7ci	R-16.7ci
Joist/framing	NR	NR	R-30	R-30	R-30	R-30	R-30	R-30	R-30	R-30	R-30	R-30 ^f	R-30 ^f	R-30 ^f	R-30 ^f	R-30 ^f	R-30 ^f
Slab-on-grade floors																	
Unheated slabs	NR	NR	NR	NR	NR	NR	R-10 for 24" below	R-10 for 24" below	R-10 for 24" below	R-10 for 24" below	R-10 for 24" below	R-15 for 24" below	R-15 for 24" below	R-15 for 24" below	R-15 for 24" below	R-15 for 24" below	R-20 for 24" below
Heated slabs ^h	R-7.5 for 12" below + R-5 full slab	R-7.5 for 12" below + R-5 full slab	R-7.5 for 12" below + R-5 full slab	R-7.5 for 12" below + R-5 full slab	R-10 for 24" below + R-5 full slab	R-10 for 24" below + R-5 full slab	R-15 for 24" below + R-5 full slab	R-15 for 24" below + R-5 full slab	R-15 for 24" below + R-5 full slab	R-15 for 36" below + R-5 full slab	R-15 for 36" below + R-5 full slab	R-15 for 36" below + R-5 full slab	R-20 for 48" below + R-5 full slab	R-20 for 48" below + R-5 full slab	R-20 for 48" below + R-5 full slab	R-20 for 48" below + R-5 full slab	R-20 for 48" below + R-5 full slab
Opaque doors																	
Nonswinging	R-4.75	R-4.75	R-4.75	R-4.75	R-4.75	R-4.75	R-4.75	R-4.75	R-4.75	R-4.75	R-4.75	R-4.75	R-4.75	R-4.75	R-4.75	R-4.75	R-4.75

For SI: 1 inch = 25.4 mm, 1 pound per square foot = 4.88 kg/m², 1 pound per cubic foot = 16 kg/m³.

RESCHECK

small unit res check.rck - REScheck 4.6.5 Code: 2009 IECC

File Edit View Options Code Tools Help

Project Envelope Mechanical Requirements

Ceiling Skylight Wall Window Door Basement Floor Crawl Wall

	Component	Assembly	Gross Area or Slab Perimeter		Cavity Insulation R-Value	Continuous Insulation R-Value	U-Factor	UA	Depth of Insulation (ft)
▼ Building									
1	▼ Wall 1	Wood Frame, 24" o. c.	550	ft2	30.0	10.0	0.029	15	
2	Window 1	Vinyl/Fiberglass Fram...	6	ft2			0.29	2	
3	Window 2	Vinyl/Fiberglass Fram...	6	ft2			0.29	2	
4	Window 2 c	Vinyl/Fiberglass Fram...	6	ft2			0.29	2	
5	Window 2 c	Vinyl/Fiberglass Fram...	6	ft2			0.29	2	
6	Door 1	Solid	21	ft2			0.24	5	
7	▼ Ceiling 1	Steel Joist/Rafter, 24" ...	260	ft2	50.0	10.0	0.02	5	
8	Skylight 1	Vinyl/Fiberglass Fram...	6	ft2			0.35	2	
9	Floor 1	Slab-On-Grade:Heated	260	ft		20.0	0.767	199	2.0

Passes 12.4 % Better Than Code

Compliance Method: UA Trade-Off Max. UA Your UA

Click the Assembly fields to display a list of assembly choices

Design Revisions for Site Design

Our site design has changed from the initial perspective that we have in phase 1, however, we have kept the same concept of nature provided by the client and we made sure that our site design is as sustainable as possible and that everything that we place in our site design is useful and has a function. Our initial approach offered a moderated site design in which we used 15% of the given land for the 1 pod, having the dwelling units around the walkway or bike lane, the water fountain with benches in the center. Now our design has changed because we are trying to use all of the land possible to fit as many pods as possible without compromising the quality, comfortability, efficiency, and sustainability of our site design. In our new site design for phase 2, we have our dwelling units lined up together looking at each other. One difference in phase 2 is that we have separated the units for single parents and the units for parents with kids. On one side we have 7 units that are destined for single parents, and on the other side of the pod, we have the units that are destined for parents with kids. Our single rooms for single parents have a footprint of 228 SF and family rooms will be 350 SF. Since we wanted to offer a place where they all can come together and enjoy a moment with each other, we keep the fountain in the center of the pod. The bike lane is kept around the pod as a walkway to each unit, so people can connect with each other or just take a walk around the pod (community) and enjoy a nice Sunday afternoon. Our walkways are wide enough for any emergency vehicle to come if any emergency happens. Trees will be placed around each pod to help block winds from outside and prevent air pollution, each dwelling will have its own garden and a garden in the center of the pod for people to come around and enjoy the pod. In this new design, we are able to fit 4 pods having a total of 72 dwelling units, which will be able to hold around 84 people (considering parents and kids in every single pod). Statistics showed that around 75 people do not have a shelter to stay in, so this design will provide a place to stay for all of those people.

Project Management Review for Revisions, Safety Plan, and SWOT Review

New Link Construction is an efficient construction company that provides great quality construction services for pre-construction and during construction. In this project, our biggest strength is the sustainable factor that we added to the dwelling units and to the site design. This will be one of the biggest strengths of the project because by having a sustainable type of dwelling unit, the owner will be able to enjoy the benefits that come with it; up to 90% savings on electricity, easier maintenance of ventilation units, and reduce the emission of greenhouse gasses. As we can see those are primary benefits that will bring value to our dwelling units, one of the weaknesses that will be expected with the implementation of our passive house dwelling unit design is that it will raise the estimated cost for insulation, passive houses use a heavy type of insulation to make sure that there is no air leak in the house. However, even though the budget can be a problem and can be seen as a high weakness, we consider using cost-efficient materials around the dwelling units that instead will balance out the cost of the materials and the high cost of insulation to make sure that we meet our client's budget. There are a lot of opportunities with our type of design. Among the most important are saving and innovations. Everybody likes to save money and preserve the quality of wherever they are purchasing, in this case, our design will not lose any quality by using cost-efficient materials because our company focuses on quality and it will make sure that every single material used for the construction; wood, glass, cement, and insulation, etc. meet the quality standards of the Brookhaven building code. To continue the owner will also receive all of the benefits mentioned above by choosing our type of dwelling unit. Some of the threats that we might face with our design is not being able to find the triple-glazed window which is needed to meet the passive house standards. However, our response to this thread would be to use a double-glazed window which will work almost as efficiently as the triple-glazed window and will allow us to enjoy almost all of the benefits at full capacity. Perhaps another threat with our design is the idea that

our design is too fancy for our budget, however as specified above, we will be constructing our dwelling units based on the client's budget without affecting the quality of our construction.

This project can be a little tricky and a lot of costs can not be overlooked. Something that is a weakness for this project because it hurts our process and our budget. Hiring a land use lawyer for this project can be very tough and expensive, they charge anywhere from \$200 to \$600 per hour. As we know our project emphasizes building dwelling units for homeless people and we have to do a lot of work on the site. This can take a lot of research and time which will result in a very costly expense. This threatens the start of the project because the land use lawyer needs to make sure to have all the paperwork ready before work, there can not be surprises or anything like that.

Another strength of our proposed project is linked to the sustainability of our site design. By adding the maple red trees and tulip trees we fulfilled the requirement of our client to provide a site design that has the concept of nature. However, our site design does not stop there. Some benefits of the placement of the trees are the fact that trees help to absorb carbon dioxide and release clean oxygen, since these trees are native they will grow without any problem and will be able to fulfill the photosynthesis process without any issues. Furthermore, the placement of trees will also help with our stormwater pollution prevention plan because it will block winds that end up producing a lot of air pollution that is very bad for the environment. Our walkway or bike lane will be made of coarse aggregate/ permeable materials instead of concrete to achieve great drainage and avoid any settlement of water (water flood) on our site. We have a wide enough roadway for any emergency vehicle (ambulance, fire department, police, etc.) to reach the facilities needed in case of emergency. Among the weaknesses in our design is that many eco-solutions, such as trees, take time to grow. However, we have a solution for this issue, the trees that will be placed in our site design are natives of this country, so they do not take that long to

grow. Also, the trees that we have placed can be transported to the site. We are in New York county with The *Adirondack Park* which is the biggest forest and can provide the trees needed for the design. There is a lot of opportunity to implement sustainability measurements in our design because our whole concept for this project is based on sustainability. The threat with this type of approach is that everybody in the team needs to be on onboard to take these steps forward to make the site design as sustainable as possible to allow for a great place to live.

