

# Isuroon

Minneapolis, MN



## PROJECT MANUAL

Preliminary Project Manual

Schematic Design

22 March 2022

**BKV**  
GROUP

**BOARMAN KROOS VOGEL GROUP, INC.**  
Minneapolis | Chicago | Washington DC | Dallas

Architecture/Engineering/Interior Design/Landscape

222 North 2nd Street  
Minneapolis, MN 55401  
(612) 339-3752

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## **Isuroon**

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## CODE SUMMARY

### GOVERNING CODES, LAWS & AGENCIES:

- 2020 Minnesota Conservation Code for Existing Buildings**
- 2020 Minnesota Accessibility Code**
- 2020 Minnesota Mechanical Code and Fuel Gas Code**
- 2020 Minnesota State Plumbing Code**
- 2020 Minnesota State Fire Code**
- 2020 National Electrical Code**

There will be no change of occupancy from an existing Group B – Business.

Scope of work is defined as follows:

- Alteration to the interior of the first floor including the following:  
 Demolition of interior partitions and ceilings.  
 Construction of new partitions and ceiling.  
 Addition of 3 accessible single user restrooms, and a single non-accessible restroom in a private office.
- Level 3 Alteration. Reconfiguration of partitions and modifications to all building systems; electrical, mechanical, and plumbing.
- Roof tear off to existing deck and replace with new membrane roof system.
- Repoint chimney.

1	Occupancy Classification <i>(Existing Building)</i>	Primary Occupancy: B (Office) Accessory Occupancy: S-2 (Storage)
2	Type of Construction <i>(Existing Construction)</i>	Building is assumed to meet the requirements for Type V-B Construction.
3	Allowable Area	Type V-B <b>Building is existing and complies with Allowable Area for Type V-B Construction</b>
4	Allowable Height	Type V-B <b>Building is existing and complies with Allowable Stories and Height Based Type V-B Construction</b>
5	Fire Resistance of Building Elements:	Type V-B <b>The existing building is not sprinkled.</b>
6	Opening Protection	Not Permitted @ $X < 3'$ 15% @ $3' < X < 5'$ 25% @ $5' < X < 10'$ 45% @ $10' < X < 15'$

		75% @ 15' < X < 20' No Limit @ X > 20'	
7	Fire Draft Stops	Provide in compliance with IBC 718. <b>NOTE: Any Fire Blocking or Draft Stopping that is removed during construction will be re-installed as original.</b>	
8	Means of Egress	Exit Element	Dimension
		Exit Door (Minimum)	36" (3'-0")
		Corridor (Minimum)	44" (3'-8") - maintain 22" beyond projection of in-swinging door
		Guard Height (Minimum)	42" (3'-6")
		Common Path of Egress Distance	B = 75'
		Exit Access Travel Distance (B)	100' Max
		Occupant Load is 69 for first floor	
		Occupancy of lower level (not included in scope) will not change from existing	
9	Occupant Load	Provide Fire Extinguishers in compliance with NFPA Chapter 10.	
10	Fire Extinguisher	For Occupancy Group B	
11	Interior Finish Ratings	Corridors	B
		Rooms, enclosed spaces	B
		Corridors	C
		Rooms, enclosed spaces	C
12	Accessibility	All public use areas are required to be designed and constructed to comply with the 2020 Minnesota Accessibility Code.	

END OF CODE SUMMARY

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## PROJECT SYSTEMS DESCRIPTIONS

### Project General Description:

Isuroon's headquarters is a one-story building with full basement originally built in approximately 1932, with a later small addition between the structure and the adjacent building, with a total floor plate of approximately 4,100 SF, and a current total building GSF of 8,000. It is located on Lake Street and 16th Ave S and 2.

The site is a 0.1-acre (4,385 sq ft) parcel and is served by an additional 0.12 acres surface parking lot (13 spaces) just to the north across a public alley.

The construction is Type VB (combustible, unprotected), and the building is not sprinklered.

### Interior Renovation Of First Floor Only

This design proposes renovating the main floor for an upgraded, more inviting space (approx. 4,000 sf). The program includes addition of conference rooms for better engagement with clients, a therapy room, and more private offices, call center, an upgraded teaching kitchen and better storage space for the food shelf.

- a. This scheme is considered a "Level 3 Alteration" in the existing building code (highest level of alteration) as work will reconfigure interior partitions, and require modifications to all building systems (mechanical, electrical, plumbing and structure).
- b. 20% of the budget will need to be applied for accessibility upgrades, including new doors and hardware and plumbing fixtures and room signage.
- c. Primary space use is office and meeting space. Work will include new restrooms
- d. New kitchen, which will include a stove, oven, sink, and full-size refrigerator, as the space is used for teaching kitchen.
- e. The basement is considered out of scope, with no proposed changes other than those required for coordinating building infrastructure above.

