

NEW TOWN HALL FOR MONTREAT
STATUS REPORT FROM THE ARCHITECT
December 11, 2014

We are working on design development and construction documents, currently focusing on producing building sections and wall sections, details for the foundation and framing systems, details for site features, plumbing systems and equipment, heating, ventilation and air conditioning systems and equipment, lighting, permanent and emergency power, communications, fire alarm system. We are writing comprehensive non-proprietary specifications for everything that will be used to construct the building.

We have not yet further developed the stair, the cabinetry, HVAC controls system, the landscaping or the stormwater management system. We don't have the final soils report or geothermal test report.

This is a general report on the systems that we have incorporated into the design of the new town hall since our last discussions. Generally speaking, we are incorporating modern systems coming into common usage. We are specifically looking to include systems that provide improved sustainability in conjunction with reduced operating & maintenance costs.

1: ENERGY SAVINGS AND SUSTAINABILITY

GEOTHERMAL SYSTEM FOR HEATING & AIR CONDITIONING

Preliminary plans call for a system of 8 to 9 wells, two water-circulating pumps, and seven water-source heat pumps. Our engineers estimate the up front costs of the geothermal system will be recouped in energy savings within 8 to 10 years. The system equipment has longer life expectancy and requires less maintenance than conventional air-cooled systems. Replacement components are also less costly.

We have solicited and received proposals for a geothermal test well and given our recommendation to Ron Nalley. Testing will establish whether a geothermal system is feasible on this site, and provide the data we need to size the wellfield. If test results are positive, the test well will become one of the wells in the permanent geothermal array, and we will proceed with system design.

LED LIGHTING

LED lighting is fast becoming the industry standard, and we are incorporating it throughout the building. In upfront costs, LED fixtures are now as affordable as dimmable fluorescent fixtures, but still approximately 60% more expensive than standard fluorescent fixtures. LEDs provide more light (5 to 6 footcandles more), which allows us to use fewer lighting fixtures. The LED bulb lifespan is 6 times that for compact or standard fluorescents (50 to 60,000 hours versus 8 to 10,000 hours), they use half as much electricity and contain no toxic mercury.

WATER USAGE

We are specifying low consumption toilets and faucets, compliant with LEED and EPA WaterSense Standards. We are not calling for hands-free fixtures, but are ready to proceed with that option if directed. Our water usage will not be extensive enough to justify the considerable expense of developing a greywater system. Landscaping will be native species only, requiring no irrigation.

ELEVATOR

We are designing for a gearless traction (non-hydraulic) elevator, with the motor mechanism mounted inside the hoistway. This system provides smoother operation, requires a smaller hoistway and no separate machine room, uses less electricity, and uses no oil.

WINDOWS

We are specifying aluminum clad wood windows with insulated glass panels that exceed Energy Code requirements, with excellent thermal performance and solar heat gain resistance while still allowing a high level of visible light to enter the building.

2: TECHNOLOGY

AUDIO-VISUAL EQUIPMENT

We are proposing podium stations to the right and left of the commissioners' tables where a computer can be plugged in. The video signal will be cabled to two wall-mounted flat screen monitors behind the commissioners' tables, and delivered wirelessly to the commissioners' iPads or flat screen monitors. There will be no need for projectors or projector screens. Commissioners' tables can have a flat glass panel in the tabletop, with a carriage beneath, where iPads or small flat screen monitors can be set (refer to attached illustration for an example, "Downview Solutions"). This allows commissioners to view a presentation without obstructing their view of the audience or the presenters. Alternately, we can look to accommodate an iPad easel on the desktop.

We are designing the acoustics in the Chambers Room to minimize the need for a sound system. Currently we are including microphone jacks and a PA system amplifier, and have a small closet of the Chambers Room where A-V equipment can be secured separately from tables and chairs. We can accommodate audio-video recording equipment in this space as well if directed, or provide conduit for the future installation of this system.

