SUSTAINABILITY COMMISSION

December 4, 2020
8:00 a.m. to 9:00 a.m.
City of Franklin – Zoom Virtual Meeting
Dial +1 312 626 6799 Meeting ID: 949 9935 3185 Passcode: COF@1799

8:00 am	***Approval of Resolution 2020-248**	Dana Kose
8:05 am	***Approval of November Meeting Minutes**	Dana Kose
8:05 am -- 8:10 am	**Welcome and Introductions**	Dana Kose
8:10 am -- 8:50 am	***City Hall Redevelopment LEED Charrette Results**	Ken Scalf
8:50 am -- 8:55 am	**Announcements:** **-January 8, 2021 Meeting** **-Walk Friendly Communities Update** **-Dark Sky Update** **-Other**	Andrew Orr
8:55 am -- 9:00 am	**Adjourn**	Dana Kose

*Item contains an attachment or link

MISSION STATEMENT: The Sustainability Commission provides guidance to the Board of Mayor and Aldermen and the Planning Commission and leadership for the entire Franklin Community.

Brenton Montgomery (12/11/2021)	Todd Palmer (8/27/2022)
Mike Cassity (11/10/2024)	Dana Kose (12/10/2022)
Beverly Burger (BOMA co-terminus)	Nancy Whittemore (10/23/2021)
Patrick Baggett (Franklin Tomorrow co-terminus)	Micah Wood (10/23/2021)
Mike Leonard (2/26/2022)	

The City of Franklin has committed itself to developing an ongoing strategy of sustainability for the community. This initiative will be designed to achieve viable, fulfilling, and rewarding lifestyles for our residents and business partners through responsible and innovative stewardship of the environment.

MINUTES OF THE MEETING OF THE FRANKLIN SUSTAINABILITY COMMISSION

November 6, 2020

The Franklin Sustainability Commission held a regular meeting on Friday, November 6, 2020, at 8:00 a.m. The meeting was held virtually through Zoom due to the COVID-19 outbreak.

Chair Kose read Resolution 2020-215. This Resolution is a Resolution Declaring That The Sustainability Commission Shall Meet On November 6, 2020, And Conduct Its Essential Business By Electronic Means Rather Than Being Required To Gather A Quorum Of The Members Physically Present In The Same Location Because It Is Necessary To Protect The Health, Safety, And Welfare of Tennesseans In Light Of The COVID-19 Outbreak.

Chair Kose asked for a motion to approve the Resolution 2020-215.

Ms. Nancy Whittemore moved, seconded by **Mr. Micah Wood,** to approve Resolution 2020-215.

Chair Kose asked for a roll call vote.

The following voted in favor of: **Nancy Whittemore**, **Micah Wood, Todd Palmer**, **Chair Dana Kose, Patrick Baggett, and Brenton Montgomery.**

The motion carried unanimously. **Mr**. **Mike Leonard** and **Alderman Beverly Burger** were absent from the vote.

Chair Kose read the following announcement:

"Due to the COVID-19 outbreak, this meeting will be a virtual meeting. The public may call in to listen to the meeting and make comments during any public comment period. The public may also email comments to planningintake@franklintn.gov to be read aloud during the meeting. Emailed comments were accepted until yesterday at 5:00 pm. The meeting video will be available for public viewing following the meeting on the City of Franklin Facebook and YouTube accounts, and the City of Franklin website."

Welcome/Introductions

Chair Kose welcomed everyone to the meeting.

Members Present: **Alderman Beverly Burger, Nancy Whittemore**, **Micah Wood, Todd Palmer**, **Chair Dana Kose, Patrick Baggett, and Brenton Montgomery.**

Members Absent: **Mr**. **Mike Leonard**

Staff Present: **Andrew Orr, Emily Wright, Eric Conner, Kelly Dannenfelser**

Chair Kose announced that **Mr. Mike Cassity** would be officially appointed to the Sustainability Commission next week by the Board of Mayor and Aldermen (BOMA).

Approval of Meeting Minutes

Mr. Micah Wood moved, seconded by **Mr. Todd Palmer,** to approve the minutes from October 2020.

Chair Kose asked for a roll call vote.

The motion carried unanimously. **Mr**. **Mike Leonard** was absent from the vote.

The following voted in favor of: **Alderman Beverly Burger, Nancy Whittemore**, **Micah Wood, Todd Palmer**, **Chair Dana Kose, Patrick Baggett, and Brenton Montgomery.**

Litter Survey Comparison

Mr. Orr stated that the survey comparison between 2017 and 2020 shows that things are trending in the right direction. **Mr. Orr** reached out to Sgt. Stephens, Williamson County Sheriff's Department. Sgt. Stephens stated that he would add some of the corridors to the list for potential litter pickup areas.

Alderman Burger stated that she looked at the Cool Springs area twice. She stated that most of the litter comes from trucks. She stated that a four-lane road is scheduled for construction and this should improve the situation.

Chair Kose thanked Mr. Orr for showing the comparison.

Routes

2017 in **red** and 2020 in **black**

West Franklin Route Average: **1.86; 1.0**

North Franklin Route Average: **1.33**; **1.0**

Area 3 Cool Springs Route Average: **0.91**; **2.14**

McEwen Route Average: **1.39**; **1.17**

Murfreesboro Road Corridor Route Average: **1.75**; **1.18**

South Franklin Route Average: **1.57**; **1.5**

Central Franklin Route Average: **1.33**; **1.0**

Dark Sky Presentation

Mr. Orr introduced FMPC Commissioner **Jennifer Szilag**yi. **Ms. Szilagyi** gave the Dark Sky Lighting Presentation. Some highlights from the presentation include:

The premise of dark-sky communities is relatively simple:

As Mark Laurin explains in an interview, towns, homeowners, and developers should "use the right amount of light, in the right place, at the right time." This doesn't mean towns shrouded in darkness without stop lights. Instead, communities enforce quality outdoor-lighting ordinances, educate their populace on how to promote dark skies, and encourage thoughtful placement of lighting. It's all about reducing the ever-expanding glow of cities.

Ms. Szilagyi showed the Bortle Dark-Sky scale. Excellent on this scale means that you could see the stars clearly at night. The worst rating "9" would be related to the Inner-City Sky. One question is how does this affect the quality of life in the city.

Ms. Szilagyi stated that she was surprised at the high level of light pollution in the Franklin area. She showed examples with different light angles. She stated that the cut-off angle lets the light go where it supposed to go. Thus, giving a better effect. She stated that color and intense levels are also factors. She stated that things could be changed simply by changing the type of light bulb.