### Architectural Program Scope

Please see other disciplines narratives for more scope info.

1. Interior Renovation
  - a. addition of 4 private offices,
  - b. Call center
  - c. a large conference room & a small meeting room off of the lobby
  - d. a kitchen/ break room for staff
  - e. Community room & a teaching kitchen
  - f. Lobby & reception area
  - g. Storage/ food shelf space
  - h. New single fixture restroom facilities
  - i. Doors:
    - i. storefront at vestibule
    - ii. full glazed at meeting rooms/ offices ( 10 )

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- iii. solid panels doors at other locations
  - iv. Acoustic kits at restrooms, mothers room, offices and meeting rooms
2. Exterior:
- a. Exterior repairs at facades: 100% paint removal and 50 % tuckpointing and caulking (wall to sidewalk or parking lot)
  - b. Paint to be updated
  - c. Mural(Future by owner)
  - d. Repoint chimney
3. Allowances:
- a. Estimator to define allowances for the following
    - i. Allowance 1: Demo Roof to top of structural deck, and provide new insulation and roof assembly of same or similar type (Roof GSF: 4,100 SF)
    - ii. Allowance 2: Adding roof top solar panels, including support framing, panels, inverters, and wiring. (PV area GSF: 2,200 SF) Provide 25KW solar PV system, connect the system to the building service through a 150A feeder.
    - iii. Allowance 3: Mill & overlay of surface parking lot (0.12 acres), restriping
    - iv. Allowance 4: security cameras and wiring, exterior (4) and interior (5)
    - v. Allowance 5: contractor furnished; contractor installed appliances, high end residential appliances, appliances to meet energy code requirements for efficiency.
      - 1. Teaching kitchen (fridge freezer, electric stove/oven, exhaust hood, dishwasher, microwave)
      - 2. Break room (fridge freezer, Microwave)
    - vi. Allow \$5,000 for interior code required room signage

## Project Team

A. Project Owner:

Isuroon  
1600 E. Lake St., Suite 1  
Minneapolis, MN 55407  
Phone: (952) 564-1131

B. Architect:

BKV Group  
222 North Second Street  
Minneapolis, Minnesota 55401  
Phone: (612) 339-3752

C. Owner's Rep.

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## STRUCTURAL SYSTEMS DESCRIPTION

### Project Description

The project is an existing commercial building that involves renovation of the interiors with minimal modifications to existing structure. The owner is investigating options for roof replacement and the addition of solar panels to the roof.

The existing building was built in approximately 1932 according to publicly available city/county data. It is a single-story building with a partially finished basement. The exterior is a multi-wythe brick barrier wall i.e., without a drainage cavity. The interior floor and roof framing members are 2x lumber joists and purlins. The interior columns are unprotected wood material as well.

### Structural Systems Design Narrative

- A. Client Aims and Concepts
  - 1. Use – non-profit organization
  - 2. Construction Type – Type 5B, no fire rating, combustible framing.
  
- B. Existing Construction System / Description
  - 1. Level P1 / Basement Level
    - a. Approximately 4,000 sq-ft
    - b. Foundation walls are generally not exposed however it is assumed they match exterior wall construction above grade i.e., multi-wythe brick.
    - c. Concrete footings assumed under columns and bearing walls.
      - (1) No existing drawings available to verify foundation type.
      - (2) Investigation of existing foundation system is beyond the scope of this narrative and needs to be completed to vet out feasibility of increasing structural loading. Reinforcement and/ or underpinning of existing foundations may be necessary.
    - d. Concrete slabs on grade – unknown thickness, reinforcement.
    - e. Wood column line runs down center of building parallel to 16<sup>th</sup> Avenue South.
  - 2. Level 1 / At Grade
    - a. Approximately 4,000 sq-ft
    - b. Wood joists / sub-flooring typical.
    - c. Wood column line runs down center of building parallel to 16<sup>th</sup> Avenue South.
  - 3. Existing Roof (Level 2)
    - a. Approximately 4,000 sq-ft
    - b. Wood purlins / sheathing typical.
    - c. Wood column and beam line runs down center of building parallel to 16<sup>th</sup> Avenue South.
      - (1) Beam is concealed by a gypsum or plaster wrap.
    - d. Some evidence of water intrusion / roof leakage.
  