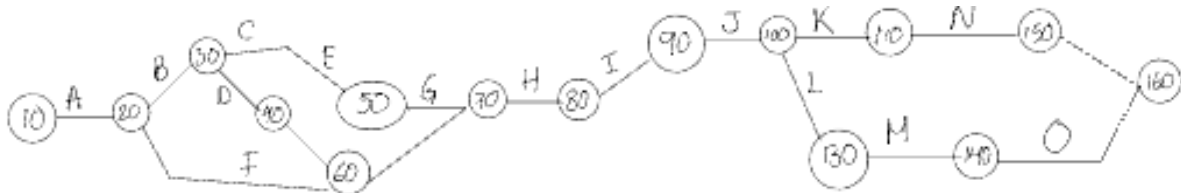
Our estimated time to complete this project is about 2 years and a half, this includes full completion of 4 pods, facility building, and site. In our schedule we start all pre-construction early 2023 and finish all construction by 2025. Initial permits and approval from land use lawyers will play a significant role to make sure that we start the project when we are supposed to and that we finish on time. For more details regarding the schedule that we made, we attached a schedule chart to this report. This will be useful to show all of the activities that we will be performing with their respective time period for completion. The schedule serves as a guidance for our client to have project control over the project, he/she can know what exactly is happening.

The Work Breakdown Structure (WBS) consists of three phases, we understand that big activities can be broken down into small activities to be able to complete the overall project. Our initial phase of the project consists of pre-construction, planning, and construction. Phase 1 will be divided into small activities for the purpose to allow workers to do small activities but at the same time achieving success and getting close to finishing overall activity. Pre-construction starts by developing a procurement plan in this section, the contractor analyzes all of the information provided by the owner about the project, gets familiar with the scope of work and starts to develop a draft estimate and schedules for the project. Pre-construction will move forward by going into the procurement section where the contractor needs

to get all of the material needed, subcontractors, and equipment necessary for the project. To continue, planning will move forward to develop a preliminary estimate and schedule. This is a very important part of the work breakdown structure because the estimate and the schedule allow the contractor to see how long the project will take and how much it will cost. Contractor can compare his estimate and schedule with the owner 's substantial completion date to see if it is doable in that period of time. Construction is the last phase of the project, once the project manager has got all of the information regarding the project and knows how much it will cost and when is the completion date according to the base schedule and his schedule. During the construction phase we will start by using concrete for the footing of our dwelling units and building, we need to make sure that our building and dwelling units are set in a good foundation hence concrete is very important for our footing. After the foundation of the project is done, we will start the framing of the project, since our focus for the framing is a passive house. We need to make sure that we have heavy insulation in our walls and that we seal everything in the wall to avoid any air leak (See wall details). Once we have the framing done, we can move to do the roof of the dwelling units and the siding for the walls. Before closing the walls, we will be running electricity all over the units and building. Once everything is done, we will move forward to install the drywall and flooring for units and buildings. Some of the biggest milestones that we will have in this project is owner approval for design, completion of pre-construction phase; procurement, permitting, and finalizing the designs, etc. Last but not least, another milestone will be to stay on schedule and on budget. With a lot of things changing and cost of materials going up, we need to make sure that we are on schedule every single day to be able to achieve success on a substantial completion day.

NOTE - Critical Path is show down below as a arrow network diagram

	Label	Dependent On
Project	A	-
Surveying	B	A
Permitting	C	B
Initial Designs	D	B
Procurements	E	C
Developing Estimate	F	AD
Schedule	G	EF
Construction Starts	H	G
Excavation	I	H
Framing	J	I
Roofing	K	J
Install Drywall	L	J
Siding	M	L
Landscape	N	K
Finish	O	MN



Cost of Land Use Lawyer - Land use attorneys typically charge by the hour and may cost anywhere from \$200-\$600 per hour. However, the costs of hiring a land use attorney can be structured in different ways. The three cost structures that land use attorneys can use include hourly rates, contingency fees, or flat fee. - 24k-30k 40 hr

Cost of Zoning Consultant - Full Zoning Report: Fees start at \$600 plus costs imposed by the jurisdiction for the zoning verification letter and/or copies of their files.

Mission Statement

As a company we believe that people are the most important asset that a company can ever have. It is our strongest desire that each person that walks into one of our job sites goes home safe and healthy every day. Our company focuses on the safety of everybody at any level. We will make any effort to ensure the safety of our employees

We have designed a safety prevention plan that conforms with NFPA 241 and OSHA/NYS. This plan allows anybody on the job site from the project manager to the new hire to stop the project if you believe safety may be compromised. The plan is divided into three phases: Identification of hazards, elimination of hazards, and protection of hazards.

Identification of Hazards

It is the responsibility of every employee to monitor his/her environment for any type of hazards. Hazards should be reported immediately

Elimination of Hazards

Management and employee will try their best to eliminate identified hazards from the workplace

Protection of Hazards

If hazards can not be eliminated, we will provide the educated Personal Protection Equipment (PPE) or engineering control to protect workers from the identified hazard

We are responsible to provide with any training, safety measurements, personal protective equipment, and tools needed to prevent any hazards. The employee is responsible for wearing adequate equipment, monitoring his/her environment for hazards, and following the prescribed processes.

Our belief is that our employee is the most important asset for our business. We need to protect them and offer the best safety prevention plan to allow each individual worker to go home safe and healthy every day after work.

Thank you in advance for taking the time to review our proposal for the project safety plan. If you have any questions or concerns please feel free to reach any member of our team. Thank you again for your time and consideration and remember always to work safely.

Sincerely,

New Link Construction

NFPA 241 Project Safety Plan

The document is based on structures undergoing construction, alteration, or demolition operations, including those underground locations, which shall comply with NFPA 241

Project Safety Plan prescribes minimum safeguards for the construction of the dwelling units in this project. The requirement is based on the provisions for fire safety during building construction and demolition as set for NFPA 241.

Fire Protection

- Procedures to report any emergency to the fire department
- Site Security Plan
- Site Plans identifying required fire protection or apparatus access roadways, fire hydrants locations, and Fire Department location.

Site Security

- Place a fence of a minimum of 6 feet height to avoid any unauthorized trespassing into the construction site
- The fence should not obstruct access for fire responses
- Earthcam for Construction

Equipment Security

- All equipment such as woodcutter, grinder, table saw, power drill, etc. should be powered off at the end of each working day
- Equipment should be in good conditions; no open electrical cables in any tool

Fire Department Access Roadway

- The roadway should be accessible for the fire department to come to the construction site
- The roadway should have the capacity to resist the load of all of the fire department needed equipment
- During the construction period of the dwelling units, temporary roadway access should be utilized for the Fire Department and come to the work site if something happens.

Premises Identification

- The address number of the location should be plainly visible and legible from the street

Vehicle Parking

- Vehicles should be parked a minimum of 20 feet away from the first dwelling unit in the pod
- Parking will be in front of the facility building
- Health RV in parking lot

Minimum Number of Exits

- All new construction should have at least one unobstructed area to allow workers to leave the job site as soon as possible if something happens
- Floor plans should be provided to each worker stating where unobstructed exist or exist are in terms of the construction site

Flammable and Combustible Units

- Storage units should be kept free of weeds and extraneous combustible materials
- Smoking and open flames should be prohibited in the job site
- Marking objects (tanks) that can have combustible materials inside; "Flammable - keep fire and flame away"
- Fueling the equipment should be conducted only by approved personnel and should be one in well-ventilated areas

NOTE - Everybody in the job site will be held accountable for following these specific requirements to make sure that every single task during the phase of the construction is done properly and following the standards of NFPA 241.

OSHA/NYS Project Plan Safety

This document is based on the Occupational Safety and Health Administration (OSHA) to provide safety measurements to all of the workers who participate in the construction of the dwelling units for this project.

In our construction company safety plays a significant role in each project, we have designed a plan to prevent any hazard from happening.

Goals of the Safety Plan

- To maintain a workplace that is free from recognized hazards
- To include safety and health as a fundamental element of construction
- To provide clear directions on how to communicate between workers and the safety supervisor or safety department
- To give the right to the workers to stop working if they feel unsafe by performing x type of worker due to worksite safety violations

Management Responsibilities

- Design and implement, and monitor safety guidelines for the project
- Provide documentation of all the safety requirements to all of the workers including responsibilities as per job description

- To provide required safety training to employees
- To review safety quality and assurance report at the end of each year to check and compare where the company stands compared to the previous year

Company Hazard Profile

- Each site will have their own detailed hazard analysis available for review
- Subcontractors should log everyday a report (table report provided below) stating the activities that they will work and what hazards will be related to the activity plus what solutions or prevent hazards

Hazard Example:

Site Type		
Major Job Task	Major Hazard	Required Protective Measurement

Discipline Policy

- Verbal warning if employer is not following the safety procedures in the job site
- There will be a written case directed to Safety department and HR about employer not following safety procedures at the workplace as the second warning
- Third warning will be to suspend the worker from the job site without pay for not following safety guidelines
- Last but not least, employee will be terminated for not following company safety requirements

Safety Training Requirements

- Proper training will be provided to all of the workers that will be in the job site
- OSHA 30 card will be mandatory for all of the employees in the job site

NOTE - Everybody in the job site will be held accountable for following these specific requirements to make sure that every single task during the phase of the construction is done properly and following the standards of OSHA.