We recommend purchasing the sound and video equipment separately, much like the general furniture, to avoid the contractor's markup on items you can easily purchase directly. We can include them in the project if desired, but at this point are only including the sound equipment. We will in any case provide for the conduit, wiring and wireless network system to make all of the devices operate effectively.

The project currently includes all of the A/V equipment required to bring the police department interview room up to current operational standards.

DATA & PHONE SYSTEM

Plans include voice/data outlets in all offices, meeting rooms, at locations designated for copy machines and a future large format printer, and as required for the HVAC automation system and elevator inspection and testing. There are 4 of these outlets in the chambers room for phone service during emergency operations. All outlets will be wired with Cat6 cable to a patch panel in the upstairs IT Room (distances involved are too short to require fiberoptic lines). Your phone provider and network system provider will be able to connect their equipment to this cabling, and we will provide the conduit for their service wiring to be run from the utility pole to the IT Room.

SECURITY SYSTEM

Town staff have indicated a need for an alarm system at the police department, and a desire for security cameras at the rear and sides of the building. The alarm system itself should be provided and installed by the firm that will provide that service to the Town. We will include conduit for the system's wiring.

ACCESS CONTROLS

We are planning for programmable keyless entry systems at the doors, with key fob actuators at meeting spaces and offices, old fashioned keys at mechanical rooms and storage areas. The system we are evaluating can be wired or wireless, and allows faceplates to be switched out in the field from key fob to card swipe to keypads. The system is web based, with real time access to monitoring and controls. Users can be added or deleted online by the authorized administrator without having to change out key cores.

LIGHTING CONTROLS

The lighting system design incorporates occupancy sensors in all conference and meeting spaces, offices, storage rooms and bathrooms to reduce lighting loads.

EMERGENCY GENERATOR

We are working on configuring a system which provides two levels of service: one to lights and power during a short term power outage, the second to provide power to the HVAC system to the first floor during a long term outage.

3: FIRE PROTECTION

The building will not require sprinklers to comply with building code; utilizing rated assemblies in lieu of a sprinkler system provides the required protection while significantly reducing up-front costs. We have identified the wall, floor and roof assemblies that provide the required level of fireproofing from floor to floor, at the stairwell, and from outside to inside.

The fire alarm system includes pull stations at building exits, central control station, and smoke and heat detectors throughout the building, including in the ductwork.

4: PRIVACY AND ACOUSTICS

The floor assembly between the first and second floors includes batt insulation in the floor joists, an acoustic floor mat over the subfloor, and a concrete topping to reduce sound transmission from floor to floor. We are evaluating wall systems to determine whether acoustical gypsum board (a relatively new product) is desirable at office and meeting spaces, or whether traditional soundproofing is more appropriate.

5: FLEXIBLE USAGE

The Chambers Room is designed to serve as a meeting room for functions of up to 50 participants, or a command post for emergency operations. The storage room will accommodate tables, chairs and the commissioners' tables, to be switched out to accommodate meetings, parties and special events.

The Conference Room adjacent to the Chambers will accommodate the Board in executive session, private meetings between commissioners or town staff and citizens, planning sessions for the police or public works departments, and provides serving space (with pass-through counter, sink, refrigerator and ice machine) for events in the Chambers Room.

The upstairs Reception Station, Conference Room and Workroom are designed and sized to accommodate additional employees if necessary.

With the shower and emergency generator, it will be possible to use the facility as an emergency shelter.

6: ALTERNATES

We will come back to you with a short list of items we recommend be bid as Alternates. These will be items that are beneficial, but not essential to the success of the project. When the project is bid, you will see a separate price for each of these items, in addition to the "base bid" price, and can choose which ones to incorporate into the contract. Currently we are considering creating alternates for the gateway arch at the parking lot, and for the furnishings and/or equipment for the Chambers Room.

In conclusion, we look to the commissioners for direction and feedback on these systems and components. We appreciate your continued involvement.

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