- C. Proposed Construction System / Description
  - 1. Level P1 / Basement Level
    - a. No changes unless column reinforcement necessary for rooftop solar panel addition.
  - 2. Level 1 / At Grade



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- a. No changes unless column reinforcement necessary for rooftop solar panel addition.
  - 3. Existing Roof (Level 2)
    - a. Miscellaneous framing for rooftop mechanical units and penetrations.
    - b. Roof replacement, patch or replace any damaged roof decking / sheathing.
  - 4. Solar panel options
    - a. Requires structural survey and verification of load demand vs. capacity.
    - b. Existing roof structure capacity unknown.
- D. Building Codes
- 1. 2020 Minnesota Building Code (2018 IBC Basis)
    - a. ACI 318-14 – Concrete
    - b. AISC 360-16 – Specifications for Structural Steel Buildings
    - c. ASCE-7-16 – Minimum Design Loads for Buildings
    - d. ANSI/AWC NDS-2018 – Wood
    - e. TMS 402-16 – Masonry
  - 2. 2020 Minnesota Conservation Code for Existing Buildings (2018 IEBC Basis)
- E. Special Conditions and Requirements
- 1. Per discussion with architecture team, it is assumed the type of construction will be Type 5B regardless of option 1 or 2.
- F. Design Loads
- 1. Dead Loads
    - a. Roof Loads – Existing
      - (1) Structure (wood purlins / sheathing) = 5 psf
      - (2) Ballasted Roofing = 10 psf
      - (3) Insulation = 2 psf
      - (4) Ceiling = 3 psf
      - (5) Mech/Electrical = 5 psf
      - (6) Total DL = min 20 psf, max 25 psf
    - b. Floor Loads – Existing
      - (1) Floor Finish = 2 psf
      - (2) Structure (wood joists / sub-floor) = 5 psf
      - (3) Ceiling = 3 psf
      - (4) Mech/Electrical = 5 psf
      - (5) Non-bearing fixed partition walls = 10 psf
      - (6) Total DL = 25 psf
  - 2. Live Loads
    - a. Roof:
      - (1) Flat Roof Snow Load = 35 psf + snow drift
    - b. Floor:
      - (1) Public / Assembly / Office = 100 psf
      - (2) Mechanical / Storage = 125 psf
      - (3) Stairs = 100 psf
      - (4) Stair Tread = 300 lb concentrated load
  - 3. Wind Loads
    - a. Ultimate Design Wind Speed, Vult = 109 mph
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- b. Risk Category = II
  - c. Wind Exposure = B
  - d. Internal Pressure Coefficient = +/- 0.18
  - e. Direction Coefficient,  $K_d = 0.85$  (enclosed building)
  - 4. Snow Load/Drift
    - a. Ground Snow Load,  $p_g = 50$  psf
  - G. Soils Information
    - 1. Geotechnical report not available.
    - 2. Recommend geotechnical investigation if loads are to be increased on existing foundations.

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## MECHANICAL SYSTEMS DESCRIPTION

### Mechanical Systems Description

#### Division 22 – Plumbing:

- A. Applicable Codes and Standards:
  - 1. 2020 Minnesota State Building Code.
  - 2. 2020 Minnesota Conservation Code for Existing Buildings
  - 3. 2020 Minnesota State Plumbing Code.
  - 4. 2020 Minnesota Commercial Energy Code.
- B. Utilities:
  - 1. Existing Domestic Cold Water Service to remain and be reused.
    - a. Domestic water house meter to remain and be reused.
  - 2. Existing 4" Sanitary Sewer Service to remain and be reused.
  - 3. Existing Storm Sewer Service to remain and be reused.
    - a. Existing overflow drain scupper to remain and be reused.
    - b. Allowance #1: Provide all new storm strain, overflow drain and piping. Connect new storm drain to existing storm sewer connection. Route new overflow drain to back of building and terminate with downspout nozzle and splash block.
- C. Domestic Water Systems.
  - 1. Domestic cold, hot and re-circulating hot water will be extended from the service entrance to the new plumbing fixtures and plumbing equipment. Refer to architectural floor plans for location/quantity of fixtures. Existing domestic water piping to be re-used to the extent possible.
  - 2. Domestic hot water heater is being replaced with a comparable new electric domestic water heater, 6.1kW in size, located in the basement mechanical room. Basis of design is the AO Smith LTE 120D. Provide new disaster pan underneath heater. Hot water supply temperature to be set at 120° F. Water heater flue and intake will be routed to the roof.
  - 3. Provide a new domestic hot water recirculation pump with recirculating hot water piping extended to all fixtures requiring hot water. Pump shall be provided with variable speed with ECM motor for balancing.
  - 4. Domestic water piping systems will be sized per the Minnesota Plumbing Code based on fixture demand and available working pressure.
- D. Domestic Water Piping:
  - 1. Above ground, 2-1/2" NPS and less: Type L Copper with copper solder-joint fittings and soldered joints. Solder will be in accordance with the MN Plumbing Code. Copper domestic water risers from level 1 to top floor and copper branch piping to fixtures sized per the local plumbing code.
  - 2. Above ground piping larger than 3" NTS and larger: Type L hard copper tube with mechanical grooved-end joint fittings.
  - 3. Domestic water piping systems shall have a pressure class rating of 125-psig.