Project Development & Documents

Project Name: SUPPORTIVE HOUSING AND SERVICE FACILITIES

Location: 3351 ROUTE 112, MEDFORD, NY 11765

Project Owner Representative: Eric Anderson and John Ballo

Project Members: Bryan Mendez Andrade, Jaskaran Singh & Jordan Korsiak

Date: 02/08/2023

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Project Description

There are over 3,000 homeless people in Long Island, New York. It is estimated that around 75 homeless people do not have a shelter. This project has focused on giving those 75 people a place to permanently live. Some of the main features that design must have are to be an efficient place to live for homeless people. Dwelling units must be able to hold up to 4 people living there, design has to be spacious and comfortable. To continue, we were required to have a concept of nature around the dwelling units, therefore, gardens around the units and in the pods will be needed to create a natural environment plus adding a good amount of trees in the pod. Once the project is done will be given a place to live for those who were not that fortunate in life.

Management and Monitoring Plan

New LinkConstruction has developed a plan for the length of the project; this can be observed in the Work Breakdown Structure (WBS). We carefully assigned a schedule for every day that we will be on this project in such a way that we can check where we stand in terms of the project; are we on schedule or are we behind schedule? Those are the questions that we need to ask once the project happens. Since we have designed the project schedule and the WBS, we have a pretty good monitoring plan to make sure that everything is done correctly and that everything is going well in the project.

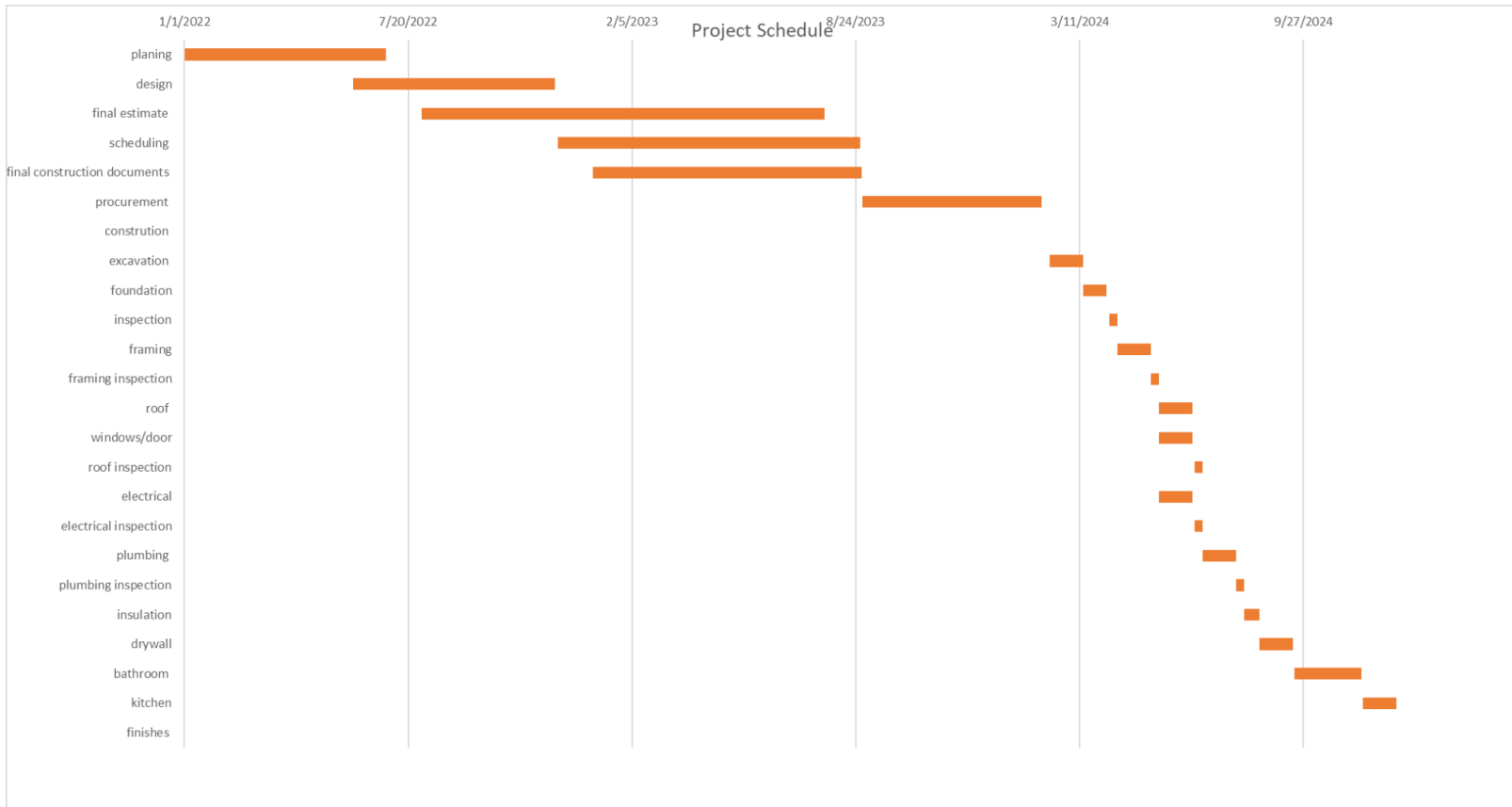
Biodiversity Plan

Our design offers great comfort related to biodiversity and sustainability, our site plan is designed as an ecosystem that provides clean oxygen due to the number of trees that we have and also focuses on the hydrologic balance due to the permeable pavement that we have (coarse rocks like gravel).

Project Documentation

- Site Plan Drawings
- Walls Sections Drawings
- Storm Pollution Prevention Plan
- Estimate
- Schedule
- Build of Materials
- Site Safety Plan

