HWDSB

SECONDARY SCHOOL
Design Guideline

curiosity · creativity · possibility

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1.1 Executive Summary/Owner's Statement of Requirements

The development of new performance based Design Guideline for transforming Hamilton Wentworth District School Board's secondary schools is both a timely and critical challenge. The context of this work, a response to the Board's documents *Secondary Education of the Future and the HWDSB Secondary Program Strategy*, reinforces its relevancy and urgency for HWDSB. Changing demographics and declining enrolments have resulted in plans for school consolidation and a strategic reconsideration of schools across the entire Board. The HWDSB maintains a moderate secondary school inventory, with the majority of its aging schools requiring upgrades and costly repairs to meet curricular demands and day-to-day operations. Added to these significant financial and scheduling challenges are other critical and emerging issues of new curriculum and program delivery strategies, which need to be physically accommodated and resolved in each HWDSB school. These include: student engagement, wellness, universal design (accessibility); special education delivery for personalized learning; sustainability; and the integration of, and possibilities for, technological change to teaching and learning strategies.

In the HWDSB document from June 2013, *"HWDSB Secondary Program Strategy"*, the Board's program strategy/ vision states that "all schools are great schools" and students should have choice in diverse program offerings within their home schools. In addition, there should be expanded access for students looking for specialized programs. The goal is for all students to graduate in the HWDSB. The Board's secondary schools require change just to keep pace, let alone be exemplars of supportive environments for enhanced student achievement. The objective is to create exemplary learning environments that meet current and future student needs.

The purpose of the Architectural Design Guideline is two-fold: to create a framework and set of guiding principles to enable all of HWDSB's facilities, both new and existing, to better support new trends in educational delivery and enhance opportunities for student success; and to provide a guideline for the Board's new and improved school facilities to ensure that program strategies can meet the needs of all students in the 21st Century including providing students with safe, inclusive, innovative and engaging school environments.

1.0 INTRODUCTION

The new secondary school design guideline aligns with key educational principles and values envisioned by the Board. The design guidelines respond to the current and future needs, unanticipated changes in pedagogy, curriculum, technology and learning expectations. The guideline accommodates a robust enough framework to adapt to specific programming requirements, the community needs and diverse existing site issues. School construction will align with Provincial funding parameters. A new approach to a school layout will introduce new ways of moving through and interacting with a school facility. The design guideline includes input from the school community including educators and students as well as caretaking and maintenance personnel. The concepts illustrated in the guidelines will demonstrate that new forms of learning will require new spatial conditions alongside the traditional teacher fronted rooms, all spaces in a school will be learning spaces and schools and their communities will share resources extensively.

Flexibility in curriculum delivery, based on personalized learning, supported by appropriate technologies and quality learning environments are the basis for the design of the new schools and the alterations to existing schools for HWDSB. The guidelines describe learner centred settings which range from specialized to multi-purpose, from formal to informal and from physical to virtual. Learning spaces must be designed around the patterns of human interaction that respond to the many ways students learn. All learning new spaces will have access to natural light. Renovated spaces will have access to natural light where possible. Wireless network access will be available on demand.

1.2 Purpose of the Document

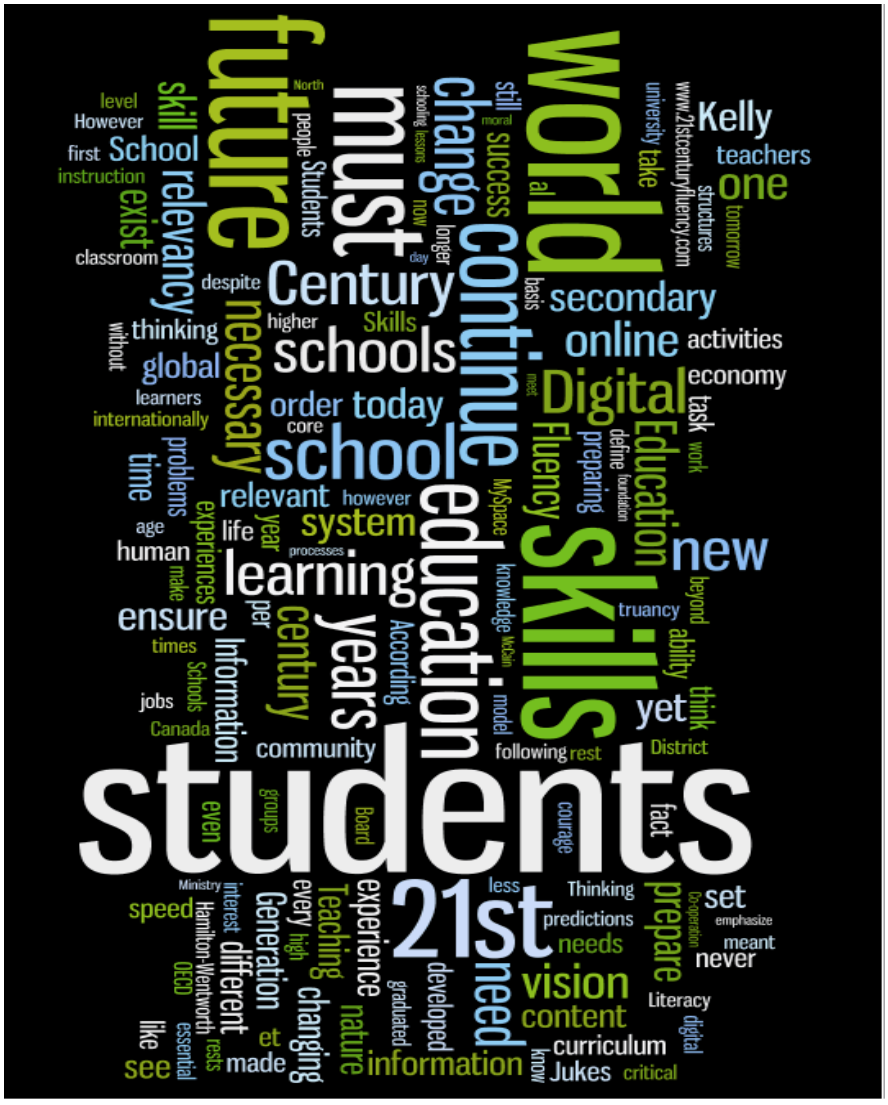
This guideline is written as a performance statement of requirements which focuses on the required performance in use in order to achieve the desired results. This allows for design flexibility which is essential for these facilities since it is meant to apply to both new and existing schools.

Although not written as a prescriptive statement of requirements which is directed more by mandatory codes, standards and regulations, these guidelines take into account the Ministry funding formula and will conform to the Ontario Building Code requirements.

The purpose of this guideline is to provide a framework and specific guidelines for the design of the new secondary schools in the HWDSB and to assist in the planning and development of the additions and alterations for the existing secondary schools. The goal is to provide consistent, clear information for the school Board and the design professionals as a new generation of schools are being created for HWDSB. The guidelines provided establish a uniform level of quality and sustainability for all secondary school buildings. The guideline applies to new school facilities and additions/renovations to existing buildings. The challenge will be to balance between broadly applicable standards and a program delivery for a particular demographic. Further stakeholder, community and student consultation is required in the design and renovation of each school to ensure that the design address specific community needs. The school facility must be responsive to a school district's educational program and demand. The intent of the Design Guideline is to allow the Board to develop building programs and spaces that respond to each school community's unique needs and therefore, the design guidelines will adapt based on the specific and unique characteristics and requirements of each school community and the existing building potential.

1.3 Design Guideline Organization

The guideline is organized to include a description of all the programs offered by the HWDSB for secondary schools. The Board will determine which schools will get what programs based on demographics and program demand for that particular area. This should be read in conjunction with the *HWDSB Secondary Program Strategy* document which describes the Board's tiered program strategy. The tiers support the learning objectives of all students regardless of their program requirements. The Tier 1 programs will be included in all the secondary schools and will include a wide range of courses and learning opportunities. The Tier 2 programs will be offered in some schools where there is enough student interest within the school and do not require specialized accommodations to support the program delivery. The Tier 3 programs will be offered at limited school sites and will require specialized accommodations and building enhancements to support the program delivery. Some of these programs lead to a Specialist High Skills Major (SHSM) for students that are heading to an apprentice or training program at other educational institutions. The Board will determine which schools get which programs and if there will be additional funding for specific programs.



The program space summaries provided in the guideline include all the programs offered in the Board and summarize the space requirements for each program space. They will assist the design professional in the placement of programs in relation to each other and in the detailed design of the various spaces. The work sheets include the following information:

- Area: Square foot area given for the room is the suggested area based on the Ministry Space Template. The area is given in net square feet/square meters and is defined as the area within the walls of the room.
- Program Activities: Includes a description of the types of activities that would occur in this space for the specific program.
- Spatial Relationships: Outlines the desired adjacencies that the program would have to other programs or spaces.
- Environmental Considerations: Describes what specific environmental considerations the space will need to accommodate the specific program activities, i.e. lighting, HVAC, etc.
- Finishes: Outlines what finishes should be considered for the floor, walls, base and ceilings. The finishes stated for the spaces have been developed based on the function of the room.
- Furniture: Provides general information regarding the furnishings that may be accommodated in each space. This information is provided only for the purpose of assisting the consultant in the layout of each program area. Furniture selection and procurement are not part of this Guideline.
- Fixed Equipment: Describes the casework and equipment to be provided in each space to support the specific program requirements.
- Plumbing, Electrical, HVAC and Technology Systems Infrastructure: Items listed in these sections are elements that are specific to the program space that other regular classrooms may not have. For example, the Construction Technology classroom will have special electrical requirements for specialized machinery as well as special exhaust required for dust, etc.
- Diagrams: Diagrams of the space have been developed to show how some of the features and loose furnishings may be organized. The space is not required to be designed in the configuration shown but shown as an example to assist the design professional with how the space might be organized.
- Casework and visual display boards should reflect the needs of the specific school and its program. The intent of this list is not to mandate casework or visual display boards that may not be needed by a particular program, but rather to be used as a guideline for items that are generally used in this type of space.

1.4 The Planning Process

The HWDSB is responsible for defining the educational mission and vision for the Board's secondary schools and creating learning environments that will meet the current and future needs of the students, parents, staff, teachers, administration and community members. The Board has undertaken several meetings, workshops, questionnaires, public consultations and student forums to develop their educational vision for their schools of the future. Both their documents, HWDSB Secondary Program Strategy and Secondary Education of the Future outline in great detail their mission, vision and the future of education for the HWDSB students. These documents laid out the framework for this guideline. The intent of this document is to take these findings and translate them into a guideline that will assist the design professional in designing the appropriate facilities to meet their needs.

1.5 Participants and Consultation

Through the process of information gathering, the Board's educators and key stakeholders were engaged in a dialogue where they discussed their concerns, aspirations, and their vision for the school facilities through a series of visioning sessions and workshops. Visioning sessions/workshops were held with program/department leaders from various schools where they were permitted the freedom to express their ideas and concerns.

Teachers Workshop

The teachers workshop involved over 60 teachers gathered together to discuss a series of questions regarding the current physical condition of their educational spaces and how these spaces support or hinder the way education is being delivered in their schools. Teachers were asked to join groups separate from their discipline to allow for cross-departmental discussions. The teachers discussed the positive and negative aspects of these spaces and provided feedback on their consensus. The following themes were present in the feedback from the teacher's workshop:

- collaborative large group spaces and individual small group study spaces are required
- both break-out areas and quiet rooms are required
- common spaces must be multi-purpose and multi-functional
- school entrances must be welcoming to all
- indoor and outdoor physical and visual connectivity is essential
- strong school and community connectivity should be shared spaces

Curriculum Leaders

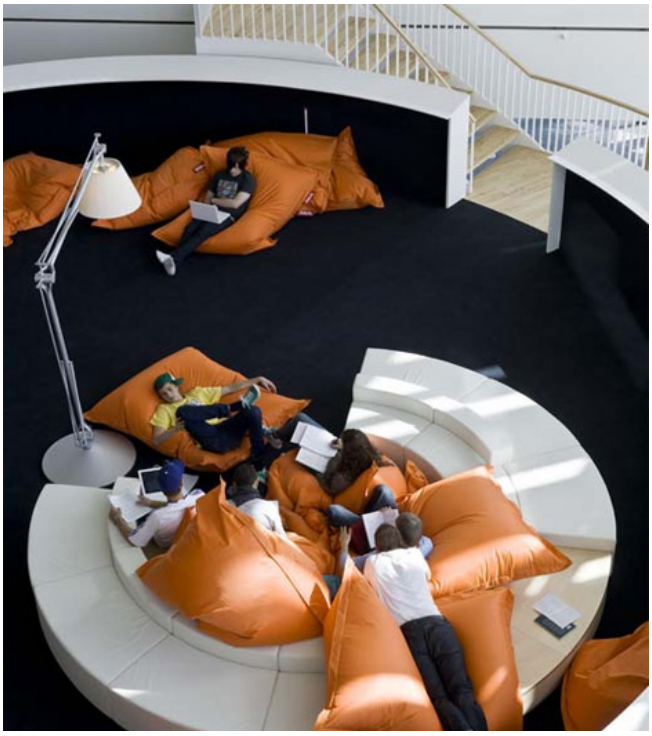
Specific program requirements were discussed with the various curriculum leaders who provided detailed information about what was required in specific program areas. The educators described the program activities and learning objectives for each program, identifying possible curriculum relationships and required special relationships to other programs, identifying specific materials, resources, equipment or tools required for the program spaces. The objective was to create a performance based documentation of requirements identifying how the school building can support students and teachers. Each participant answered individually and then gathered in their respective program groups to try to find consensus on the issues. The intent of the questionnaire was not as a statistical tool but as a method of starting a conversation.

Student Voice Forum

The Director's Student Voice Forum held at Sir John A McDonald High School provided students an opportunity to look at various new spaces for learning around the world and to express their ideas for a new school environment through words and pictures. The caption that they were to address was: "If I could build a perfect school, what would it look like?" Many students later posted their comments on the HWDSB blog.