Dark Sky Association Recommends the following:
- Only be on when needed
- Only light the area that needs it
- Be no brighter than necessary
- Minimize blue light emissions
- Be fully shielded (pointing downward)

The Current City of Franklin Zoning Ordinance Standards

Illumination
- Minimum and maximum light levels
- Maximum light levels along property lines
- Public buildings, public parks, school sports fields, courts, gas stations, and automatic teller machines are exempt from max light levels
- Cannot distribute light onto surrounding property beyond an angle of 35 degrees from a vertical plane
- Light source cannot be visible from a residential lot
- Same light color and hue for all lights

Photometric Plan as part of a site plan submittal

- Lighting layout and foot-candle measurements;
- Identify light fixtures

Residential Street Lights

- Designed in accordance with Street Standards and MTEMC
- No taller than 18 feet
- Ornamental fixture required
- LEDs

Pole Height

- Max of 18 feet for Residential and Mixed-Use Developments;
- Max of 30 feet for Nonresidential developments

Ms. Szilagyi discussed a government study "An Investigation of LED Street Lighting Impact on Sky Glow" .

She discussed the LEED Credit Categories. This is a resource for lighting and reducing light pollution. Franklin has a Silver status.

A discussion ensued following the presentation.

- Frosted lights help from a comfort level, but do not affect light pollution.
- Light Pollution refers to the amount of lumens from the light. The lower temperature is better.
- The softer LED lights give an orange glow, where the daylight LED will be brighter.
- The greatest area for improvement in Franklin is general site lighting for residential properties, such as lighting along roads.
- Motion lights are good for saving electricity.
- Mr. Palmer, Middle Tennessee Electric (MTEMC), may be able to aid with standards.
- Mr. Montgomery will check with Nashville Electric.
- The lights that have been changed on Liberty Pike were part of a MTEMC pilot program and have been well received.
- Residential site lighting, for example, in Westhaven, the street lights are placed at intersections and cul-de-sacs. The final decision for light placement is made by MTEMC.
- The Zoning Ordinance has very clear standards for Commercial lighting.
- They may look to amend the Zoning Ordinance (acorn style lights), but they have to make sure that the developers have a choice of dark sky compliant fixtures.
- Suggested that Building and Neighborhood Services could recommend economically priced lighting options that would help with light pollution.
- The next step is to meet with MTEMC **to see which light fixtures (types) should be encouraged.**
- **Revisit this topic in early 2021.**

Walk Friendly Communities Update

Mr. Conner will present this information at a later date.

Other News/Adjourn

The Commission agreed to hold the next meeting at 8 am on December 4, 2020. The January meeting will be during the second week of January. **Mr. Orr** stated that he would send out an invite for the next meeting. No official Holiday Breakfast will be held this year, but some members may informally get together.

The meeting adjourned at 8:58 am.

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name: Franklin City Hall
Date: 11/17/2020

Y	?	N			
X			Credit	Integrative Process	1

4	5	7	Location and Transportation		16
		X	Credit	LEED for Neighborhood Development Location	16
X			Credit	Sensitive Land Protection	1
X			Credit	High Priority Site	2
	X		Credit	Surrounding Density and Diverse Uses	5
	X		Credit	Access to Quality Transit	5
X			Credit	Bicycle Facilities	1
	X		Credit	Reduced Parking Footprint	1
	X		Credit	Green Vehicles	1

3	5	2	Sustainable Sites		10
Y			Prereq	Construction Activity Pollution Prevention	Required
X			Credit	Site Assessment	1
	X		Credit	Site Development - Protect or Restore Habitat	2
	X		Credit	Open Space	1
	X		Credit	Rainwater Management	3
X			Credit	Heat Island Reduction	2
X			Credit	Light Pollution Reduction	1

5	1	5	Water Efficiency		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
X			Credit	Outdoor Water Use Reduction	2
X			Credit	Indoor Water Use Reduction	6
		X	Credit	Cooling Tower Water Use	2
	X		Credit	Water Metering	1

10	8	15	Energy and Atmosphere		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
	X		Credit	Enhanced Commissioning	6
X			Credit	Optimize Energy Performance	18
		X	Credit	Advanced Energy Metering	1
	X		Credit	Demand Response	2
	X		Credit	Renewable Energy Production	3
	X		Credit	Enhanced Refrigerant Management	1
X			Credit	Green Power and Carbon Offsets	2

0	8	5	Materials and Resources		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
	X		Credit	Building Life-Cycle Impact Reduction	5
	X		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
	X		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
	X		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
	X		Credit	Construction and Demolition Waste Management	2

12	2	2	Indoor Environmental Quality		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
X			Credit	Enhanced Indoor Air Quality Strategies	2
X			Credit	Low-Emitting Materials	3
X			Credit	Construction Indoor Air Quality Management Plan	1
X			Credit	Indoor Air Quality Assessment	2
X			Credit	Thermal Comfort	1
X			Credit	Interior Lighting	2
X			Credit	Daylight	3
X			Credit	Quality Views	1
X			Credit	Acoustic Performance	1

1	3	2	Innovation		6
	X		Credit	Innovation	5
X			Credit	LEED Accredited Professional	1

0	2	2	Regional Priority		4
	X		Credit	Regional Priority: Specific Credit	1
	X		Credit	Regional Priority: Specific Credit	1
	X		Credit	Regional Priority: Specific Credit	1
	X		Credit	Regional Priority: Specific Credit	1

35	34	40	TOTALS	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

Optimized Design Solutions

Energy Studio

LEED/Sustainable Design Charrette Minutes
City of Franklin, City Hall

Date: **November 17, 2020**

Objectives:

- **Team understanding of the LEED process and requirements.**
- **Establish LEED goals and complete LEED scorecard.**
- **Identify tasks/action items and responsible parties.**

LEED v4 for BUILDING DESIGN AND CONSTRUCTION

LEED BD+C: New Construction

https://www.usgbc.org/credits?Version=%22v4.1%22&Rating+System=%22New+Construction%22

LEED Safety First pilot credits (response to COVID-19)

https://www.usgbc.org/about/covid-19-resources?utm_source=usgbc-website&utm_medium=article&utm_campaign=leed-resources

- **Safety First: Cleaning and Disinfecting Your Space credit**
- **Safety First: Re-enter Your Workspace credit**
- **Safety First: Building Water System Recommissioning credit**
- **Safety First: Managing Indoor Air Quality During COVID-19 credit**
- **Safety First: Pandemic Planning credit**
- **Safety First: Social Equity in Pandemic Planning credit**
- **Safety First: Arc Re-Entry credit**

INTEGRATIVE PROCESS

- **Prerequisite: Integrative Project Planning and Design**
  To support high-performance, cost-effective project outcomes through an early analysis of the interrelationships among systems. Beginning in pre-design and continuing throughout the design phases, identify and use opportunities to achieve synergies across disciplines and building systems. Use the analyses described below to inform the owner's project requirements (OPR), basis of design (BOD), design documents, and construction documents.