Schedule



Assembly - Based Estimate

In following PDFS

Our GMP is \$8,934,907.93

SMALL UNIT ASSEMBLY COST

UNIFORMAT SECTION	MASTERFORMAT DIVISION	MF ID LVL 1	MF ID LVL 2	COMPONENT DESCRIPTION	QUANTITY	UNIT OF MEASUREMENT	MAN HOUR PER UNIT	MATERIAL COST	LABOR COST	EQUIP. COST	TOTAL COST
Subsurface / Site Prep	Division 2	EXISTING CONDITIONS	02 30 00 SUBSURFACE INVESTIGATION	Survey / Markout	1	Per Day	Average Crew	0	\$1,630	Included	\$1,630
	Division 33	UTILITIES	33 30 00 SANITARY SEWERAGE UTILITIES	Utility Location (811)	1	Per Day	Small Crew	0	\$1,080	Included	\$1,080
	Division 01	GENERAL REQUIREMENTS	01 45 23 TESTING	Soil Sample	1	Per Sample	Average Crew	0	\$130	Included	\$130
	Division 11	EQUIPMENT	11 10 00 VEHICLE AND PEDESTRIAN EQUIPMENT	Tracking Pad				*Pad*	*Laborer*	*Truck*	0
	Division 01	GENERAL REQUIREMENTS	01 54 08 EQUIPMENT MOBOLIZATION	Equipment Mobilization	1	Per Backhoe / Loader	0	0	\$40	\$1,120	\$1,160
	Division 01	GENERAL REQUIREMENTS	01 21 70 EQUIPMENT	Dump Truck 10yd	10	Per Day	0	0	\$0	\$510	\$510
	Division 01	GENERAL REQUIREMENTS	01 30 20 EQUIPMENT	Backhoe Rubber Tired	2	Per Week	0	0	\$0	\$1,700	\$3,400
	Division 31	EARTHWORK	31 10 00 SITE CLEARING	Excavation	5	CY	0.027	0	\$1.95	\$2.26	\$18.39
	Division 33	UTILITIES	33 22 00 SANITARY WASTE PIPE	Underground Utilities	80	EA	0.48	\$420	\$35.25	\$30	\$2,553.65
	Division 31	EARTHWORK	31 06 00 BUILDING EXCAVATION	Compaction	5	CY	0.16	None	\$15.50	\$20	\$121.30
	Division 03	CONCRETE	03 51 00 FORMWORK	Build Forms	66	LF	0.062	\$41	\$5.80	0	\$75.89
	Division 3	CONCRETE	03 53 00 CONCRETE REINFORCING		260	SF	0.006	\$0.44	\$0.55	\$0.00	262
	Division 3	CONCRETE	03 10 30 SLAB / MAT CONCRETE	By Hand / Buggy	5	CY	0.533	\$160	\$39.25	0	\$46.92
	Division 3	CONCRETE	03 10 20 FORMWORK	Steps Formwork	0	SF	0.16	\$6.37	\$15.00	0	\$15.00
	Division 3	CONCRETE	03 53 00 CONCRETE REINFORCING	Mesh Installation	260	SF	0.006	\$0.44	\$0.55	0	\$262.11
	Division 3	CONCRETE	03 10 40 SLAB / MAT CONCRETE	By Hand / Buggy	0	CY	0.8	\$160	\$59.00	0	\$59.00
	Division 31	EARTHWORK	31 01 00 EARTH MOVING	Hauling 1 Mile	7.5	CY	0.044	None	\$3.25	\$3.77	\$39.36
	Division 31	EARTHWORK	31 06 00 EARTH MOVING	Backfill and Compaction	2	CY	0.16	None	\$15.50	\$20	\$57.82
Shell	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 10 40 ROUGH CARPENTRY	Frame Subfloor	260	SF	0.017	\$3.52	\$1.57	0	266
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 20 20 ROUGH CARPENTRY	Sheath Subfloor	260	SF	0.011	\$1.52	\$1.07	0	264
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 10 00 ROUGH CARPENTRY	Frame Walls	528.00	SF	0.016	\$1.90	\$1.50	0	537.95
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 21 20 ROUGH CARPENTRY	Frame Roof Trusses 30ft	0	EA	0.75	\$250	\$55	\$36.75	\$55
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 21 40 ROUGH CARPENTRY	Frame Roof Trusses 34ft	0	EA	0.75	\$260	\$55	\$36.75	\$55
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 10 20 ROUGH CARPENTRY	Sheath Roof	385	SF	0.011	\$1.94	\$1.00	0	\$390.24
	Division 7	THERMAL AND MOISTURE PROTECTION	07 10 40 STEEP SLOPE ROOFING	Asphalt Roofing	385	SQ	0.889	\$110	\$80	0	\$807
	Division 8	OPENINGS	08 27 20 DOORS AND FRAMES	Exterior Doors	1	EA	2	\$1,460	\$190	0	\$193
	Division 8	OPENINGS	8 13 00 DOORS AND FRAMES	Exterior Door Frames	1	EA	1.6	\$210	\$150	0	\$153
	Division 8	OPENINGS	08 10 00 WINDOWS AND FRAMES	Windows (A)	4	EA	1.143	\$590	\$110	0	\$119
	Division 8	OPENINGS	8 10 00 WINDOWS AND FRAMES	Windows (B)	0	EA	0.8	\$270	\$75	0	\$75
	Division 8	OPENINGS	8 10 00 WINDOWS AND FRAMES	Windows (C)	0	EA	0.8	\$270	\$75	0	\$75
	Division 8	OPENINGS	8 80 10 WINDOWS AND FRAMES	Windows Frame, Milled	0	LF	0.16	\$6	\$15	0	\$15
	Division 7	THERMAL AND MOISTURE PROTECTION	07 21 40 ROOFING AND SIDING PANELS	Board and Batten Siding 1x10	528	SF	0.029	\$2.11	\$2.69	0	546
	Division 7	THERMAL AND MOISTURE PROTECTION	07 10 40 SPRAYED INSULATION	6" Thick r40	1,246	SF	0.011	\$1.48	\$0.78	0	1,260
	Division 7	THERMAL AND MOISTURE PROTECTION	07 25 80 BOARD INSULATION	Board 2"	608	SF	0.007	\$2.02	\$0.53	0	613
	Division 7	THERMAL AND MOISTURE PROTECTION	07 21 40 ROOFING AND SIDING PANELS	Board and Batten Siding 1x10	608	SF	0.029	\$2.11	\$2.69	0	628
	Division 8	OPENINGS	08 12 00 VENTS AND LOUVERS	Exterior Screened Vents	0	EA	0.25	\$110	\$26.00	0	\$26.00
	Assemblies Section D	Services	D5010.10.32 SERVICES	Electrical Rough In	1	SF	Included	Included	Included	0	\$2,140
	Assemblies Section D	Services	D2020.05.07 SERVICES	Copper Pipe and Fittings	200	LF	Included	Included	Included	0	\$441
Division 1	GENERAL REQUIREMENTS	01 25 10 SQUARE FOOT QUICK COSTS	Plumbing Rough in	2800	SF	Included	Included	Included	0	\$5,376	

Building Services	Division 22	PLUMBING	22 12 00 PLUMBING PIPING AND PUMPS	Plumbing (Water Supply) Steel	100	LF	0.04	\$4.68	\$4.13	0	\$108.13
	Division 22	PLUMBING	22 12 00 PLUMBING PIPING AND PUMPS	Plumbing Connection to Main	200	LF	Included	Included	Included	0	\$5,500
	Division 22	PLUMBING	22 10 40 PLUMBING EQUIPMENT	Plumbing (Waste / Vent) PVC	100	LF	0.04	\$0.88	\$4.13	0	\$108.13
	Division 22	PLUMBING	22 10 00 PLUMBING PIPING AND PUMPS	Kitchen Faucet	1	EA	1.33	\$95	\$140	0	\$142
	Division 22	PLUMBING	22 10 60 PLUMBING PIPING AND PUMPS	Kitchen Faucet	0	EA	1.33	\$95	\$140	0	\$140
	Division 22	PLUMBING	22 20 20 PLUMBING FIXTURES	Kitchen Sink	1	EA	1.6	\$340	\$170	0	\$173
	Division 22	PLUMBING	22 10 00 PLUMBING FIXTURES	Bathroom Sink	1	EA	2	\$770	\$210	0	\$213
	Division 22	PLUMBING	22 12 00 PLUMBING FIXTURES	Water Closet	1	EA	2	\$560	\$210	0	\$213
	Division 23	HVAC	23 10 10 METAL DUCTWORK	Mini Split System	1	EA	0	\$0	\$0	0	\$2,400
	Division 26	ELECTRICAL	26 05 81 SERVICE AND DISTRIBUTION	Electrical Switchboard 400a	1	EA	7.921	\$3,770	\$760	0	\$769
	Division 26	ELECTRICAL	26 15 40 SERVICE AND DISTRIBUTION	Pannel Board 400a 30 circuits	1	EA	5	\$4,580	\$480	0	\$486
	Division 26	ELECTRICAL	26 55 10 SERVICE AND DISTRIBUTION	Switch Plates 1 gang	5	EA	0.08	\$0.62	\$7.68	0	\$13.08
	Division 26	ELECTRICAL	26 10 00 SERVICE AND DISTRIBUTION	14ga Copper Wire	200	LF	0.004	\$0.22	\$0.38	0	\$201.18
	Division 26	ELECTRICAL	26 55 40 SERVICE AND DISTRIBUTION	Switch Plates 4 gang	1	EA	0.145	\$5.92	\$14.00	0	\$15.15
	Division 26	ELECTRICAL	26 10 10 SERVICE AND DISTRIBUTION	Switches	9	EA	1.143	\$350.00	\$110.00	0	\$129.29
	Division 26	ELECTRICAL	26 05 15 LIGHTING	Lighting Fixtures	8	EA	0.727	\$110	\$70	0	\$84
	Division 10	RESIDENTIAL EQUIPMENT	11 30 00 APPLIANCES	STOVE	1	EA	0	\$0	\$0	0	600
Division 11	RESIDENTIAL EQUIPMENT	11 30 00 APPLIANCES	REFRIGERATOR	1	EA	0	\$0	\$0	0	800	
Interior Construction	Division 7	FINISHES	07 31 00 WOOD BOARD	1" Tongue and Groove Walls / Ceiling Boards	0	SF	0.038	\$1.87	\$3.59	0	4
	Division 9	FINISHES	09 10 80 FLOORING	Vinyl Flooring	260	SF	0.038	\$3.73	\$3.59	0	273
	Division 8	OPENINGS	08 16 40 DOORS AND FRAMES	2'-8" Interior Doors Hollow Core	2	EA	1	\$140	\$94	0	\$98
	Division 8	OPENINGS	08 01 40 DOORS AND FRAMES	2'-8" Interior Door Frames	0	EA	1.143	\$110	\$110	0	\$110
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 25 40 ARCHITECTURAL WOODWORK	Base Cabinetry	4	LF	0.32	\$240	\$30.25	0	\$35.53
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 26 40 ARCHITECTURAL WOODWORK	Wall Cabinetry	4	LF	0.267	\$73	\$25.25	0	\$30.32
	Division 6	FINISHES	06 51 00 FINISH CARPENTRY	1x10 Baseboard Molding	80	LF	0.05	\$3.11	\$4.71	0	\$88.71
Site Improvements	Division 1	GENERAL REQUIREMENTS	01 54 08 EQUIPMENT MOBOLIZATION	Equipment Demobilization	2	Per Backhoe / Loader	None	None	\$40	\$1,120	\$1,160
Project Management	Division 1	GENERAL REQUIREMENTS	01 30 00 ADMINISTRATIVE REQUIREMENTS	Permits, Including Environmental	Aprox 1.2%	PCT	None	None	*Inspector*	0	\$472
	Division 1	GENERAL REQUIREMENTS	01 11 00 ADMINISTRATIVE REQUIREMENTS	Scheduling	Aprox 0.5%	PCT	Included	None	Included	0	\$1,910
	Division 1	GENERAL REQUIREMENTS	01 11 80 ADMINISTRATIVE REQUIREMENTS	Foreman	6 months	Year	Included	None	Included	0	\$2,400
										SUBTOTAL :	\$44,133
Fees	Division 1	GENERAL REQUIREMENTS	01 16 80 ADMINISTRATIVE REQUIREMENTS	CM Cost Overhead	10.00%	PCT	Included	None	Included	0	\$4,413
	Division 1	GENERAL REQUIREMENTS	01 16 80 ADMINISTRATIVE REQUIREMENTS	CM Cost Profit	8.00%	PCT	Included	None	Included	0	\$3,531
	Division 1	GENERAL REQUIREMENTS	01 16 80 ADMINISTRATIVE REQUIREMENTS	CM Cost Contingency	10.00%	PCT	Included	None	Included	0	\$4,413
										SUBTOTAL :	\$56,490
Taxes	Division 1	GENERAL REQUIREMENTS	01 16 80 ADMINISTRATIVE REQUIREMENTS	CM Cost Taxes	8.63%	PCT	Included	None	Included	0	\$4,875
	Division 1	GENERAL REQUIREMENTS	01 16 80 ADMINISTRATIVE REQUIREMENTS	CM Cost Metro Multiplier	44%	PCT	Included	None	Included	0	\$24,856
										TOTAL :	\$86,221
										7 UNITS	603546.3575
										5 UNITS	456244.2872
										1 POD 12 UNITS	1059790.646