Some of the themes that emerged from the blogs and discussions at the forum include:

- creating creative learning environment that would make many different kinds of people more comfortable so that they can learn better
- the building itself would be taken care of and not in poor condition
- very modern rooms with comfortable chairs
- more windows and bright colours to help uplift moods instead of having schools look plain, boring & depressing
- personalized spaces, small group spaces- indoors and out, quiet spaces for study



Principals Meeting

The Principals from the Board's existing Secondary Schools provided useful feedback on how they see the future delivery of education within the HWDSB. Some of the recurring themes included:

- flexibility and the ability to transform spaces into a number of smaller sized rooms to accommodate different sized instructional spaces. This would allow for the ability to team teach various subjects.
- the Principals supported the idea of organizing the science subjects into a suite where they would have shared labs with multiple classrooms attached to it.
- teacher work areas should be organized as shared lockable space for meeting with "hoteling desks" big enough for more than one department to encourage collaboration
- heritage aspect of the closing schools should be incorporated into to the existing and new schools – value history and legacy.
- more glassed in areas so that there are quiet spaces with visual access

Trustees Discussions

The trustee interviews took place over a series of individual conference calls. The trustees commented on their priorities for the secondary school facilities, both new and upgraded. The recurring themes include:

- students will have access to a variety of safe, quiet and comfortable spaces
- there will be a variety of comfortable and casual spaces which will be open and distributed throughout the school for student gathering, connections for laptops and places for food and drink
- students will have places to display student work, announcements, digital monitors in atrium, corridors, cafeteria for announcements and student TV
- the cafeteria and learning commons will be designed as multi-functional, informal and personal space
- the Learning Commons will be open morning, lunch and after school so that students have access to analogue and digital sources, technology and learning resources.
- the Learning Commons should be adjacent to co-op and student services
- corridors and lockers should be designed to create collaborative spaces, group and individual (like a hotel lobby) with lots of power, comfortable furnishings, wider, safer and colourful
- the cafeteria should be designed as a multi-purpose space to eat, work, socialize and attend clubs. It should provide a variety of accommodations for students such as eating bar, nooks, round tables that also revert back to large scale gathering, good wifi and lots of power, outdoor places to eat
- existing auditoriums are important spaces in the Board's existing inventory of schools.
- creating community partnerships is critical
- investing in sustainable initiatives that benefit student learning and demonstrate green to the students, staff and community is imperative
- the goal is to create a culture of learning by creating all spaces as places for learning and ensure that program opportunities in each school truly reflect the specific needs, routes for those students & communities

The following guiding principles are consistent with the commitment to provide quality teaching and learning environments that are driven by the needs of students and programs:

All schools will be great schools – new and existing

Create flexible, robust and adaptable – exemplary learning environments, accommodating diverse learning styles, in all program areas and for all pathways

Create flexible, robust and adaptable – collaborative settings – break-out spaces, eating spaces, social spaces for students and staff

Create flexible, robust and adaptable – spaces for community use, now and in the future

Provide personalized, informal, social and study spaces for students (indoors & outdoors) that promote student ownership, student voice and student engagement

Provide professional, collaborative, multi-disciplinary, social and work spaces for teachers and staff

Enable students and staff to achieve their maximum potential by providing healthy, safe, inclusive and comfortable environments

Promote facilities at all schools that support a healthy and active lifestyle

Imagine the Learning Commons as a fully integrated and central node for formal and informal study – with unlimited access to multiple resources, learning supports and student services

Provide abundant and robust infrastructure to fully integrate technology tools in all aspects of teaching and learning

Design safe and welcoming school grounds that provide a variety of outdoor amenity spaces to accommodate multiple activities, both active and passive

Design facilities that are easy to build, maintain and operate - minimizing negative environmental impacts and maximizing the use of non-polluting, renewable resources

Align facilities with Board's mission and vision, and the Board's secondary school initiatives – Secondary Education of the Future and HWDSB Secondary Program Strategy – which provide a framework and strategic direction for schools that prepare HWDSB's students for the 21st Century

Maximize facilities opportunities respecting the framework and guidelines of the Ministry of Education Funding and Space Templates and Area Benchmarks

The following Planning Concepts describe a fundamental philosophical approach to the design of all spaces within an exemplary learning environment.

3.1 Welcoming Entry

- The main entry to the school will be familiar and friendly to students, staff, parents and the wider community and should invite and encourage them into the school.
- The main entry should be exciting, inclusive, welcoming and open, light, safe, well maintained and demonstrate the values of the school community.
- A Separate Quiet and secure entrance should be designed to accommodate students with specific needs.
- Provide space for display of student work.

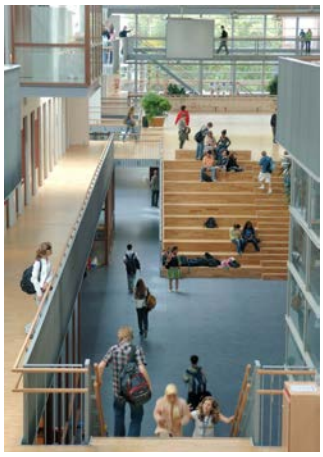
3.2 Comfort

- Students learning is improved in a comfortable, environment promoting engagement and connections with the other students and teaching staff as a community.
- Spatial configurations, noise, heat, cold, light and air quality directly bear on students' and teachers' ability to perform. The incorporation of environmentally sustainable strategies enhances the quality of the physical environment.
- Comfort is essential to the wellbeing and success of students and teachers.
- Individual seating must take into account different body sizes and the periods of time learners need to occupy seating. Seating should be comfortable and ergonomically amenable.
- Varying types of movable and reconfigurable seating and lounging will provide comfort for varying types of learners and pedagogues.
- All areas in the school will provide surfaces for writing and supporting computers, books, and other materials.
- Responsive heating and ventilation and variable lighting that can be controlled in individual spaces will accommodate different teaching modalities and user needs.
- Students require controlled natural and task-appropriate lighting and interesting room shapes and configurations. Spaces with multiple and accessible light levels help to create interest and engages learners.

3.3 Flexible/Adaptable/Robust

- Students and teachers require a variety of instructional space sizes in order to allow for flexible teaching and learning arrangements. The school environment needs to respond to the varying ways students learn. Both large collaborative group spaces and individual small group spaces need to be accommodated to allow students and teachers the flexibility to adapt to different learning and teaching styles.
- Adaptability and flexibility are critical to effective learning environments, therefore, buildings must be planned to adapt to inevitable changes at minimum expense and little disruption of the educational process. Approaches to learning vary over time and from one staff member to another. A robust design will be able to accommodate flexibility and change comfortably with minimal disruption to the educational process.
- There are a number of strategies that can be employed, such as: providing individual, small group and larger group learning spaces; grouping together teaching areas that can benefit from multiple uses; classroom designs which allow for a variety of layouts; and careful planning of community use facilities that can be easily accessed and secured from other school areas.
- Designing various size and types of spaces for comfortable social interaction will give students and staff options.

3.4 Learning and Amenity Spaces (Student Commons)



- Students and teachers need a variety of instructional space sizes in order to allow for flexible teaching and learning arrangements. The school environment needs to respond to the varying ways students learn; therefore, both formal and informal large collaborative group spaces and individual small group spaces need to be accommodated to allow students and teachers flexibility.
- Individual quiet spaces and group collaborative spaces to study and concentrate are important and need to be accommodated in many areas of the school.
- Collaborative large group spaces and project spaces are required but should be designed so that they can transform into smaller individual group spaces or break out spaces.
- The "group of rooms" concept eliminates the corridor used by the public traditionally located between the classrooms and opens up the space that can be used by for serendipitous meeting and learning.
- Extended Learning Areas or Commons provide students, staff, and teachers with areas adjacent to classrooms where a multitude of activities can take place. This space will not have walls and is intended to "Extend" the classroom for instructional or support purposes.

3.5 Daylight and Views

- Natural daylight contributes positively to the development and growth of student accomplishment.
- Lighting, day lighting and natural ventilation controls should be available to occupants to customize the comfort of spaces dependant on the current activity.
- Every new learning space will have access to natural daylight, either directly or indirectly. Renovated spaces will have access to natural light where possible.
- Views to the exterior are essential to assist with way finding, passive security and allows for visual stimulation.
- Views will be provided from learning spaces and circulation spaces.

3.6 Transparency

- Designs need to allow for passive supervision by employing transparent materials including glass while incorporating appropriate features for lockdown.
- Rooms that open to each other and allow a connection between learning spaces of different types will support team teaching and interdisciplinary program cross overs.
- Design strategies that address visibility and transparency include:
  - learning clusters which are home to smaller student groups;
  - creating collaborative staff work areas at strategic points with views of circulation routes;
  - interior glazing to teaching areas;
  - open areas providing visibility from one floor to another;
  - and avoiding alcoves that can be used for intimidating activity.

3.7 Wellness

- The buildings physical environment will contribute to the wellbeing of its occupants.
- The ability to control the temperature, lighting and furniture will improve the overall comfort level and encourage students to learn and concentrate and allow teachers to carry out their daily activities comfortably.

3.8 Display Space and Artwork

- Student display cases should be prominently located throughout the school to allow students the opportunity to exhibit their work.
- Additional display cases should be located close to or outside of the visual arts rooms, science suites, music rooms and physical activity spaces.
- Display space and artwork is not specifically addressed in the OBC but is discussed in the Ontario Fire Code (OFC) which references decorative materials installed in an exit serving an assembly occupancy with an occupant load of more than 100 persons. Although the intent was meant to address draperies and tapestries, some authorities may view this as applicable to artwork and student displays. The quantity and location of display spaces and artwork needs to be reviewed with the local Municipal Authorities. Refer to RBA report in the Appendix.

3.9 Technology

- Collecting, analyzing, displaying and disseminating knowledge, typically involves technology.
- Technology is an integral part of our lives and for students it is central to their way of thinking and learning. Technology must be dispersed throughout the school and be available anytime, anywhere.
- Seamless integration of technology with wireless capability available everywhere and for everyone.
- Abundant outlets must be provided for charging of portable devices.
- Surfaces that can be projected upon and written upon to be located throughout the facility.

3.10 Safety and Security (CPTED)

- Lockdown is the restriction of movement during the time of a potentially serious violent incident that would endanger the lives of students and staff.
- The safety, security and physical well-being of students is the Board's highest priority. Great care needs to be employed in the ensuring physical safety, employing design and planning strategies which incorporate the fundamental principles embodied in Crime Prevention Through Environmental Design [CPTED] — natural surveillance (visibility); natural access control; and territoriality.
- Refer to the HWDSB Lockdown, Hold and Secure, Shelter in Place Directive

3.11 Sustainability

- Recycling, natural ventilation, day-lighting, edible gardens, and other sustainable strategies should be integrated into the facility and become part of the curriculum strategy.
- Energy efficient features shall be incorporated into school facilities design.
- Promoting the design and construction of green schools will make a significant impact on student heath, teacher retention, school operating costs and the environment.
- Provide solutions that effectively minimize negative impacts on the environment.
- Design concepts need to address durability, impact on operating costs and ease of maintenance.
- Reduced site impacts and off-site impacts.
- Reduced energy and water consumption.
- Improve indoor environmental quality.
- Increase construction waste diversion and recycling, material re-use and recycled content, improved durability, longevity and maintainability.
- Reduce both long term and ongoing environmental load of a building.
- Demonstrate the sustainable features of the school as an interactive learning experience for the students and a model for the community.

3.12 Universal Accessibility

- Provide a very high standard for barrier-free accessibility, accomplished in a seamless manner, to ensure that universal access, for all students and staff of all abilities, is fully integrated throughout the facility.
- Municipal codes and laws are in place to ensure that full accessibility will be incorporated throughout all the facilities.
- The design and planning must be all encompassing, accommodating people of all ages and all levels of ability.

3.13 Indoor/Outdoor Physical and Visual Connectivity

- Provide interior and exterior views and vistas.
- Provide interior window partitions to encourage collaboration and provide supervision.

3.14 School/Community Connections

- Designing with a focus on community involves components of the building having a clear identity that distinguishes it as a memorable presence.
- The facility should also clearly address the convenient use of the building's facilities securely and independently as required by each user. All of these factors will promote a sense of ownership and community shared between the many diverse users.

3.15 Heritage

- Alterations, additions or replacement of existing school communities require sensitivity to the culture, history and heritage of the school as both a building and an institution
- Strategies may include concepts to preserve, reintegrate and reintroduce important historical elements of the old school into the new design
- Building systems upgrades, Ontario Building Code compliance and retrofits for universal accessibility must be accommodated

3.16 Operations/Maintenance

- The selection of building materials and equipment will be easily maintained and selected in conjunction with the buildings operations and maintenance staff.

3.17 All Spaces will be Learning Spaces

- All spaces within the school will promote and encourage socialization, learning and collaboration. Providing a variety of interior and exterior spaces for gathering will allow for multiple learning opportunities.
- Providing furniture and other loose furniture in open areas such as corridors and student commons will need to be reviewed with the municipal authorities to ensure that exit widths are maintained and fire codes are respected.

4.1 Site Design Criteria

A school is an important community institution and the site must reflect this. School sites accommodate a variety of activities which must be accommodated in a safe and secure manner. School sites are a gathering space for people and should not appear car-centric.

Outdoor activity is a critical element in learning, enabling students to develop self-confidence, use their imaginations, learn self-discipline and compromise, improve motor skills, while improving their physical fitness. Site design, including passive and active commons for student gathering, can provide for casual interactions, outdoor eating areas, structured learning, sports and physical activities, and quiet individual spaces for reading or reflection.

Site selection applies to new construction. A review of the site selection criteria is required for additions to existing facilities to determine if the existing site can accommodate the site design requirements. Factors to be used in judging the merits of a site include aesthetic considerations, City of Hamilton Site Design Guidelines, local Policy, Codes and Zoning, easements/right-of-way, provincially mandated Green Schools Resource Guide standards, best-practice in environmentally sustainable design, pedestrian-oriented (or human-scaled) design standards, and safe access routes for all modes of transportation.

Site design criteria should strive to reflect the principles of the HWDSB Active & Sustainable School transportation (ASST) Charter signed by the board October 2015.

1. Street design for comfort, convenience, and safety for all users
2. Supportive land use and site planning
3. Personal and community safety
4. Partnership, collaboration, and shared responsibility
5. A culture of active and sustainable transportation

4.1.1 Vehicular Access

- Bus loading area sized to meet the anticipated number of buses. (work with City for off-site bus drop-off/ bus lay-by.
- Schools with two frontages to locate bus lay-by at side of the school.
- Locate the bus zone so that passengers do not need to cross any vehicular traffic.
- Locate the bus loading zone east of but not directly beside playgrounds, windows, and doors where students can be exposed to vehicle emissions.
- Separate student, bus, and staff vehicular traffic.

4.1.2 Parking

- Provide parking areas that are not only efficient, but safe, attractive, and environmentally responsible.
- Parking areas should be carefully designed to enhance the local urban design and environmental conditions, not detract or overwhelm them.
- Surface parking design should
  - Mitigate urban heat-island effect;
  - Manage stormwater runoff on-site;
  - Incorporate best-practice Low Impact Development techniques;
  - Create direct, legible, safe and comfortable pedestrian and bicycle routes;
  - Enhance the public realm.
- Provide no more than the minimum number of parking spaces as designated by the municipal by-laws and the Board's specific site requirements for staff, visitors, and students.
- Provide heavy duty paved surface in all fire route locations.
- Provide barrier free parking adjacent to the main entrance and so that people do not need to cross any vehicular traffic to enter the building.
- Anticipate the need for school expansion by way of future portables. With this in mind, provide flexible areas that may be converted into future parking as required..
- Where pedestrian and vehicular conflicts may arise, provide clear delineation by way of surface treatment variation, bollards, planting strips, or curbing whether flush, rolled or barrier.
- Locate curbs between pedestrian circulation and vehicular traffic.
- Provide landscaped islands and/or drainage swales to reduce heat island effect and mitigate stormwater runoff.
- Provide snow storage areas with appropriate site drainage.
- Reduce the number of driveway connections to the public street to strengthen streetscape and to minimize pedestrian-vehicle conflict points
- Locate driveways opposite existing or proposed driveways and streets to avoid offset intersections and traffic difficulties
- Provide a designated pathway through parking areas to building entrances for drivers
- Break-up large parking lots with landscaping to minimize the appearance of expansive impermeable surfaces
- Where walkways cross vehicular circulation routes, use alternative hard surface materials or raised crosswalks.
- Provide short-term parking spaces with anti-idling signage.

4.1.3 Service Vehicles Circulation

- Separate service vehicle circulation from other vehicular circulation, where possible
- Provide direct access to the receiving, garbage/recycling, and loading areas.
- Meet the requirement of municipal by-laws.
- Provide heavy duty paved surfaces for access to loading, garbage and receiving areas

4.1.4 Pedestrian Circulation

- Provide a clear, legible, and continuous pedestrian network throughout the site and parking areas.
- Provide minimum 2m AODA standard facility (multi-use path to separate active transportation circulation from vehicular traffic
- All grade transitions are to be fully accessible, incorporating the City of Hamilton Urban Braille Standards.
- Clearly defined active transportation routes to be logically laid out and illuminated to allow students and visitors to navigate the entire site in a safe manner with convenient access to all doors around the perimeter of the building and parking area.
- Clearly define fully accessible routes to all areas of the school site through the application of the City of Hamilton's Urban Braille Standards.
- Link active transportation routes from building entrances to public sidewalks and bicycle network
- Provide multiple access points from the school site to the surrounding neighbourhood.
- All pedestrian routes within parking lots should include shade trees along one or both sides of the route.
- All pedestrian routes within parking lots should clearly delineate different user groups through a change in surface materials, a change in grade, soft landscaping, and/or bollards.