- **Credit: Integrative Process**
  Perform a preliminary "simple box" energy modeling analysis before the completion of schematic design that explores how to reduce energy loads in the building and accomplish related sustainability goals by questioning default assumptions. Assess strategies associated with each of the following, as applicable: Site conditions. Assess shading, exterior lighting, hardscape, landscaping, and adjacent site conditions. Massing and orientation. Assess how massing and

orientation affect HVAC sizing, energy consumption, lighting, and renewable energy opportunities. Basic envelope attributes. Assess insulation values, window-to-wall ratios, glazing characteristics, shading, and window operability. **This process has been completed and documented.**

LOCATION AND TRANSPORATION (LT)

- **LT Credit: LEED for Neighborhood Development Location**
  To avoid development on inappropriate sites. To reduce vehicle distance traveled. To enhance livability and improve human health by encouraging daily physical activity. Locate the project within the boundary of a development certified under LEED for Neighborhood Development (Stage 2 or Stage 3 under the Pilot or v2009 rating systems, Certified Plan or Certified Built Project under the LEED v4 rating system). Projects attempting this credit are not eligible to earn points under other Location and Transportation credits. **Unfortunately, this is not an option at this site**

- **LT Credit: Sensitive Land Protection**
  To avoid the development of environmentally sensitive lands and reduce the environmental impact from the location of a building on a site. Option 1. Previously Developed Land. Locate the development footprint on land that has been previously developed. Option 2. Avoidance of Sensitive Land Locate the development footprint on land that does not meet the criteria for sensitive land. **The project will reuse of an existing site in lieu of developing in a greenfield**

- **LT Credit: High-Priority Site**
  To build the economic and social vitality of communities, encourage project location in areas with development constraints, and promote the ecological and community health of the surrounding area. Option 1. High Priority Site, Path 1. Economically Disadvantaged Community Location Locate within one of the following areas: Census tract* in which average household income is at or below 80% area median income (AMI) Census tract in which at least 20% of population is at or below poverty rate of state, provincial, or other regional jurisdiction Census tract in which unemployment is at least 150% of the state, provincial, or other regional jurisdiction. Path 2. Brownfield Remediation Locate on a brownfield where soil or groundwater contamination has been identified, and where the local, state, or national authority requires its remediation. In cases of voluntary remediation by the project team, provide confirmation by the local, state, or national authority to verify that the site is a brownfield. Perform remediation to the satisfaction of the relevant authority. Option 2. Equitable Development; Path 1. Equity & Community Benefits; Develop and implement an equity plan. **Project is to be located in a historic district**

- **LT Credit: Surrounding Density and Diverse Uses**
  To conserve land and protect farmland and wildlife habitat by encouraging development in areas with existing infrastructure. To promote walkability, and transportation efficiency and reduce vehicle distance traveled. To improve public health by encouraging daily physical activity. Option 1. Surrounding Density; Locate on a site whose surrounding existing density within a ¼-mile offset of the project boundary meets the requirements. Option 2. Diverse Uses; Construct or renovate a building or a space within a building such that the building's main entrance is within a ½-mile walking distance from the following number of uses. The following restrictions apply; A use counts as only one type (e.g., a retail store may be counted only once even if it sells products in several categories).No more than two uses in each use type may be counted (e.g. if five restaurants are within walking distance, only two may be counted).The counted uses must represent at least three of the five categories, exclusive of the building's primary use. Option 3. Walkable Location (1–5 points) Locate on a site with a Walk Score® or equivalent third-party walkability assessment. Projects attempting Option 3 are not eligible to earn points under Option 1 or Option 2. **Adjacent Services are available to the employees and the pubic utilizing the facility**

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- **LT Credit: Access to Quality Transit**
  To encourage development in locations shown to have multimodal transportation choices or otherwise reduced motor vehicle use, thereby reducing greenhouse gas emissions, air pollution, and other environmental and public health harms associated with motor vehicle use. Path 1. Access to Public Transit Service. Locate any functional entry of the project within a ¼-mile walking distance of existing or planned bus, streetcar, or informal transit stops, or within a ½-mile walking distance of existing or planned bus rapid transit stops, passenger rail stations (i.e. light, heavy, or commuter rail) or commuter ferry terminals. The transit service at those stops and stations in aggregate must meet the minimums listed. Planned stops and stations may count if they are sited, funded, and under construction by the date of the certificate of occupancy and are complete within 24 months of that date. Both weekday and weekend trip minimums must be met. For each qualifying transit route, only trips in one direction are counted towards the threshold. For weekend trips, only trips on the day with the higher number of trips are counted towards the threshold. If a qualifying transit route has multiple stops within the required walking distance, only trips from one stop are counted towards the threshold. Privately-run shuttles are only acceptable if the service is also made available to the public. Path 2. Access to Project-sponsored Transit Service; Commit to providing year-round transit service (vans, shuttles, buses) for regular occupants and visitors that meets the minimums listed in Table 2, Service must be guaranteed for at least 3 years from the project's certificate of occupancy. Within the project boundary, provide at least one transit stop shelter at each transit stop within a ¼-mile walking distance from a functional entry of the project. A building lobby is allowed instead of shelter if the transit stop is visible from inside and located no greater than 200 feet (60 meters) walking distance from the transit stop. For each qualifying transit route, total trips (inbound and outbound) are counted towards the threshold. If a qualifying transit route has multiple stops within the required walking distance, only trips from one stop are counted towards the threshold. Only directly accessible trips within the specified distances are allowed. Trips available from connected transit facilities do not contribute to the minimum trips under Path 2; **Public transit available that reduces reliance to motor vehicles, a stop on the property. At the square available, Todd also available transit on demand. Travel in both directions??**

- **LT Credit: Bicycle Facilities**
  To promote bicycling and transportation efficiency and reduce vehicle distance traveled. To improve public health by encouraging utilitarian and recreational physical activity.
  Design or locate the project such that a functional entry or bicycle storage is within a 200-yard (180-meter) walking distance or bicycling distance from a bicycle network that connects to at least one of the following: at least 10 diverse uses; a school or employment center, if the project total floor area is 50% or more residential; or a bus rapid transit stop, passenger rail station, or ferry terminal. All destinations must be within a 3-mile (4800-meter) bicycling distance of the project boundary. Planned bicycle trails or lanes may be counted if they are fully funded by the date of the certificate of occupancy and are scheduled for completion within three years of that date.
  Owner is interested in bike facilities, lockers/showers, secure bike storage etc. connections to networks, Greenway plan, multi-use trails?? Bike share potential? Bike storage 1/5 parking spaces