LARGE UNIT ASSEMBLY COST

UNIFORMAT SECTION	MASTERFORMAT DIVISION	MF ID LVL 1	MF ID LVL 2	COMPONENT DESCRIPTION	QUANTITY	UNIT OF MEASUREMENT	MAN HOUR PER UNIT	MATERIAL COST	LABOR COST	EQUIP. COST	TOTAL COST
Subsurface / Site Prep	Division 2	EXISTING CONDITIONS	02 30 00 SUBSURFACE INVESTIGATION	Survey / Markout	1	Per Day	Average Crew	\$0	\$1,630	Included	\$1,630
	Division 33	UTILITIES	33 30 00 SANITARY SEWERAGE UTILITIES	Utility Location (811)	1	Per Day	Small Crew	\$0	\$1,080	Included	\$1,080
	Division 01	GENERAL REQUIREMENTS	01 45 23 TESTING	Soil Sample	1	Per Sample	Average Crew	\$0	\$130	Included	\$130
	Division 11	EQUIPMENT	11 10 00 VEHICLE AND PEDESTRIAN EQUIPMENT	Tracking Pad				*Pad*	*Laborer*	*Truck*	0
	Division 01	GENERAL REQUIREMENTS	01 54 08 EQUIPMENT MOBOLIZATION	Equipment Mobilization	1	Per Backhoe / Loader	0	\$0	\$40	\$1,120	\$1,160
	Division 01	GENERAL REQUIREMENTS	01 21 70 EQUIPMENT	Dump Truck 10yd	2	Per Day	0	\$0	\$0	\$510	\$510
	Division 01	GENERAL REQUIREMENTS	01 30 20 EQUIPMENT	Backhoe Rubber Tired	2	Per Week	0	\$0	\$0	\$1,700	\$3,400
	Division 31	EARTHWORK	31 10 00 SITE CLEARING	Excavation	7.5	CY	0.027	\$0.00	\$1.95	\$2.26	\$26.60
	Division 33	UTILITIES	33 22 00 SANITARY WASTE PIPE	Underground Utilities	80	EA	\$0	\$420	\$35.25	\$30	\$2,553.65
	Division 31	EARTHWORK	31 06 00 BUILDING EXCAVATION	Compaction	7.5	CY	0.16	None	\$15.50	\$20	\$174.20
	Division 03	CONCRETE	03 51 00 FORMWORK	Build Forms	66	LF	\$0	\$41	\$5.80	\$0.00	\$75.89
	Division 3	CONCRETE	03 53 00 CONCRETE REINFORCING		360	SF	\$0.01	\$0.44	\$0.55	\$0.00	363
	Division 3	CONCRETE	03 10 30 SLAB / MAT CONCRETE	By Hand / Buggy	5	CY	\$1	\$160	\$39.25	\$0.00	\$46.92
	Division 3	CONCRETE	03 10 20 FORMWORK	Steps Formwork	0	SF	\$0.16	\$6.37	\$15.00	\$0.00	\$15.00
	Division 3	CONCRETE	03 53 00 CONCRETE REINFORCING	Mesh Installation	360	SF	\$0.01	\$0.44	\$0.55	\$0.00	\$362.71
	Division 3	CONCRETE	03 10 40 SLAB / MAT CONCRETE	By Hand / Buggy	0	CY	\$1	\$160	\$59.00	\$0.00	\$59.00
	Division 31	EARTHWORK	31 01 00 EARTH MOVING	Hauling 1 Mile	7.5	CY	0.044	None	\$3.25	\$3.77	\$39.36
	Division 31	EARTHWORK	31 06 00 EARTH MOVING	Backfill and Compaction	2	CY	0.16	None	\$15.50	\$20	\$57.82
Shell	Division 4	MASONRY	04 20 00 UNIT MASONRY	Chimney Construction	0	Given	-	Brick/Morter/Stone	Mason	Hand/Power Tools	0
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 10 40 ROUGH CARPENTRY	Frame Subfloor	360	SF	\$0.02	\$3.52	\$1.57	0	368
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 20 20 ROUGH CARPENTRY	Sheath Subfloor	360	SF	\$0.01	\$1.52	\$1.07	0	365
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 10 00 ROUGH CARPENTRY	Frame Walls	608.00	SF	\$0.02	\$1.90	\$1.50	0.00	619.23
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 21 20 ROUGH CARPENTRY	Frame Roof Trusses 30ft	0	EA	\$1	\$250	\$55	\$36.75	\$55
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 21 40 ROUGH CARPENTRY	Frame Roof Trusses 34ft	0	EA	\$1	\$260	\$55	\$36.75	\$55
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 10 20 ROUGH CARPENTRY	Sheath Roof	533	SF	\$0.01	\$1.94	\$1.00	\$0.00	\$539.86
	Division 7	THERMAL AND MOISTURE PROTECTION	07 10 40 STEEP SLOPE ROOFING	Asphalt Roofing	533	SQ	\$1	\$110	\$80	\$0	\$1,087
	Division 8	OPENINGS	08 27 20 DOORS AND FRAMES	Exterior Doors	1	EA	\$2	\$1,460	\$190	\$0	\$193
	Division 8	OPENINGS	8 13 00 DOORS AND FRAMES	Exterior Door Frames	1	EA	\$2	\$210	\$150	\$0	\$153
	Division 8	OPENINGS	08 10 00 WINDOWS AND FRAMES	Windows (A)	4	EA	\$1	\$590	\$110	\$0	\$119
	Division 8	OPENINGS	8 10 00 WINDOWS AND FRAMES	Windows (B)	0	EA	\$1	\$270	\$75	\$0	\$75
	Division 8	OPENINGS	8 10 00 WINDOWS AND FRAMES	Windows (C)	0	EA	\$1	\$270	\$75	\$0	\$75
	Division 8	OPENINGS	8 80 10 WINDOWS AND FRAMES	Windows Frame, Milled	0	LF	\$0	\$6	\$15	\$0	\$15
	Division 7	THERMAL AND MOISTURE PROTECTION	07 10 40 SPRAYED INSULATION	6" Thick r40	1,246	SF	\$0.01	\$1.48	\$0.78	0	1,260
	Division 7	THERMAL AND MOISTURE PROTECTION	07 25 80 BOARD INSULATION	Board 2"	608	SF	\$0.01	\$2.02	\$0.53	0	613
	Division 7	THERMAL AND MOISTURE PROTECTION	07 21 40 ROOFING AND SIDING PANELS	Board and Batten Siding 1x10	608	SF	\$0.03	\$2.11	\$2.69	0	628