4.1.5 Bicycle Circulation

- Locate fixed, well-lit bicycle racks in a pavedarea that can be supervised from the interior of the school. Provide weather protection for bicycle racks where possible.
- Short-term bike parking range: 0.5 – 3 spaces/10 students (minimum 2 spaces) or 3 (+) 0.06-0.0 spaces/100m2 of interior floor area

4.1.6 Transit

- Link active transportation routes from school site to nearby public transit stops.
- Enhance routes between main building entrances and school bus/transit stops.
- Provide weather-protected waiting areas, where possible.
- Provision of transit information on-site.

4.1.7 Garbage and Recycling Enclosures

- Locate garbage and recycling waste containers (semi-underground type) out of sightlines from the street.
- Locate garbage and recycling waste containers accommodate safe access by garbage truck and to minimize travel in reverse.
- Size and number of compartments will be determined by the HWDSB.
- The receiving area will have a reinforced concrete apron that slopes away from the building.
- Locate garbage and recycling waste containers adjacent to the custodial, loading and receiving areas.

4.1.8 Site Signage

- Clearly display the exterior school identification signage at the front of the building.
- Site signage to include visitor parking, barrier free parking, anti-idling, and fire route access .Provide painted or material changes on the driving and parking surfaces to delineateparking bays, drive aisles, and crosswalks.
- Exterior signage should be located throughout the site to direct traffic and active transportation modes.
- Provide pedestrian-oriented (human-scaled) signage
- Provide an illuminated pylon sign with digital read-out to HWDSB Standards.

4.1.9 Outdoor Amenity Spaces (active/passive)

- Attention to the design and functionality of outdoor spaces is vital and has the potential to be an extended learning environment.
- Design the exterior spaces around the school for passive supervision of spaces for social interaction.
- Provide a series of flexible hard and soft surface amenity areas to accommodate a range of uses over time.
- Provide a variety of shaded outdoor spaces including along active transportation pathways on the school site, and adjacent to large open areas for areas of reprieve.
- Provide sodded practice field where the site size permits.
- Provide combo soccer/football posts, six lane running track and long jump pits, where directed by the Board
- The playfield should be located adjacent to the gym.
- Provide adequate paved area with basketball hoops, where possible.

4.1.10 Fences/Gates/Barriers

- Perimeter fences must meet the requirements of Municipal by-laws
- Provide fences to provide safety and security for the school yard as required by the specific site conditions
- Ensure breaks/gates in fencing to allow multiple access points from the community to the school site.
- School yards located adjacent to municipal parks may share facilities and a fence between the properties may not be necessary
- Secure fences with heavy duty swing gates are required at outdoor storage and works compounds

4.1.11 Exterior Lighting

- The site will be illuminated to create a safe and welcoming environment for students and visitors.
- Provide adequate lighting located on the walls of the school as high as possible to ensure the safety, security and discourage vandalism.
- Provide adequate lighting along active transportation paths at a human-scale/pedestrian level.
- Provide adequate LED lighting at the entrance of the school.
- Conform to municipal lighting guidelines for lighting levels and acceptable standards.
- Site lighting should be designed to take into consideration CPTED Principles.

4.1.12 Landscaping

- An integrated landscape strategy should incorporate Low Impact Development (L.I.D.) Standards
- The distribution of landscaping throughout the site can soften hardscapes, including parking areas, maximize shade and provide important storm water runoff mitigation measures.
- Landscape design can enhance the quality of the architecture and accommodate programmed activities such as visual arts, physical education and a safe exterior space for special education classes.
- Design landscaping to be low maintenance.
- Provide plant species with high particulate matter removal capacity, placed strategically on the school site.
- Plantings to be hardy, indigenous, and drought tolerant.

- Planters to incorporate a raised edge adjacent to hard landscape areas as a means of containing planting soil/mulch.
- The landscape design to be compliant with CPTED principles to maintain clear unobstructed views.
- Hard landscaping to be creative and incorporate patterns, colours and textures to enhance visual interest.
- Perimeter landscaping should visually screen parking areas, while not completely obstructing sightlines.

4.1.13 Site Furnishing

- Locate waste and recycling receptacles at all building entry points around the exterior perimeter of the building, and at high volume outdoor areas including, but not limited to running tracks, baseball diamonds, playgrounds etc.
- Fixed and vandal resistant seating to be located at student and visitor entry and drop-off/pick up points and at student gathering spaces.
- Provide bike racks at a secure location where they are visible to staff.

4.1.14 Flag Pole

- Locate 1 flag pole near the main entrance of the building displaying the Canadian flag.

4.1.15 Site Drainage

- All site drainage to be self-contained on the site.
- Provide Low Impact Development techniques to improve the quality and quantity of stormwater on-site, through such measures as bio-retention, permeable paving, grass swales, raingardens, vegetated filter strips, dry swales etc.
- If natural techniques are not possible, provide adequate catch basins throughout the site.
- Do not install catch basins in close proximity to the play field. Install at edges of paved play areas.
- Meet or exceed municipal requirements for storm water management.

4.1.16 Site Security Provisions

- The safety, security and physical well-being of students and staff must be a priority. The appropriate selection of building materials, equipment, furniture and interior finishes minimizes building occupant's exposure to harmful elements. By employing design and planning strategies which incorporate the fundamental principles embodied in Crime Prevention Through Environmental Design (CPTED) the physical safety of students and staff is ensured.
- Natural Surveillance – the design shall facilitate natural surveillance from occupied or travelled areas of the building to the exterior and within the building.
- Opportunities for concealment should be minimized through the provision of sight lines by avoiding concealed building recesses.
- Ensure trees or landscape features do not offer hiding places.

4.1.17 Future Addition/Portables

- Designate area for future portable locations on the site plans.
- Provision for power and data located convenient to potential location of future addition or portables.
- Provide washroom facilities and parking spaces for up to 6 portables.

4.2 Building Design Criteria

The physical surroundings that support learning matter. A strong correlation exists between design of a facility and student achievement and it is the role of educational designers to take every opportunity to enhance teaching and learning through purposeful design of school buildings and grounds. Spatial configurations, noise, heat, cold, light and air quality directly bear on students' and teachers' ability to perform, while the incorporation of environmentally sustainable strategies enhances the quality of the physical environment.

Each student learns differently and that individual learning styles must be accommodated in both the educational programme and the design of the learning spaces. Not all learning takes place in a standard classroom. There is a need for a variety of types of learning spaces and for unanticipated learning outside formal teaching areas. There are a number of strategies that can be employed in this regard including: the provision of seminar rooms strategically located throughout the plan; grouping together teaching areas to enhance cross-curricular and team teaching opportunities; the integration of technology-based programs with academic programming throughout the design; and the creation of dynamic social spaces that create a cultural hub for the school, where larger groups of students, staff and others can gather for group activity and informal exchange of ideas.

The following criteria will assist the designer when looking at these areas:

4.2.1 Corridors

- Corridors are typically places of social interaction and communication among students and are therefore opportunities to create spaces for hanging out and socialization.
- Provide minimum corridor width 3000mm clear for circulation.
- Recess display cases, lockers, drinking fountains so as not to impede traffic flow – unobstructed movement.
- Consideration to be given to the acoustics in the corridors to reduce the amount of noise.
- Provide durable and easy to maintain floor surfaces.
- Provide emergency lighting and speakers, fire alarm and strobe lights on walls.
- Centrally locate drinking fountains and water bottle fillers.
- Incorporate views and natural light in the corridor design to provide visual cuing, visual stimulation and way finding.
- Avoid hidden corners and alcoves and ensure clear visibility in all directions.
- Provide lockers in corridors.
- Look at opportunities to provide a "group of rooms" which eliminates the corridor used by the public between a series of classrooms with the desire to increase efficiency in the floor area and create a more open plan concept. The corridor used by the public would have to terminate at an exit stair on either end with no dead end condition being created.

4.2.2 Stairways and Elevators

- Centrally locate elevators so that they are conveniently located off the main entrance of the building.
- Locate exit stairs for balanced student distribution throughout the school to prevent congestion.
- Exit stairs to exit directly to the exterior of the building.
- Provide area of refuge at the top of the stair landings.

4.2.3 Washrooms

- Washrooms are to be located on all floors, centrally located and accessible from the corridor.
- Size and quantity to be based on OBC requirements and occupant load
- Provide open access to the washrooms from the corridor with no doors- sight lines to be considered.
- Consider future additions like portables in the washroom count.
- Provide one barrier free stall in each student group washroom and universal washrooms as per the OBC requirements.
- Provide floor drains.
- Urinals - allow for privacy partitions, infrared automatic operated.
- Provide one inclusive universal barrier free washroom for student use on each floor level.
- Provide adequate student and staff washrooms distributed throughout the floor levels.
- Washroom accessories include:
    - Tilted mirror (one (1) for every four (4) stalls);
    - Hand dryer (one (1) for every four (4) stalls);
    - Toilet Tissue Holder (one (1) per stall);
    - Recessed stainless steel garbage receptacle;
    - Sanitary napkin and tampon dispenser (Girl's washroom);
    - and sanitary napkin and tampon disposal (one (1) per stall).
- Barrier Free Stall:
    - Grab Bars as per building code

4.2.4 Service Areas and Storage Rooms

- Custodial rooms to be located on every floor and positioned so that they can be easily accessible by custodial staff.
- Custodial rooms are to include:
    - a mop sink;
    - a mop holder;
    - power;
    - and adequate space and a dedicated electrical outlet for a floor scrubber.
- Locate custodial storage rooms adjacent to receiving and recycling areas.
- Academic storage rooms are to be distributed on each floor level near instructional areas.

4.2.5 Technology

- Technology is an integral part of our lives and for students it is central to their way of thinking and doing. Technology must be dispersed throughout the school and be available anytime, anywhere.
- Data closets to be logically dispersed and vertically stacked throughout the school to support the schools wireless infrastructure.
- Wireless access points to be located throughout the school. Consult with HWDSB IIT Department for latest standards.

4.2.6 Security

- Cameras to be located throughout the school, inside and outside, especially in concealed areas, as directed by the Board.
- The design will be conducive to passive security.
- Provide door contacts, a glass break detectors and motion detectors as directed by the Board.
- Consult with HWDSB Facilities Management for latest security standards.

4.2.7 Drinking Fountains and Water Bottle Fillers

- Located throughout the school outside of washroom areas.
- Additional units should be located outside of physical activity spaces.
- All drinking fountains to be accessible and have water bottle fillers.

4.2.8 Lockers

- There are to be a variety of locker sizes including full height and half size lockers, allowing for student choice.
- Provide lockers with sloped tops or bulkheads overtop.

4.2.9 Casework

- To be located throughout the school in corridors outside of classrooms to display student work and achievements.
- Classroom control panel, as per HWDSB Standards, should include:
  - the light switch, clock, data, thermostat, speakers, duplex receptacle, P.A. call switch, and a single gang box with cover plate from data run from the corridor.

4.2.10 Whiteboards and Tack boards

- Whiteboards & Tack boards should be located in every standard classroom.
- Refer to Appendix 3 for Typical Teaching Wall configuration. Confirm with HWDSB for latest standards.

4.2.11 Interior Finishes

- Interior finishes for program spaces are included in the program data sheets and include information on: walls, flooring, base and ceilings.

4.2.12 Interior Signage

- All areas and circulation systems within the building are to be designed in such a way that way-finding is easy, reducing the reliance on excessive signage.
- Signage mounted perpendicular to the path of travel will assist in ease of wayfinding.
- Applicable codes for barrier free design are incorporated into the design of the way finding system.
- The signs in the facility to be surface mounted and not easily removed. The signage system should allow for changes at minimal cost.
- The types of signs used included:
  - Identification, directional, information and orientation, regulatory and warning, and commemorative and sponsored.
- Interior signage to conform to HWDSB Standard.

4.2.13 Window Treatments

- All windows are to be equipped with shading devices in exception for all open spaces such as stairs/ corridors
- roller shades to be 3% open
- Blackout shades are to be provided in the Gym, Cafeteria, Learning Commons and any large assembly rooms.
- window coverings requiring access over one storey high to be motorized.

4.2.14 Materials and Finishes

- Refer to HWDSB Standard for interior and exterior glazing
- Materials and finishes to be vandal resistant and easy to maintain

4.3 Specific Program Area Considerations

4.3.1 Learning Commons

- The HWDSB envisions the library as a Learning Commons, at the heart of the school that supports learning and promotes collaboration.
- The function of the Learning Commons is for shared learning and resources, investigation, collaboration, presentation and relaxing. Connections to be provided throughout for laptops and wireless network access.
- Comfort, calmness, uplifting colours and warmth are key components of the Learning Commons use of materials such as carpet, upholstered seating, different lighting options and glass or translucent walls will contribute to achieving comfortable and welcoming spaces.
- The Learning Commons should incorporate different types of spaces for seminar rooms, quiet work rooms space and group work rooms.
- Flexible furniture to allow for spaces to be changed will meet student needs and include movable round work tables, lounge type seating and booths.
- Allow for portable book shelving to allow for size of reading sections to be changed.
- Locate the printer in an area that ca be visually supervised from the circulation desk, in where noise is not a disruption to students or staff.
- Security gates are to be located at the entrance of the library.
- Librarian centre including the Technology centre for distribution and storage of I-pads, keyboards, charging, etc., should be centrally located to allow for visual surveillance.

4.3.2 Science Suite

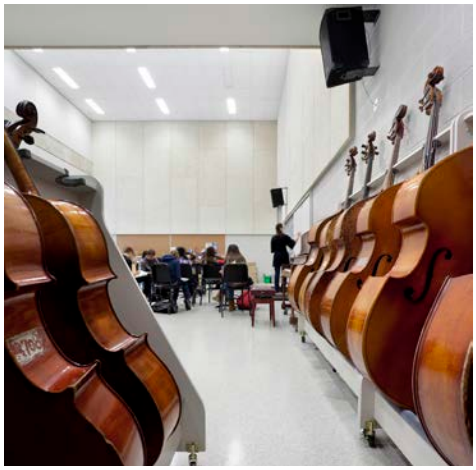
- The science suite takes a new approach to the delivery of the science curriculum. Formal instructional spaces are grouped with a shared lab between them. Each lab setting has wireless network access and fixed gas and water available for student projects and experiments in all science disciplines.
- Shared multi-purpose labs are designed to accommodate both chemistry and biology curriculum requirements
- Regular sized instructional classrooms are planned adjacent to the oversized shared lab spaces. The classrooms would include a teacher's demonstration desk complete with gas and water. The science lab space is booked as required for a full class, or individual or group work demonstrations.
- The science preparation area including the secure chemical storage room is to be located between the labs.
- A staff work area, creating a professional community of teachers, is centrally located.

