



**BuildWorks Construction**



**Elms Realty**

**40-09 21<sup>st</sup> Street**

Long Island City, NY 11101

April 26, 2021



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# Agenda

- Project Understanding and Approach
- Firm Introduction
- Relevant Projects
- Team Organizational Chart
- CPM Project Milestone Schedule
- Staffing Chart
- Summary Estimate
- Detailed Trade Take-Off
- Value Engineering Proposal
- Construction Site Logistics Plan
- Construction Site Safety Plan
- Quality Assurance/Quality Control Plan
- Constructability Review
- Sustainable Construction Plan
- Construction Technology Initiative





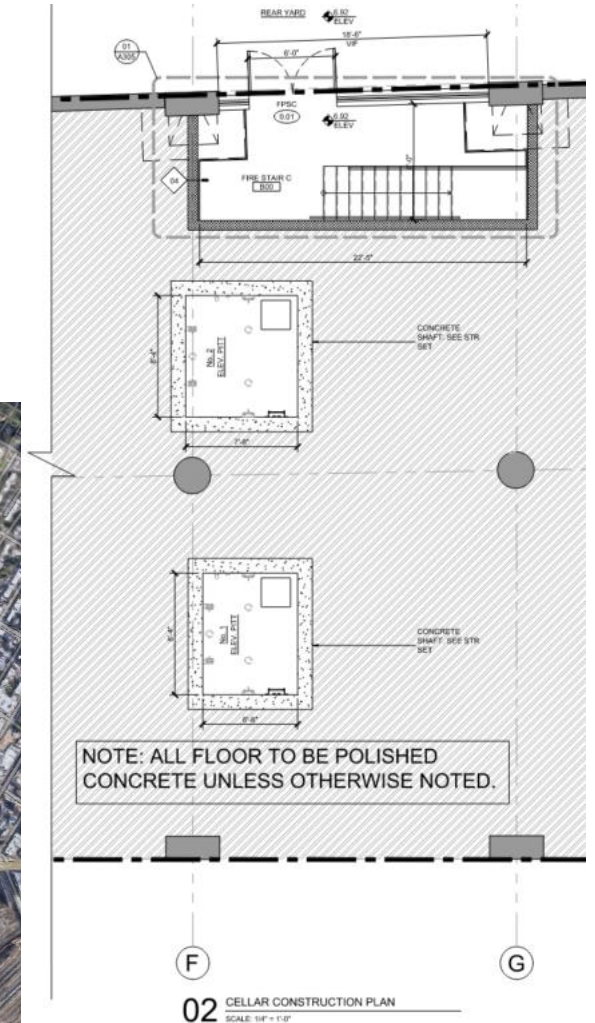
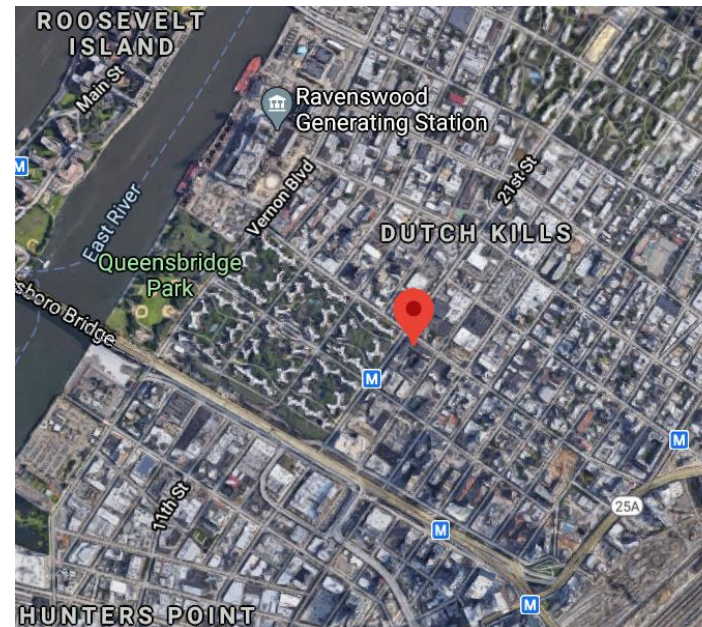
# Project Understanding and Approach

## • Project Details:

- 86,040 square feet
- 6-story building
- Exterior facade and structural support to remain
- Installation of two (2) elevators and fire stair in the center of the building
- Full removal and replacement of:
  - Electrical
  - Plumbing
  - Fire Protection
  - HVAC

## • Project Approach:

- Four Phases
  - Demolition
  - Structural
  - MEP
  - Interior Fit-Out





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# Firm Introduction

## BUILDWORKS CONSTRUCTION

- Founded by Timothy Build and John Works in 1980
- Firm Headquarters: 767 5<sup>th</sup> Avenue, New York, NY 10153
- 150 Full Time Employees
- Annual Revenue: \$225 Million
- Average Project Cost: \$9 Million
- Values **Integrity** of work, **Safety** of employees, and **Collaboration** of teams







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# Relevant Projects

## Golten Marine Building

**Client:** LIVWRK

**Location:** 160 Van Brunt Street, Brooklyn, NY 11231

**Size:** 98,650 SF

**Cost:** \$5.5 Million

**Completion:** 2016

**Architect:** John Saracco Architects

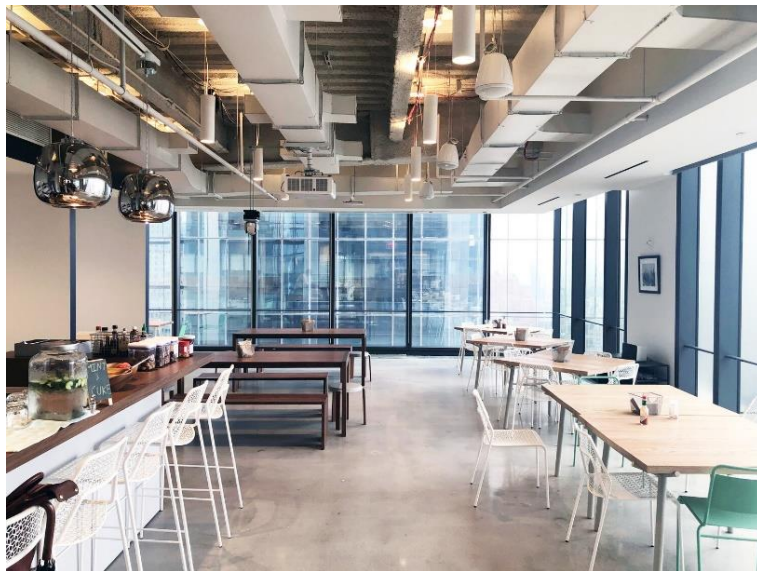
- Interior fit-out
- HVAC Mechanical system
- Vertical Transportation
- Lobby Renovation





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# Relevant Projects



## **Asana**

**Client:** Asana

**Location:** 3 World Trade Center, 36th Floor,  
New York, NY 10007

**Size:** 18,000 SF

**Cost:** \$1.2 Million

**Completion:** 2019

**A/E Team:** Murdock Solon Architects/ 2L Consulting  
Engineering

- Office Fit-Out
- Pantry space
- Private Restrooms
- Redistribution of perimeter heating of the building





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# Relevant Projects

## The Warehouse

**Client:** Elijah Equities/ Newmark  
Grubb Knight Frank

**Location:** 520 W 20th St,  
New York, NY 10011

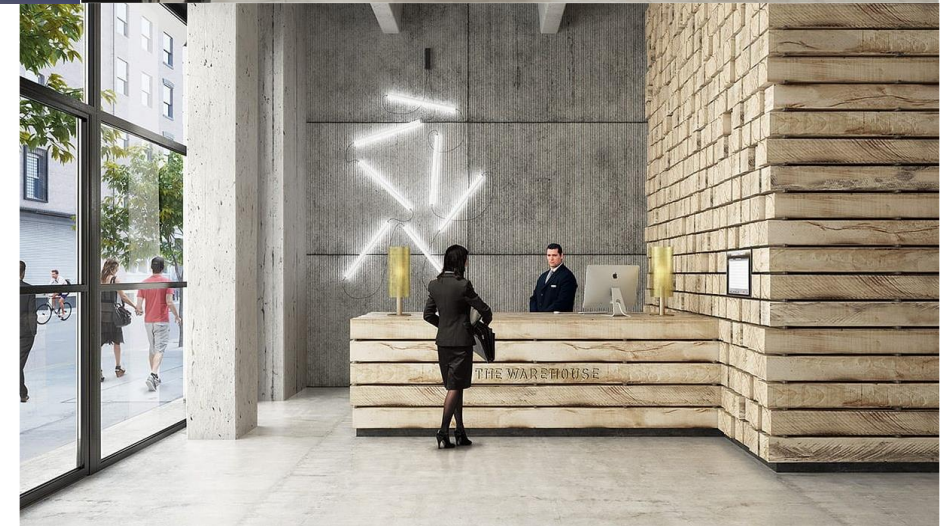
**Size:** 115,855 SF

**Cost:** \$15.9 Million

**Completion:** 2020

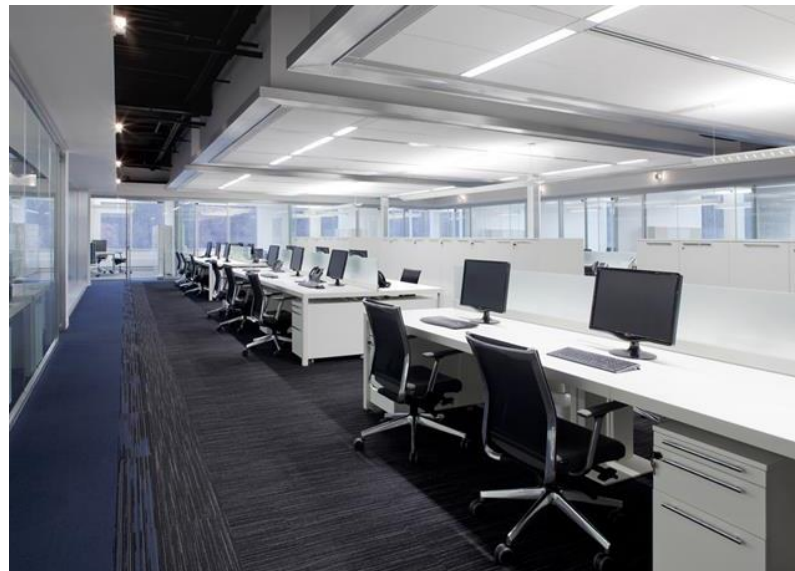
**Architect:** Morris Adjmi Architects

- Community Redevelopment
- Interior Fit-Out
- Expansion above building
- Redesign of vertical cores





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# Relevant Projects

## **Luxottica**

**Client:** Luxottica

**Location:** 12 Harbor Park Dr, Port Washington, NY 11050

**Size:** 30,000 SF

**Cost:** \$2.5 Million

**Completion:** 2016

**Architect:** Mojo Stumer Architects

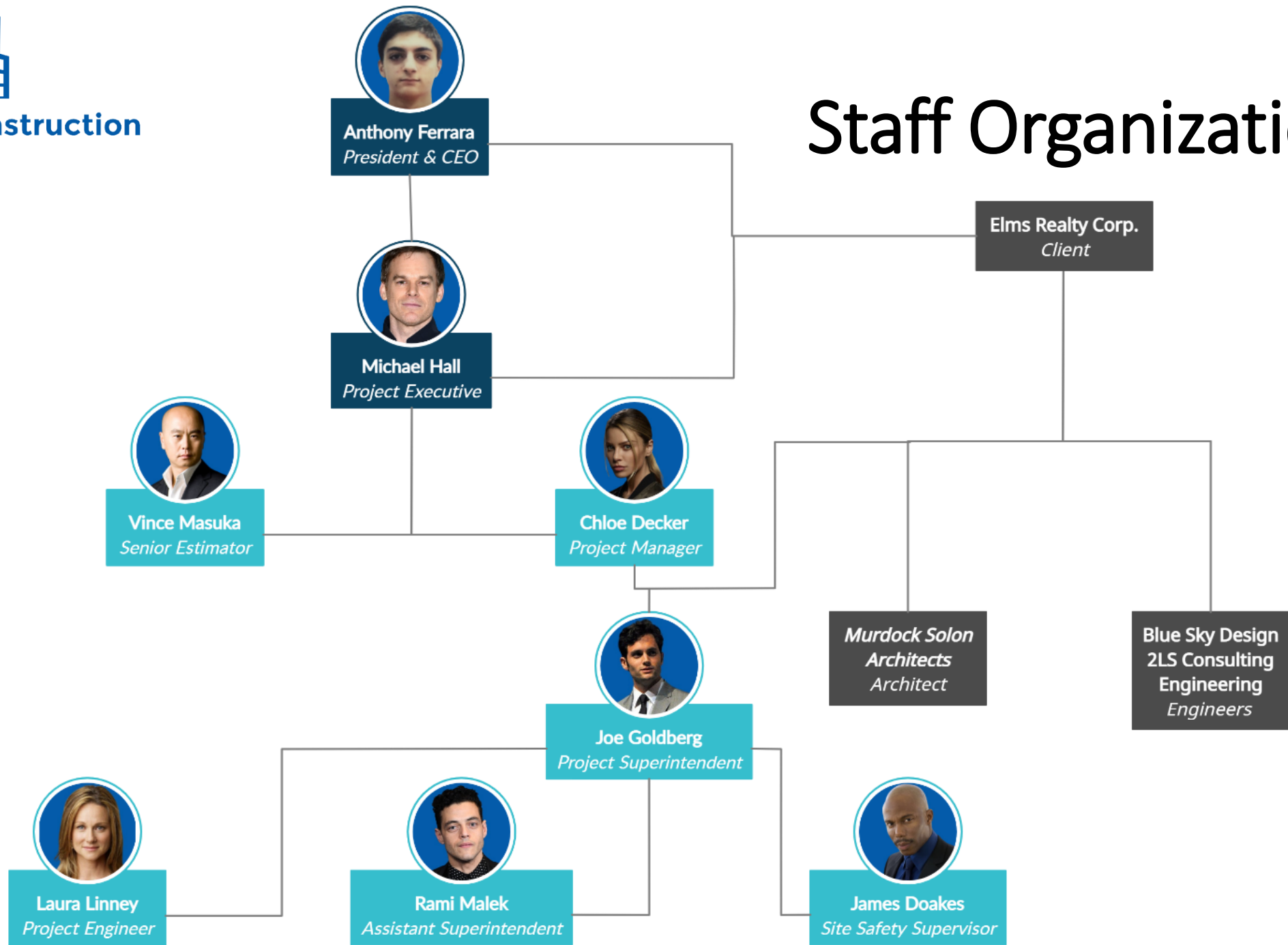
- Warehouse converted to Office Space
- Two story Atrium with skylight
- Installation of green living wall