- **LT Credit: Reduced Parking Footprint**
  To minimize the environmental harms associated with parking facilities, including automobile dependence, land consumption, and rainwater runoff. Option 1. No Parking or Reduce Parking Do not exceed the minimum local code requirements for parking capacity. Provide parking capacity that is a 30% reduction below the base ratios for parking spaces, by building type. Alternatively, projects may demonstrate baseline and reduced parking capacity using calculations for the most appropriate land use found in the Institute of Transportation Engineers (ITE) Parking Generation Manual, 5th Edition or a comparable and current resource applied by a qualified transportation engineer or planner. Projects with no off-street parking meet the requirements. Option 2. Carshare Provide dedicated parking for carshare vehicles. Provide carshare vehicle parking space(s) for at least 1% of total parking spaces, rounded up. If the project has fewer than 100 parking spaces, provide one carshare vehicle parking space. For existing carshare vehicle spaces already located within the project boundary, establish an agreement between the project and carshare company guaranteeing that the carshare vehicle space(s) will be dedicated for a

minimum of two years from the certificate of building occupancy. Existing carshare vehicles located in nearby on- or off-street parking areas do not contribute to credit achievement. Option 3. Unbundling Parking Sell parking separately from all property sales or leases. For owner-occupied projects, do not provide free or subsidized parking for employees. Implement a daily parking fee at a cost equal to or greater than the daily roundtrip cost of municipal public transit. For All Projects The credit calculations must include all existing and new off-street parking spaces that are leased or owned by the project, including parking that is outside the project boundary but is used by the project. On-street parking in public rights-of-way is excluded from these calculations. **The LEED boundary, parking garage, establish parameters on the front end, utilization of the parking garage and the potential to eliminate or reduce onsite surface parking will all contribute to achieving this goal.**

- **LT Credit: Green Vehicles**
  To reduce pollution by promoting alternatives to conventionally fueled automobiles. Provide charging infrastructure for electric vehicles for on-site parking. Option 1. Electric Vehicle Supply Equipment (1 point) Install electrical vehicle supply equipment (EVSE) in 5% of all parking spaces used by the project or at least two spaces, whichever is greater. Clearly identify and reserve these spaces for the sole use by plug-in electric vehicles. The EVSE must: Provide a Level 2 charging capacity (208 – 240 volts) or greater for each required space. Comply with the relevant regional or local standard for electrical connectors, such as SAE Surface Vehicle Recommended Practice J1772, SAE Electric Vehicle Conductive Charge Coupler or IEC 62196 of the International Electrotechnical Commission for projects outside the U.S. Meet the connected functionality criteria for ENERGY STAR certified EVSE and be capable of responding to time-of-use market signals (e.g. price). Projects pursuing EA credit Grid Harmonization should incorporate EVSE into any demand response program or load flexibility and management strategies. Option 2. Electric Vehicle Ready Infrastructure Make 10% of all parking spaces or at least 6 spaces EV Ready, whichever is greater. To be EV Ready, include a dedicated electrical circuit with sufficient capacity for each required space. Each circuit shall have conduit and wire sufficient to provide Level 2 charging or greater, and shall end at an electrical box or enclosure located near each required space. **Provide employees electric vehicles to conduct business. Annual vehicle replacements, proven track record for maintenance. Nissan leaf example might be applied to vehicle fleet. Can number of spaces be dedicated to future purchase. Designated champion w/ the city to coordinate the operational aspects of the new facility associated with LEED credits**

SUSTAINABLE SITES (SS)

- **SS Prerequisite: Construction Activity Pollution Prevention**
  Compliance with State law and City of Franklin storm water ordinance stormwater runoff and pollution protection plan reducing sediment normally meets the requirements

- **SS Credit: Site Assessment**
  Includes contour mapping, Hydrology, climate data vegetation soils human use and human health effects

- **SS Credit: Site Development—Protect or Restore Habitat**
  Not likely credit unless there was financial support for a habitat remediation. Stewardship of the Harpeth River, Bicentennial park, green infrastructure, stabilize erosion. Need to document

- **SS Credit: Open Space**
  Physical activity, garden space, community garden; add from credit. Minimum of 25% of the outdoor space must be vegetated, 30% of the total site, interior court yards and green roofs, accommodate physical activity. Public engagement area. This needs to drive the design from a value-added perspective, not credit driven

- **SS Credit: Rainwater Management**
  Rainwater capture/harvest. The police headquarters experience has included UV treatment and filter maintenance.

- **SS Credit: Heat Island Reduction**
  Reflective site materials that direct sunlight back into the atmosphere, both in light colored roofing materials and site paving or green roof. Green roof at the police headquarters has been a good experience thus far, seems to be extending the roof life. There is required plant material maintenance, to eliminate the wind/bird delivered evasive weeds. The specification needs to require that the material is wetted down to confirm that adequate depth is provided.

- **SS Credit: Light Pollution Reduction**
  Night sky access by reduced up-lighting, light pollution. Façade lighting needs to be delivered from above in lieu of from the base. Given the location would it actually contribute to reducing the issue, yes it would eliminate the current light pollution contribution. The acorn street light standards are controlled by Middle Tennessee Electric and needs to be considered in the total lighting plan. The boundary needs to consider this credit to ensure the credit can be achieved.

WATER EFFICIENCY (WE)

- **WE Prerequisite: Outdoor Water Use Reduction**
  The nonvegetated surfaces are excluded from landscape area calculations. Option 1. No irrigation required except for two-year establishment period. Option 2. Reduce landscape water requirement by at least 30% from the site's peak watering month..

- **WE Prerequisite: Indoor Water Use Reduction**
  The fixtures indicated, reduce water consumption by 20% from the baseline. Installed toilets, urinals, lavatory faucets, and showerheads must be WaterSense labeled

- **WE Prerequisite: Building-Level Water Metering**
  Permanent water meters that measure the total potable water use for the building and grounds. Meter data must be compiled and shared with USGBC for a five-year period.

- **WE Credit: Outdoor Water Use Reduction**
  The nonvegetated surfaces are excluded from landscape area calculations. Option 1. No irrigation required except the two-year establishment period. Option 2. Reduced irrigation requirements by at least 50% from the calculated baseline for the site's peak watering month. Additional reductions beyond 30% may be achieved using any combination of efficiency, alternative water sources, and smart scheduling technologies.

- **WE Credit: Indoor Water Use Reduction**
  Additional reduction of fixture water use from baseline in Prerequisite Indoor Water Use Reduction. Additional potable water savings can be earned above the prerequisite level using alternative water sources. Include fixtures necessary to meet the needs of the occupants.

- **WE Credit: Cooling Tower Water Use**
  To conserve water used for mechanical processes while controlling corrosion and scale in the condenser water system. Credit put in no category because a cooling tower is unlikely to be utilized in the HVAC system due to visual impact.

- **WE Credit: Water Metering**
  To support water management and identify opportunities for additional water savings by tracking water consumption. Installation of permanent water meters for two or more of the following water subsystems; irrigation, indoor plumbing fixtures, domestic hot water, and reclaimed water.