4.3.3 Cafeteria

- The cafeteria is to be located on the ground floor and will be used by students for eating, studying and socializing and will be used as spaces for clubs to meet and other informal gatherings.
- Locate the cafeteria adjacent to a secure exterior space, i.e. a courtyard to allow students the opportunity for eating outside.
- Alternative spaces i.e. Student Commons will accommodate students for eating.
- Provide connections for use of laptops and wireless network access
- A variety of seating areas to be provided, for large and small groups with the flexibility to reconfigure for large group assemblies

4.3.4 Performance Spaces

- Provide spaces for both formal and informal student performances
- Locate stage to open onto a suitable large assembly space with flexible accommodations for seating with appropriate sight-lines and acoustics



4.3.5 Technology (integrated)

- Technology is to be provided throughout the school and is to be robust to accommodate various devices and accessible in all areas of the building.
- Charging stations are required throughout.
- The Technology Centre is to be located in or adjacent to the Learning Commons.

4.3.6 Special Education

- Every school has its own unique ways of addressing the specific needs of its students therefore it is the intent of the Design Guideline to address methods to accommodate the specific needs of all students, realizing that a large majority of those students identified with special needs may utilize a variety of spaces throughout the school day to address their educational goals.
- The facility requirements must provide the flexibility to address the changing demographics and accommodation for students with special needs.
- Specific program areas for students with special needs will be located in a calm and quiet area of the school integrated with the school population, but with its own sense of identity.
- Since this document serves as a guide, it is necessary during the planning process to identify the specific needs of each school in meeting the special needs population and plan early in the process to ensure that those needs are being met through the design.

5.1 Mechanical and Electrical

- Mechanical and Electrical systems to be designed to code requirements
- Systems to be coordinated with HWDSB Facilities Management Department
- Energy efficiency and ease of maintenance to be prioritized
- Meet ANSI standard for Emergency Eyewash and Shower Equipment

5.2 Information Technology

- HWDSB Standard Control Panel to be located in all Instructional and Staff Areas. Refer to Appendix for Typical Control Panel.
- HWDSB Standard Teaching Wall to be incorporated in all typical Instructional spaces. Refer to Appendix for Typical Teaching Wall.
- Consult with HWDSB IIT Department to incorporate current technology standards

5.3 Security and Access Control

- Consult with HWDSB Facilities Operations Division to incorporate current security requirements.

Program Sheets - Table of Contents

Program Sheets - Table of Contents

Program Sheets - Table of Contents

1.1

Program Area:	Instructional Spaces				
Room Name:	Classroom	Capacity:	24 to 30	Area (sf):	600 to 900
				Area (SM):	56 to 84

Program Activities:

- Large group, small group & individual instruction
- Individual & group work
- Presentations & demonstrations
- Accommodates any core academic disciplines
- International Baccalaureate Program, Ontario Public Service Program, Environment (SHSM), Business (SHSM), Justice (SHSM), Non-Profit (SHSM) to be accommodated in typical classroom spaces

Spatial Relationships:

- Near other core classrooms
- Near staff work rooms
- Adjacent to collaborative learning space
- Proximity to student washrooms

Environmental Considerations:

- Exterior windows required w/ minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Student work tables (moveable) • Student chairs • Teacher workstation & chair w/castors	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Teaching wall as per HWDSB Standard, refer to Appendix A.3 (keyed to classroom lockset, typical) • Classroom control panel • Window coverings at all exterior windows (3% open, typical)
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: teacher's station, projector, and classroom control panel where applicable and locations mandated by CSA code requirements • LED lighting w/multi-level switching	Technology:	• 1 data outlet for projector • 2 data outlets at teaching station w/conduit to projector • 1 data outlet at classroom control panel for general use • 1 data outlet at wireless access point (WAP)

Electrical (continued):	• Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets • Fire alarm signalling device to be provided in accordance with ULC code requirements • Power requirements for tablet charging station to be coordinated with HWDSB and manufacturer
Notes:	• General classrooms required on all floors • All walls to be available as teaching wall surfaces

1.2.1

Program Area:	Science Laboratories				
Room Name:	General Science Classroom	Capacity:	24 to 30	Area (sf):	850 min.
				Area (SM):	79

Program Activities:

- Large group, small group & individual instruction
- Individual & group work
- Data collection and analysis
- Demonstrations
- Project work

Spatial Relationships:

- Near other science classrooms & large shared labs
- Adjacent to science labs
- Near to science prep room
- Proximity to large group washrooms

Environmental Considerations:

- Recommended: daylighting design with glazing area determined by the design solution.
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)
- Chemical resistant counter tops and sinks

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

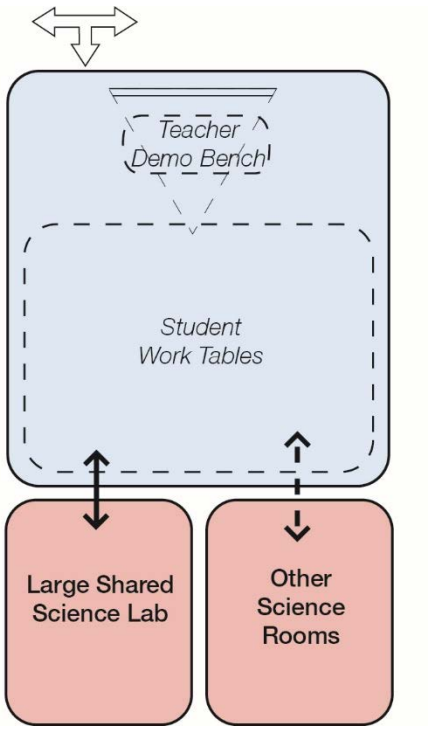
Furniture:	• Student work tables (moveable) • Student chairs • Teacher chair w/castors	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teaching wall as per HWDSB Standard, refer to Appendix A.3 • Teacher coat & book storage cabinet • Classroom control panel • Window coverings at all exterior windows • Teacher demo station with sink, dual gas cock, ventilation • One wall of millwork including student lab stations (lower cabinet with counter, glass fronted upper cabinets) & full height lockable cabinet
Plumbing:	• Deep sink & eyewash at demo station • One deep sink at student lab millwork • Hot/cold water connections • Cold water only at student stations, hot & cold water at teacher demonstration station • Acid waste connections • Back flow preventers on hot/cold water	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control • Exhaust at demo station

Plumbing (continued):
- Manual and solenoid shutoff valves for gas
- Manual and solenoid shutoff valves for hot/cold water
- Dual gas cock at demo station

Electrical:
- Dedicated panel within lab to service lab related loads only – equipped with push button operated contactor kill switch at room entrance and demo station, complete with hallway mounted indicating dome light
- Lab gas & water shut-off solenoid valve at dry end of demo station (by mechanical), to be connected to lab panel (by electrical), complete with connection to fire alarm system in accordance with ULC code
- 2 15A-1P GFCI protected duplex receptacles mounted at counter height at each student lab station
- 3 15A-1P GFCI protected duplex receptacles mounted at counter height at demo station (one receptacle to be located at front, facing student seating)
- 8 15A-1P duplex wall mounted perimeter receptacles for general/student use
- Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector and classroom control panel where applicable and locations mandated by CSA code requirements
- Fire alarm signalling device to be provided in accordance with ULC code requirements
- LED lighting w/multi-level switching
- Classroom control panel:
  - PA system, speaker, thermostat, light switches, clock, power & data outlets

Technology:
- 1 data outlet at classroom control panel for general use
- 1 data outlet for projector
- 2 data outlets at demo station w/conduit to ceiling
- 1 data outlet at student/lab station
- 1 data outlet at wireless access point
- 1 data outlet at interactive boards/monitor where applicable

Notes:
- Loose furnishings shown represent one of many possible arrangements.
- The layouts shown do not restrict the variety of arrangements available.
- The General Science Classrooms to be located adjacent to and directly connected to the shared science labs with vision glass looking into the labs and classrooms
- Demo bench to include with eyewash station, exhaust, sink, gas and electrical.


Teacher
Demo Bench
Student
Work Tables
Large Shared
Science Lab
Other
Science
Rooms

1.2.2

Program Area:	Science Laboratories				
Room Name:	Large Shared Science Lab Multi-purpose Chemistry & Biology	Capacity:	48 max	Area (sf): Area (SM):	1300 120

Program Activities:

- Large group, small group & individual instruction
- Individual & group work
- Data collection and analysis
- Laboratory experimentation
- Demonstrations
- Project work

Spatial Relationships:

- Adjacent to science classrooms
- Adjacent to science prep room
- Proximity to large group washrooms
- Flexibility of space
- Direct access to outside desirable
- Near to Technology Shops (Physics)
- Appropriate exterior window for "grow" demonstrations (Biology)
- Near Horticulture program (Biology)

Environmental Considerations:

- Recommended: daylighting design with glazing area determined by the design solution
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)
- Higher than normal ventilation requirements
- Moisture and stain resistant finishes
- Chemical resistant counter tops and sinks

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Student stools for sitting at counter height – with back rests • Teacher chair w/castors	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teaching wall as per HWDSB Standard, refer to Appendix A.3 • Teacher coat & book storage cabinet • Classroom control panel • Window coverings at all exterior windows • Teacher demo station with sink, dual gas cock, ventilation • Student lab benches for 32 students (4 students per station), including one barrier-free station - free standing benches at standing height with stools, one sink shared between 2 stations, dual gas cocks, ventilation. Glass fronted

		Fixed Equipment (continued):	storage cabinets over counter. Allow for storage at either end of the lab benches for beakers and glass wear with adjustable shelving • Full height lockable cabinet • Emergency shower • Interactive boards/monitor
Plumbing:	• Deep sink & eyewash at demo station • One sink shared between each two student stations • One deep sink at student lab millwork (rear of class) • Hot/cold water connections • Acid waste connections • Back flow preventers on hot/cold water • Dual gas cocks at demo station & student benches • Manual and solenoid shutoff valves for gas • Manual and solenoid shutoff valves for hot/cold water • Floor drains • Cold water only at student stations, hot & cold water at teacher demonstration station • Emergency shower/eyewash connections • Compressed air connections • Acid waste piping • Neutralization tank • Distilled/deionized water facility	HVAC:	• Supply/return air system • Air conditioning/heating • Manual exhaust at teacher and student stations • Independent temperature control • Double sided fume hood (to ANSI/ASHRAE 110 standard), centrally located on wall (connected to Science Prep)
Electrical:	• Dedicated panel within lab to service lab related loads only – equipped with push button operated contactor kill switch at room entrance and demo station, complete with hallway mounted indicating dome light • Lab gas & water shut-off solenoid valve at dry end of demo station (by mechanical), to be connected to lab panel (by electrical), complete with connection to fire alarm system in accordance with ULC code • 2 15A-1P GFCI protected duplex receptacles mounted at counter height at each student lab station • 3 15A-1P GFCI protected duplex receptacles mounted at counter height at demo station (one receptacle to be located at front, facing student seating) • 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector and classroom control panel	Technology:	• 1 data outlet at classroom control panel for general use • 1 data outlet for projector • 2 data outlets at demo station w/conduit to ceiling • 1 data outlet at wireless access point • 1 data outlet at interactive boards/monitor where applicable

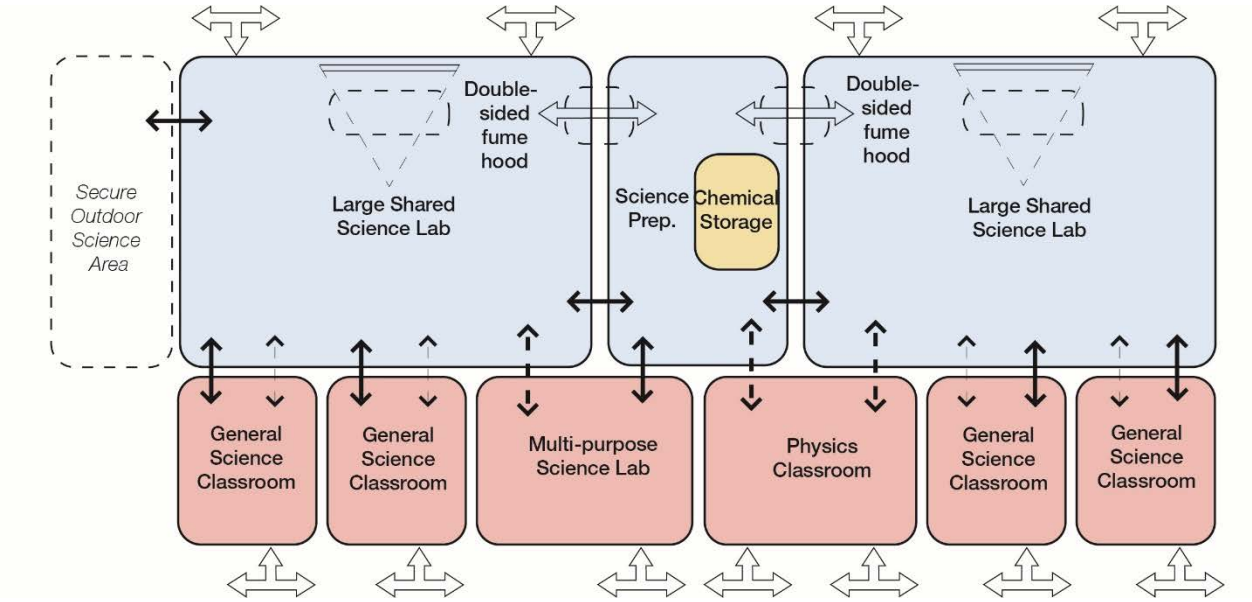
Electrical (continued):

where applicable and locations mandated by CSA code requirements
- Fire alarm signalling device to be provided in accordance with ULC code requirements
- LED lighting w/multi-level switching
- Classroom control panel:
  - PA system, speaker, thermostat, light switches, clock, power & data outlets

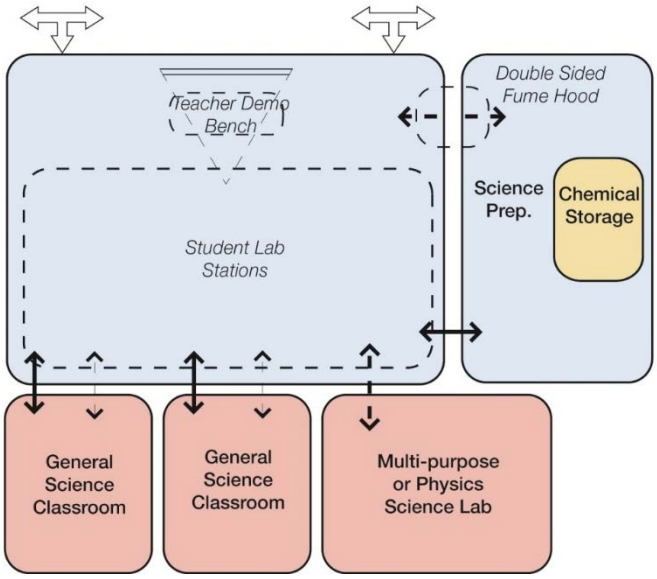
Notes:

- Loose furnishings shown represent one of many possible arrangements.
- The layouts shown do not restrict the variety of arrangements available.
- Master gas shutoff valve shall be clearly labeled, easily accessible, and immediately operated by staff
- In class emergency shut off for water, electricity and gas
- Consideration should be given to proximity of fume hood to diffusers and building fresh air intake to avoid interference

Science Suite:



Large Shared Science Lab



1.2.3

Program Area:	Science Laboratories				
Room Name:	Science Lab Biology (where Shared Lab is not provided)	Capacity:	24 to 30	Area (sf): Area (SM):	1250 116

Program Activities:

- Large group, small group & individual instruction
- Individual & group work
- Data collection and analysis
- Laboratory experimentation
- Demonstrations
- Project work

Spatial Relationships:

- Near other science classrooms
- Adjacent to science prep room
- Proximity to large group washrooms
- Flexibility of space
- Appropriate exterior window for "grow" demonstrations
- Direct access to outside desirable
- Near Horticulture program

Environmental Considerations:

- Recommended: daylighting design with glazing area determined by the design solution
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)
- Higher than normal ventilation requirements
- Moisture and stain resistant finishes
- Chemical resistant counter tops and sinks

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

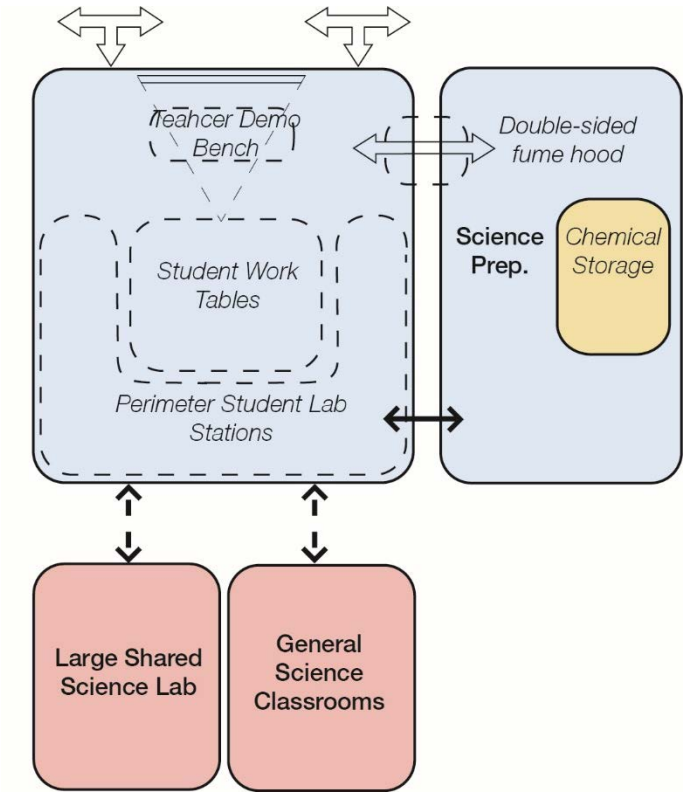
Furnishings & Equipment:

Furniture:	• Student stools for sitting at counter height – with back rests • Teacher chair w/castors	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teaching wall as per HWDSB Standard, refer to Appendix A.3 • Teacher coat & book storage cabinet • Classroom control panel • Window coverings at all exterior windows • Teacher demo station with sink, dual gas cock, ventilation • Student lab benches for 32 students (4 students per station), including one barrier-free station - free standing benches at standing height with stools, one sink shared between 2 stations, dual gas cocks, ventilation. Glass fronted storage cabinets over counter. Allow for

Fixed Equipment (continued):	storage at either end of the lab benches for beakers and glass wear with adjustable shelving • Full height lockable cabinet • Emergency shower • Interactive boards/monitor
Plumbing:	• Deep sink & eyewash at demo station • One sink shared between each two student stations • One deep sink at student lab millwork (rear of class) • Hot/cold water connections • Acid waste connections • Back flow preventers on hot/cold water • Dual gas cocks at demo station & student benches • Manual and solenoid shutoff valves for gas • Manual and solenoid shutoff valves for hot/cold water • Floor drains • Cold water only at student stations, hot & cold water at teacher demonstration station • Emergency shower/eyewash connections • Compressed air connections • Acid waste piping • Neutralization tank • Distilled/deionized water facility
HVAC:	• Supply/return air system • Air conditioning/heating • Manual exhaust at teacher and student stations • Independent temperature control • Double sided fume hood, (to ANSI/ASHRAE 110 standard), centrally located on wall (connected to Science Prep)
Electrical:	• Dedicated panel within lab to service lab related loads only – equipped with push button operated contactor kill switch at room entrance and demo station, complete with hallway mounted indicating dome light • Lab gas & water shut-off solenoid valve at dry end of demo station (by mechanical), to be connected to lab panel (by electrical), complete with connection to fire alarm system in accordance with ULC code • 2 15A-1P GFCI protected duplex receptacles mounted at counter height at each student lab station • 3 15A-1P GFCI protected duplex receptacles mounted at counter height at demo station (one receptacle to be located at front, facing student seating) • 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector and classroom control panel where applicable and locations mandated by CSA code requirements
Technology:	• 1 data outlet at classroom control panel for general use • 1 data outlet for projector • 2 data outlets at demo station w/conduit to ceiling • 1 data outlet at wireless access point • 1 data outlet at interactive boards/monitor where applicable

Electrical (continued):	• Fire alarm signalling device to be provided in accordance with ULC code requirements • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets

Notes:	• The layouts shown do not restrict the variety of arrangements available. • Master gas shutoff valve shall be clearly labeled, easily accessible, and immediately operated by staff. • In class emergency shut off for water, electricity and gas • Consideration should be given to proximity of fume hood to diffusers and building fresh air intake to avoid interference



This diagram represents one of many possible arrangements for furnishings & equipment:

1.2.4

Program Area:	Science Laboratories				
Room Name:	Science Lab Chemistry (where Shared Lab is not provided)	Capacity:	24 to 30	Area (sf): Area (SM):	1250 116

Program Activities:

- Large group, small group & individual instruction
- Individual & group work
- Data collection and analysis
- Laboratory experimentation
- Demonstrations
- Project work

Spatial Relationships:

- Near other science classrooms
- Adjacent to science prep room
- Proximity to large group washrooms
- Flexibility of space
- Direct access to outside desirable

Environmental Considerations:

- Recommended: daylighting design with glazing area determined by the design solution.
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)
- Higher than normal ventilation requirements
- Moisture- and stain-resistant finishes
- Chemical-resistant counter tops

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:

- Student stools for sitting at counter height – with back rests
- Teacher chair w/castors

Fixed Equipment:

- White boards +/-5 @ 2400mm x 1200mm
- Tack boards +/-2 @ 1800mm x 1200mm
- Teaching wall as per HWDSB Standard, refer to Appendix A.3
- Teacher coat & book storage cabinet
- Classroom control panel
- Window coverings at all exterior windows
- Teacher demo station with sink, dual gas cock, ventilation
- Student lab benches for 32 students (4 students per station), including one barrier-free station - free standing benches at standing height with stools, one sink shared between 2 stations, dual gas cocks, ventilation. Glass fronted storage cabinets over counter. Allow for storage at either end of the lab benches

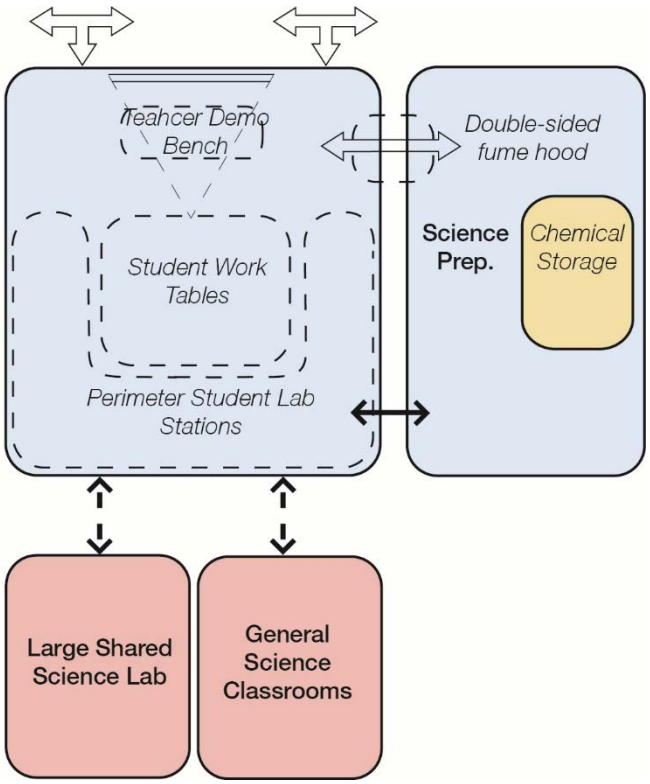
		Fixed Equipment (continued):	for beakers and glass wear with adjustable shelving • Full height lockable cabinet • Emergency shower • Interactive boards/monitor
Plumbing:	• Deep sink & eyewash at demo station • One sink shared between each two student stations • One deep sink at student lab millwork (rear of class) • Hot/cold water connections • Acid waste connections • Back flow preventers on hot/cold water • Dual gas cocks at demo station & student benches • Manual and solenoid shutoff valves for gas • Manual and solenoid shutoff valves for hot/cold water • Floor drains • Cold water only at student stations, hot & cold water at teacher demonstration station • Emergency shower/eyewash connections • Compressed air connections • Acid waste piping • Neutralization tank • Distilled/deionized water facility	HVAC:	• Supply/return air system • Air conditioning/heating • Manual exhaust at teacher and student stations • Independent temperature control • Double sided fume hood, centrally located on wall (connected to Science Prep)
Electrical:	• Dedicated panel within lab to service lab related loads only – equipped with push button operated contactor kill switch at room entrance and demo station, complete with hallway mounted indicating dome light • Lab gas & water shut-off solenoid valve at dry end of demo station (by mechanical), to be connected to lab panel (by electrical), complete with connection to fire alarm system in accordance with ULC code • 2 15A-1P GFCI protected duplex receptacles mounted at counter height at each student lab station • 3 15A-1P GFCI protected duplex receptacles mounted at counter height at demo station (one receptacle to be located at front, facing student seating) • 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector and classroom control panel where applicable and locations mandated by CSA code requirements	Technology:	• 1 data outlet at classroom control panel for general use • 1 data outlet for projector • 2 data outlets at demo station w/conduit to ceiling • 1 data outlet at wireless access point • 1 data outlet at interactive boards/monitor where applicable

Electrical (continued):

- Fire alarm signalling device to be provided in accordance with ULC code requirements
- LED lighting w/multi-level switching
- Classroom control panel:
  - PA system, speaker, thermostat, light switches, clock, power & data outlets

Notes:

- The layouts shown do not restrict the variety of arrangements available.
- Master gas shutoff valve shall be clearly labeled, easily accessible, and immediately operated by staff.
- In class emergency shut off for water, electricity and gas
- Consideration should be given to proximity of fume hood to diffusers and building fresh air intake to avoid interference



This diagram represents one of many possible arrangements for furnishings & equipment

1.2.5

Program Area:	Science Laboratories				
Room Name:	Science Lab Physics	Capacity:	24 to 30	Area (sf):	1250
				Area (SM):	110

Program Activities:

- Large group, small group & individual instruction
- Individual & group work
- Data collection and analysis
- Laboratory experimentation
- Demonstrations
- Project work

Spatial Relationships:

- Near other science classrooms
- Adjacent to science prep room
- Proximity to large group washrooms
- Flexibility of space
- Direct access to outside desirable
- Near to Technology Shops

Environmental Considerations:

- Recommended: daylighting design with glazing area determined by the design solution.
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)
- Higher than normal ventilation requirements
- Moisture and stain resistant finishes
- Chemical resistant counter tops and sinks

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

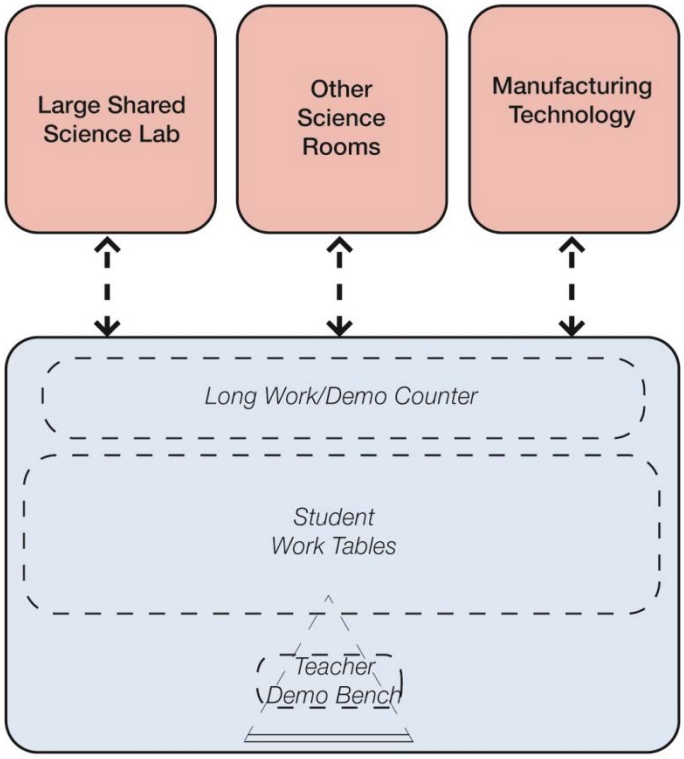
Furnishings & Equipment:

Furniture:	• Student work tables (moveable) • Student chairs w/castors • Teacher chair w/castors	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teaching wall as per HWDSB Standard, refer to Appendix A.3 • Teacher coat & book storage cabinet • Classroom control panel • Window coverings at all exterior windows • Teacher demo station with sink, dual gas cock, ventilation • Window coverings at all exterior windows-need black out capability • Interactive boards/monitor • Full height lockable cabinet
Plumbing:	• Deep sink & eyewash at demo station	HVAC:	• Supply/return air system • Air conditioning/heating

Plumbing (continued):	• One deep sink at student lab millwork (rear of class) • Hot/cold water connections • Back flow preventers on hot/cold water • Acid waste connection • Manual and solenoid shutoff valves for gas • Manual and solenoid shutoff valves for hot/cold water • Floor drains • Cold water only at student stations, hot & cold water at teacher demonstration station	HVAC (continued):	• Manual exhaust at demo station • Independent temperature control
Electrical:	• Dedicated panel within lab to service lab related loads only – equipped with push button operated contactor kill switch at room entrance and teacher/demo station, complete with hallway mounted indicating dome light • 2 15A-1P GFCI protected duplex receptacles mounted at counter height at each student lab station • 3 15A-1P GFCI protected duplex receptacles mounted at counter height at demo station (one receptacle to be located at front, facing student seating) • 8 15P-1A duplex wall mounted perimeter receptacles for general/student use • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor and classroom control panel where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets	Technology:	• 1 data outlet at interactive boards/monitor where applicable • 1 data outlet at classroom control panel for general use • 1 data outlet for projector • 2 data outlets at teaching/demo station w/conduit to ceiling • 1 data outlet at wireless access point

Notes:

- The layouts shown do not restrict the variety of arrangements available.
- Master gas shutoff valve shall be clearly labeled, easily accessible, and immediately operated by staff.
- In class emergency shut off for water, electricity and gas



This diagram represents one of many possible arrangements for furnishings & equipment

1.2.6

Program Area: Science Laboratories
Room Name: Science Prep Room

Capacity: 4 to 6

Area (sf): 500
Area (SM): 46

Program Activities:
- Area designated for the preparation of chemicals to be used in the classroom
- Area designated for the safe storage of chemicals including: acid/base storage, volatile chemicals and flammable/combustible chemicals

Spatial Relationships:
- Near other science classrooms
- Located between two large science labs with double sided fume hood connecting to the labs from the prep room
- Access from each lab and direct access from corridor preferred

Environmental Considerations:
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)
- Higher than normal ventilation requirements
- Moisture and stain resistant finishes
- Chemical resistant counter tops and sinks
- Fire extinguisher

Finishes:

Floor:
- Resilient tile

Base:
- Resilient

Walls:
- Concrete masonry units (painted)

Ceiling:
- Suspended acoustical

Furnishings & Equipment:

Furniture:
- Stools for sitting at counter height

Fixed Equipment:
- Lab casework with sinks, gas cocks, ventilation
- Emergency shower/eyewash
- Open shelving (with lip to contain spillage) above the countertop for the storage of equipment
- One exhausted chemical storage cabinet
- One flammables storage cabinet to ULC -45 gallon (not vented)
- Classroom control panel
- Refrigerator
- Dishwasher

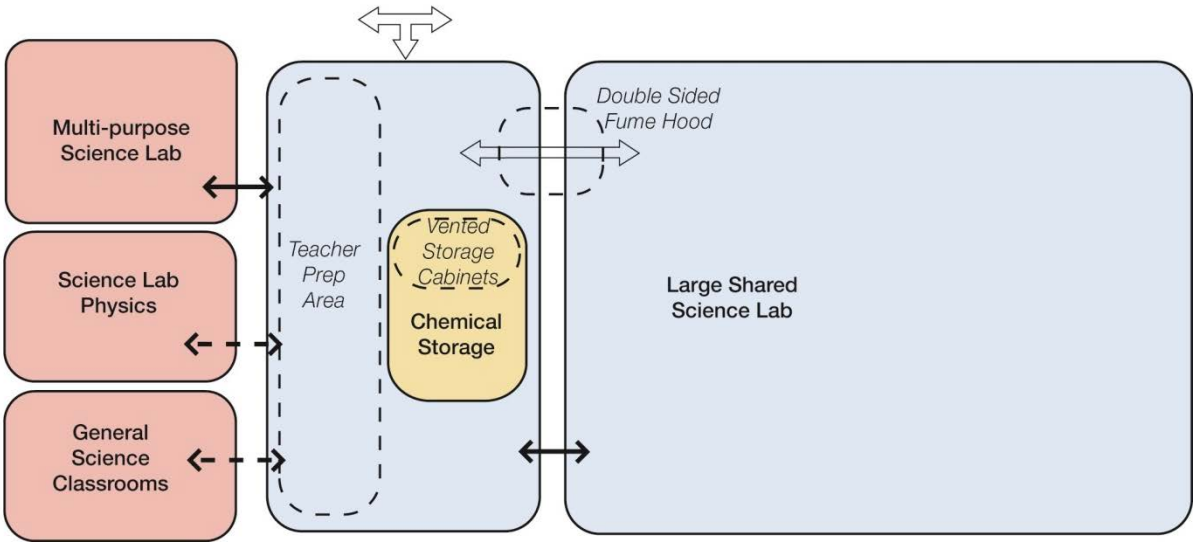
Plumbing:
- Plumbing connections
- Dishwasher
- Gas connections
- Compressed air connections
- Eyewash station & deluge shower
- Hot/cold water/sanitary connections
- Back flow preventers on hot/cold water
- Manual and solenoid shutoff valves for gas
- Manual and solenoid shutoff valves for hot/cold water
- Acid waste connection
- Floor drains

HVAC:
- Supply/return air system
- Air conditioning/heating
- Manual exhaust
- Independent temperature control
- Double sided fume hood between Shared Lab and Prep Room

Electrical:	• LED lighting w/multi-level switching • 4 to 6 15A-1P duplex receptacles mounted at counter height • GFCI protected duplex receptacles to be provided in wet/splash areas in accordance with CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements • Control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets	Technology:	• 1 data outlet at control panel • 4 data outlets to accompany wall receptacles for teacher use

Notes:

- The layouts shown do not restrict the variety of arrangements available.
- Master gas shutoff valve shall be clearly labeled, easily accessible, and immediately operated by staff
- Consideration should be given to proximity of fume hood to diffusers and building fresh air intake to avoid interference
- Refer to HWDSB Health & Safety Policy and Program Strategy



This diagram represents one of many possible arrangements for furnishings & equipment:

1.3.1

Program Area: **Music / Arts**
Room Name: **Music Instrumental/Vocal**
Capacity: 24 to 30
Area (sf): 1390
Area (SM): 130

Program Activities:
- Large group, small group & individual practice
- Computer composition and performance of music
- Music reading instruction, theory and history
- Vocal music activities including chamber, symphony, a cappella and show choirs
- Solo, sectional and class size practice
- Keyboard and guitar
- Digital recording/mixing of musician performances
- MIDI lab – computers hooked up to keyboard
- Choral/guitar
- Music recording

Spatial Relationships:
- Grouped with other noise producing activities
- Convenient access to stage
- Adjacent to practice rooms
- Near drama, stage/performance area
- Access to computer labs
- Adjacent to music recording studio

Environmental Considerations:
- STC rating (walls): 60
- Ceiling Height: minimum 3600 mm
- Acoustical control treatment on walls and ceilings
- Requires large door to transfer equipment

Finishes:

Floor:
- Sound dampening sheet flooring

Base:
- Resilient

Walls:
- Concrete masonry units (painted)
- Acoustical wall treatment
- Walls are to be angled for acoustics

Ceiling:
- Suspended acoustical
- Higher than normal ceilings
- Acoustically isolated ceiling

Furnishings & Equipment:

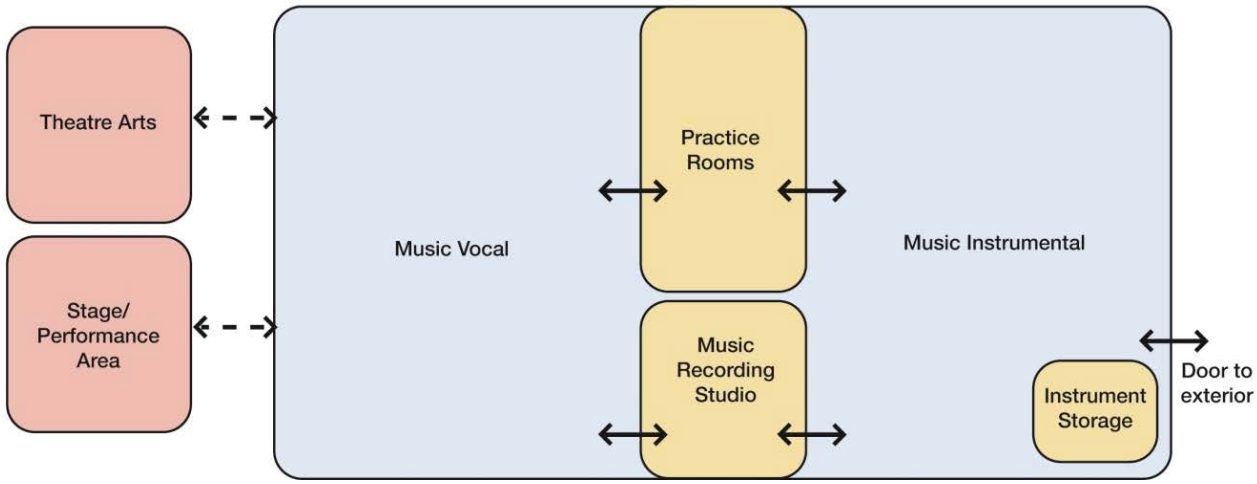
Furniture:
- Music chairs and caddies
- Music stands
- Conducting podium/stand
- Portable risers with access to power outlets
- Mobile percussion instrument storage cabinet

Fixed Equipment:
- White boards (with blank music staff for notations) +/-3 @ 2400mm x 1200mm
- Tack boards +/-2 @ 1800mm x 1200mm
- Teaching wall as per HWDSB Standard, refer to Appendix A.3
- Teacher coat & book storage cabinet
- Technology support casework
- Classroom control panel
- Sink base cabinet

Plumbing:	• Double sink or two separate sinks, including sink large enough for large instruments & sink for mouth piece sanitization (to public health requirements) • Hot/cold water/sanitary connections	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control • Acoustically lined ductwork
Electrical:	• 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor and classroom control panel where applicable and locations mandated by CSA code requirements • 1 15A-1P duplex wall/furniture mounted receptacle at each computer station • 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station • LED lighting w/multi-level switching • Theatre type central sound system compete with amplification, recording, playback and microphone interfacing capabilities, electrical requirements to be coordinated with HWDSB and theatre sound system manufacturer • 4 15A-1P duplex wall mounted receptacles in each MIDI lab, music recording studio, practice rooms and choral/guitar rooms for general use, additional power requirements to be coordinated with HWDSB • Fire alarm signalling device to be provided in music room, each practice room, recording studio, midi lab and choral/guitar room in accordance with ULC code requirements • Accent lighting to be provided in display case • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets	Technology:	• 1 data outlet for projector • 2 data outlet at teaching and/or demo station w/conduit to ceiling • 1 data outlet at computer/student station • 1 data outlet at classroom control panel for general use • 1 data outlet at wireless access point (WAP) • 2 data outlets in MIDI lab, music recording studio, practice rooms and choral/guitar room to accompany wall receptacles for general use, additional IT requirements to be coordinated with HWDSB

Notes:

- Storage for: scores, charts and musical instruments (100 instruments), slots for music folders, method books, mutes, stand lights, textbooks, reeds, microphones, cables, keyboards and 30 guitars
- Desire for a display case outside the room
- Allow for at least 3 practice rooms that can double as a recording studio



This diagram represents one of many possible arrangements for furnishings & equipment:

1.3.2

Program Area:	Music/Arts				
Room Name:	Visual Arts – Multi-Purpose Studio	Capacity:	24 to 30	Area (sf):	1200-1400
				Area (SM):	110-130

Program Activities:

- Students will work on a variety of projects. Projects include drawing and painting, computer graphics, sculpture and model making, collage and ceramics, printmaking, posters, stage design
- Individual & group work
- Presentations & demonstrations

Spatial Relationships:

- Near other core classrooms
- Direct access to outdoors or access through adjacent corridor
- Ground floor location is preferred
- Adjacent to media arts lab, sculpture studio, photography
- Close to fashion arts, technology labs, drama

Environmental Considerations:

- Generous exterior windows required with several operable vents per room
- Maximize northern exposure for natural light
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)
- Stain resistant floor covering
- High ceiling, unfinished studio space preferred

Finishes:

Floor:	• Resilient tile • Polished concrete • Sealed concrete	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Exposed Acoustic metal deck

Furnishings & Equipment:

Furniture:	• Student work tables, heavy duty (moveable) • Student chairs w/castors or stools • Teacher workstation & chair w/castors • Light tables • Large tables for large projects • Easels • Drying racks • Photography equipment includes: tripods, cameras, studio light, etc. • Fire safety cabinet	Fixed Equipment:	• Student project storage with adjustable shelves • Deep cabinets with adjustable shelves for material storage • Sink base cabinet with wall cabinets above or wash fountains • Tall storage cabinet with file drawers • +/-3 White boards@ 2400mm x 1200mm • +/-4 Tack boards @ 2400mm to ceiling • Teaching wall as per HWDSB Standard, refer to Appendix A.3 • Tack board strip over all boards • Teacher coat & book storage cabinet • Emergency eyewash • Classroom control panel • Black-out window coverings at all exterior windows

Plumbing:

- Sinks with solid interceptor
- Hot/cold water connections
- Manual and solenoid master shutoff valves for hot/cold water
- Back flow preventers on hot/cold water
- Plaster traps
- Sanitary connections
- Floor drains
- Emergency eyewash connections
- 1 large stainless steel sink
- 1 large deep stainless steel sink with drain board

HVAC:

- Standard ventilation
- Air conditioning/heating
- Independent temperature control
- Acoustically lined ductwork

Electrical:

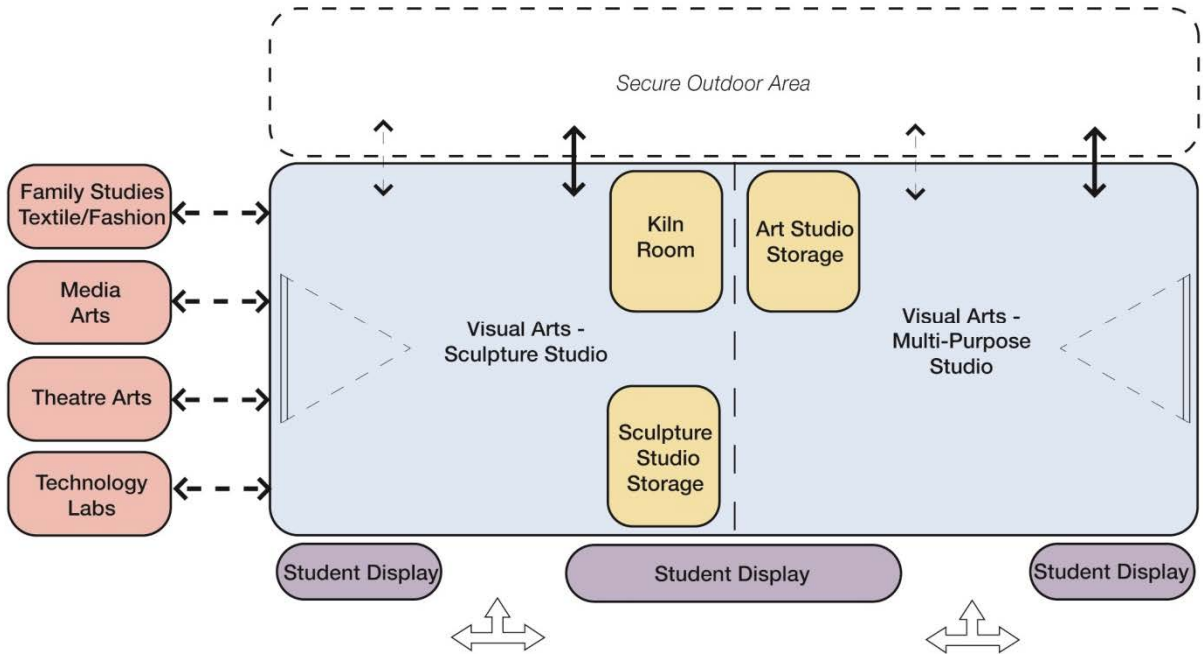
- 4 8 15A-1P duplex wall mounted perimeter receptacles for general/student use
- 5 15A-1P GFCI protected duplex receptacles mounted at counter height
- Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, and classroom control panel where applicable and locations mandated by CSA code requirements
- LED lighting w/multi-level switching
- Classroom control panel:
  - PA system, speaker, thermostat, light switches, clock, power & data outlets
- LED track lighting on a dimmer switch
- Fire alarm signalling device to be provided in accordance with ULC code requirements

Technology:

- 1 data outlet for projector
- 2 data outlet at teaching/demo station w/conduit to ceiling
- 1 data outlet at classroom control panel for general use
- 1 data outlet at wireless access point (WAP)

Notes:

- Preference on ground floor location
- Need storage for large canvases and sculptures
- Separate storage for various art materials
- Area to display student work outside of classroom
- Paper cutters, display boards



This diagram represents one of many possible arrangements for furnishings & equipment:

1.3.3

Program Area:	Music/Arts				
Room Name:	Visual Arts – Sculpture Studio	Capacity:	24 to 30	Area (sf):	1200-1400
				Area (SM):	110-130

Program Activities:

- Students will work on a variety of projects. Projects include drawing and painting, computer graphics, sculpture and model making, collage and ceramics, printmaking, posters, stage design.
- Individual & group work
- Presentations & demonstrations

Spatial Relationships:

- Near other core classrooms
- Direct access to outdoors or access through adjacent corridor.
- Ground floor location is preferred
- Adjacent to media arts, photography
- Close to fashion arts, technology labs, drama

Environmental Considerations:

- Generous exterior windows required with several operable vents per room
- Maximize northern exposure for natural light
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)
- Stain resistant floor covering
- High ceiling, unfinished studio space preferred