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# Staff Organization





# CPM Milestone Schedule

June 1, 2021 to April 11, 2022

MILESTONE	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL
Procurement	X	X									
Demolition/Excavation		X	X	X							
Structural				X	X						
Fire Stair					X	X					
Elevator Installation					X	X	X				
MEP Rough-In							X	X	X		
Interior Finishes								X	X	X	
Close-Out									X	X	X





# Three-Week Look Ahead

ACTIVITY	7/19/2021 - 8/6/2021																			
	M	T	W	TH	F	S	S	M	T	W	TH	F	S	S	M	T	W	TH	F	
A/E Review for Final Submittals	X																			
Site Mobilization	X	X																		
Site Clearance		X																		
Site Fence Installation		X																		
Interior Demo 6th Floor			X	X	X			X												
6th Floor Concrete Slab Demo											X	X								
Interior Demo 5th Floor								X	X	X	X									
5th Floor Concrete Slab Demo																X	X			
Interior Demo 4th Floor											X	X			X	X				
4th Floor Concrete Slab Demo																				X
Interior Demo 3rd Floor																X	X	X	X	



# Staffing Chart

NAME	ROLE	AVERAGE HOURS PER MONH	TOTAL HOURS AVAILABLE	PERCENT OF TIME
Anthony Ferrara	PRESIDENT & CEO	14.55	160	9%
Michael Hall	PROJECT EXECUTIVE	36.36	160	23%
Chloe Decker	PROJECT MANAGER	76.36	160	48%
Vince Masuka	SENIOR ESTIMATOR	33.64	160	21%
Joe Goldberg	PROJECT SUPERINTENDENT	160.00	160	100%
Rami Malek	ASSISTANT SUPERINTENDENT	160.00	160	100%
Laura Linney	PROJECT ENGINEER	160.00	160	100%
James Doakes	SITE SAFETY SUPERVISOR	160.00	160	100%





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# SUMMARY BID ESTIMATE

PROJECT:

LOCATION:

FIRM:

DATE:



86040 SF

Divisions (Trades)		Cost (\$)	Cost per SF (\$)	Percentage of Cost (%)
Division 01	General Requirements	\$ 325,000.00	\$ 3.78	3.42%
Division 02	Existing Conditions	\$ 446,773.00	\$ 5.19	4.70%
Division 03	Concrete	\$ 859,350.00	\$ 9.99	9.04%
Division 04	Masonry	\$ 242,875.00	\$ 2.82	2.56%
Division 05	Metals	\$ 274,235.00	\$ 3.19	2.89%
Division 06	Wood, Plastics, and Composites	\$ 328,750.00	\$ 3.82	3.46%
Division 07	Thermal and Moisture Protection	\$ 212,350.00	\$ 2.47	2.23%
Division 08	Openings	\$ 213,780.00	\$ 2.48	2.25%
Division 09	Finishes	\$ 639,764.00	\$ 7.44	6.73%
Division 10	Specialties	\$ 335,475.00	\$ 3.90	3.53%
Division 11	Equipment	\$ 551,870.00	\$ 6.41	5.81%
Division 12	Furnishings	\$ 127,750.00	\$ 1.48	1.34%
Division 13	Special Construction	\$ 210,872.00	\$ 2.45	2.22%
Division 14	Conveying Equipment	\$ 609,435.00	\$ 7.08	6.41%
Division 21	Fire Suppression	\$ 683,560.00	\$ 7.94	7.19%
Division 22	Plumbing	\$ 754,870.00	\$ 8.77	7.94%
Division 23	Heating, Ventilating, and Air-Conditioning	\$ 849,940.00	\$ 9.88	8.94%
Division 26	Electrical	\$ 691,584.00	\$ 8.04	7.28%
Division 27	Communications	\$ 103,972.00	\$ 1.21	1.09%
Division 28	Electronic Safety and Security	\$ 242,875.00	\$ 2.82	2.56%
Division 31	Earthwork	\$ 285,390.00	\$ 3.32	3.00%
Division 32	Exterior Improvements	\$ 150,745.00	\$ 1.75	1.59%
Division 33	Utilities	\$ 360,985.00	\$ 4.20	3.80%
<b>TRADE SUBTOTAL</b>		<b>\$9,502,200.00</b>	<b>\$110.44</b>	<b>100.00%</b>
	Building Permit Fees	\$ 190,044.00	\$ 2.21	2.00%
	Payment & Performance Bonds	\$ -	\$ -	0.00%
	General Conditions - Reimbursables	\$ 190,044.00	\$ 2.21	2.00%
	CM Staff	\$ 760,176.00	\$ 8.84	8.00%
	Overhead & Profit	\$ 950,220.00	\$ 11.04	10.00%
	Insurance	\$ 380,088.00	\$ 4.42	4.00%
	<b>FEES SUBTOTAL</b>	<b>\$ 2,470,572.00</b>	<b>\$ 28.71</b>	
	<b>TOTAL</b>	<b>\$11,972,772.00</b>	<b>\$139.15</b>	



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# Detailed HVAC Estimate

DETAILED HVAC TAKE-OFF		PROJECT: <input type="text" value="Urban Yard"/>		
		LOCATION: <input type="text" value="40-09 21st Street, LIC, NY, 11101"/>		
		FIRM: <input type="text" value="BuildWorks Construction"/>		
		DATE: <input type="text" value="April 26, 2021"/>		
		86040 SF		
Line Item	Division 23 HVAC	Unit Cost (\$)	Quantity	Total Cost (\$)
Cellar				
1	EW-1	\$ 200.00	3	\$ 600.00
SUBTOTAL - CELLAR:				\$ 600.00
Ground Floor				
2	EW-1	\$ 200.00	2	\$ 400.00
3	EH-1	\$ 200.00	9	\$ 1,800.00
4	EH-2	\$ 250.00	15	\$ 3,750.00
5	ER-1	\$ 40.00	4	\$ 160.00
6	AC UNITS	\$ 750.00	13	\$ 9,750.00
7	REFRIGERANT PIPING	\$ 35.00	1074 FT	\$ 37,555.00
SUBTOTAL - GROUND FLOOR:				\$ 53,415.00
2nd Floor				
8	EH-1	\$ 200.00	5	\$ 1,000.00
9	EH-2	\$ 250.00	20	\$ 5,000.00
10	ER-1	\$ 40.00	4	\$ 160.00
11	AC UNITS	\$ 750.00	12	\$ 9,000.00
12	REFRIGERANT PIPING	\$ 35.00	1074 FT	\$ 37,590.00
SUBTOTAL - 2ND FLOOR:				\$ 52,750.00
3rd Floor				
13	EH-1	\$ 200.00	5	\$ 1,000.00
14	EH-2	\$ 250.00	20	\$ 5,000.00
15	ER-1	\$ 40.00	4	\$ 160.00
16	AC UNITS	\$ 750.00	12	\$ 9,000.00
17	REFRIGERANT PIPING	\$ 35.00	1074 FT	\$ 37,590.00
SUBTOTAL - 3RD FLOOR:				\$ 52,750.00
4th Floor				
18	EH-1	\$ 200.00	5	\$ 1,000.00
19	EH-2	\$ 250.00	20	\$ 5,000.00
20	ER-1	\$ 40.00	4	\$ 160.00
21	AC UNITS	\$ 750.00	12	\$ 9,000.00
22	REFRIGERANT PIPING	\$ 35.00	1074 FT	\$ 37,590.00
SUBTOTAL - 4TH FLOOR:				\$ 52,750.00
5th Floor				
23	EH-1	\$ 200.00	5	\$ 1,000.00
24	EH-2	\$ 250.00	20	\$ 5,000.00
25	ER-1	\$ 40.00	4	\$ 160.00
26	AC UNITS	\$ 750.00	12	\$ 9,000.00
27	REFRIGERANT PIPING	\$ 35.00	1074 FT	\$ 37,590.00
SUBTOTAL - 5TH FLOOR:				\$ 52,750.00
6th Floor				
28	EH-1	\$ 200.00	5	\$ 1,000.00
29	EH-2	\$ 250.00	20	\$ 5,000.00
30	ER-1	\$ 40.00	4	\$ 160.00
31	AC UNITS	\$ 750.00	12	\$ 9,000.00
32	REFRIGERANT PIPING	\$ 35.00	1074 FT	\$ 37,590.00
SUBTOTAL - 6TH FLOOR:				\$ 52,750.00
Roof				
33	EW-1	\$ 200.00	1	\$ 200.00
36	ACCU	\$ 12,000.00	12	\$ 144,000.00
SUBTOTAL - ROOF:				\$ 144,200.00
SUBTOTAL				\$461,965.00
LABOR COSTS				\$ 387,975.00
TOTAL				\$849,940.00





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86040 SF				
<b>4th Floor</b>				
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SUBTOTAL - 6TH FLOOR:				\$ 52,750.00
<b>Roof</b>				
33	EWH-1	\$ 200.00	1	\$ 200.00
36	ACCU	\$ 12,000.00	12	\$ 144,000.00
SUBTOTAL - ROOF:				\$ 144,200.00
<b>SUBTOTAL</b>				<b>\$461,965.00</b>
<b>LABOR COSTS</b>				<b>\$ 387,975.00</b>
<b>TOTAL</b>				<b>\$849,940.00</b>



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# Value Engineering Proposal



01 LOBBY RENDERING  
SCALE: N.T.S.

## 56 FIXTURES





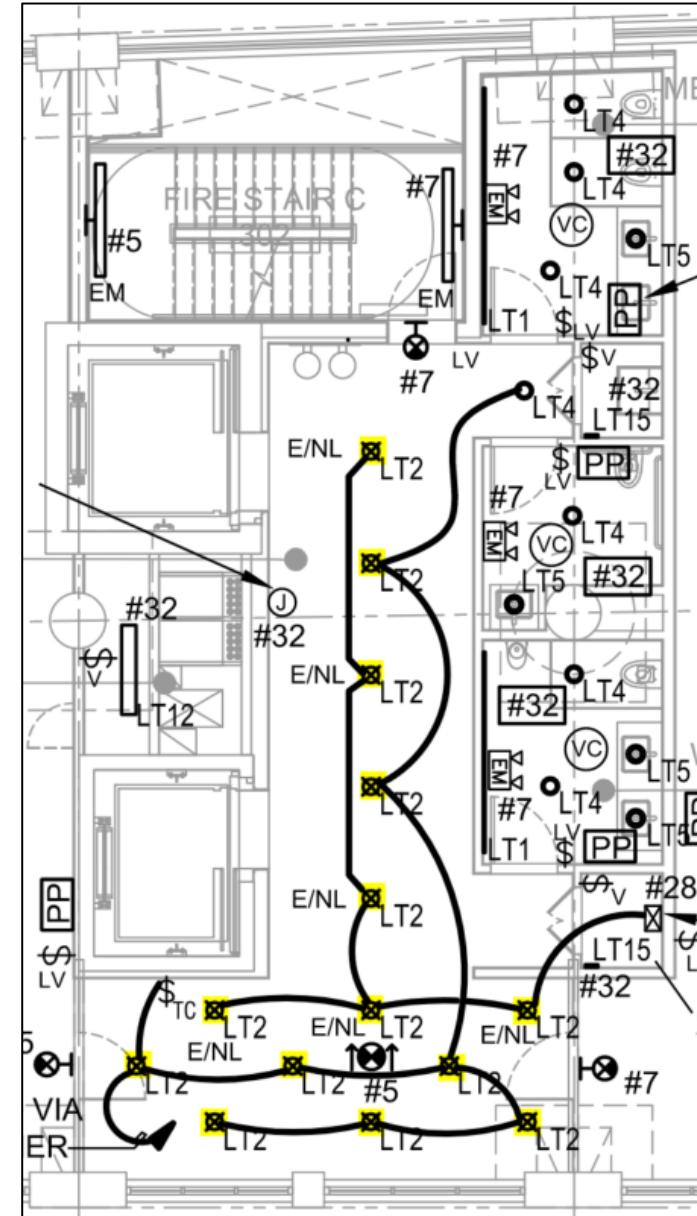


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# Value Engineering Proposal



02 TYPICAL HALLWAY SECTION RENDERING  
SCALE: N.T.S.



14 FIXTURES





# Value Engineering Proposal

## SPECIFIED LT2 LIGHTING FIXTURE

- **Manufacturer:** Industrial Light Electric
- **Ceiling Canopy:** 5" Diameter
- **Rated:** 60W, 120V
- **Bulb Base/Shape:** Medium E26/G25

	SPECIFIED	ALTERNATIVE
Quantity:	135	135
Unit Price:	\$ 55.00	\$ 20.99
Total:	\$ 7,425.00	\$ 2,833.65
Savings:	\$ -	\$ 4,591.35
Percentage:		62%