4. Ball valves shall be used in domestic water piping 3-inches and less. Butterfly valves shall be used for sizes 4-inches and larger.
  5. Domestic hot water and recirculating hot water piping shall be insulated from water heater to fixtures. Insulation and thicknesses as required by the Minnesota Energy Code for re-circulated hot water systems, to prevent thermal losses on hot piping, and to prevent condensation on cold piping.
  6. Piping will be concealed within building shafts, walls, and above ceiling spaces in finished areas. Piping will be exposed in mechanical rooms and other spaces without finished ceilings.
  7. Fixture shut offs: Metal shutoffs, no plastic shutoffs will be allowed.
  8. Provide approved plumbing connections as required for garbage disposal units at all kitchen sinks.
- E. Domestic Water Piping Installation:
1. Rough-in domestic water piping and install water meters according to utility company's requirements. Use transition fitting to join dissimilar piping materials.
  2. Install aboveground domestic water piping level and plumb, parallel to building lines.
  3. Install piping adjacent to equipment and machines to allow service and maintenance.
  4. Connect domestic water piping to service piping with shutoff valve, and extend and connect to the plumbing equipment.
  5. Equipment: Cold- and hot-water supply piping sized per equipment connections. Provide shutoff valve and union for each connection. Use flanges instead of unions for NPS 2-1/2 and larger.
  6. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
  7. No plumbing piping allowed in exterior walls.
  8. Install hangers for copper tubing with the following maximum horizontal spacing and minimum rod diameters:
    - a. NPS 3/4 and Smaller: 60 inches with 3/8-inch rod.
    - b. NPS 1 and NPS 1-1/4: 72 inches with 3/8-inch rod.
    - c. NPS 1-1/2 and NPS 2: 96 inches with 3/8-inch rod.
    - d. NPS 2-1/2: 108 inches with 1/2-inch rod.
    - e. NPS 3 to NPS 5: 10 feet with 1/2-inch rod.
- F. Sanitary Drainage and Vent System:
1. Sanitary waste and vent piping will extend above and below grade from plumbing fixtures, floor drains and equipment to connection(s) to sanitary sewer piping at the building foundation wall.
    - a. Piping will be concealed within building ceilings and wall cavities. No piping allowed in exterior walls. Piping may be exposed in mechanical rooms and unfinished storage rooms.
    - b. Aboveground, soil and waste piping shall be any of the following:

- 1) Service class, cast-iron soil and fittings; gaskets; and gasketed joints.
  - 2) Hub less cast-iron soil pipe and fittings and solvent stack fittings; standard, shielded, stainless-steel couplings; and hub less-coupling joints. Drain piping in area separation walls hub less cast iron only.
  - 3) Solid wall PVC pipe, PVC socket fittings, and solvent-cemented joints.
- c. Underground, soil, waste and vent piping shall be any of the following:
- 1) Service class, cast-iron soil and fittings; gaskets; and gasketed joints.
  - 2) Hub less cast-iron soil pipe and fittings and solvent stack fittings; standard, shielded, stainless-steel couplings; and hub less-coupling joints.
  - 3) Solid wall ABS pipe, ABS socket fittings, and solvent-cemented joints.
  - 4) Solid wall PVC pipe, PVC socket fittings, and solvent-cemented joints.
- d. Sanitary Waste and Vent Installation:
- 1) Sanitary Waste and Vent piping systems will be sized, based on fixture unit demand, and installed per the Minnesota Plumbing Code.
  - 2) Equipment condensate drainage piping will be provided for all condensate producing equipment. For high efficiency condensate producing equipment, condensate neutralization will be required prior to discharge. All condensate regardless of the source shall be discharged to an approved location as per the local code and or ordinance requirements.
  - 3) Connect soil and waste piping to exterior sanitary sewage piping. Use transition fitting to join dissimilar piping materials.
  - 4) Aboveground PVC sanitary waste and vent piping is NOT allowed in ceiling plenums, area separation walls, exterior walls.
  - 5) Install cleanouts at grade and extend to where building sanitary drains connect to building sanitary sewers.
  - 6) Install soil and waste drainage and vent piping at the following minimum slopes, unless otherwise indicated:
    - a) Building Sanitary Drain: 2 percent (1/4" per lineal foot) downward in direction of flow.
    - b) Horizontal Sanitary Drainage Piping: 2 percent (1/4" per lineal foot) downward in direction of flow.
    - c) 1 percent (1/8" per lineal foot) slope shall be allowed if approval is obtained by the AHJ prior to install.
    - d) Vent Piping: Per the Minnesota Plumbing Code.
  - 7) Connect drainage and vent piping to the following:
    - a) Plumbing Fixtures: Connect drainage piping as required by plumbing code.
    - b) Plumbing Fixtures and Equipment: Connect atmospheric vent piping as required, but not smaller than required by authorities having jurisdiction.