	Division 8	OPENINGS	08 12 00 VENTS AND LOUVERS	Exterior Screened Vents	0	EA	\$0	\$110	\$26.00	\$0.00	\$26.00
Building Services	Division 26	ELECTRICAL	26 10 10 SERVICE AND DISTRIBUTION	Electrical Rough In	1	SF	Included	Included	Included	\$0	\$2,996
	Division 26	ELECTRICAL	26 10 10 SERVICE AND DISTRIBUTION	Copper Pipe and Fittings	200	LF	Included	Included	Included	\$0	\$618
	Division 1	GENERAL REQUIREMENTS	01 25 10 SQUARE FOOT QUICK COSTS	Plumbing Rough in	2800	SF	Included	Included	Included	\$0	\$5,376
	Division 22	PLUMBING	21 12 00 PLUMBING PIPING AND PUMPS	plumbing connection to main	200	LF	Included	Included	Included	0	5,500
	Division 22	PLUMBING	22 12 00 PLUMBING PIPING AND PUMPS	Plumbing (Water Supply) Steel	100	LF	\$0.04	\$4.68	\$4.13	\$0.00	\$108.13
	Division 22	PLUMBING	22 10 40 PLUMBING EQUIPMENT	Plumbing (Waste / Vent) PVC	100	LF	\$0.04	\$0.88	\$4.13	\$0.00	\$108.13
	Division 22	PLUMBING	22 10 00 PLUMBING PIPING AND PUMPS	Kitchen Faucet	1	EA	\$1	\$95	\$140	\$0	\$142
	Division 22	PLUMBING	22 10 60 PLUMBING PIPING AND PUMPS	Kitchen Faucet	0	EA	\$1	\$95	\$140	\$0	\$140
	Division 22	PLUMBING	22 20 20 PLUMBING FIXTURES	Kitchen Sink	1	EA	\$2	\$340	\$170	\$0	\$173
	Division 22	PLUMBING	22 10 00 PLUMBING FIXTURES	Bathroom Sink	1	EA	\$2	\$770	\$210	\$0	\$213
	Division 22	PLUMBING	22 12 00 PLUMBING FIXTURES	Water Closet	1	EA	\$2	\$560	\$210	\$0	\$213
	Division 23	HVAC	23 10 10 METAL DUCTWORK	Mini Split System	1	EA	\$0	\$0	\$0	\$0	\$2,400
	Division 26	ELECTRICAL	26 05 81 SERVICE AND DISTRIBUTION	Electrical Switchboard 400a	1	EA	\$8	\$3,770	\$760	\$0	\$769
	Division 26	ELECTRICAL	26 15 40 SERVICE AND DISTRIBUTION	Pannel Board 400a 30 circuits	1	EA	\$5	\$4,580	\$480	\$0	\$486
	Division 26	ELECTRICAL	26 55 10 SERVICE AND DISTRIBUTION	Switche Plates 1 gang	5	EA	\$0.08	\$0.62	\$7.68	\$0.00	\$13.08
	Division 26	ELECTRICAL	26 10 00 SERVICE AND DISTRIBUTION	14ga Copper Wire	200	LF	\$0.00	\$0.22	\$0.38	\$0.00	\$201.18
	Division 26	ELECTRICAL	26 55 40 SERVICE AND DISTRIBUTION	Switch Plates 4 gang	1	EA	\$0.15	\$5.92	\$14.00	\$0.00	\$15.15
	Division 26	ELECTRICAL	26 10 10 SERVICE AND DISTRIBUTION	Switches	9	EA	\$1.14	\$350.00	\$110.00	\$0.00	\$129.29
	Division 26	ELECTRICAL	26 05 15 LIGHTING	Lighting Fixtures	8	EA	\$1	\$110	\$70	\$0	\$84
	Division 10	RESIDENTIAL EQUIPMENT	11 30 00 APPLIANCES	STOVE	1	EA	\$0	\$0	\$0	0	600
Division 11	RESIDENTIAL EQUIPMENT	11 30 00 APPLIANCES	REFRIGERATOR	1	EA	\$0	\$0	\$0	0	800	
Interior Construction	Division 7	FINISHES	07 31 00 WOOD BOARD	1" Tounge and Groove Walls / Ceiling Boards	0	SF	\$0.04	\$1.87	\$3.59	0	4
	Division 9	FINISHES	09 10 80 FLOORING	vinyl flooring	350	SF	\$0.04	\$3.73	\$3.59	0	367
	Division 8	OPENINGS	08 16 40 DOORS AND FRAMES	2'-8" Interior Doors Hollow Core	2	EA	\$1	\$140	\$94	\$0	\$98
	Division 8	OPENINGS	08 01 40 DOORS AND FRAMES	2'-8" Interior Door Frames	0	EA	\$1	\$110	\$110	\$0	\$110
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 25 40 ARCHITECTURAL WOODWORK	Base Cabinetry	4	LF	\$0	\$240	\$30.25	\$0.00	\$35.53
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 26 40 ARCHITECTURAL WOODWORK	Wall Cabinetry	4	LF	\$0	\$73	\$25.25	\$0.00	\$30.32
	Division 6	FINISHES	06 51 00 FINISH CARPENTRY	1x10 Baseboard Molding	80	LF	\$0.05	\$3.11	\$4.71	\$0.00	\$88.71
Site Improvements	Division 1	GENERAL REQUIREMENTS	01 54 08 EQUIPMENT MOBOLIZATION	Equipment Demobilization	2	Per Backhoe / Loader	None	None	\$40	\$1,120	\$1,160
Project Management	Division 1	GENERAL REQUIREMENTS	01 30 00 ADMINISTRATIVE REQUIREMENTS	Permits, Including Enviromental	Aprox 1.2%	PCT	None	None	*Inspector*	\$0	\$2,400
	Division 1	GENERAL REQUIREMENTS	01 11 00 ADMINISTRATIVE REQUIREMENTS	Scheduling	Aprox 0.5%	PCT	Included	None	Included	\$0	\$1,000
	Division 1	GENERAL REQUIREMENTS	01 11 80 ADMINISTRATIVE REQUIREMENTS	Foreman	24 months	Year	Included	None	Included	\$0	\$2,400
										SUBTOTAL :	\$46,707

Fees	Division 1	GENERAL REQUIREMENTS	01 16 80 ADMINISTRATIVE REQUIREMENTS	CM Cost Overhead	10.00%	PCT	Included	None	Included	\$0	\$4,671
	Division 1	GENERAL REQUIREMENTS	01 16 80 ADMINISTRATIVE REQUIREMENTS	CM Cost Profit	8.00%	PCT	Included	None	Included	\$0	\$3,737
	Division 1	GENERAL REQUIREMENTS	01 16 80 ADMINISTRATIVE REQUIREMENTS	CM Cost Contingency	10.00%	PCT	Included	None	Included	\$0	\$4,671
										SUBTOTAL :	\$59,784
Taxes	Division 1	GENERAL REQUIREMENTS	01 16 80 ADMINISTRATIVE REQUIREMENTS	CM Cost Taxes	8.63%	PCT	Included	None	Included	\$0	\$5,159
	Division 1	GENERAL REQUIREMENTS	01 16 80 ADMINISTRATIVE REQUIREMENTS	CM Cost Metro Multiplier	44%	PCT	Included	None	Included	\$0	\$26,305
										TOTAL :	\$91,249
										5 UNITS	456244.2872