## VE ALTERNATIVE LT2 LIGHTING FIXTURE

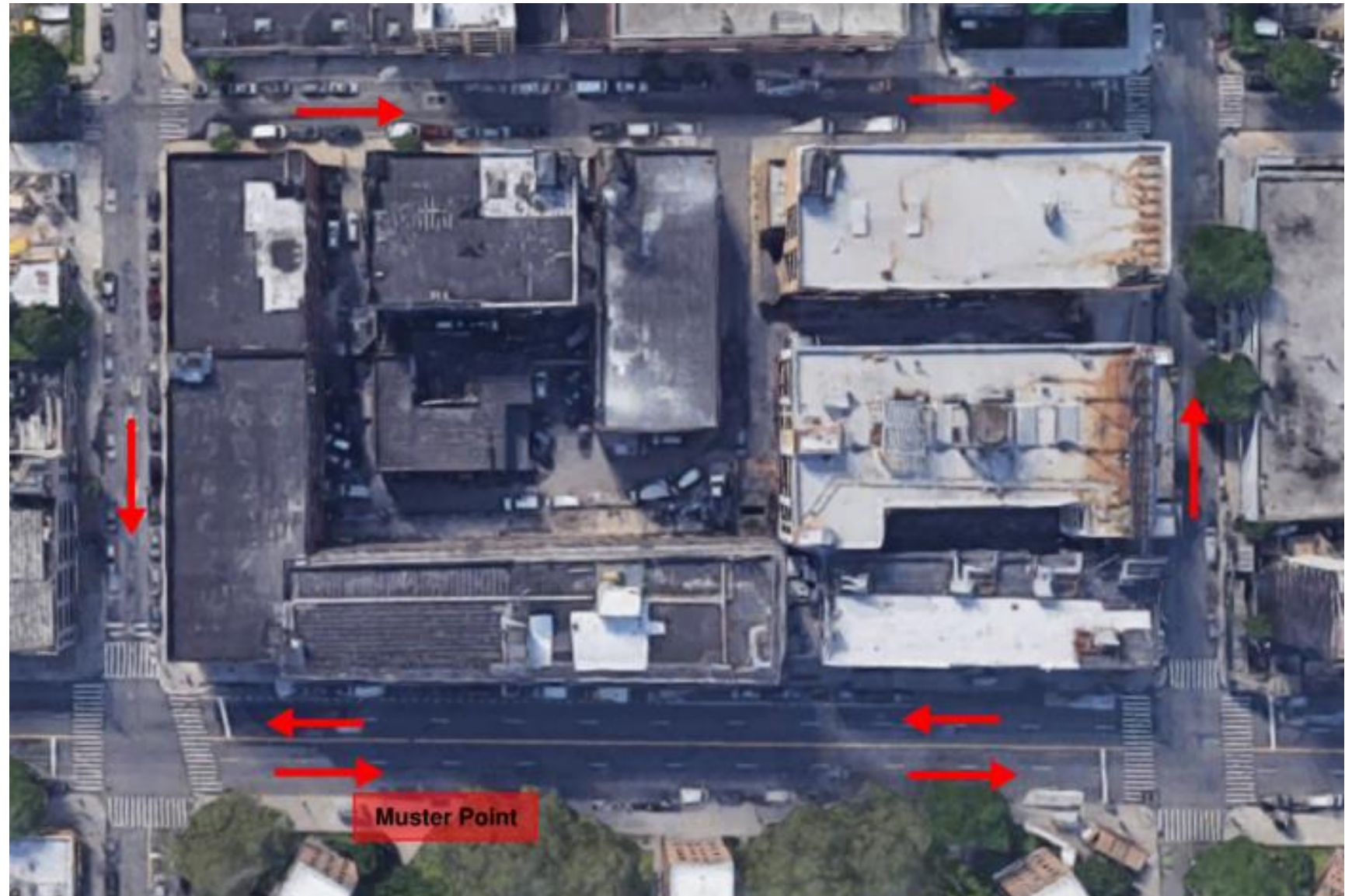
- **Manufacturer:** Nuvo
- **Ceiling Canopy:** 5" Diameter
- **Rated:** 60W, 120V
- **Bulb Base/Shape:** Medium E26/G25





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# Site Logistics



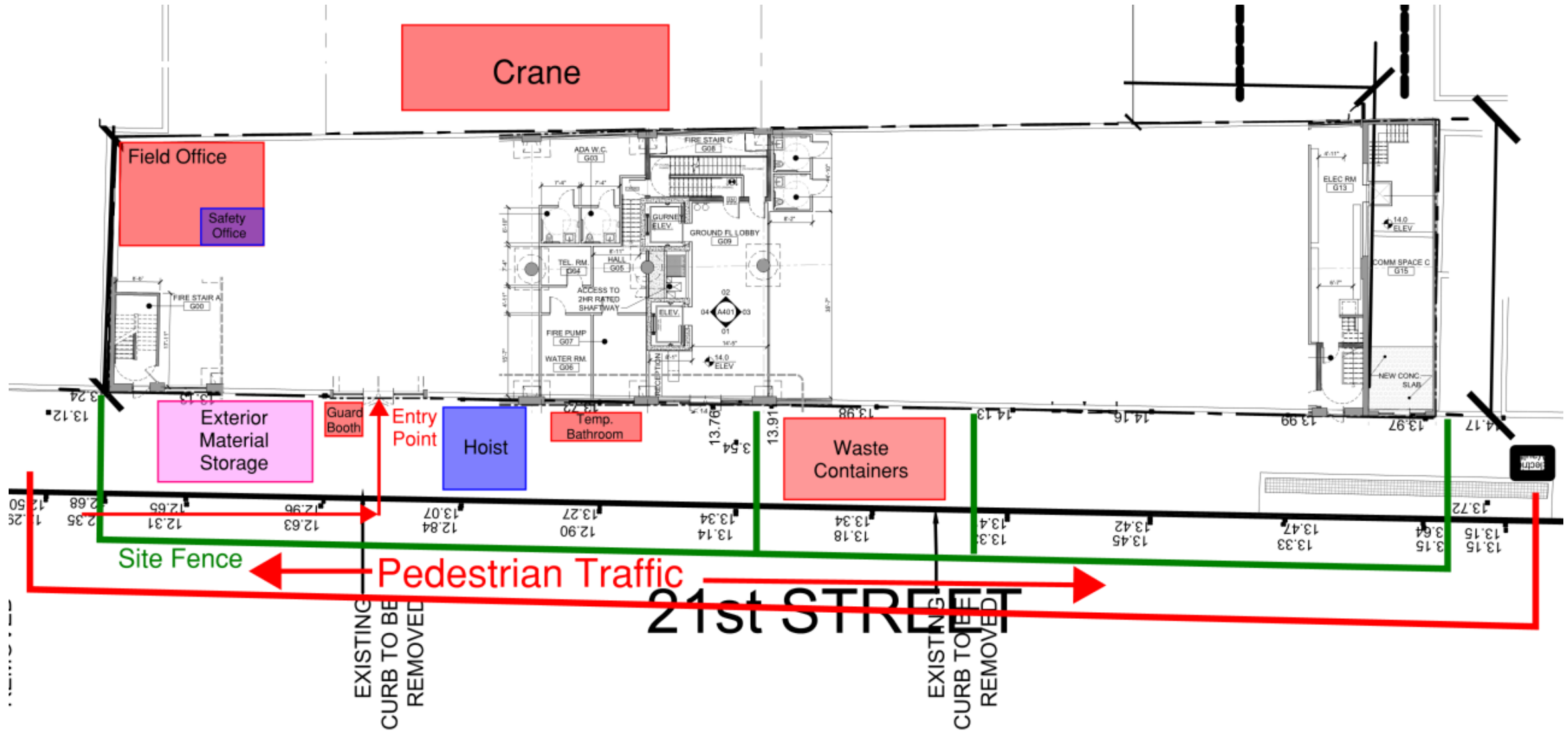
## LEGEND

 Flow of Traffic



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# Site Logistics

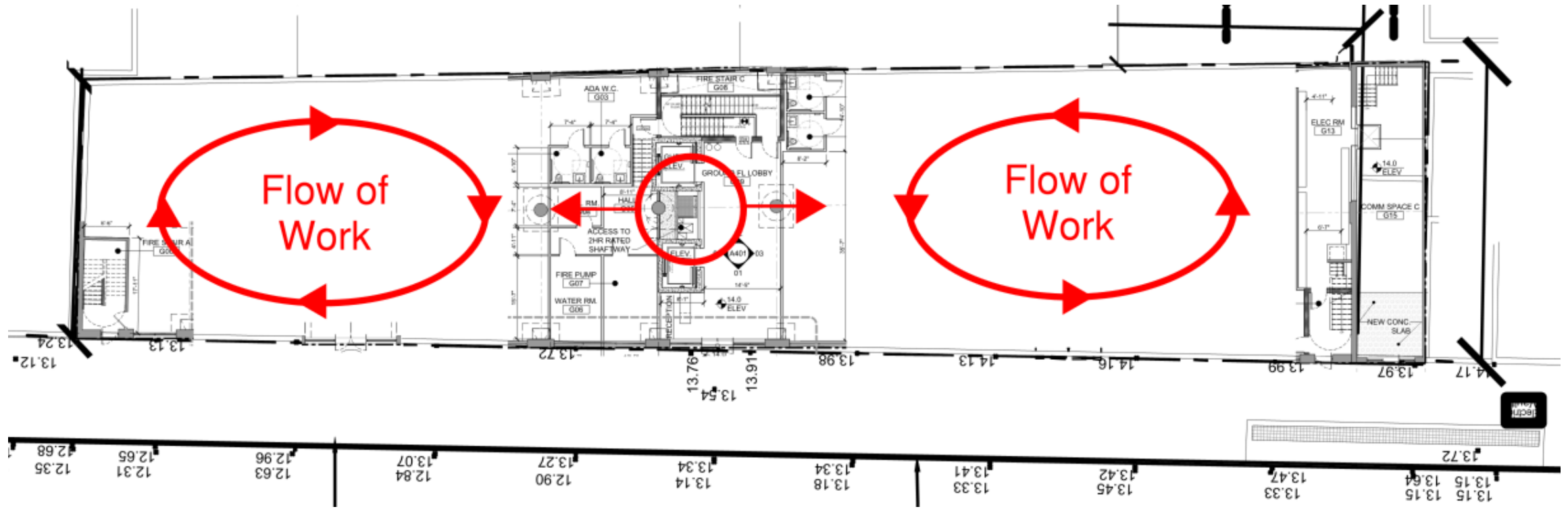






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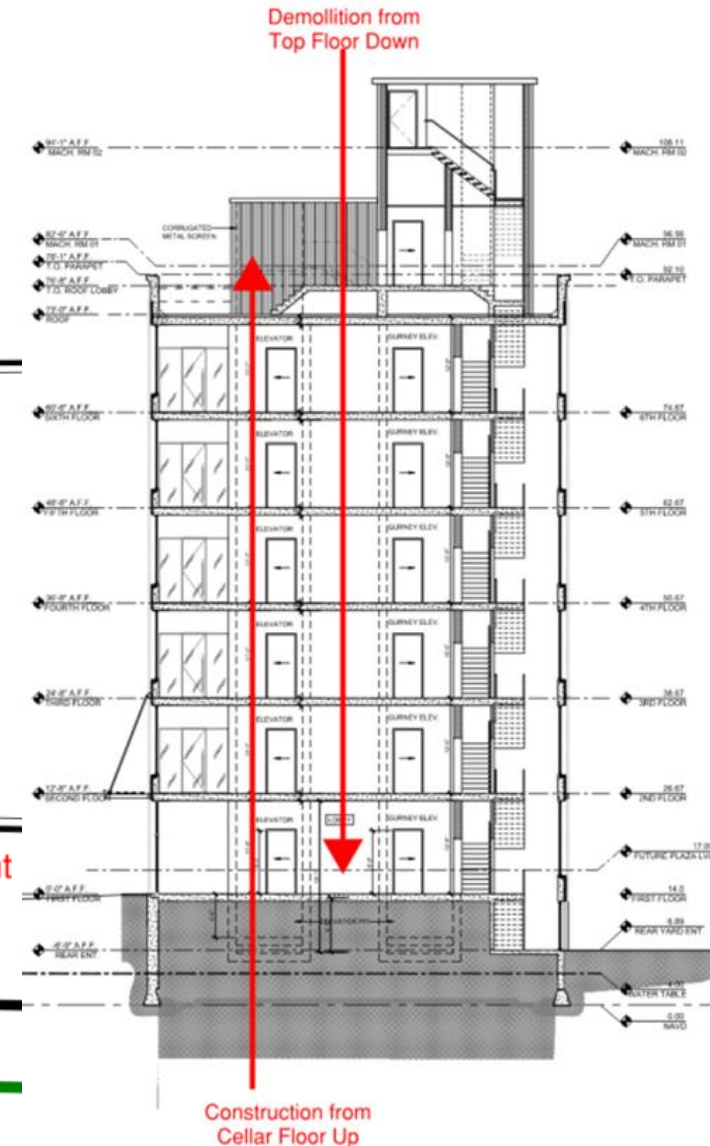
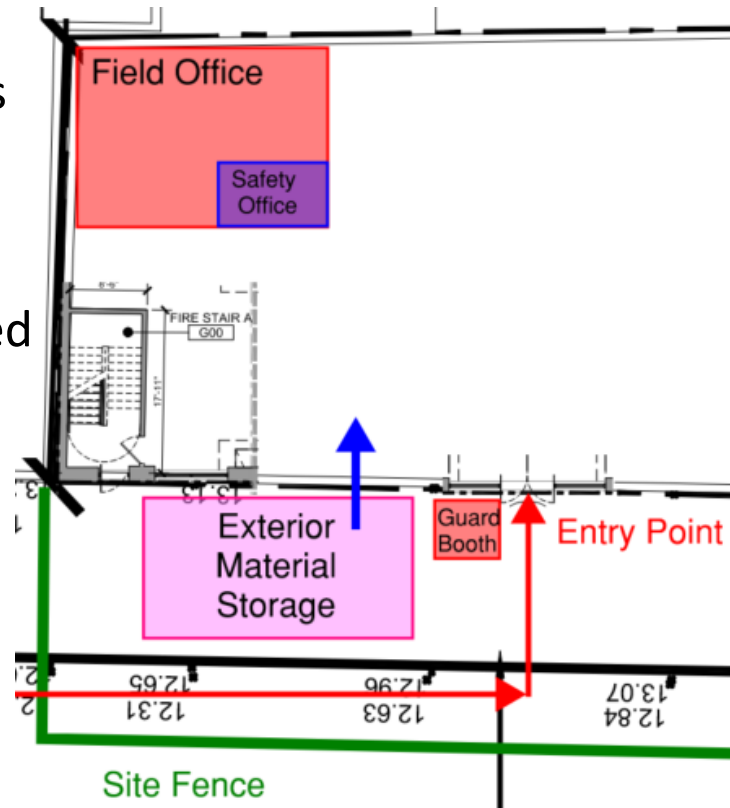
# Flow of Work