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- c) Plumbing Specialties: Connect drainage and vent piping as required by plumbing code.
  - d) Equipment: Connect drainage piping as required. Provide shutoff valve, if indicated, and union for each connection.
  - e) All floor drains shall be vented.
- 8) Install hangers for cast-iron soil piping with the following maximum horizontal spacing and minimum rod diameters:
- a) NPS 1-1/2 and NPS 2: 60 inches with 3/8-inch rod.
  - b) NPS 3: 60 inches with 1/2-inch rod.
  - c) NPS 4: 60 inches with 5/8-inch rod.
- 9) Install hangers for ABS and PVC piping with the following maximum horizontal spacing and minimum rod diameters:
- a) NPS 1-1/2 and NPS 2: 48 inches with 3/8-inch rod.
  - b) NPS 3: 48 inches with 1/2-inch rod.
  - c) NPS 4: 48 inches with 5/8-inch rod.
- 10) Test sanitary drainage and vent piping and prepare written inspection reports according to the required procedures of Authorities Having Jurisdiction.
- G. Storm Water Drain System
- 1. Storm water system shall be designed for a worst case storm event at 4" of rainfall per hour as defined by the Minnesota Plumbing Code.
  - 2. Storm drainage from the building's sloping roofs will collect in a gutter and downspout system with discharge at grade with a splash block.
  - 3. Above and below grade storm water piping will be either:
    - a. Service weight cast-iron pipe.
    - b. Schedule 40 PVC pipe.
- H. Plumbing Fixtures: Include the following:
- 1. Plumbing fixtures: Commercial quality plumbing fixtures and trim will be provided for the base building according to programmed need.
    - a. Fixtures shall be ADA compliant where required.
    - b. Public toilets shall be wall-mount commercial type with battery operated flush valves.
    - c. Public lavatories shall be provided fed from an ASSE 1070 compliant mixing valve.
    - d. High/low drinking fountain with water bottle filler
    - e. Double basin stainless steel sinks at kitchen & breakroom
    - f. Janitor closet mop sink
  - 2. Water consumption rates shall meet the maximum flow rates as defined by the Minnesota Energy Code and any additional green building requirements.

- a. Provide low flow fixtures at rates of: 1.28 GPF on toilets, 0.5 GPM on lavatory faucets, 1.5 GPM on kitchen faucets.
3. Miscellaneous:
  - a. Floor Drains –Floor drains with nickel bronze grate serving public restrooms, water service room, trash room, janitor’s closets.
- I. Plumbing Equipment:
  1. Electric Water Heater: Domestic hot water heater is being replaced with a comparable new electric domestic water heater, 6.1kW in size, located in the basement mechanical room. Basis of design is the AO Smith LTE 120D. Provide new disaster pan underneath heater. Hot water supply temperature to be set at 120° F. Water heater flue and intake will be routed to the roof.
  2. Provide a new domestic hot water recirculation pump with recirculating hot water piping extended to all fixtures requiring hot water. Pump shall be provided with variable speed with ECM motor for balancing.

#### Division 23 – Heating Ventilating, and Air Conditioning:

- A. Project Mechanical HVAC Systems General Description: The project will be provided with all new mechanical systems for heating, ventilating, and air conditioning.
  1. HVAC systems will be required to meet the 2020 Minnesota Commercial Energy Code. No additional sustainability requirements are applicable at this time.
  2. HVAC Systems Summary:
    - a. **Office Spaces:** Existing packaged rooftop units on the roof shall be replaced with new energy efficient packaged rooftop units. Basis of design shall be Carrier 48HC series.
      - 1) The RTU on the North end of the building to be 3 tons.
      - 2) The RTU on the South end to be 10 tons.
      - 3) RTU features to include: Indirect fired natural gas furnace, packaged DX Cooling system (12.0 EER), 0-100% economizer, packaged controls, adapter roof curb to fit existing. Supply air and return air ductwork routed down through curb and extended to diffusers/registers/grilles. Units will be controlled by 7-day programmable thermostats. Condensate shall discharge onto the sloped roof.
      - 4) Provide alternate price for integral energy recovery accessory.
    - b. **Data and electrical room cooling:** Provide a new mini-split air conditioner with remote condensing units mounted on the roof. A condensate drain shall be provided with each mini split unit. Basis of design LG LSN180HSV5.
    - c. **Building entrance heating:** Electric cabinet unit heaters at lobby entrances, and all stair entrance doors at first floor. Units to be provided with integral thermostats. Basis of design Markel 3320 series.
    - d. **Restrooms:** Provide a new ceiling mounted bathroom exhaust fan at each restroom. Exhaust ductwork shall be routed up through the roof and terminate in either a gooseneck or exhaust hood. Fan to be activated by a SmartExhaust switch

that is capable of operating the fan for a period of time (adj) after the switch has been turned off. Basis of design Panasonic FV-0511VK2.