ENERGY AND ATMOSPHERE

- **EA Prerequisite: Fundamental Commissioning and Verification**
  To support the design, construction, and eventual operation of a project that meets the owner's project requirements for energy, water, indoor environmental quality, and durability. Commissioning Process Scope; Complete the following commissioning (Cx) process activities for mechanical, electrical, plumbing, and renewable energy systems and assemblies, in accordance with ASHRAE Guideline 0-2013 and ASHRAE Guideline 1.1–2007 for HVAC&R Systems, as they relate to energy, water, indoor environmental quality, and durability. The commissioning authority (CxA) must do the following: Develop the OPR. Develop a BOD, Review the OPR, BOD, and project design. Develop and implement a Cx plan. Confirm incorporation of Cx requirements into the construction documents. Develop construction checklists. Develop a system test procedure. Verify system test execution. Maintain an issues and benefits log throughout the Cx process. Prepare a final Cx process report. Document all findings and recommendations and report directly to the owner throughout the process.

- **EA Prerequisite: Minimum Energy Performance**
  Minimum requirements for LEED certification, rely on energy cost savings, at least 5% savings compared to the baseline.

- **EA Prerequisite: Building-Level Energy Metering**
  This prerequisite requires the sharing of utility data with the USGBC at one-month intervals to grow the data base for further energy consumption research, sharing of information potentially impacts all energy consumers There is a possible educational component associated with energy consumption for dissemination to the public. The Energy Star Portfolio is a potential method of sharing the information. The city of Franklin currently has an Energy Star account.

- **EA Prerequisite: Fundamental Refrigerant Management**
  Probation of CFC refrigerants and the documentation of the same

- **EA Credit: Enhanced Commissioning**
  Above and beyond the required commission, more responsibility for the Cx Agent; reviewing submittals and plans. Enhanced commission has tangible benefits beyond fundamental Cx. Decision can be delayed till credit determination is closer. The cost information was generated

- **EA Credit: Optimize Energy Performance**
  Same as the prerequisite Minimum Energy Performance fundamental process, models comparison, etc. 1 point requires 6% savings. However, 2018 IECC compliance will provide automatic savings, 2-3 points or a minimum of 8-10% energy cost savings. In the maybe category, it's safe to say 7-9 points, or 18-22% savings, in the stretch category 11-13 points or 26-32% savings much more likely if a HVAC system such as a ground source heat pump system is deployed. Linked or related credits include; renewable energy production credits (example photovoltaics) that allows you to double dip on the credits. Green power, is a linked impact, water efficiency or service hot water savings, ventilation rates related to the min air quality vs the enhanced air quality, high levels of ventilation obviously negatively impacts the energy model. The adopted code 2018 IECC, does not include any exceptions in the commercial code. The parking garage needs to be considered for inclusion in the LEED boundary if possible because it is favorable relative to energy performance.

- **EA Credit: Advanced Energy Metering**
  Additional requirement beyond whole building metering that end uses are over 10% of the total are sub metered such as HVAC and lighting, have to be permanently installed. Electricity has to be metered for demand and consumption. The data has to be tracked and stored for 36 months for analysis for diagnostics to trouble shoot any potential issues or unexplained changes in energy consumption. The data could also provide data to report out for an educational piece. Would require separated electrical circuitry that increases the electrical infrastructure cost. The city indicated that they are concerned the cost would exceed the value added. Credit was put in the no category. Might be considered if cost proves to be less of a factor and the credit points are needed.

- **EA Credit: Demand Response**
  Analysis of the grid level to allow set back in demands in the building to reduce pressure on the electrical generation. Normally provided by the utility and requires a commitment to reduce consumption in peak periods. Shed 10% of peak demand when required. Has been utilized at the waste water plant, voluntary in shedding when the operation requires. The load may not fit the profile in not a large energy consumer compared to the waste water treatment plant. This been can be a last-minute consideration if the point is needed.

- **EA Credit: Renewable Energy Production**
  Could be considered with a outside partner if desired to have onsite energy production. Photovoltaics have been successfully utilized at the waste water plant. The installation would have to be concealed for the street view. A green roof would have utilized space that could have been used for PV. A potential use is panels are utilized as shading devices on the parking garage. Hydrogen fuel cell technology should be researched as possible if fossil fuel is not utilized in production. Historic Design Guidelines would require full screening of the panels, the shading on the parking garage would have to reviewed closely and contributes to the heat island credit. We will evaluate the potential after the building form is determined. Andrew indicated he would contact Energy Source Partners to explore further.

- **EA Credit: Enhanced Refrigerant Management**
  Elimination of CFC refrigerants, or calculation of refrigerant impact, Victoria will research further

- **EA Credit: Green Power and Carbon Offsets**
  TVA currently has a program in place that adds a charge to the monthly utility bill to purchase green power credits that are available. The funds are utilized to construct infrastructure for increased green power generation.

MATERIALS AND RESOURCES (MR)

- **MR Prerequisite: Storage and Collection of Recyclables**
  Provide dedicated areas accessible to waste haulers and building occupants for the collection and storage of recyclable materials for the entire building. Collection and storage areas may be separate locations. Recyclable materials must include mixed paper, corrugated cardboard, glass, plastics, and metals. Take appropriate measures for the safe collection, storage, and disposal of two of the following: batteries, mercury-containing lamps, and electronic waste

- **MR Prerequisite: Construction and Demolition Waste Management Planning**
  The existing building will be completely demolished, this prerequisite requires the development of and implementation of a cohesive plan to dispose and recycle the materials on site by the contractor. This is going to require a creative effort to determine potential recycle of the demo materials and reuse off site

- **MR Credit: Building Life-Cycle Impact Reduction**
  Demonstrate reduced environmental effects during initial project decision-making by reusing existing building resources or demonstrating a reduction in materials use through life-cycle assessment. Option 1. Maintain the existing building structure, envelope, and interior nonstructural elements. Option 2. Whole-Building Life-Cycle Assessment. For new construction conduct a cradle-to-grave life-cycle assessment of the project's structure and enclosure: Option 2 is the most likely candidate for this project

- **MR Credit: Building Product Disclosure and Optimization—Environmental Product Declarations**
  Encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. To reward project teams for selecting products from manufacturers who have verified improved environmental life-cycle impacts. Option 1. Environmental Product Declaration (EPD) Use at least 20 different

permanently installed products sourced from at least five different manufacturers that meet one of the disclosure criteria. Option 2. Embodied Carbon/LCA Optimization, use products that have an embodied carbon optimization report or action plan separate from the LCA or EPD.

- **MR Credit: Building Product Disclosure and Optimization – Sourcing of Raw Materials**
  Encourage the use of products and materials for which life cycle information is available and that have environmentally, economically, and socially preferable life cycle impacts. To reward project teams for selecting products verified to have been extracted or sourced in a responsible manner. Use products sourced from at least three different manufacturers that meet at least one of the responsible sourcing and extraction criteria below for at least 20%, by cost, of the total value of permanently installed building products in the project (1 point). Use products sourced from at least five different manufacturers that meet at least one of the responsible sourcing and extraction criteria below for at least 40%, by cost, of the total value of permanently installed building products in the project (2 points).