# Phases of Project

- Phase 1
  - Demolition from top level down to cellar
  - Floor slab demo delayed by 2 floors
- Phase 2
  - Construction from cellar level up
  - Exterior Material storage transferred to ground level as needed
- Phase 3
  - MEP Installation from center, out
- Phase 4
  - Interior Fit-out from center, out





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# Construction Site Safety Plan

- People are our #1 Assets
- EMR Rating of 0.8
- Accident Prevention Plan is constantly updated to adjust with the Project Conditions







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# Minimum Requirements

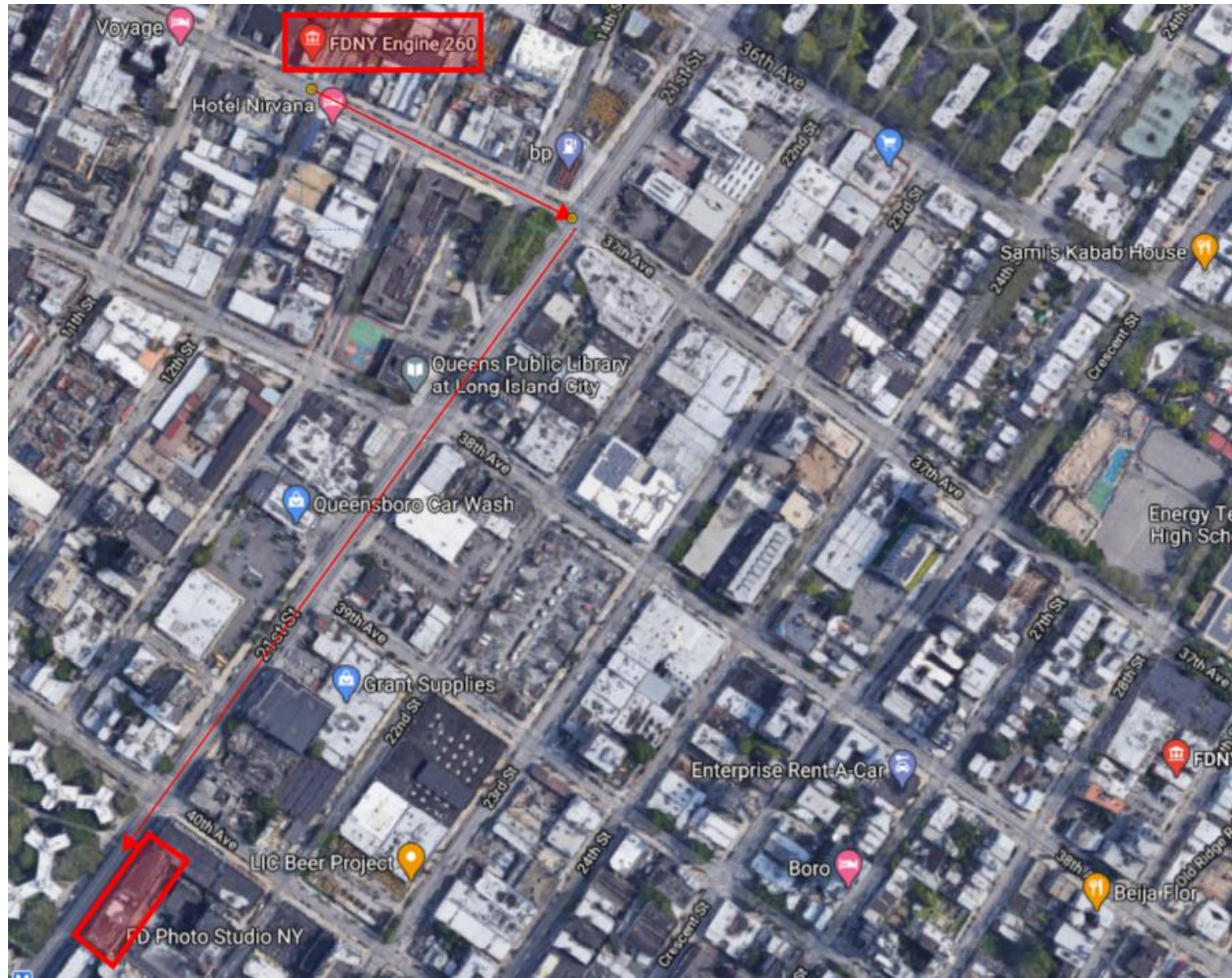
- **Required, at minimum**, the following requirements:
- Completion of OSHA-30 Certification
- Pre-employment drug test
- Substance abuse background check
- Completion of the Site Safety Orientation, signed off by the Site Safety Supervisor

Failure to provide the stated requirements may result in the immediate removal from the jobsite.





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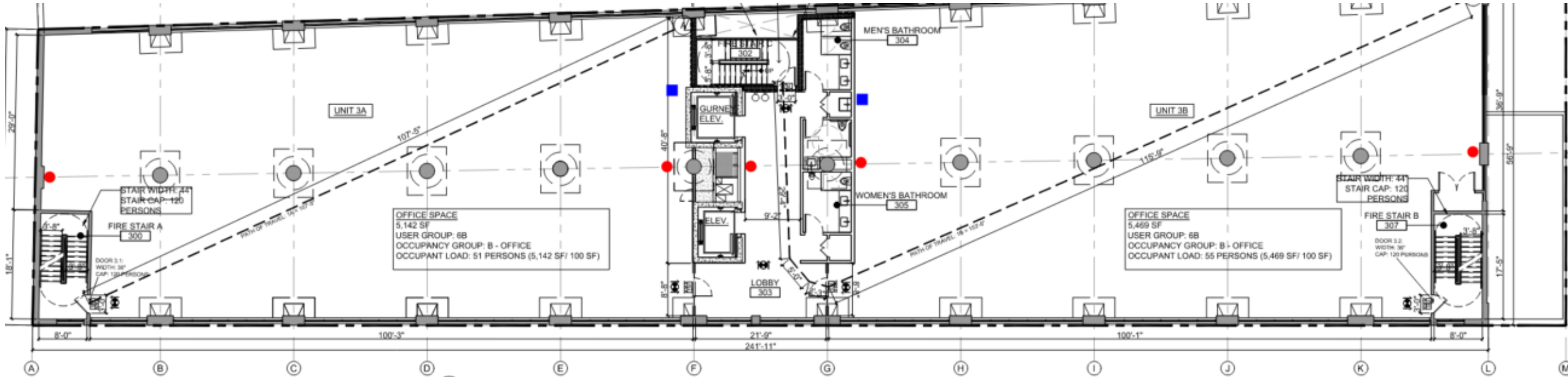
FDNY

11-15 37<sup>th</sup> Ave, LIC, NY 11101



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# Fire Extinguisher Location



## Legend

Description

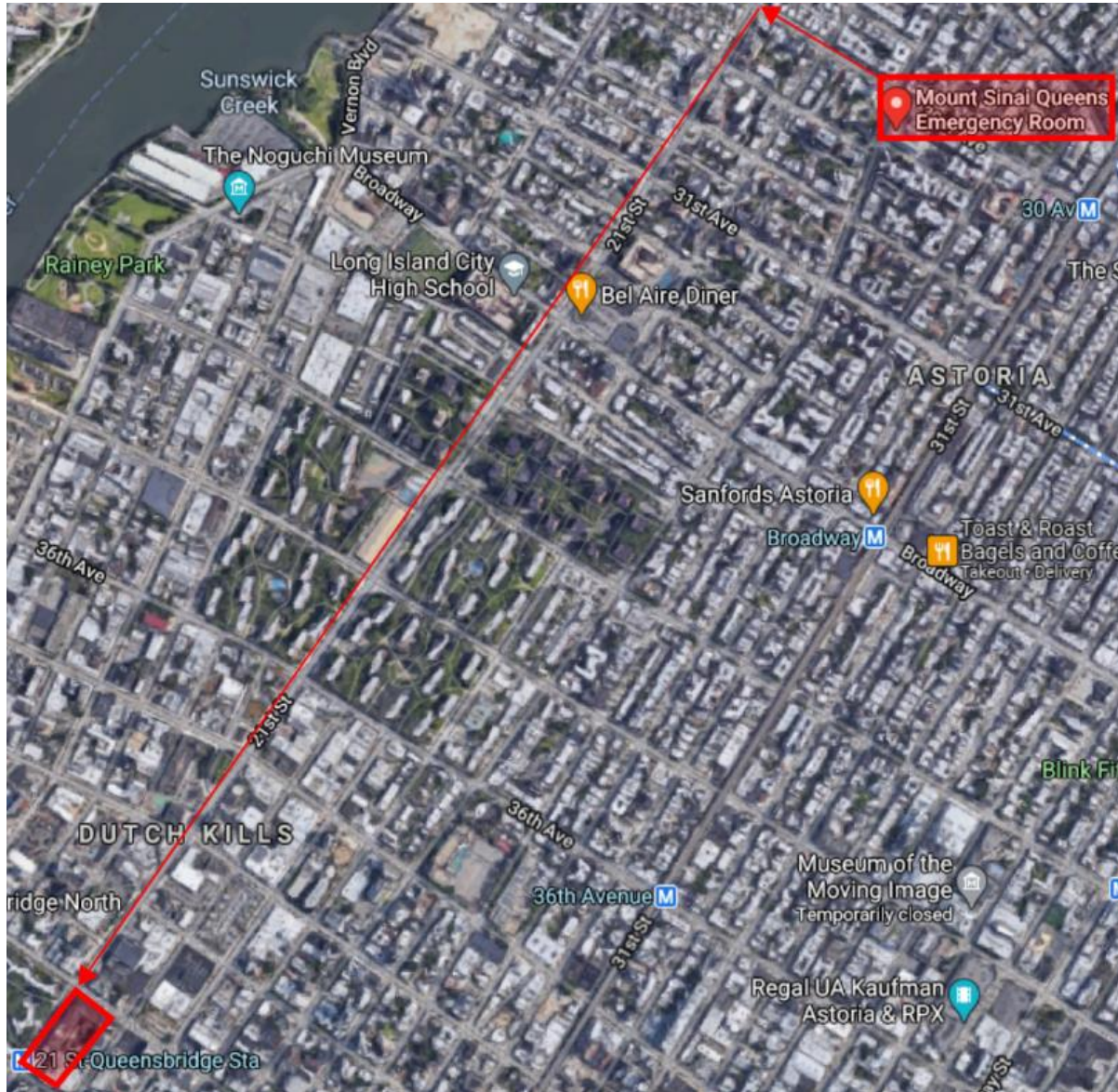
 Eyewash/Handwash Station

 Fire Extinguisher





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# Emergency Room

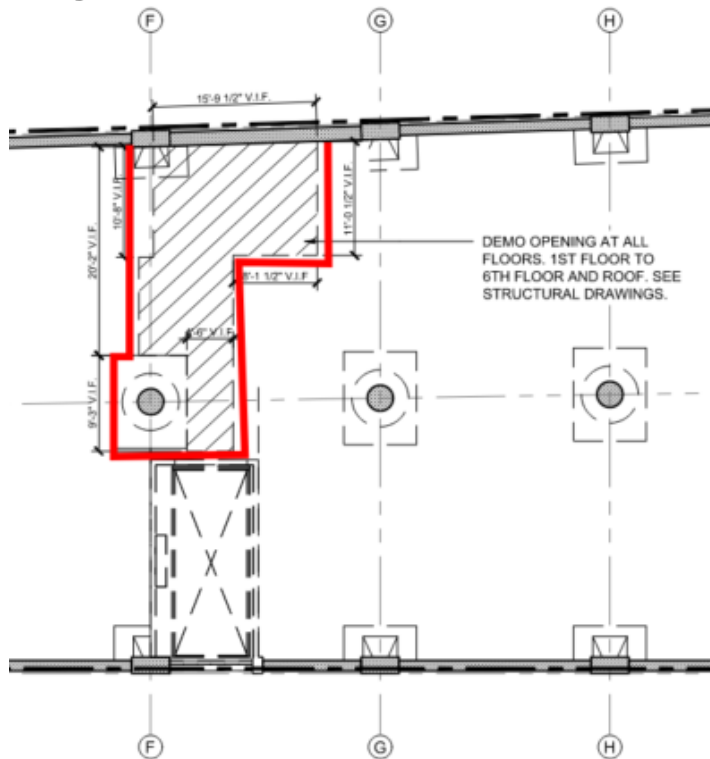
3019 Crescent Street,  
LIC, NY 11102  
(718) 932-1000