- e. **Kitchen:** A residential kitchen exhaust hood is being provided, approximately 300 CFM. Connect new exhaust ductwork to new kitchen exhaust hood. Vent up through the roof and terminate with a gravity relief hood.

B. Applicable Codes and Standards:

1. 2020 Minnesota State Building Code.
2. 2020 Minnesota Conservation Code for Existing Buildings
3. 2020 Minnesota Mechanical and Fuel Gas Code.
4. 2020 Minnesota Commercial Energy Code.

C. HVAC Systems Design Criteria

1. MN Energy Code Design Conditions – based on ASHRAE 0.4% weather data.
  - a. Outdoor Summer: 91°Fdb/77°Fwb
  - b. Indoor Cooling: 75°Fdb
  - c. Winter: -15°Fdb
  - d. Indoor Heating: 72°Fdb

D. Sustainability Requirements

1. Mechanical Equipment Energy Performance: In accordance with the 2020 Minnesota Energy Code and shall follow the ASHRAE 90.1 method of compliance.

E. Indoor Design Conditions:

1. Office spaces:
  - Summer: 75°Fdb/55% RH
  - Winter: 72°Fdb/35% RH

F. Outside Air Ventilation Requirements

1. General: In accordance with Minnesota Code, HVAC calculations are based on ASHRAE Standard 62.1 design criteria.

G. Common Area Exhaust Requirements

1. Common Area Toilet/Shower Rooms: 70 CFM per water closet/urinal for intermittent exhaust. 50 CFM per water closet/urinal for continuous exhaust.



2. Janitor Closets: Rooms shall be exhausted at a rate of 1.0 CFM/SF.

H. Ductwork: Low pressure supply air, return air, and exhaust air ductwork will be fabricated of galvanized sheet metal in rectangular and round shapes according to SMACNA Duct Construction Standards for 2-inch and 4-inch Pressure Classification, and for Class A duct sealing. Insulated flexible ducts will be used for connections from supply air ducts to air outlets. Flex ducts shall be limited to the last 5 feet of connection.

1. All supply ductwork, exposed return ductwork, exposed exhaust ductwork will be insulated with external fiberglass duct insulation with a foil-scrim-kraft vapor barrier



jacket covering. Insulation thicknesses will be as required to prevent condensation and to prevent thermal losses on hot piping. Thicknesses will be as required by the Energy Code.

2. Exposed ductwork in finished areas shall be spiral duct.
  3. Air distribution will generally be through ceiling mounted supply diffusers and return/exhaust grilles. Office area supply and returns diffusers will be coordinated with architecture and interiors to maintain the desired design aesthetic.
- I. Gas Piping
1. Existing gas meter to remain and be reused. Meter is currently located in the basement behind a access door. Confirm with gas utility if they will not require the meter and regulator to be relocated outside.
    - a. Provide approved gas piping to gas fired equipment.
    - b. Provide pressure regulating valves ahead of each piece of equipment, to appropriately reduce gas pressure.
    - c. Provide regulator vent piping to atmosphere. Vent limiting regulators where listed and approved.
- J. Equipment Startup and Testing
1. Equipment startup and testing will be accomplished by the Mechanical Contractor. Each piece of equipment will be started and checked out according to manufacturer's recommendation to assure proper operation.
  2. Testing and Balancing.
    - a. HVAC air and water systems will be tested, adjusted, and balanced by an AABC certified agency independent of the Mechanical Contractor.
- K. Commissioning
1. Not required for this facility.
- L. Owner Demonstration and Training.
1. The Mechanical Contractor will demonstrate the operation and maintenance procedures of each mechanical system or equipment item for the Owner's representative.

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## ELECTRICAL SYSTEMS DESCRIPTION

### Electrical Systems Description

#### Electrical Narratives

- Reuse three 240/120V existing panels
- Lighting:
  - o Reusing wiring and box
  - o Recessed parabolic LED fixture in ACT ceilings
  - o Linear pendant mounted at exposed ceilings
  - o Linear pendant mount at meeting rooms
  - o Undercabinet lighting at kitchen and breakroom overhead cabinets
  - o Dimmers at mothers room and meeting rooms
  - o 3 wall mounted full cut off fixture at exterior doors
- Low voltage:
  - o Reuse existing security panel, provide new card-readers and cameras per Architectural narrative
  - o Use existing signal provider and Upgrade telephone/data system
  - o Provide wireless access point and AV system
- Add hard data drops for the offices.
- Add power outlet in new created offices
- Reuse fire alarm panel, new fire alarm devices in renovated spaces