- **MR Credit: Building Product Disclosure and Optimization – Material Ingredients**
  Encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. To reward project teams for selecting products for which the chemical ingredients in the product are inventoried using an accepted methodology and for selecting products verified to minimize the use and generation of harmful substances. Reward raw material manufacturers who produce products verified to have improved life-cycle impacts. Option 1. Material Ingredient Reporting. Use at least 20 different permanently installed products from at least five different manufacturers that use any of the following programs to demonstrate the chemical inventory of the product to at least 0.1% (1000 ppm). Option 2: Material Ingredient Optimization. Use permanently installed products from at least three different manufacturers that document their material ingredient optimization using the paths below. Choose either 10 compliant products, or select products that constitute at least 10%, by cost, of the total value of permanently installed products in the project. For credit achievement calculation, products sourced (extracted, manufactured, purchased) within 100 miles (160 km) of the project site are valued at twice their base contributing cost (or number of products), up to a maximum of 200% of cost, or 2 products.

- **MR Credit: Construction and Demolition Waste Management**
  The existing building will be completely demolished, so reduction of construction and demolition waste disposed of in landfills and incineration facilities through waste prevention and by reusing, recovering and recycling materials. Develop and implement a construction and demolition waste management plan and achieve points through waste prevention and/or diversion. Waste Management Plan and Report: All projects must develop and implement a construction and demolition waste management plan: Provide a final waste management report detailing all waste generated, including disposal and diversion rates for the project. Exclude excavated soil and land-clearing debris from calculations. Option 1. Diversion; Follow the Waste Management Plan and divert at least 50% of the total construction and demolition materials from landfills and incineration facilities. Option 2. Waste Prevention; Prevent waste through reuse and source reduction design strategies. Salvage or recycle renovation and demolition debris and utilize waste minimizing design strategies for new construction elements. Track all materials generated by the project from start of construction through project completion to determine the project's total waste generation. Include all waste and diverted materials in the calculation of total project waste.

INDOOR ENVIRONMENTAL QUALITY (EQ)

- **EQ Prerequisite: Minimum Indoor Air Quality Performance**
  To contribute to the comfort and well-being of building occupants by establishing minimum standards for indoor air quality (IAQ). For mechanically ventilated spaces, meet the requirements of ASHRAE Standard 62.1–2016, Sections 4, 5, 6.2, 6.5, and 7, or a local equivalent, whichever is more stringent. Provide outdoor air monitors for all mechanical ventilation systems with outdoor air intake flow greater than 1000 cfm (472 L/s). The monitoring device must be capable of measuring the minimum outdoor air intake flow and be capable of measuring the design minimum

outdoor air intake flow with an accuracy of +/–10%. An alarm must indicate when the outdoor airflow value varies by 15% or more from the setpoint. Alternatively, for constant-volume systems that do not employ demand control ventilation, provide an indicator capable of confirming the intake damper is open to the position needed to maintain the design minimum outdoor airflow as determined during the system startup and balancing. For naturally ventilated spaces , meet one of the specified ventilation requirements.

- **EQ Prerequisite: Environmental Tobacco Smoke Control**
  To prevent or minimize exposure of building occupants, indoor surfaces, and ventilation air distribution systems to environmental tobacco smoke. For this prerequisite smoking includes tobacco smoke, as well as smoke produced from the combustion of cannabis and controlled substances and the emissions produced by electronic smoking devices. Prohibit smoking inside the building. Prohibit smoking outside the building except in designated smoking areas located at least 25 feet (7.5 meters) (or the maximum extent allowable by local codes) from all entries, outdoor air intakes, and operable windows. Communicate the no-smoking policy to occupants. Have in place provisions for enforcement or no-smoking signage.

- **EQ Credit: Enhanced Indoor Air Quality Strategies**
  To promote occupants' comfort, well-being, and productivity by improving indoor air quality. Comply with 3 strategies for 1 point or 6 strategies for 2 points. Install permanent entryway systems at least 10 feet (3 meters) long in the primary direction of travel to capture dirt and particulates entering the building at regularly used exterior entrances. Acceptable entryway systems include permanently installed grates, grilles, slotted systems that allow for cleaning underneath, rollout mats, and any other materials manufactured as entryway systems with equivalent or better performance. Maintain all on a weekly basis. *Strategy 2. Interior Cross-Contamination Prevention*. Sufficiently exhaust each space where hazardous gases or chemicals may be present or used (e.g., garages, housekeeping and laundry areas, copying and printing rooms), using the exhaust rates determined in EQ Prerequisite Minimum Indoor Air Quality Performance or a minimum of 0.50 cfm per square foot (2.54 l/s per square meter), to create negative pressure with respect to adjacent spaces when the doors to the room are closed. For each of these spaces, provide self-closing doors and deck-to-deck partitions or a hard-lid ceiling. *Strategy 3. Filtration of Outdoor Air*. Each ventilation system that supplies outdoor air to occupied spaces must have particle filters or air-cleaning devices that meet one of the following filtration media requirements: Replace all air filtration media after completion of construction and before occupancy. Strategy 4. Filtration of Recirculated Air. Each ventilation system that supplies recirculated air to occupied spaces must have particle filters or air-cleaning devices that meet one of the filtration media requirements. Replace all air filtration media after completion of construction and before occupancy. Strategy 5. Increased Ventilation 15%. Increase breathing zone outdoor air ventilation rates to 95% of all occupied spaces by at least 15% above the minimum rates as determined in EQ Prerequisite Minimum Indoor Air Quality Performance. Strategy 6. Increased Ventilation 30%. Increase breathing zone outdoor air ventilation rates to 95% of all occupied spaces by at least 30% above the minimum rates as determined in EQ Prerequisite Minimum Indoor Air Quality Performance. Strategy 7. Operable Windows. 75% of the regularly occupied spaces have operable windows that provide access to outdoor air. The windows must meet the opening size and location requirements of ASHRAE 62.1-2016 with addendum l, section 6.4.1.2. Strategy 8. Engineered Natural Ventilation. Achieve Option 2. ASHRAE Engineered natural ventilation system compliance path under EQ prerequisite. Minimum Indoor Air Quality Performance. Strategy 9. Carbon Dioxide Monitoring. Monitor CO2 concentrations within all densely occupied spaces. CO2 monitors must be between 3 and 6 feet (900 and 1 800 millimeters) above the floor. CO2 monitors must have an audible or visual indicator or alert the building automation system if the sensed CO2 concentration exceeds the setpoint by more than 10%. Calculate appropriate CO2 setpoints using methods in ASHRAE 62.1–2016, Appendix D. Strategy 10. Additional Source Control and Monitoring. For spaces where air contaminants are likely, evaluate potential sources of additional air contaminants besides CO2. Develop and implement a materials-handling plan to reduce the likelihood of contaminant release. Install monitoring systems with sensors designed to detect the specific contaminants. An alarm must indicate any unusual or unsafe conditions.