James Doakes  
**Site Safety Supervisor**  
(917) 786-5600

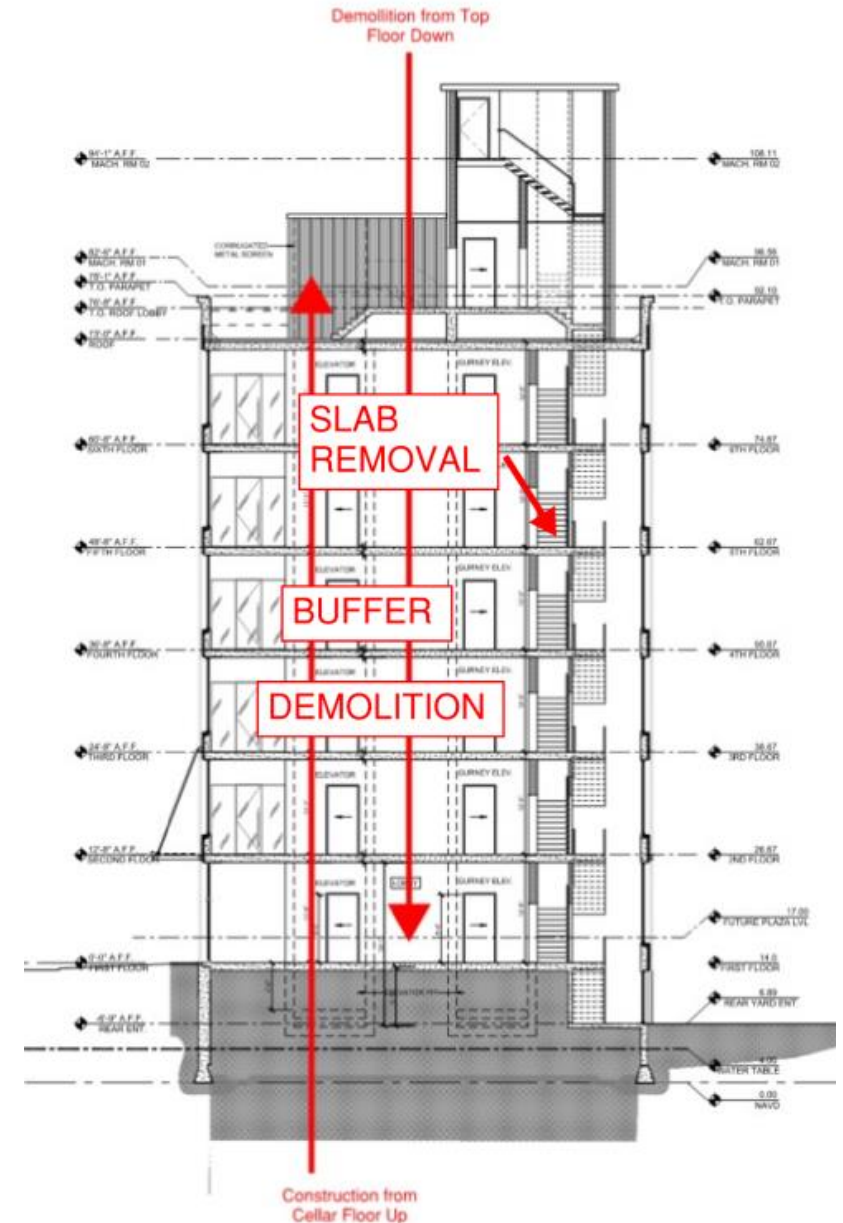
Michael Hall  
**Project Executive**  
(917) 786-2400



- Net for Falling Debris
- Guard Rails for Fall Protection
- Scheduled lag for floor slab demolition



# Floor Slab Demolition

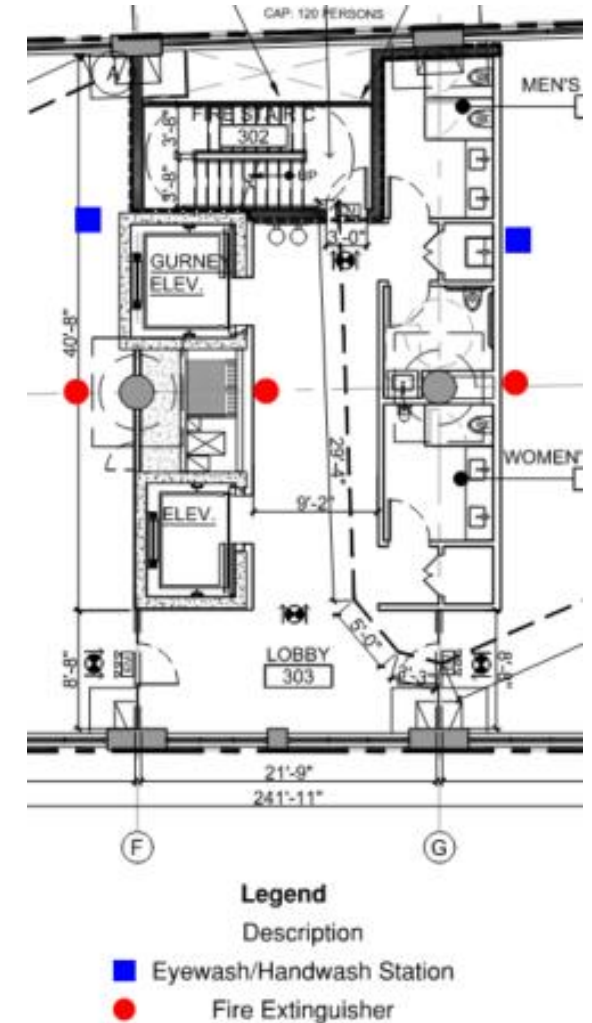
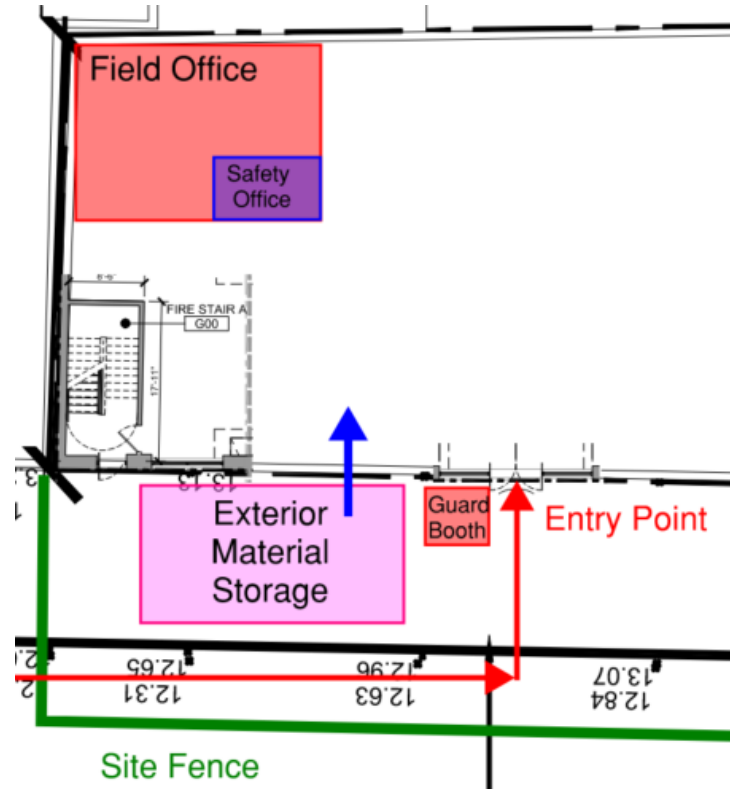




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# COVID-19

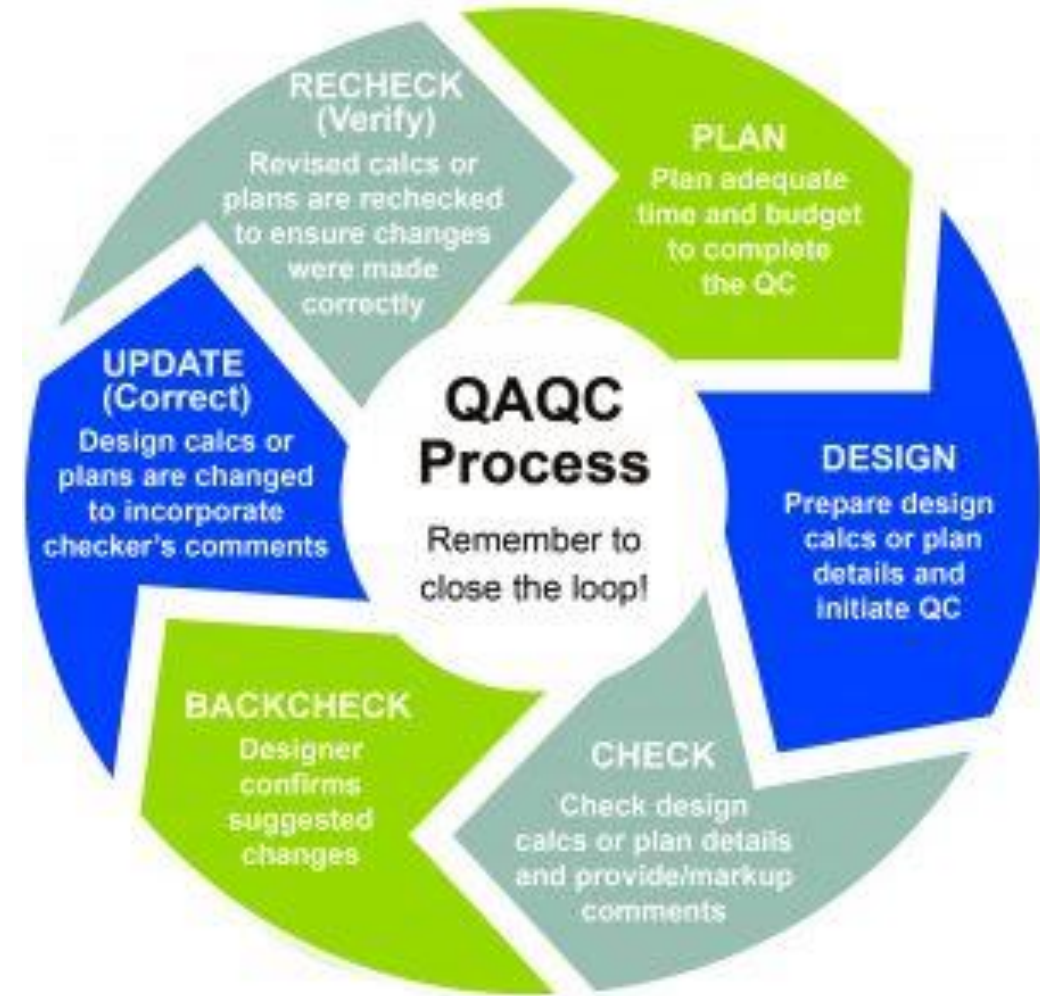
- Temperature Screening
- Handwash Stations
- N95 Masks Supplied
- Social Distancing







- Quality Assurance Process
  - Checks the quality plan and quality control process to confirm that quality standards are implemented on the project site.
- Quality Control Process
  - Confirms the project outcome meets the client's standards
- Key Factors of a Successful Project:
  - Completion of the project on schedule as per the contract document
  - Quality of the project as per the company's standards.

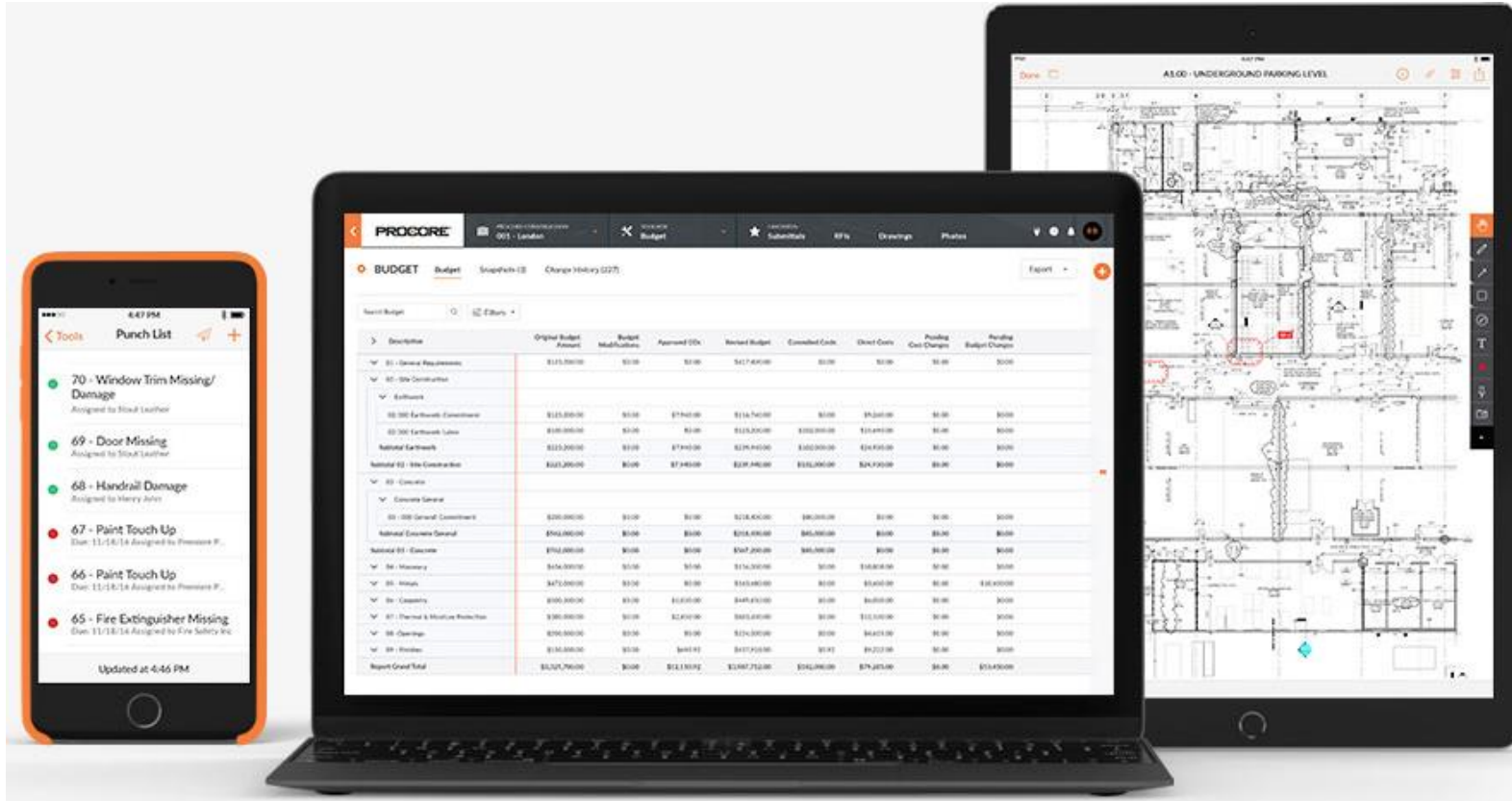




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# Quality Assurance

- Submittals
  - Procore
- Samples/ Mockups
  - Finishes
- Pre-Installation Meetings
  - MEP trades
  - Sequence of work
- Certifications/Warranties