Finishes:

Floor:	• Resilient tile • Polished concrete • Sealed concrete	Base:	• Resilient
Walls:	• Concrete masonry unit (painted)	Ceiling:	• Exposed • Acoustic metal deck

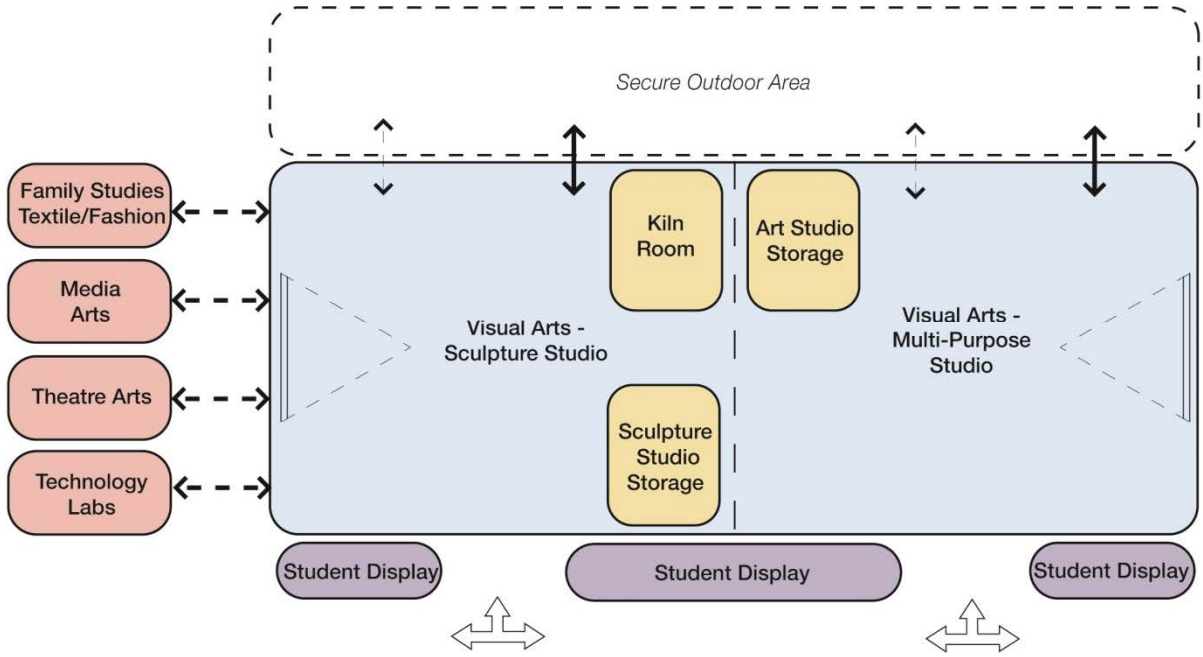
Furnishings & Equipment:

Furniture:	• Student work tables (moveable) • Student chairs w/castors or stools • Teacher workstation & chair w/castors • Teacher computer support • Large tables for large projects • Easels • Drying racks • Fire safety cabinet	Fixed Equipment:	• Clay storage cabinet • Student project storage with adjustable shelves • Sink base cabinet with wall cabinets above or wash fountains • Tall storage cabinet with file drawers • +/-3 White boards@ 2400mm x 1200mm • +/-4 Tack boards @ 2400mm to ceiling • Teaching wall as per HWDSB Standard, refer to Appendix A.3 • Tack board strip over all boards • Teacher coat & book storage cabinet • Emergency eyewash • Classroom control panel • Black-out window coverings at all exterior windows • Kiln

		Fixed Equipment (continued):	• Pottery wheels
Plumbing:	• 2 large sinks with solid interceptor • Emergency eyewash connections • Hot/cold water connections • Back flow preventers on hot/cold water • Sanitary connections • Plaster traps • Floor drains	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control • Manually controlled general exhaust • Ventilation for kiln
Electrical:	• 4 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets • Connection to kiln and pottery wheels • Fire alarm signalling device to be provided in accordance with ULC code requirements • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, and classroom control panel where applicable and locations mandated by CSA code requirements • Additional power requirements for specialty equipment to be coordinated with HWDSB and to be in accordance with CSA code requirements	Technology:	• 1 data outlet for projector • 1 data outlet at classroom control panel for general use • 1 data outlet at computer/student station • 2 data outlet at teaching/demo station w/conduit to ceiling • 1 data outlet at wireless access point (WAP) • 1 data outlet at interactive boards/monitor where applicable

Notes:

- Preferred on ground floor
- Need storage for large canvases and sculptures, easels, pottery materials
- Printing press
- Pottery wheels
- Kiln to be in a separate room
- Area to display student work outside of classroom



This diagram represents one of many possible arrangements for furnishings & equipment:

1.3.4

Program Area:	Music/Arts				
Room Name:	Digital Media Arts	Capacity:	24 to 30	Area (sf):	1200-1400
				Area (SM):	110-130

Program Activities:

- Animation, illustration, graphic design, photography, Photoshop, video & film, sound recording & mixing
- Individual & group work
- Digital photography, working in a studio with backdrop and soft box photography
- Scanning drawings and printing

Spatial Relationships:

- Adjacent to other art classrooms
- Near Communications Tech - can share resources such as video equipment, edit suites, green screens, sound editing
- Close to technology labs and drama

Environmental Considerations:

- STC rating (walls): min. 60
- Individual thermostat control (+/-3°C)

Finishes:

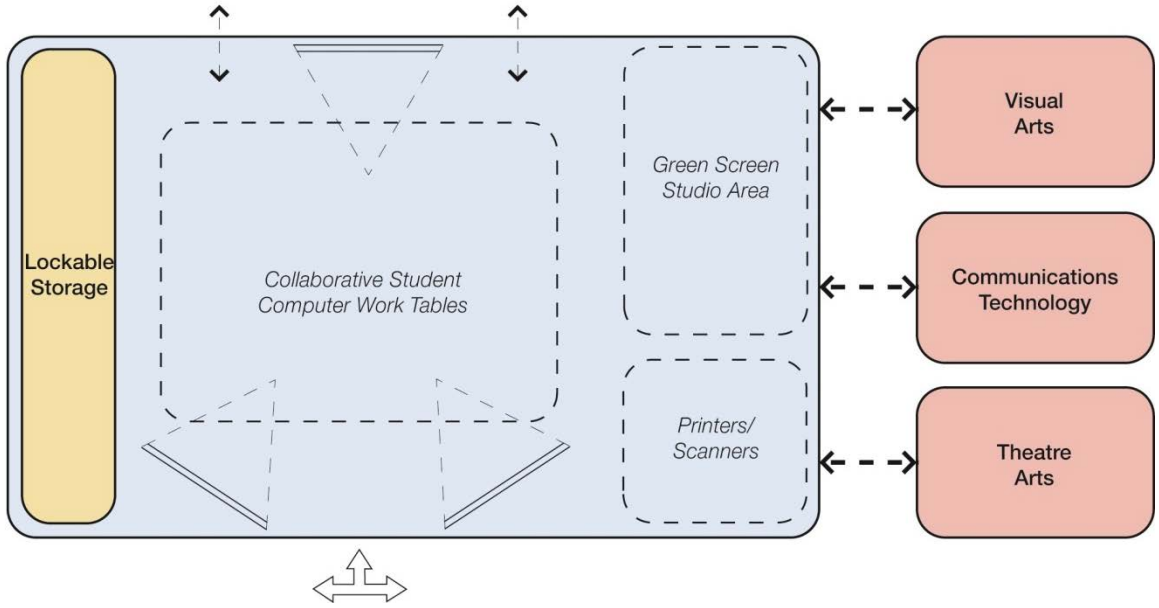
Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Media storage/docking centre – locked area for charging tablets, digital cameras, video cameras • Student work tables (moveable) • Student computer tables – 24 computers • Student chairs w/castors • Teacher computer support	Fixed Equipment:	• Teacher coat & book storage cabinet • Classroom control panel • Black-out window coverings at all exterior windows • +/-3 White board@ 2400mm x 1200mm • +/-2 Tack boards @ 1900mm x 1200mm • Teaching wall as per HWDSB Standard, refer to Appendix A.3
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 30 15A-1P duplex wall/furniture receptacles at computer stations (exact number for receptacles to be coordinated with HWDSB and number of student computers in space) • 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station • Additional power requirements for specialty equipment (such as standard/3D	Technology:	• Data outlets for projectors • 1 data outlet at classroom control panel for general use • 1 data outlet at computer/student station • 2 data outlet at teaching/demo station w/conduit to ceiling • Data outlets to accompany wall/furniture receptacles for student computers (exact number of data outlets to be coordinated with HWDSB and number of student computers in space

Electrical (continued):	printers, digital media centre, etc.) To be coordinated with HWDSB and to be in accordance with CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, and classroom control panel where applicable and locations mandated by CSA code requirements • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets	Technology (continued):	• 1 data outlet at wireless access point (WAP)

Notes:
- Need a digital work area – well spaced work areas
- Need a digital media centre with printers and scanners
- Need secure storage for equipment
- No perimeter computers



This diagram represents one of many possible arrangements for furnishings & equipment:

1.3.5

Program Area:	Music/Arts				
Room Name:	Theatre Arts (Theatre Arts & Stage program areas may be combined for a Black Box theatre)	Capacity:	24 to 30	Area (sf): Area (SM):	750 74

Program Activities:

- Create, present, study and reflect on theatre
- Large group, small group & individual instruction
- Acting (rehearsals-vocal work and characterizations)
- Presentations & demonstrations
- Production – presentations/technical theatre

Spatial Relationships:

- Near fashion arts and visual arts (design and craft)
- Near technology labs (set design and construction)
- Near family studies (costume design and manufacturing)
- Near computers (light/sound/projection design and execution)
- Near music (composition, scoring and production)
- Near dance (choreography and movement)

Environmental Considerations:

- STC rating (walls): 60
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Sprung wood floor with Harlequin type dance surface	Base:	• Resilient
Walls:	• Concrete masonry units (painted black) • Acoustical treatment on walls	Ceiling:	• High suspended acoustical or exposed

Furnishings & Equipment:

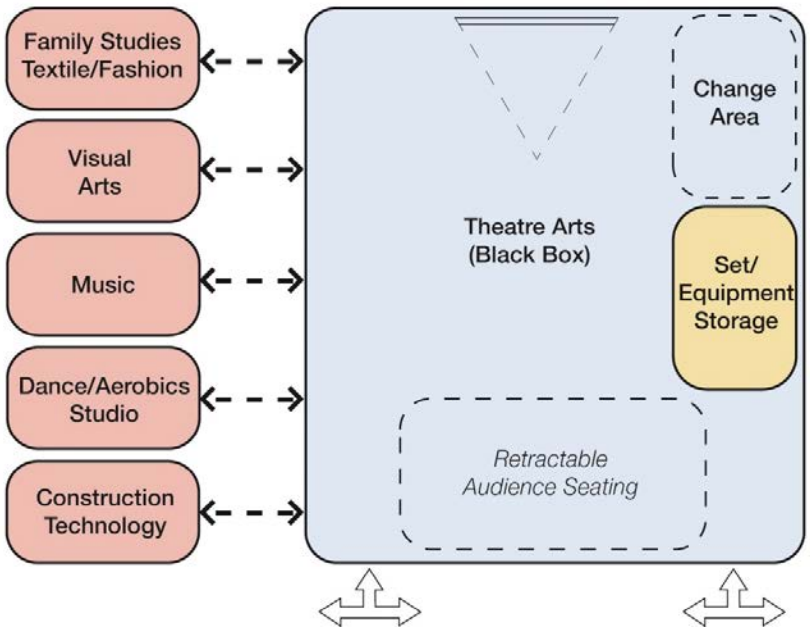
Furniture:	• Props • Sets • Collapsible and movable tables and chairs • Flip-forms • Movable seating for audience	Fixed Equipment:	• Full length mirror on one wall • Dressing area with curtain divider • 1 White board • 1 Tack board • Stage drapes •
Plumbing:	• Sink at back stage area	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control • Acoustically lined ductwork
Electrical:	• 8 duplex wall mounted perimeter receptacles for general/student use • 1 15A-1P duplex wall/furniture mounted receptacle at each computer station • 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station • Theatre type central sound system compete with amplification, recording, playback and microphone interfacing capabilities, electrical requirements to be	Technology:	• 1 data outlet for projector • 1 data outlet at classroom control panel • 1 data outlet at computer/student station • 2 data outlet at teaching/demo station w/conduit to ceiling • 1 data outlet at wireless access point (WAP)

Electrical (continued):

coordinated with HWDSB and theatre sound system manufacturer
- Fire alarm signalling device to be provided in this space and in each associated space (i.e. changing room, etc.) In accordance with ULC code requirements
- Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, and classroom control panel where applicable and locations mandated by CSA code requirements
- Additional power requirements for motorized stage curtain, etc. To be coordinated with HWDSB and in accordance with CSA code requirements
- LED lighting w/multi-level switching
- Suspended stage lighting system, electrical requirements to be coordinated with HWDSB and stage lighting manufacturer and in accordance with CSA code requirements
- Classroom control panel:
  - PA system, speaker, thermostat, light switches, clock, power & data outlets

Notes:

- Rooms to be designed as a black box theatre
- Allow for large storage space to store props, costumes and other equipment
- Provide a separate area for changing
- Curtains and drapes to meet CAN/ULC for flame spread rating



This diagram represents one of many possible arrangements for furnishings & equipment:

1.4.1

Program Area:	Experiential Learning				
Room Name:	Business/Computer Room	Capacity:	24 to 30	Area (sf):	1040
				Area (SM):	97

Program Activities:

- Large group, small group & individual instruction
- Individual & group work
- Presentations & demonstrations
- Accommodates any core academic disciplines at fixed computer workstations
- Information Technology, accounting, marketing, entrepreneurship, business leadership, finance, economics, international business and computer programming

Spatial Relationships:

- Near other core classrooms
- Classroom needs to be large and flexible

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Resilient tile – anti-static	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• 24 student computer tables • Student chairs w/castors • Teacher workstation & chair w/castors	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Classroom control panel • Window coverings at all exterior windows
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 15A-1P duplex wall/furniture receptacles at computer stations (exact number for receptacles to be coordinated with HWDSB and number of student computers in space) • 1 15A-1P duplex wall/furniture mounted receptacle at each computer station • 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station • Fire alarm signalling device to be provided in accordance with ULC code requirements • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, and classroom control panel	Technology:	• Data outlets for projector • 1 data outlet at classroom control panel for general use • 2 data outlet at teaching/demo station w/conduit to ceiling • Data outlets to accompany wall/furniture receptacles for student computers (exact number of data outlets to be coordinated with HWDSB and number of student computers in space • 1 data outlet at wireless access point (WAP)

Electrical (continued):	where applicable and locations mandated by CSA code requirements • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets
Notes:	• Provide a location within the school to allow students the opportunity to run a school based venture • Need secure storage space for equipment, tools and supplies

1.5.1

Program Area:	Family Studies				
Room Name:	Family Studies (Food & Nutrition)	Capacity:	22	Area (sf):	1,230
				Area (SM):	114

Program Activities:

- Large group, small group & individual instruction
- Individual & group work
- Presentations & visual demonstrations
- Food preparation and serving, kitchen safety
- Monthly school breakfast events
- Nutrition program
- Identify and explore occupational opportunities in the food industry

Spatial Relationships:

- Located on the ground floor
- Domestic kitchens
- Located adjacent to the instructional space
- Desire to be close to gym, nutrition, health and wellness