- **EQ Credit: Low-Emitting Materials**
  Reduce concentrations of chemical contaminants that can damage air quality, human health, productivity, and the environment. Use materials on the building interior (everything within the waterproofing membrane) that meet the low-emitting criteria below. Paints and Coatings; At least 75% of all paints and coatings, by volume or surface area, meet the *VOC emissions evaluation* AND 100% meet the *VOC content evaluation*. To meet the 100% requirement for VOC content evaluation, a VOC budget may be used. The paints and coatings product category includes all interior paints and coatings wet-applied on site. Adhesives and Sealants; At least 75% of all adhesives and sealants, by volume or surface area, meet the *VOC emissions evaluation* AND 100% meet the *VOC content evaluation*. To meet the 100% requirement for VOC content evaluation, a VOC budget may be used. The adhesives and sealants product category include all interior adhesives and sealants wet-applied on site. Flooring; At least 90% of all flooring; by cost or surface area, meets the *VOC emissions evaluation* OR *inherently nonemitting sources criteria*, OR *salvaged and reused materials criteria*. The flooring product category includes all types of hard and soft surface flooring (carpet, ceramic, vinyl, rubber, engineered, solid wood, laminates), raised flooring, wall base, underlayments, and other floor coverings. Wall panels; At least 75% of all wall panels, by cost or surface area, meet the *VOC emissions evaluation*, OR *inherently nonemitting sources criteria*, OR *salvaged and reused materials criteria*. Ceilings; At least 90% of all ceilings, by cost or surface area, meet the *VOC emissions evaluation*, OR *inherently nonemitting sources criteria*, OR *salvaged and reused materials criteria*. The ceilings product category includes all ceiling panels, ceiling tile, surface ceiling structures such as gypsum or plaster, suspended systems (including canopies and clouds), and glazed skylights. Insulation; At least 75% of all insulation, by cost or surface area, meets the *VOC emissions evaluation*. The insulation product category includes all thermal and acoustic boards, batts, rolls, blankets, sound attention fire blankets, foamed-in place, loose-fill, blown, and sprayed insulation. Furniture; At least 75% of all furniture in the project scope of work, by cost, meets the *furniture emissions evaluation*, OR *inherently nonemitting sources criteria*, OR *salvaged and reused materials criteria*. The furniture product category includes all seating, desks and tables, filing/storage, free-standing cabinetry, workspaces, and furnishing items purchased for the project. Composite Wood; At least 75% of all composite wood, by cost or surface area, meets the *Formaldehyde emissions evaluation* OR *salvaged and reused materials criteria*. The composite wood product category includes all particleboard, medium density fiberboard (both medium density and thin), hardwood plywood with veneer, composite or combination core, and wood structural panels or structural wood products.

- **EQ Credit: Construction Indoor Air Quality Management Plan**
  To promote the well-being of construction workers and building occupants by minimizing indoor air quality problems associated with construction and renovation. Develop and implement an indoor air quality (IAQ) management plan for the construction and preoccupancy phases of the building. The plan must address all of the following. During construction, meet or exceed all applicable recommended control measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 2nd edition, 2007, ANSI/SMACNA 008–2008, Chapter 3. Protect absorptive materials stored on-site and installed from moisture damage. Do not operate permanently installed air-handling equipment during construction unless filtration media with a minimum efficiency reporting value (MERV) of 8, as determined by ASHRAE 52.2–2017, with errata (or media with ISO_{coarse} 90% or higher, as defined by ISO 16890-2016, Particulate Air Filters for General Ventilation, Determination of the Filtration Performance), are installed at each return air grille and return or transfer duct inlet opening such that there is no bypass around the filtration media. Immediately before occupancy, replace all filtration media with the final design filtration media, installed in accordance with the manufacturer's recommendations. Prohibit the use of smoking inside the building and within 25 feet (7.5 meters) of the building openings during construction. Smoking includes tobacco smoke, as well as smoke produced from the combustion of cannabis and controlled substances and the emissions produced by electronic smoking devices.

- **EQ Credit: Indoor Air Quality Assessment**
  To establish better quality indoor air in the building after construction and during occupancy. Select one of the following two options, to be implemented after construction ends and the

building has been completely cleaned. All interior finishes, such as millwork, doors, paint, carpet, acoustic tiles, and movable furnishings (e.g., workstations, partitions), must be installed, and major VOC punch list items must be finished. The options cannot be combined. Option 1. Flush-Out (1 point) Path 1. Before Occupancy. Install new filtration media and perform a building flush-out by supplying a total air volume of 14,000 cubic feet of outdoor air per square foot (4 267 140 liters of outdoor air per square meter) of gross floor area while maintaining an internal temperature of at least 60°F (15°C) and no higher than 80°F (27°C) and relative humidity no higher than 60%. Path 2. During Occupancy If occupancy is desired before the flush-out is completed, the space may be occupied only after delivery of a minimum of 3,500 cubic feet of outdoor air per square foot of gross floor area while maintaining an internal temperature of at least 60°F (15°C) and no higher than 80°F (27°C) and relative humidity no higher than 60%. Once the space is occupied, it must be ventilated at a minimum rate of 0.30 cubic foot per minute (cfm) per square foot of outdoor air (1.5 liters per second per square meter of outside air) or the design minimum outdoor air rate determined in EQ Prerequisite Minimum Indoor Air Quality Performance, whichever is greater. During each day of the flush-out period, ventilation must begin at least three hours before occupancy and continue during occupancy. These conditions must be maintained until a total of 14,000 cubic feet per square foot of outdoor air has been delivered to the space. Option 2. Air Testing (1-2 points) After construction ends and before occupancy, but under ventilation conditions typical for occupancy, conduct baseline IAQ testing in occupied spaces for the contaminants listed in Path 1. Particulate matter and inorganic gases (for 1 point) and/or Path 2. Volatile organic compounds (for 1 point). Path 1. Particulate Matter and Inorganic Gases (1 point) Test for the particulate matter (PM) and inorganic gases listed in Table 1, using an allowed test method, and demonstrate the contaminants do not exceed the concentration limits listed in the table. Option 1 is the most likely approach based on historical experience.

- **EQ Credit: Thermal Comfort**
  To promote occupants' productivity, comfort, and well-being by providing quality thermal comfort. Meet the requirements for both thermal comfort design and thermal comfort control. Thermal Comfort Design; Design heating, ventilating, and air-conditioning (HVAC) systems and the building envelope to meet the requirements of ASHRAE Standard 55–2017, Thermal Comfort Conditions for Human Occupancy with errata or a local equivalent. Thermal Comfort Control; Provide individual thermal comfort controls for at least 50% of individual occupant spaces. Provide group thermal comfort controls for all shared multioccupant spaces. Thermal comfort controls allow occupants, whether in individual spaces or shared multioccupant spaces, to adjust at least one of the following in their local environment: air temperature, radiant temperature, air speed, and humidity.