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# Quality Control

- Delivery Inspections
  - Material
  - Equipment
- Tests/Inspections
  - Elevator Installation
  - Fire Stair
- Commissioning








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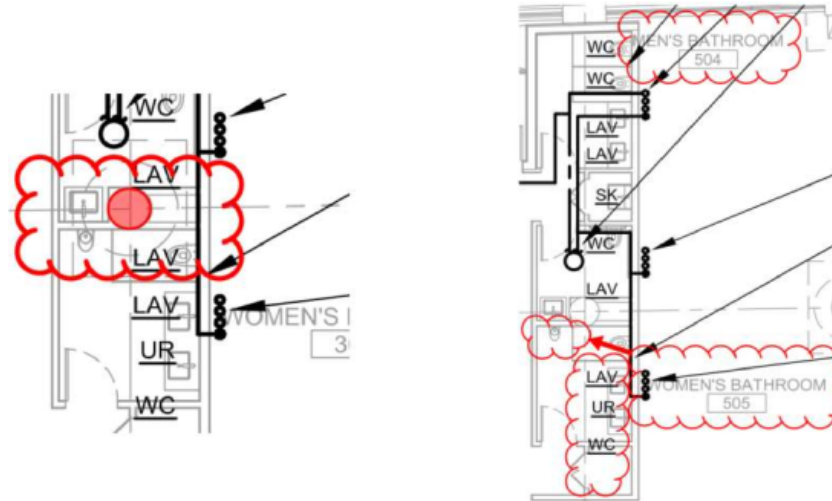
# Constructability Review

## REQUEST FOR INFORMATION FORM

 BuildWorks Construction	RFI #	001
	DATE	4/26/2021
TO: Blue Sky Design 2L Consulting Engineering Murdock Solon Architects	DATE NEEDED BY	5/10/2021
	PROJECT NAME	Urban Yards
	PROJECT #	210026

### RFI Description

The design of the typical (TYP.) bathrooms for the 2nd through 6th floor shows a plan for a total of four water closets and a urinal. There is a gender-neutral ADA compliant bathroom separate from the Men's and Women's bathrooms. According to the drawings, the location of the G-2 column blocks the path for the required pipes to reach the sink of the ADA compliant bathroom and the urinal, as shown in the marked up drawing (left) below. Additionally, multiple drawings in the Plumbing Set show that this area of the building is mislabeled where the labelling of the items within the bathrooms are far from the actual item it is referencing, as shown on the drawing (right) below. Please identify how the marked sink and urinal are to be connected without interference by the G-2 column.



ATTACHMENTS: P-302 Plumbing 2nd and 3rd Floor Plan, P-303 Plumbing 4th and 5th Floor Plan

SUBMITTED BY: Laura Linney, Project Engineer  
BuildWorks Construction

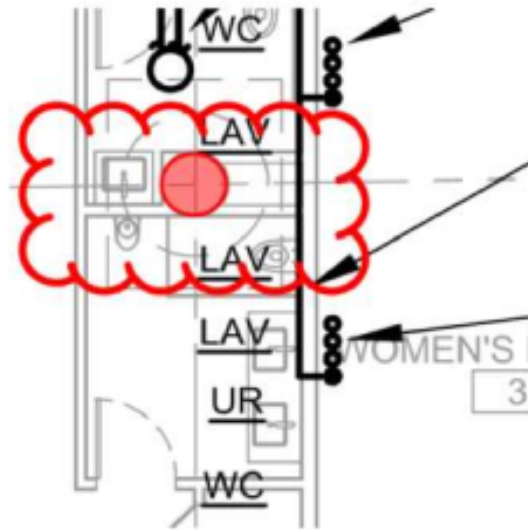
ATTACHMENTS



# Constructability Review

## RFI Description

The design of the typical (TYP.) bathrooms for the 2nd through 6th floor shows a plan for a total of four water closets and a urinal. There is a gender-neutral ADA compliant bathroom separate from the Men's and Women's bathrooms. According to the drawings, the location of the G-2 column blocks the path for the required pipes to reach the sink of the ADA compliant bathroom and the urinal, as shown in the marked up drawing (left) below. Additionally, multiple drawings in the Plumbing Set show that this area of the building is mislabeled where the labelling of the items within the bathrooms are far from the actual item it is referencing, as shown on the drawing (right) below. Please identify how the marked sink and urinal are to be connected without interference by the G-2 column.





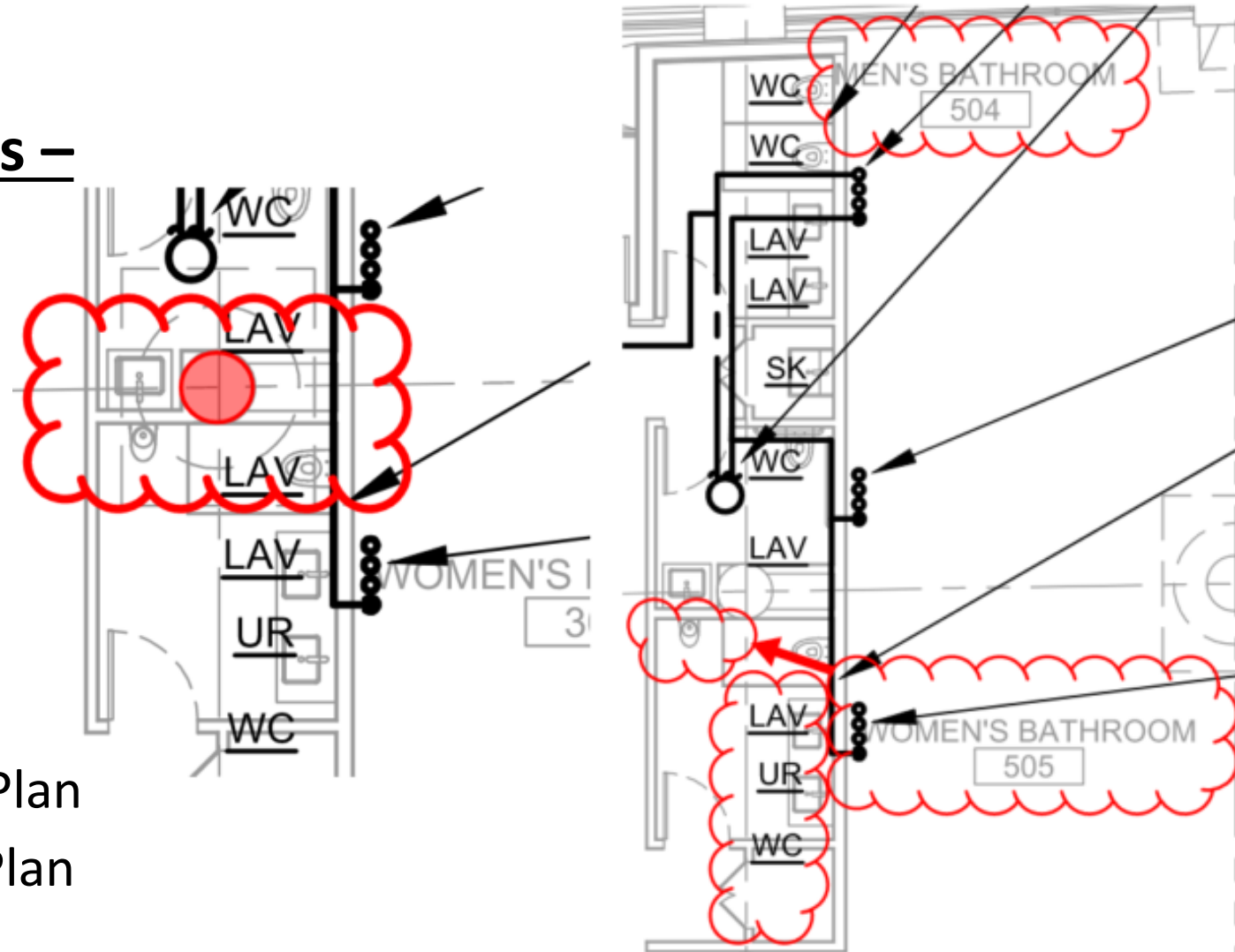
# Constructability Review

## Design Conflicts for Bathrooms – 2<sup>nd</sup> to 6<sup>th</sup> Floor

- G-2 Column in path of connection pipes
  - ADA bathroom sink
  - Urinal
- Mislabeled locations of bathroom components

### Referenced Drawing:

- **P-302** Plumbing 2<sup>nd</sup> and 3<sup>rd</sup> Floor Plan
- **P-303** Plumbing 4<sup>th</sup> and 5<sup>th</sup> Floor Plan





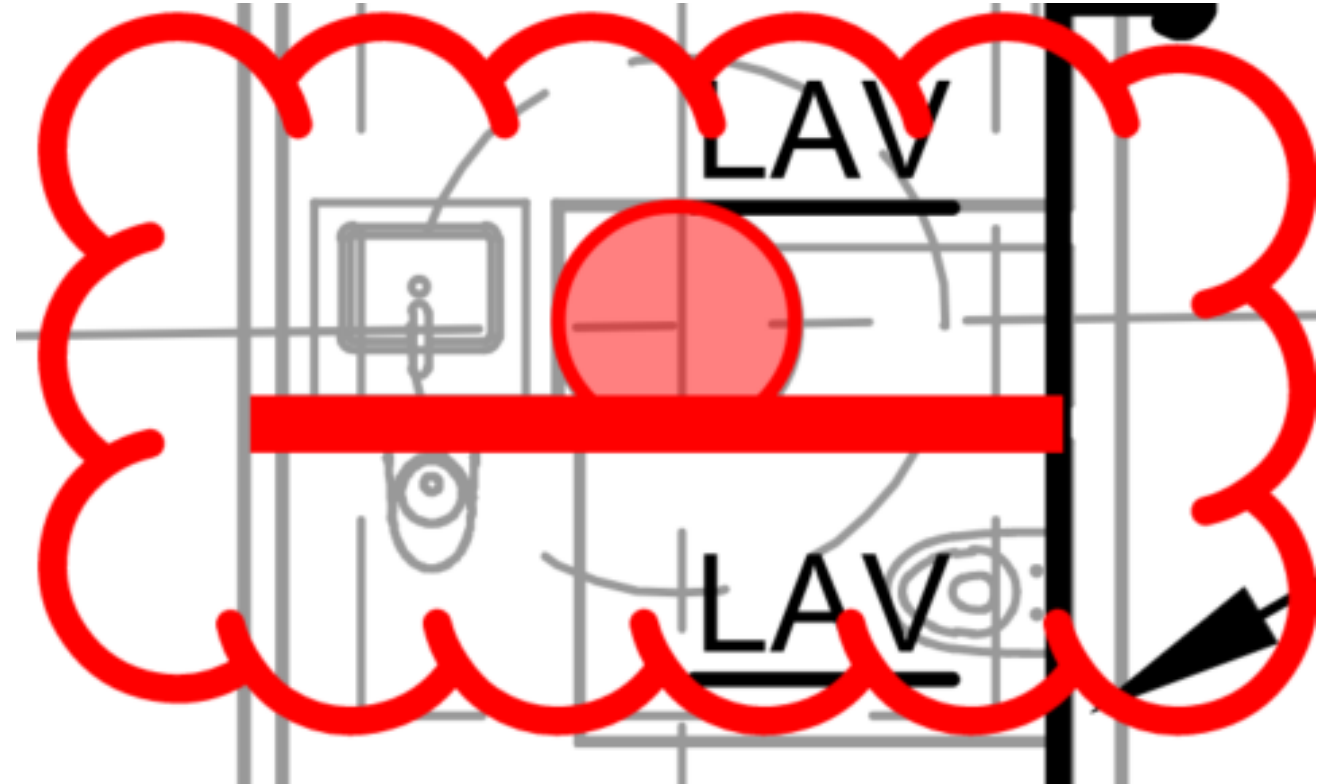


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# Constructability Review

## Possible Solutions

- Increase wall width by 4"
  - Allows space for pipes to reach the sink and urinal
  - Allows clearance for the G-2 column
- Use alternate design plan
  - Shown in Interior Fit-Out drawings
  - All components requiring a connection is against one wall
  - Vertical stacks are better positioned for this design