FACILITY SUPPORT BUILDING ASSEMBLY COST

UNIFORMAT SECTION	MASTERFORMAT DIVISION	MF ID LVL 1	MF ID LVL 2	COMPONENT DESCRIPTION	QUANTITY	UNIT OF MEASUREMENT	MAN HOUR PER UNIT	MATERIAL COST	LABOR COST	EQUIP. COST	TOTAL COST
Subsurface / Site Prep	Division 2	EXISTING CONDITIONS	02 30 00 SUBSURFACE INVESTIGATION	Survey / Markout	1	Per Day	Average Crew	0	\$1,630	Included	\$1,630
	Division 33	UTILITIES	33 30 00 SANITARY SEWERAGE UTILITIES	Utility Location (811)	1	Per Day	Small Crew	0	\$1,080	Included	\$1,080
	Division 01	GENERAL REQUIREMENTS	01 45 23 TESTING	Soil Sample	1	Per Sample	Average Crew	0	\$130	Included	\$130
	Division 11	EQUIPMENT	11 10 00 VEHICLE AND PEDESTRIAN EQUIPMENT	Tracking Pad	0	0	0	*Pad*	*Laborer*	*Truck*	0
	Division 01	GENERAL REQUIREMENTS	01 54 08 EQUIPMENT MOBOLIZATION	Equipment Mobilization	1	Per Backhoe / Loader	0	0	\$40	\$1,120	\$1,160
	Division 01	GENERAL REQUIREMENTS	01 21 70 EQUIPMENT	Dump Truck 10yd	10	Per Day	0	0	\$0	\$510	\$0
	Division 01	GENERAL REQUIREMENTS	01 30 20 EQUIPMENT	Backhoe Rubber Tired	2	Per Week	0	0	\$0	\$1,700	\$3,400
	Division 31	EARTHWORK	31 10 00 SITE CLEARING	Excavation	90	CY	0.027	0	\$1.95	\$2.26	0
	Division 33	UTILITIES	33 22 00 SANITARY WASTE PIPE	Underground Utilities	80	EA	0.48	\$420	\$35.25	\$30	\$36,153.65
	Division 31	EARTHWORK	31 06 00 BUILDING EXCAVATION	Compaction	90	CY	0.16	0	\$15.50	\$20	\$1,919.90
	Division 03	CONCRETE	03 51 00 FORMWORK	Build Forms	66	LF	0.062	\$41	\$5.80	0	\$2,781.89
	Division 3	CONCRETE	03 53 00 CONCRETE REINFORCING		360	SF	0.006	\$0.44	\$0.55	\$0.00	521
	Division 4	CONCRETE	03 53 00 CONCRETE REINFORCING	Foundation Reinforcing	2	TON	11.429	\$1,650.00	\$1,100.00	\$0.00	4,425
	Division 5	CONCRETE	03 53 00 CONCRETE REINFORCING	Beam	410	LF	13.429	\$195.67	\$85.97	\$0.00	151477
	Division 6	CONCRETE	03 53 00 CONCRETE REINFORCING	Strip Footing	410	LF	12.429	\$70.71	\$95.09	\$0.00	81,967
	Division 7	CONCRETE	03 10 30 SLAB / MAT CONCRETE	By Hand / Buggy	5	CY	0.533	\$70	\$39.25	0	\$396.92
	Division 8	CONCRETE	03 10 30 SLAB / MAT CONCRETE	Slab On Grade	10000	SF	0.74	\$15	\$4.37	0	212,566
	Division 3	CONCRETE	03 10 20 FORMWORK	Steps Formwork	0	SF	0.16	\$6.37	\$15.00	0	\$15.00
	Division 3	CONCRETE	03 53 00 CONCRETE REINFORCING	Mesh Installation	360	SF	0.006	\$0.44	\$0.55	0	\$521.11
	Division 3	CONCRETE	03 10 40 SLAB / MAT CONCRETE	By Hand / Buggy	0	CY	0.8	\$160	\$59.00	0	\$59.00
Division 31	EARTHWORK	31 01 00 EARTH MOVING	Hauling 1 Mile	7.5	CY	0.044	0	\$3.25	\$3.77	\$39.36	
Division 31	EARTHWORK	31 06 00 EARTH MOVING	Backfill and Compaction	2	CY	0.16	0	\$15.50	\$20	\$57.82	
Shell	Division 4	MASONRY	04 29 80 MASONRY GROUT		6600	SF	0.02	0.022	\$1.62	\$1.36	\$15,854.82
	Division 4	MASONRY	04 29 80 MASONRY GROUT	Brick Veneer Wall	3300	SF	0.03	31.57	21.63	0	253,996.02
	Division 8	OPENINGS	08 10 00 WINDOWS AND FRAMES	Window	120	SF	12	5133.77	14.54	0	510,683.09
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 21 40 ROUGH CARPENTRY	Roof Truss	10000	SF	16	21.56	7.93	0	354,099.56
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 10 40 ROUGH CARPENTRY	Frame Subfloor	360	SF	0.017	\$3.52	\$1.57	0	1,635
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 20 20 ROUGH CARPENTRY	Sheath Subfloor	360	SF	0.011	\$1.52	\$1.07	0	912
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 10 00 ROUGH CARPENTRY	Frame Walls	608.00	SF	0.016	\$1.90	\$1.50	0	1,774.43
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 21 20 ROUGH CARPENTRY	Frame Roof Trusses 30ft	0	EA	0.75	\$250	\$55	\$36.75	\$55
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 21 40 ROUGH CARPENTRY	Frame Roof Trusses 34ft	0	EA	0.75	\$260	\$55	\$36.75	\$55
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 10 20 ROUGH CARPENTRY	Sheath Roof	385	SF	0.011	\$1.94	\$1.00	0	\$1,137.14
	Division 7	THERMAL AND MOISTURE PROTECTION	07 10 40 STEEP SLOPE ROOFING	Asphalt Roofing	385	SQ	0.889	\$110	\$80	0	\$43,157
	Division 8	OPENINGS	08 27 20 DOORS AND FRAMES	Exterior Doors	1	EA	2	\$1,460	\$190	0	\$1,653

	Division 8	OPENINGS	8 13 00 DOORS AND FRAMES	Exterior Door Frames	1	EA	1.6	\$210	\$150	0	\$363
	Division 8	OPENINGS	08 10 00 WINDOWS AND FRAMES	Windows (A)	4	EA	1.143	\$590	\$110	0	\$2,479
	Division 8	OPENINGS	8 10 00 WINDOWS AND FRAMES	Windows (B)	0	EA	0.8	\$270	\$75	0	\$75
	Division 8	OPENINGS	8 10 00 WINDOWS AND FRAMES	Windows (C)	0	EA	0.8	\$270	\$75	0	\$75
	Division 8	OPENINGS	8 80 10 WINDOWS AND FRAMES	Windows Frame, Milled	0	LF	0.16	\$6	\$15	0	\$15
	Division 7	THERMAL AND MOISTURE PROTECTION	07 21 40 ROOFING AND SIDING PANELS	Board and Batten Siding 1x10	608	SF	0.029	\$2.11	\$2.69	0	1,911
	Division 8	OPENINGS	08 12 00 VENTS AND LOUVERS	Exterior Screened Vents	0	EA	0.25	\$110	\$26.00	0	\$26.00
Building Services	Division 1	GENERAL REQUIREMENTS	01 25 10 SQUARE FOOT QUICK COSTS	Plumbing Rough in	2800	SF	0	\$0.00	\$0.00	0	\$2,800.00
	Division 22	PLUMBING	22 12 00 PLUMBING PIPING AND PUMPS	Plumbing (Water Supply) Steel	100	LF	0.04	\$4.68	\$4.13	0	\$576.13
	Division 22	PLUMBING	22 10 40 PLUMBING EQUIPMENT	Plumbing (Waste / Vent) PVC	100	LF	0.04	\$0.88	\$4.13	0	\$196.13
	Division 22	PLUMBING	22 10 00 PLUMBING PIPING AND PUMPS	Kitchen Faucet	1	EA	1.33	\$95	\$140	0	\$237
	Division 22	PLUMBING	22 10 60 PLUMBING PIPING AND PUMPS	Kitchen Faucet	0	EA	1.33	\$95	\$140	0	\$140
	Division 22	PLUMBING	22 20 20 PLUMBING FIXTURES	Kitchen Sink	1	EA	1.6	\$340	\$170	0	\$513
	Division 22	PLUMBING	22 10 00 PLUMBING FIXTURES	Bathroom Sink	1	EA	2	\$770	\$210	0	\$983
	Division 22	PLUMBING	22 12 00 PLUMBING FIXTURES	Water Closet	1	EA	2	\$560	\$210	0	\$773
	Division 26	ELECTRICAL	26 05 81 SERVICE AND DISTRIBUTION	Electrical Switchboard 400a	1	EA	7.921	\$3,770	\$760	0	\$4,539
	Division 26	ELECTRICAL	26 15 40 SERVICE AND DISTRIBUTION	Pannel Board 400a 30 circuits	1	EA	5	\$4,580	\$480	0	\$5,066
	Division 26	ELECTRICAL	26 55 10 SERVICE AND DISTRIBUTION	Switche Plates 1 gang	5	EA	0.08	\$0.62	\$7.68	0	\$16.18
	Division 26	ELECTRICAL	26 10 00 SERVICE AND DISTRIBUTION	14ga Copper Wire	200	LF	0.004	\$0.22	\$0.38	0	\$245.18
	Division 26	ELECTRICAL	26 55 40 SERVICE AND DISTRIBUTION	Switch Plates 4 gang	1	EA	0.145	\$5.92	\$14.00	0	\$21.07
	Division 26	ELECTRICAL	26 10 10 SERVICE AND DISTRIBUTION	Switches	9	EA	1.143	\$350.00	\$110.00	0	\$3,279.29
	Division 26	ELECTRICAL	26 05 15 LIGHTING	Lighting Fixtures	8	EA	0.727	\$110	\$70	0	\$964
Interior Construction	Division 7	FINISHES	07 31 00 WOOD BOARD	1" Tounge and Groove Walls / Ceiling Boards	0	SF	0.038	\$1.87	\$3.59	0	4
	Division 9	FINISHES	09 10 80 FLOORING	Oak Flooring	6,500	SF	0.038	\$3.73	\$3.59	0	30,996
	Division 8	OPENINGS	08 16 40 DOORS AND FRAMES	2'-8" Interior Doors Hollow Core	2	EA	1	\$140	\$94	0	\$378
	Division 8	OPENINGS	08 01 40 DOORS AND FRAMES	2'-8" Interior Door Frames	0	EA	1.143	\$110	\$110	0	\$110
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 25 40 ARCHITECTURAL WOODWORK	Base Cabinetry	4	LF	0.32	\$240	\$30.25	0	\$995.53
	Division 6	WOOD, PLASTICS, AND COMPOSITES	06 26 40 ARCHITECTURAL WOODWORK	Wall Cabinetry	4	LF	0.267	\$73	\$25.25	0	\$322.32
	Division 6	FINISHES	06 51 00 FINISH CARPENTRY	1x10 Baseboard Molding	80	LF	0.05	\$3.11	\$4.71	0	\$337.51
Site Improvements	Division 1	GENERAL REQUIREMENTS	01 54 08 EQUIPMENT MOBOLIZATION	Equipment Demobolization	2	Per Backhoe / Loader	0	0	\$40	\$1,120	\$2,282
Project Management	Division 1	GENERAL REQUIREMENTS	01 30 00 ADMINISTRATIVE REQUIREMENTS	Permits, Including Environmental	Aprox 1.2%	PCT	None	None	*Inspector*	0	\$20,952
	Division 1	GENERAL REQUIREMENTS	01 11 00 ADMINISTRATIVE REQUIREMENTS	Scheduling	Aprox 0.5%	PCT	Included	None	Included	0	\$88,268
	Division 1	GENERAL REQUIREMENTS	01 11 80 ADMINISTRATIVE REQUIREMENTS	Foreman	2 year	Year	Included	None	Included	0	\$5,200
										SUBTOTAL :	\$1,860,450