See Arch Narrative for Allowance 2

END OF SYSTEMS DESCRIPTIONS



### Furniture Budget

Isuroon Headquarters, Minneapolis - Preliminary FFE budget				<b>BKV</b> GROUP	
3/23/2022					
ITEM		UNIT COST	QTY.	TOTAL COST	
<b>Lobby</b>					
	Sofa	\$ 1,200.00	1	\$	1,200.00
	Lounge Chairs	\$ 650.00	2	\$	1,300.00
	Coffee table	\$ 350.00	1	\$	350.00
	Task Chairs	\$ 350.00	3	\$	1,050.00
	Security Desk	\$ 650.00	1	\$	650.00
	Waste/Recycling (separately by Owner)	\$ -	3	\$	-
	Computers (part of Equipment budget)	\$ -	2	\$	-
<b>Private Offices</b>					
	Task Chairs	\$ 350.00	4	\$	1,400.00
	Desks	\$ 1,500.00	4	\$	6,000.00
	Guest Chairs	\$ 350.00	10	\$	3,500.00
	Guest table	\$ 350.00	1	\$	350.00
	Waste/Recycling (separately by Owner)	\$ -	8	\$	-
	Desk task lamp (separately by Owner)	\$ -	4	\$	-
	Computer (part of Equipment budget)	\$ -	4	\$	-
	Monitor Arm (part of Equipment budget)	\$ -	4	\$	-
	Keyboard/Mouse Tray (part of Equipment budget)	\$ -	4	\$	-
	Power pack at work surface w/ USB charging	\$ 130.00	4	\$	520.00
	Whiteboard/Tackboard	\$ 150.00	4	\$	600.00
	Window Treatments (part of Construction budget)	\$ -	1	\$	-
<b>Open Office</b>					
	Task Chair	\$ 400.00	10	\$	4,000.00
	Desk	\$ 1,000.00	10	\$	10,000.00
	Desk task lamp (separately by Owner)	\$ -	10	\$	-
	Lat. File	\$ 550.00	3	\$	1,650.00
	Computer (part of Equipment budget)	\$ -	10	\$	-
	Monitor Arm (part of Equipment budget)	\$ -	10	\$	-
	Keyboard/Mouse Tray (part of Equipment budget)	\$ -	10	\$	-
	Power pack at work surface w/ USB charging	\$ 130.00	10	\$	1,300.00
	Whiteboard/Tackboard	\$ 150.00	1	\$	150.00
	Window Treatments (part of Construction budget)	\$ -	1	\$	-
	Copier/Printer (part of Equipment budget)	\$ -	1	\$	-
	Waste/Recycling unit	\$ 1,000.00	1	\$	1,000.00
<b>Call Center</b>					
	Task Chairs	\$ 400.00	3	\$	1,200.00
	Desks	\$ 1,000.00	3	\$	3,000.00
	Desk task lamp (separately by Owner)	\$ -	3	\$	-
	Acoustic partition screens (desk mounted)	\$ 450.00	6	\$	2,700.00
<b>Food Shelf</b>					
	Wire Shelving	\$ 200.00	8	\$	1,600.00

Isuroon Headquarters, Minneapolis - Preliminary FFE budget					
3/23/2022					
ITEM	UNIT COST	QTY.	TOTAL COST		
<b>Community Room</b>					
Movable Chairs	\$ 350.00	12	\$ 4,200.00		
Movable Tables	\$ 750.00	6	\$ 4,500.00		
Whiteboard/Tackboard	\$ 150.00	1	\$ 150.00		
Projection system & screen (part of Equipment budget)	\$ -	1	\$ -		
Window Treatments (part of Construction budget)	\$ -	1	\$ -		
<b>Kitchenette</b>					
Island stools	\$ 350.00	6	\$ 2,100.00		
Moveable Island	\$ 2,000.00	1	\$ 2,000.00		
Waste/Recycling unit	\$ 1,000.00	1	\$ 1,000.00		
<b>Meeting Rooms</b>					
Task Chair	\$ 400.00	10	\$ 4,000.00		
Meeting Table	\$ 1,000.00	2	\$ 2,000.00		
Waste/Recycling (separately by Owner)	\$ -	2	\$ -		
<b>Mother's Room</b>					
Lounge Chair	\$ 500.00	1	\$ 500.00		
Side Table	\$ 150.00	1	\$ 150.00		
Waste/Recycling (separately by Owner)	\$ -	2	\$ -		
<b>Breakroom</b>					
Dining Chairs	\$ 125.00	2	\$ 250.00		
Dining Table	\$ 350.00	1	\$ 350.00		
Waste/Recycling (separately by Owner)	\$ -	10	\$ -		
SUBTOTAL - FURN			<b>\$ 64,720.00</b>		
ESTIMATED INSTALLATION CHARGES			\$ 9,708.00		
ESTIMATED FREIGHT CHARGES			\$ 16,180.00		
<b>GRAND TOTAL FURNITURE</b>			<b>\$ 90,608.00</b>		