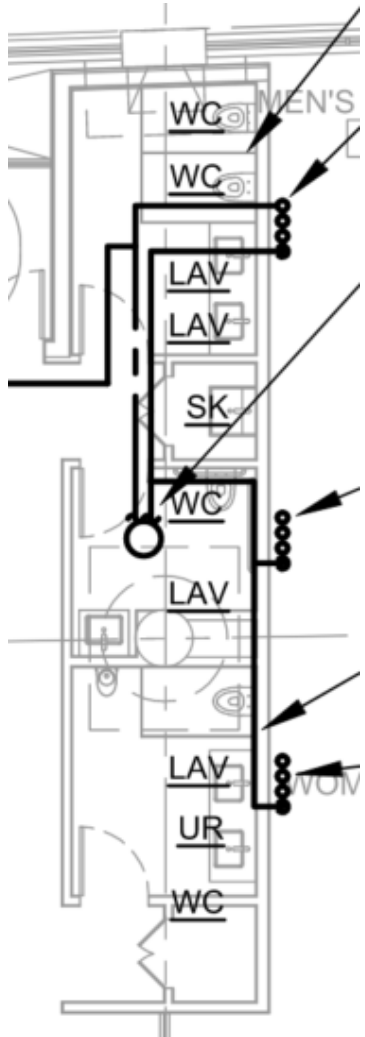


P-302



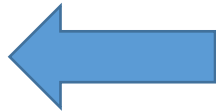
BuildWorks Construction

# Constructability Review

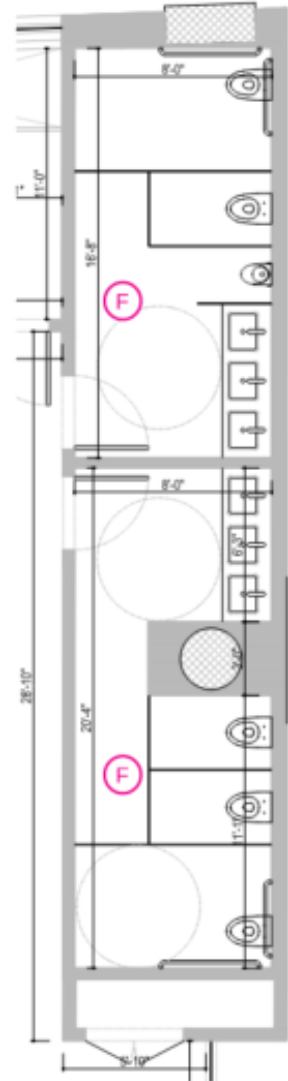


I-03

ORIGINAL



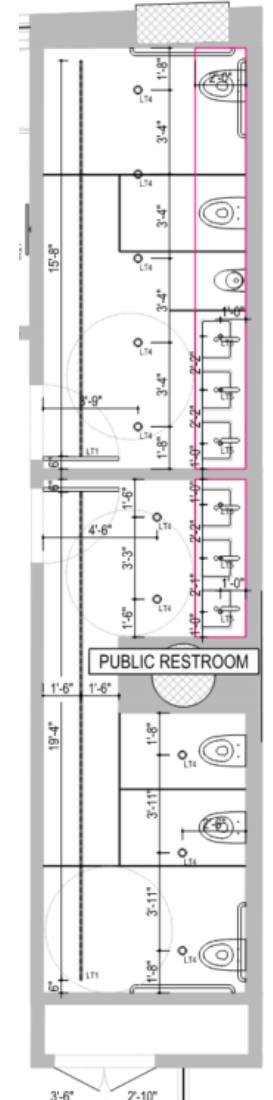
PROPOSED



I-03



I-14

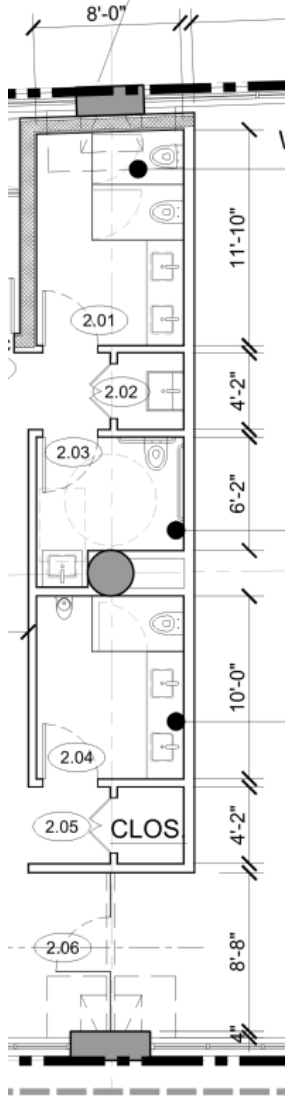


I-20



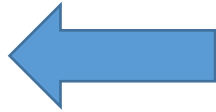
BuildWorks Construction

# Constructability Review

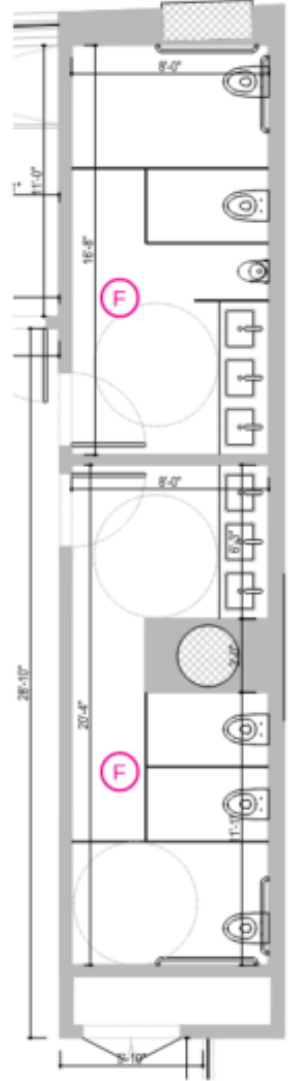


A-102

ORIGINAL



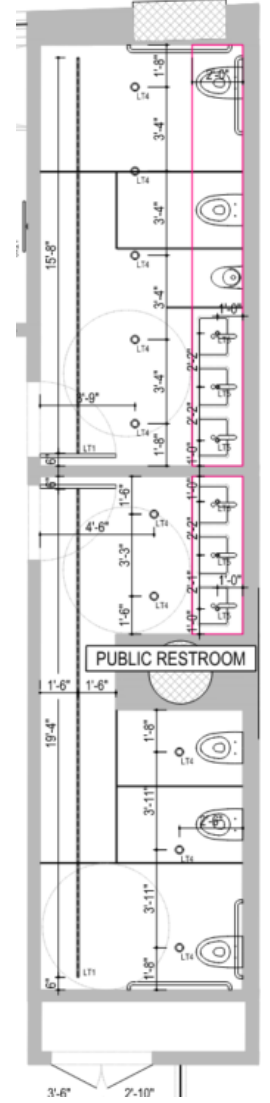
PROPOSED



I-03



I-14



I-20





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# Constructability Review

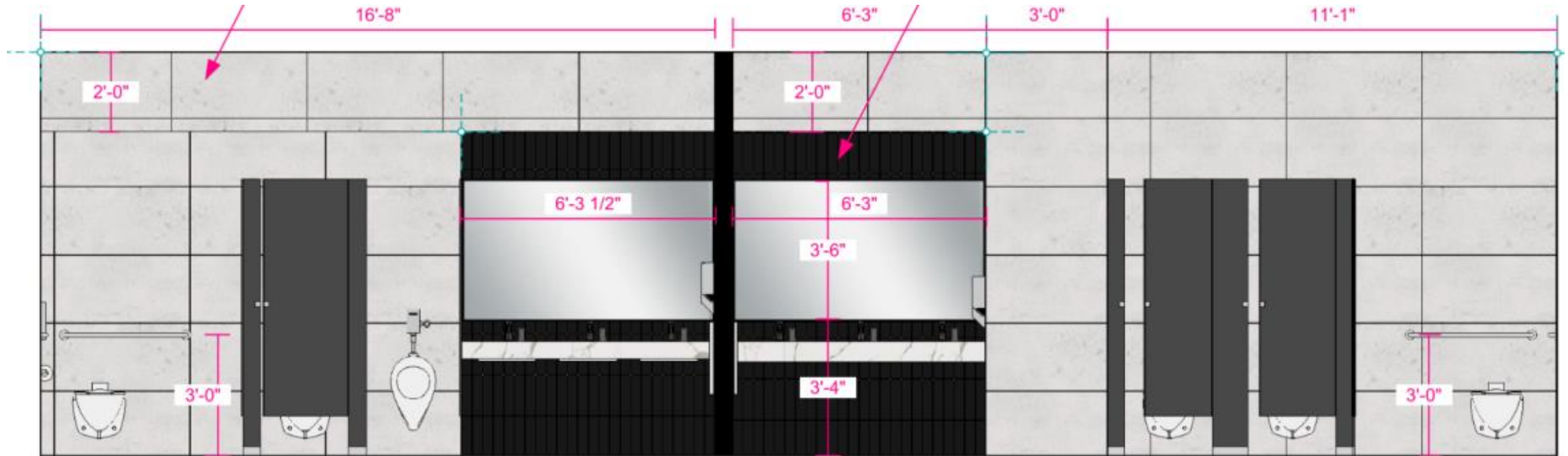


**01** PUBLIC RESTROOM SECTION RENDERING  
SCALE: N.T.S.

I-13 Public Restroom Rendering & Schedule



# Constructability Review



**02** ELEVATION  
SCALE: 3/8" = 1'-0"

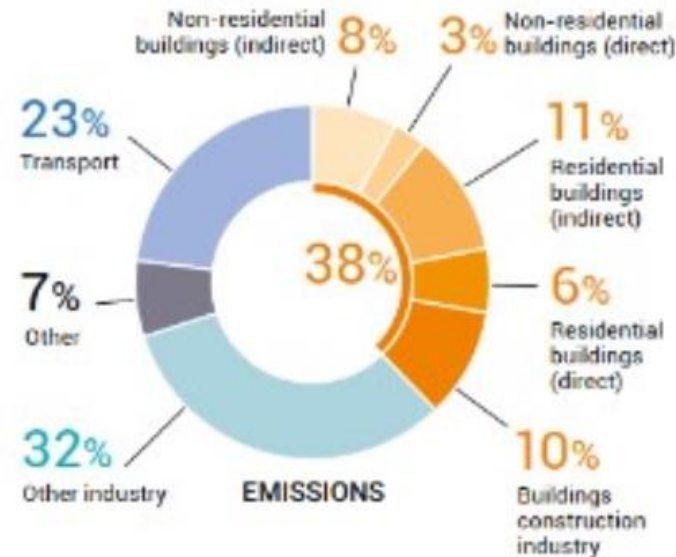
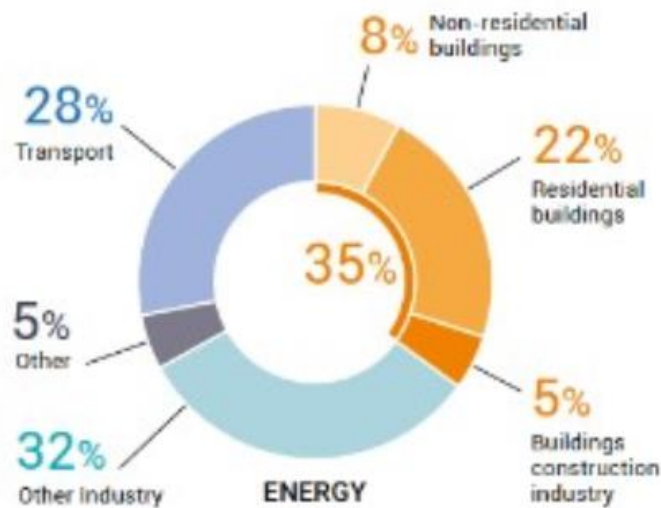
I-14 Public Restroom Elevations



# Sustainable Construction Plan

## United Nations Environmental Program

- 35% of global energy use
- 38% of carbon dioxide emissions







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# Sustainable Construction Plan

## Improve Air Quality

- Green Dust
- Air Filters
- Dust Barrier System

## Reduce Energy Emission

- Use electric vehicle alternatives when possible





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# Sustainable Construction Plan

## Construction Waste Management Plan

### Waste Management Plan

- Meet with subcontractors to discuss the proper disposal of materials
- Monitor to ensure correct disposal

### Commissioning

- Verify equipment and system performance
- Establish protocols for scheduled commissioning activities
- Ensure operating personnel are adequately trained

	Waste Description	Re-Use	Onsite	Off-site	Recycle	On Site	Off-Site	Dispose	On Site	Off-Site
Inert	Bricks		Yes				Yes			Yes
	Add Text Here			Yes		Yes				Yes
	Add Text Here			Yes		Yes				Yes
Non-Hazard	Plastic Pipes		Yes				Yes		Yes	
	Plastic Wirings			Yes		Yes			Yes	
	Add Text Here			Yes		Yes			Yes	
Hazard	Bio-Chemical			Yes		Yes				Yes
	Lead		Yes			Yes				Yes
	Add Text Here		Yes			Yes				

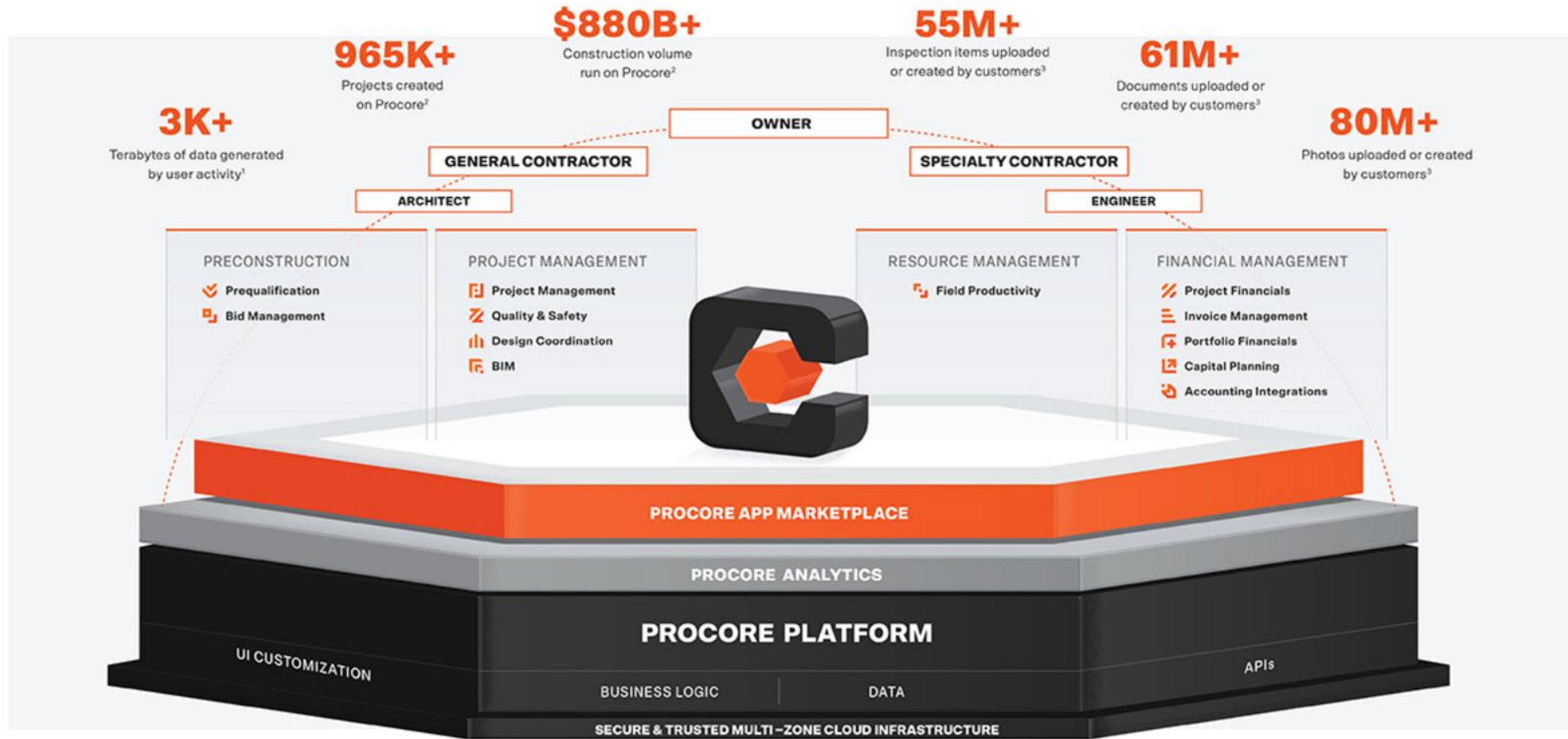




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# Construction Technology

## The Construction Management Platform



<b>DIGITIZE DOCUMENTS</b>	<b>STREAMLINE COMMUNICATION</b>	<b>MANAGE WORKFLOWS</b>	<b>CREATE A SINGLE SOURCE OF TRUTH</b>	<b>PROMOTE SAFETY</b>
---------------------------	---------------------------------	-------------------------	--	-----------------------

(1) User activity generated over 3,000 terabytes of data as of December 31, 2019.  
 (2) Total volume and projects data generated since January 1, 2014, as of December 31, 2019.  
 (3) Represents user activity during Fiscal 2019.