Fees	Division 1	GENERAL REQUIREMENTS	01 16 80 ADMINISTRATIVE REQUIREMENTS	CM Cost Overhead	10.00%	PCT	Included	None	Included	0	\$22,325
	Division 1	GENERAL REQUIREMENTS	01 16 80 ADMINISTRATIVE REQUIREMENTS	CM Cost Profit	8.00%	PCT	Included	None	Included	0	\$44,631
	Division 1	GENERAL REQUIREMENTS	01 16 80 ADMINISTRATIVE REQUIREMENTS	CM Cost Contingency	10.00%	PCT	Included	None	Included	0	\$44,886
										SUBTOTAL :	\$1,972,292
Taxes	Division 1	GENERAL REQUIREMENTS	01 16 80 ADMINISTRATIVE REQUIREMENTS	CM Cost Taxes	8.63%	PCT	Included	None	Included	0	\$170,209
	Division 1	GENERAL REQUIREMENTS	01 16 80 ADMINISTRATIVE REQUIREMENTS	CM Cost Metro Multiplier	44%	PCT	Included	None	Included	0	\$867,809
										TOTAL :	\$3,010,310

Project Cost Planning

1-Feb-23

NEW CONSTRUCTION/RENOVATION				
	Gross Square Area	Cost per GSF		Cost by Task/Facility
Hardscape	21,300	\$	15.00	\$ 319,500.00
Softscape	77,260	\$	10.00	\$ 772,600.00
Subtotal, Project Construction, Fees, and Contingency				\$ 1,092,100.00

FACTORS	Subtotal	x Factor		
Project Costs - Less than \$1 million	\$ 1,092,100.00	5%	\$	54,605.00
Project Costs - More than \$1 million	\$ -	-3%	\$	-
Labor availability- Slow Market	\$ -	-5%	\$	-
Labor availability - Tight Market	\$ 1,092,100.00	7%	\$	76,447.00
Labor availability - Union requirements	\$ -	20%	\$	-
Location - Incorporated Area	\$ -	2%	\$	-
Location - Unincorporated Area	\$ 1,092,100.00	-2%	\$	(21,842.00)
Job site - Business Area	\$ 1,092,100.00	-2%	\$	(21,842.00)
Job site - Residential Area	\$ 1,092,100.00	5%	\$	54,605.00
Job site - Limited Staging	\$ -	5%	\$	-
Job site - Occupied by Owner	\$ -	7%	\$	-
Renovation - No Intrusive Tests	\$ 1,092,100.00	10%	\$	109,210.00
Renovation - Intrusive Exploration	\$ -	-3%	\$	-
Project Fees - Simple Project	\$ 1,092,100.00	-1%	\$	(10,921.00)
Project Fees - Complex Project	\$ -	5%	\$	-
NYS Building Code Transition - simple project	\$ -	5%	\$	-
NYS Building Code Transition - complex project	\$ -	7%	\$	-

Subtotal, Factors	\$ 240,262.00
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Design Contingency	\$ 199,854.30
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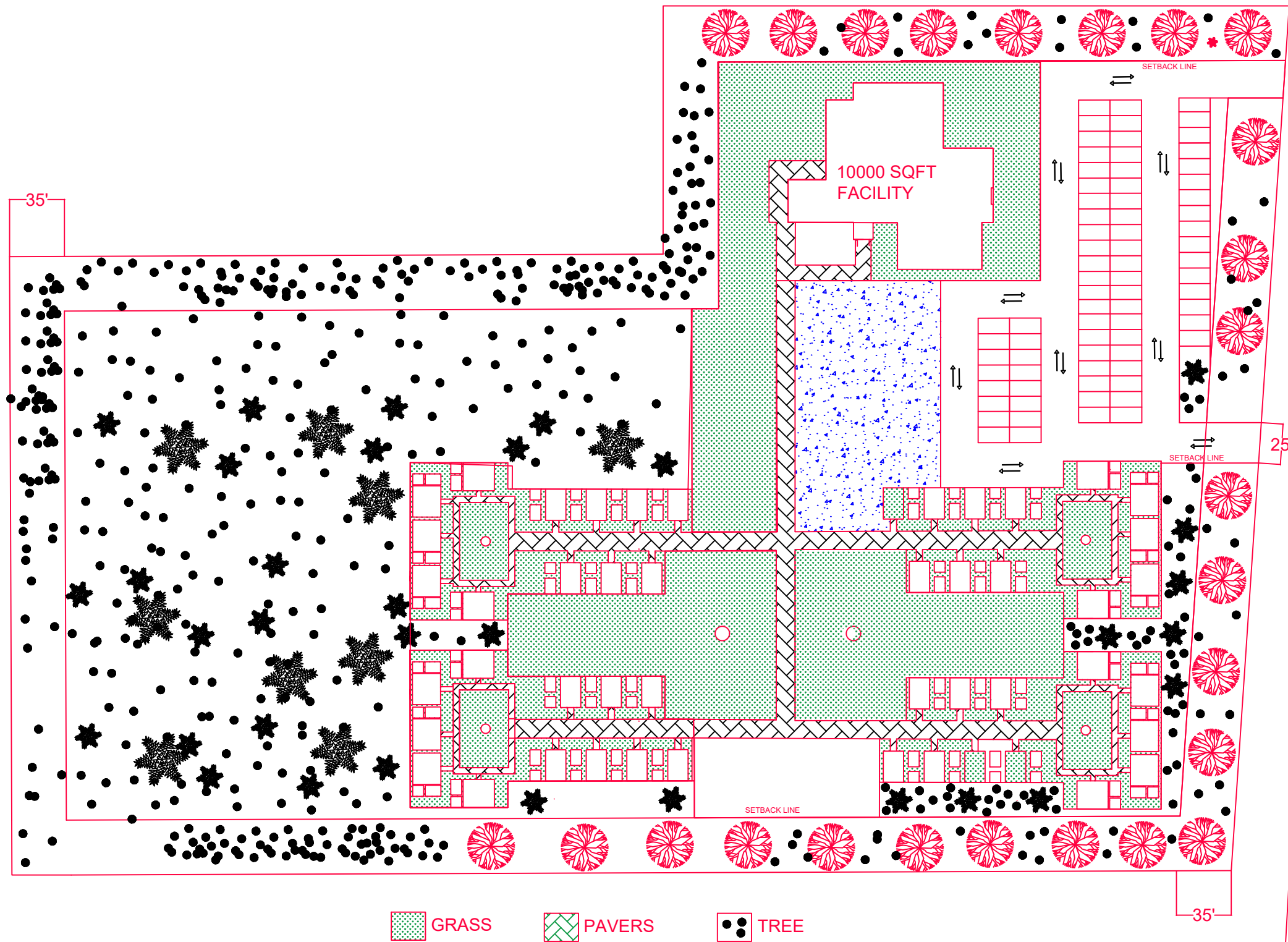
Subtotal, Construction+Fees+Factors+Contingency	\$ 1,532,216.30
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	Years to Midpoint		
Escalation	1.0	\$	153,221.63

TOTAL PROJECT ESTIMATE=

\$

1,685,437.93



CEDARHURST AVE

General Notes

**SITE DEVELOPED:
APPROX.
66,800SQFT**

**SIDE SETBACK
MIN:50FT
ACTUAL: 70FT
TOTAL**

**REAR YARD: MIN
35FT**

**FRONT YARD:
MIN 25**

No.	Revision/Issue	Date

Firm Name and Address

Project Name and Address

Project	Sheet
Date	
Scale	

Level 1
0' - 0"