## INTERIOR ROOM FINISH SCHEDULE

**ISUROON HEADQUARTERS, MINNEAPOLIS**  
**SD FINISH SCHEDULE**

SCHEMATIC DESIGN  
 DUE DATE: 3/23/2022

Room	Floor	Wall	Base	Ceiling	Cabinetry	Countertop	Comments/Special Features:
Main Entry Vestibule	PORCELAIN TILE \$3.50/SF MATERIAL ONLY ALLOWANCE	PAINT	TILE	PTD GYP BD	N/A	N/A	
Reception Lobby	PORCELAIN TILE \$3.50/SF MATERIAL ONLY ALLOWANCE & CARPET TILE RUG \$38/SY MATERIAL ONLY ALLOWANCE	PAINT & WALLCOVERING \$34/SY MATERIAL ONLY ALLOWANCE (WC ONE WALL ONLY)	TILE	ACT/PTD GYP BD	WOOD/LAMINATE	SOLID SURFACING/ QUARTZ	Reception desk: wood casework, quartz countertop, Roller shade window treatments and drapery Lighting: decorative lighting at reception desk
Community Room	CARPET TILE \$28/SY MATERIAL ONLY ALLOWANCE & RESILIENT FLOORING AT KITCHENETTE \$4/SF MATERIAL ONLY ALLOWANCE	PAINT & WALLCOVERING \$34/YD MATERIAL ONLY ALLOWANCE (WC ONE WALL ONLY)	WOOD	PTD EXPOSED/ TURF BAFFLES, CABLE HUNG	N/A	N/A	For Kitchenette: Include sink, dishwasher, full size refrigerator, and microwave; Tile backsplash to be above sink to under cabinets and epoxy paint at ceiling soffit; Decorative lighting above moveable island
Furniture Storage	CARPET TILE \$28/SY MATERIAL ONLY ALLOWANCE	PAINT	RESILIENT	ACT	N/A	N/A	
Kitchenette Storage	RESILIENT FLOORING \$4/SF MATERIAL ONLY ALLOWANCE	PAINT	RESILIENT	ACT	N/A	N/A	Include wire shelving on stanchions
Public Meeting Rooms (X2)	CARPET TILE \$28/SY MATERIAL ONLY ALLOWANCE	PAINT	CARPET	ACT	N/A	N/A	Lighting: Linear pendant over table
Restrooms (X4)	PORCELAIN TILE \$3.50/SF MATERIAL ONLY ALLOWANCE	PAINT & GLAZED CERAMIC TILE \$3.50/SF MATERIAL ONLY ALLOWANCE	TILE	PTD GYP BD	N/A	N/A	Tile to 60" AFF two walls, then paint to ceiling Include Toilet Accessories Mirror at Sink
Mother's Room	RESILIENT FLOORING \$4/SF MATERIAL ONLY ALLOWANCE	PAINT	RESILIENT	ACT	N/A	N/A	Include Sink with base cabinet and tilted mirror above
Public Hall	PORCELAIN TILE \$3.50/SF MATERIAL ONLY ALLOWANCE	PAINT	TILE	ACT	N/A	N/A	
ELEC	PORCELAIN TILE \$3.50/SF MATERIAL ONLY ALLOWANCE	PAINT	TILE	EXPOSED	N/A	N/A	
Open Office Area	CARPET TILE \$28/SF MATERIAL ONLY ALLOWANCE	PAINT & WALLCOVERING \$34/SY MATERIAL ONLY ALLOWANCE (WC ONE WALL ONLY)	CARPET	ACT	N/A	N/A	
Private Offices	CARPET TILE \$28/SF MATERIAL ONLY ALLOWANCE	PAINT	CARPET	ACT	N/A	N/A	Roller shade window treatments at all exterior windows
Breakroom	RESILIENT FLOORING \$4/SF MATERIAL ONLY ALLOWANCE	PAINT & GLAZED CERAMIC TILE \$12.50/SF MATERIAL ONLY ALLOWANCE	RESILIENT	PTD GYP BD	LAMINATE	SOLID SURFACING/ ACRYLIC	Include sink, dishwasher, full size refrigerator, and microwave Tile backsplash to be above sink to under cabinets only
Pantry/Food Shelf	QUARRY TILE	PAINT & GLAZED CERAMIC TILE \$3.50/SF MATERIAL ONLY ALLOWANCE	QUARRY TILE	CERAMIC ACT	N/A	N/A	Wall tile up to 60" AFF, epoxy paint to ceiling
IT/Server Room	SDT	PAINT	RESILIENT	ACT	N/A	N/A	
IC	VCT	EPOXY PAINT & FRP	RESILIENT	ACT	N/A	N/A	FRP used at two walls on either side of utility sink and up to 4' AFF

GENERAL FINISH NOTES: All outside gyp bd corners to receive wall corner guards. Meeting rooms to receive chair rail throughout.