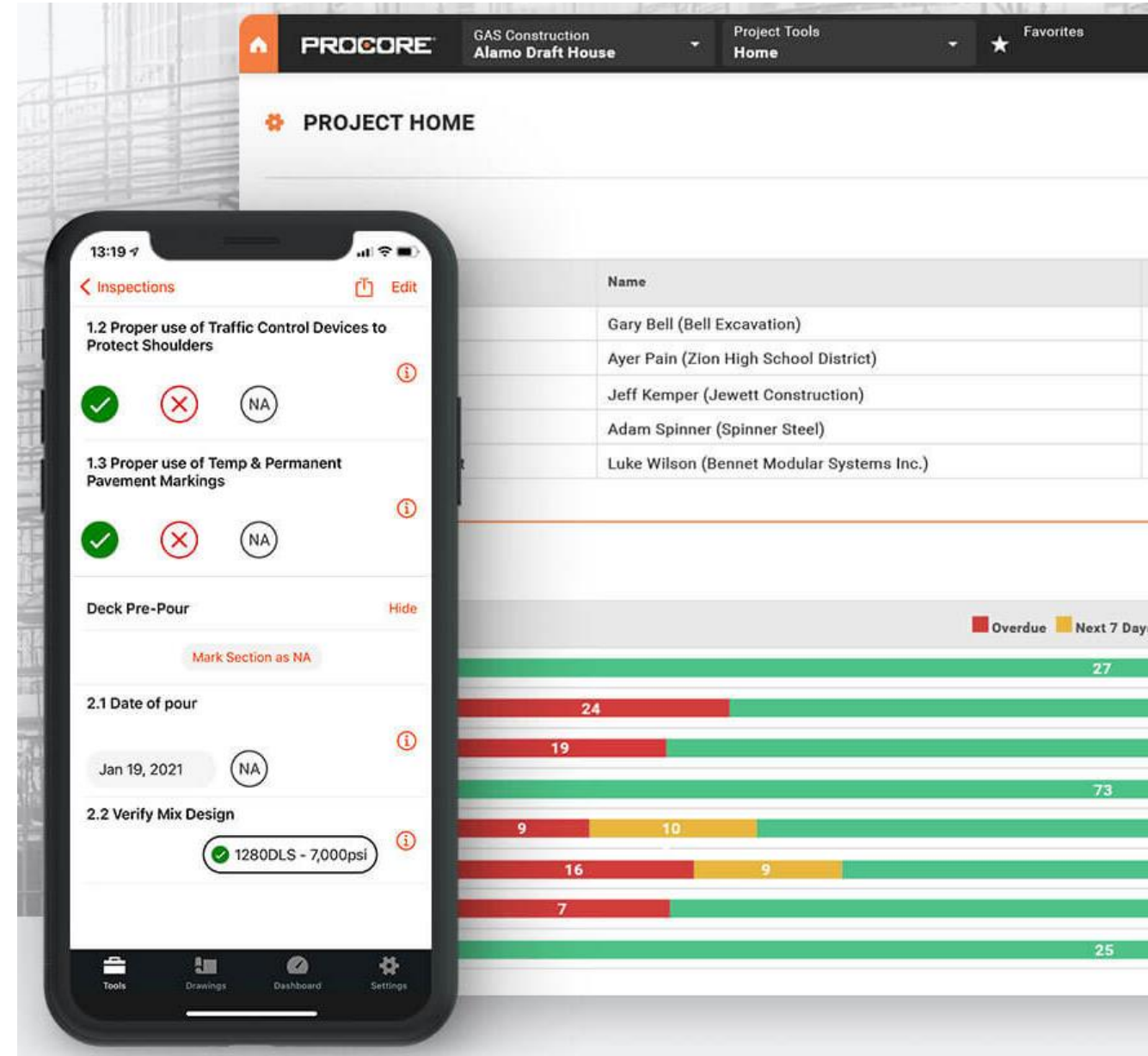
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# Construction Technology

## Procore

- Submittals
- RFI's
- Construction Drawings
- Communication
- Bid Management
- Financial Management

# PROCORE®



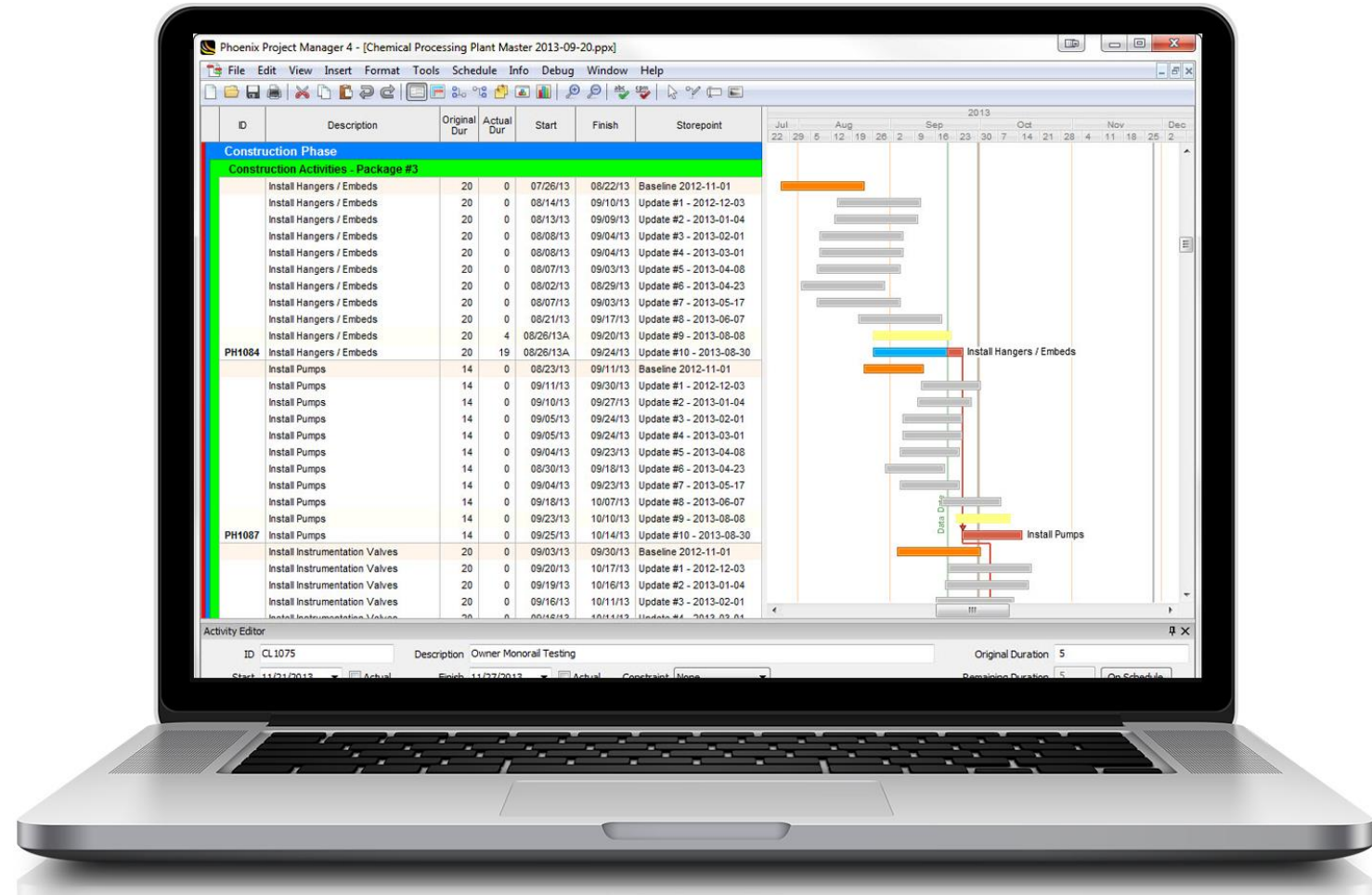


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# Construction Technology

- **Phoenix Project Manager**

- Schedule Management
  - Monitor Progress
- Cost Management
  - Input Unit Cost
  - Labor Cost
  - Help Maintain Budget





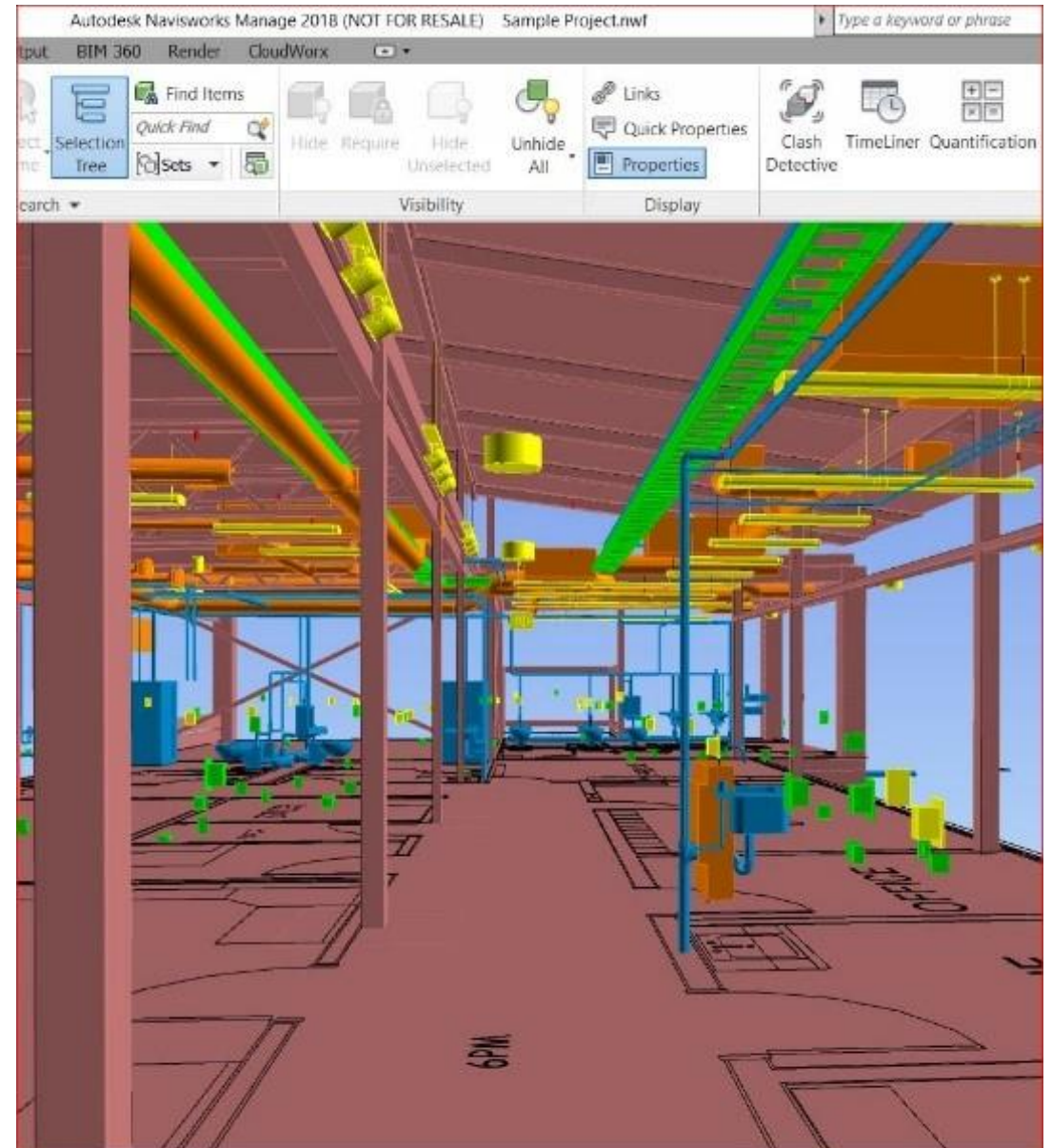
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# Construction Technology

- **Autodesk Navisworks**

- 3D Rendering
  - Better Understand the Scope of Work
- Clash Detection
  - Fix scope before affecting the progress
- Collaboration
  - Coordinate trades working in the same area

 **AUTODESK®  
NAVISWORKS®**







BuildWorks Construction

- **VR/AR Implementation**
  - Microsoft HoloLens & Trimble Connect
  - Combining 3D modeling with real-world environments
  - Encourage collaboration and facilitate real-time decisions throughout the building lifecycle



# Construction Technology





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