- **EQ Credit: Interior Lighting**
  To promote occupants' productivity, comfort, and well-being by providing high-quality lighting. Meet 1 strategy for 1 point. Meet 3 strategies total for 2 points. 1. Glare Control. For all regularly occupied spaces, meet one of the following requirements: Use light fixtures with a luminance of less than 7,000 candela per square meter (cd/m)2 between 45 and 90 degrees from nadir. Achieve a Unified Glare Rating (UGR) rating of <19 using software modelling calculations of the designed lighting. Exceptions include wall wash fixtures properly aimed at walls, as specified by manufacturer's data, indirect up lighting fixtures, provided there is no view down into these up lights from a regularly occupied space above, and any other specific applications (i.e. adjustable fixtures). 2. Color Rendering; For all regularly occupied spaces meet one of the following requirements: Use light sources that have a Color Rendering Index (CRI) of at least 90. Use light sources that have a Color Fidelity Index greater than or equal to 78 and a gamut index between 97 and 110, determined in accordance with Illuminating Engineering Society (IES) TM-30. 3. Lighting Control; Provide dimmable or multilevel lighting for 90% of occupant spaces. 4. Surface Reflectivity; For at least 90% regularly occupied spaces, use interior finishes with a surface reflectance greater or equal to 80% for ceilings and 55% for walls. If included in the project scope, use furniture finishes with a surface reflectance greater or equal to 45% for work surfaces and 50% for movable partitions.

- **EQ Credit: Daylight**

To connect building occupants with the outdoors, reinforce circadian rhythms, and reduce the use of electrical lighting by introducing daylight into the space. Provide manual or automatic (with manual override) glare-control devices for all regularly occupied spaces. AND Select one of the following three options. Option 1. Simulation: Spatial Daylight Autonomy and Annual Sunlight Exposure. Perform annual computer simulations for spatial daylight autonomy$_{300/50\%}$ (sDA$_{300/50\%}$), and annual sunlight exposure$_{1000,250}$ (ASE$_{1000,250}$) as defined in IES LM-83-12 for each regularly occupied space. Option 2. Simulation: Illuminance Calculations Perform computer simulations for illuminance at 9 a.m. and 3 p.m. on a clear-sky day at the equinox for each regularly occupied space. Exclude blinds or shades from the model. Include any permanent interior obstructions. Moveable furniture and partitions may be excluded. Option 3. Measurement Measure illuminance in each regularly occupied space.

- **EQ Credit: Quality Views**
  To give building occupants a connection to the natural outdoor environment by providing quality views. Provide occupants in the building with a view to the outdoor natural or urban environment for 75% of all regularly occupied floor area. Auditoriums, conference rooms dedicated to video conferencing, and gymnasiums may be excluded. Views into interior atria may be used to meet up to 30% of the required area. Views must be through glass with a visible light transmittance (VLT) above 40%. If the glazing has frits, patterns, or tints the view must be preserved. Neutral gray, bronze, and blue-green tints are acceptable. Views must include at least one of the following: nature, urban landmarks, or art; or objects at least 25 feet (7.5 meters) from the exterior of the glazing. Occupants must have direct access to the view and be within three times the head height of the glazing with no permanent interior obstructions between the occupant and the window or moveable furniture and partitions blocking the view.

- **EQ Credit: Acoustic Performance**
  To provide workspaces and classrooms that promote occupants' well-being, productivity, and communications through effective acoustic design. For all occupied spaces, meet two of the following: HVAC background noise, Sound Transmission, and/or Reverberation time. Meet all three for an exemplary performance point. Confirm compliance via calculations or measurements in representative rooms, and/or design documentation from a person experienced in the field of acoustics. HVAC Background Noise Achieve maximum background noise levels from heating, ventilating, and air conditioning (HVAC) systems. The overall level for sound masking must be set by an acoustical professional and must not exceed 48 dBA in open offices, libraries, cafeterias, corridors/hallways, 45 dBA in enclosed offices, and 42 dBA in conference rooms, and wellness rooms. The combined level of masking and HVAC background noise must not exceed these limits. The system design and commissioning must provide overall level uniformity of +/-1 dBA and one-third octave band uniformity of +/-2 dB from at least 100 to 5,000 Hz when tested according to ASTM E1573-18. The sound masking spectrum must conform to the National Research Council of Canada COPE Optimum Masking Spectrum or an alternate spectrum if specified by an acoustical engineer.

INNOVATION (IN)

- **IN Credit: Innovation**
  To encourage projects to achieve exceptional or innovative performance. To achieve all five innovation points, a project team must achieve at least one pilot credit, at least one innovation credit and no more than two exemplary performance credits. Option 1. Innovation (1 point) Achieve significant, measurable environmental performance using a strategy not addressed in the LEED green building rating system. Identify the following: the intent of the proposed innovation credit; proposed requirements for compliance; proposed submittals to demonstrate compliance; and the design approach or strategies used to meet the requirements. Option 2. Pilot (1 point) Achieve one pilot credit from USGBC's LEED Pilot Credit Library. Option 3. Additional Strategies Innovation (1-3 points) Defined in Option 1 above. Pilot (1-3 points) Meet the requirements of Option 2. Exemplary Performance (1–2 points) Achieve exemplary performance in an existing LEED v4 prerequisite or credit that allows exemplary performance, as specified in the LEED

Reference Guide, v4 edition. An exemplary performance point is typically earned for achieving double the credit requirements or the next incremental percentage threshold.

LEED Accredited Professional (IN)

- **IN Credit: Innovation**
  To encourage the team integration required by a LEED project and to streamline the application and certification process. At least one principal participant of the project team must be a LEED Accredited Professional (AP) with a specialty appropriate for the project. There several LEED AP's on the project team.

REGIONAL PRIORITY (RP)

- To provide an incentive for the achievement of credits that address geographically specific environmental, social equity, and public health priorities. Earn up to four of the six Regional Priority credits. These credits have been identified by the USGBC regional councils and chapters as having additional regional importance for the project's region. A database of Regional Priority credits and their geographic applicability is available on the USGBC website, www.usgbc.org/rpc. One point is awarded for each Regional Priority credit achieved, up to a maximum of four.

Summary

The draft LEED score card indicates 35 points in the yes column and 34 points in the maybe column. The efforts have to focus on the advancement of a minimum of 20 points from the maybe category into the yes column to provide a buffer to achieve LEED Silver. Award of credit approvals are up to the LEED reviewers and the contractor's performance and commitment to achieve the credits. Further discussion and research associated with the credits has to be a priority for the design team and the owner to successful achieve Silver certification