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Instructional area - movable desks and chairs • Ingredient set up on a large table in the centre of the room	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Demonstration kitchen area – 6 kitchen settings, including one barrier-free station, each with double sink, stove, microwave, cupboard, food storage • 1 kitchen set up for central demonstrations • Parenting storage cabinet full height with adjustable shelves • Classroom control panel • Window coverings at all exterior windows (3% open, typical) • Shared fridge and freezer • Clothes washer and dryer with ventilation
Plumbing:	• Sinks and fridge/freezer • Hot/cold water connections • Sanitary connections • Floor drains	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control • Oven exhaust – direct vent

Electrical:

- 8 15A-1P duplex wall mounted perimeter receptacles for general/student use
- 3 20A-1P GFCI protected duplex receptacles mounter at counter height at each kitchen demo station
- 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station
- Dedicated 15A-1P duplex receptacle at each kitchen demo station coordinated with kitchen furniture to service microwave to be coordinated with kitchen furniture and HWDSB where applicable
- Dedicated 40A-2P 240V stove receptacle at each kitchen demo station to service stove to be coordinated with kitchen furniture and HWDSB where applicable
- 15A-1P duplex wall/furniture mounted receptacle at parenting storage cupboard
- Dedicated 30A-2P 240V receptacle at each location to service clothes dryer to be coordinated with kitchen furniture and HWDSB where applicable
- Dedicated 20A-1P duplex wall mounted receptacle at each location to service clothes washer to be coordinated with kitchen furniture and HWDSB where applicable
- Dedicated 15A-1P duplex wall mounted receptacle at each kitchen demo station to service to be coordinated with kitchen furniture and HWDSB where applicable
- Dedicated 15A-1P duplex wall mounted receptacle at each fridge/freezer location to be coordinated with kitchen furniture and HWDSB where applicable
- Power requirements to service miscellaneous kitchen equipment to be coordinated with HWDSB and in accordance with CSA code requirements
- Fire alarm signalling device to be provided in accordance with ULC code requirements
- Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, and classroom control panel where applicable and locations mandated by CSA code requirements
- LED lighting w/multi-level switching
- Classroom control panel:
  - PA system, speaker, thermostat, light switches, clock, power & data outlets

HVAC (continued):

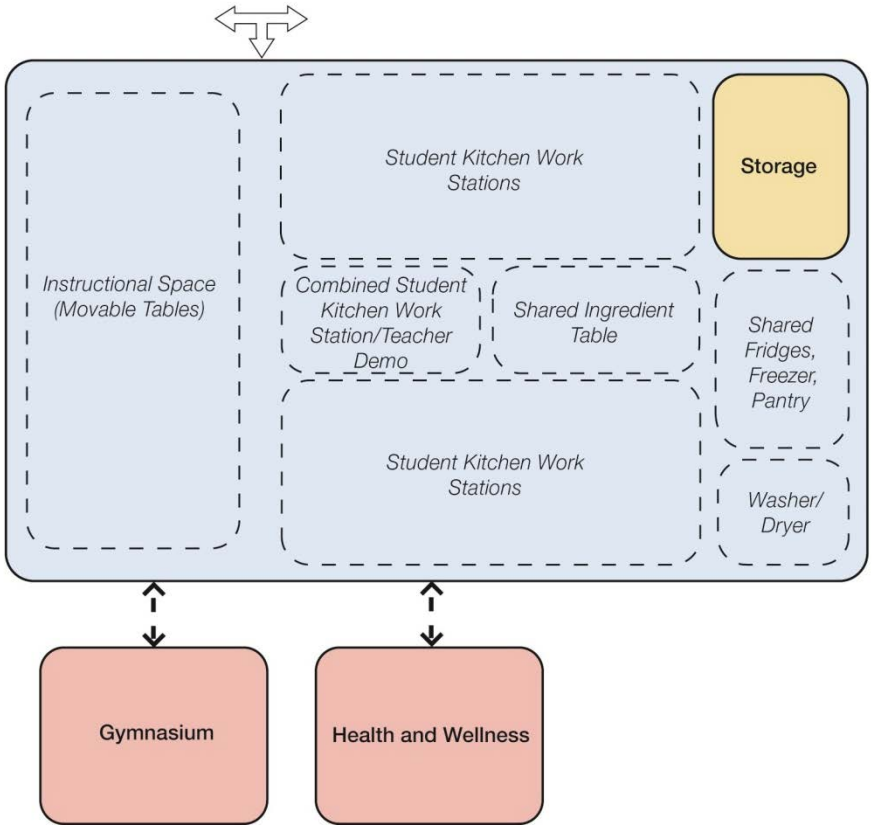
- Dryer vent exhaust

Technology:

- 1 data outlet for projector
- 1 data outlet at classroom control panel for general use
- 1 data outlet at interactive boards/monitor where applicable
- 2 data outlet at teaching/demo station w/conduit to ceiling
- 1 data outlet at wireless access point (WAP)

Notes:

- Provide a laundry area with washer and dryer
- Storage for dishes, cutlery and linen
- Lockable pantry
- Storage for the parenting component – simulation babies and other equipment
- Meet the requirements of Ontario Food Premises Regulations



This diagram represents one of many possible arrangements for furnishings & equipment

1.5.2

Program Area:	Family Studies				
Room Name:	Family Studies (Textiles/Fashion)	Capacity:	22	Area (sf):	1230
				Area (SM):	114

Program Activities:

- Large group, small group & individual instruction and demonstration
- Individual & group work
- Presentations & demonstrations
- Sewing and material patterning (need a place to cut large patterns)
- Practical construction of garments

Spatial Relationships:

- Near art, drama and family studies
- Space to display student work

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Large surface adjustable student work tables (92cm AFF)-moveable • Student chairs w/castors • Teacher workstation & chair w/castors	Fixed Equipment:	• Lockable millwork for sewing machines • White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Open bookshelves • Classroom control panel • Window coverings at all exterior windows • Lockable cubbies for sewing kits • Student project storage
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• Power to feed 22 sewing machines in accordance with CSA code requirements • 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • Fire alarm signalling device to be provided in accordance with ULC code requirements • LED lighting w/multi-level switching • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, and classroom control panel	Technology	• 1 data outlet at classroom control panel for general use • 1 data outlet at interactive boards/monitor where applicable • 2 data outlet at teaching/demo station w/ conduit to ceiling • 1 data outlet at wireless access point (WAP)

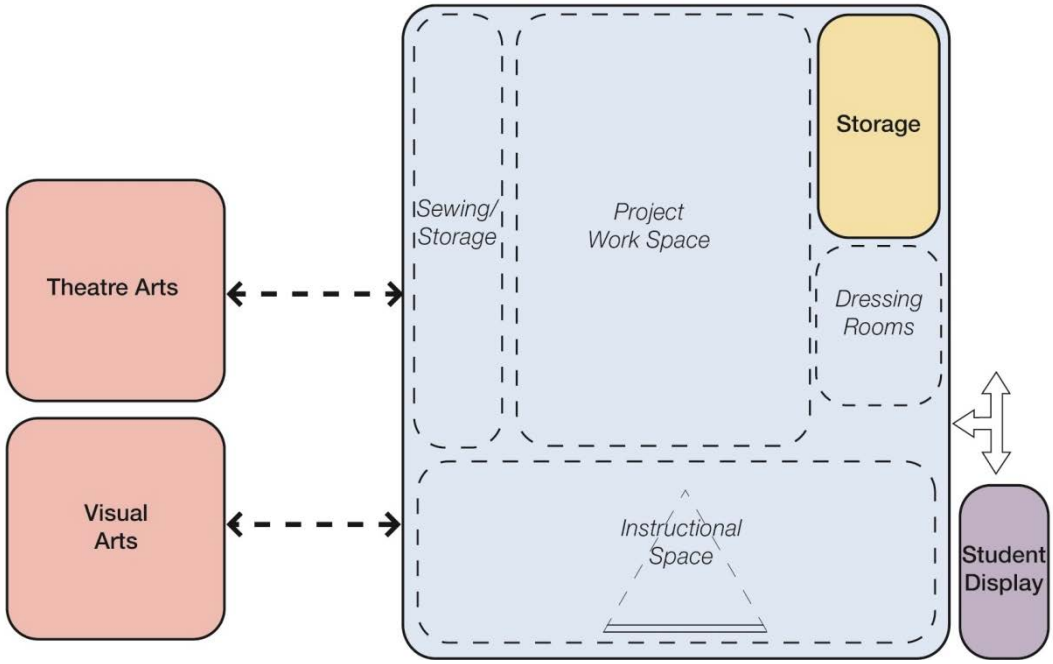
Electrical (continued):

where applicable and locations mandated by CSA code requirements

- 1 15A-1P duplex wall/furniture mounted receptacle at each computer station
- 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station
- Classroom control panel:
  - PA system, speaker, thermostat, light switches, clock, power & data outlets

Notes:

- Dressing room – can have a curtain with a 3-way mirror
- Storage for ironing boards, irons and rolls of fabric



This diagram represents one of many possible arrangements for furnishings & equipment:

1.6.1

Program Area:	Technology Labs - Large				
Room Name:	Hospitality/Tourism	Capacity:	22	Area (sf):	2000
				Area (SM):	114

Program Activities:

- The program focuses on preparing and presenting food, evaluating facilities, controlling inventory and marketing and managing events and activities
- Investigate customer service principles and the cultural and economic forces that drive tourism trends
- Develop awareness of health and safety standards, environmental and societal issues and career opportunities in the tourism industry.
- Participate in training and certification in customer service and safe food handling
- Weekly menu planning and grocery planning,
- Participate in small event catering for the school, small event planning for department and committee
- Learn and develop safety skills related to commercial cooking
- Focus on hospitality skills, customer service and safety in the workplace
- Large group, small group & individual instruction
- Individual & group work
- Demonstrations
- Need a separate instructional space from the commercial kitchen

Spatial Relationships:

- Near environmental science – green energy- proper garbage disposal, recycling and composting
- Near horticulture – green house and community garden
- Near graphic design – menu development
- Direct access to the cafeteria
- Adjacent to an exterior loading area/receiving door
- Instructional classroom and commercial kitchen to be separate spaces and adjacent to each other
- Provide office or work area for placing orders, preparing menus, etc.

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)
- Located on the ground floor

Finishes:

Floor:	• Non-slip sheet flooring • Epoxy flooring, anti-slip	Base:	• Integral cove base
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical-moisture resistant

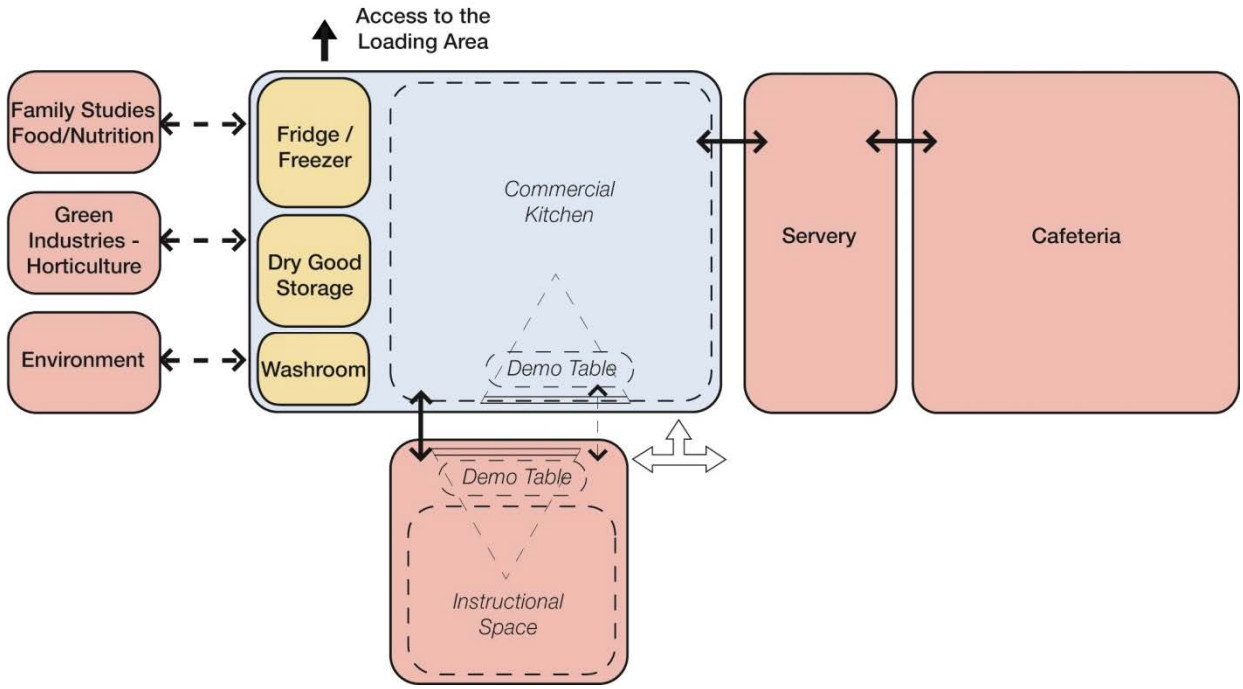
Furnishings & Equipment:

Furniture:	• Instructional area – standard classroom set-up with tables and student chairs w/castors or set up like a restaurant • Teacher workstation & chair w/castors • Closed circuit TV over demo table	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Commercial grade equipment including convection oven, gas stove range

Furniture (continued):	• Stainless steel student work tables	Fixed Equipment (continued):	• Dishwasher (to NSF ANSI 3 Standard), industrial w/overhead sprayer • Industrial washer and dryer • Walk-in freezer and fridges • Classroom control panel • Variable speed exhaust control panel
Plumbing:	• Hand sinks • 3 compartment wash sink • Hot/cold water connections as required to equipment • Sanitary connections • Floor drains	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control • Overhead exhaust for cooking ranges
Electrical:	• Power to kitchen equipment to be coordinated with HWDSB and manufacturer and in accordance with CSA code requirements • Power to walk-in fridges and freezers to be coordinated with HWDSB and manufacturer and in accordance with CSA code requirements • Power to industrial washer/dryer to be coordinated with HWDSB and manufacturer and in accordance with CSA code requirements • 1 15A-1P duplex wall/furniture mounted receptacle at each computer station • 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station • Fire alarm signalling device to be provided in accordance with ULC code requirements • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, television and classroom control panel where applicable and locations mandated by CSA code requirements • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, handset, speaker, thermostat, light switches, clock, power & data outlets	Technology:	• 1 data outlet for projector • 1 data outlet at classroom control panel for general use • 2 data outlet at teaching/demo station w/conduit to ceiling • 1 data outlet at wireless access point (WAP) • 1 data/television outlet at television location • 1 data/telephone outlet at classroom control panel for telephone • 1 data outlet at computer/student station w/conduit to ceiling • 1 data outlet at computer/student station • CCTV camera provisions over desk for displays

Notes:

- Commercial kitchen to be located on the ground floor next to an exterior loading area
- Meet the requirements of Ontario Food Premises Regulations
- HWDSB SHSM & Experiential Learning Consultant to provide additional requirements to classify program as a SHSM



This diagram represents one of many possible arrangements for furnishings & equipment

1.6.2

Program Area:	Technology Labs - Large				
Room Name:	Integrated Technology	Capacity:	22	Area (sf):	1500
				Area (SM):	140

Program Activities:

- Multi-purpose shop to expose students to the full variety of technology programs.
- Students develop an awareness of environmental and societal issues
- Large group, small group & individual instruction
- Individual & group work

Spatial Relationships:

- Near other technology classrooms and labs
- Near computer labs for AutoCAD program
- Close to drama
- Accessible to other departments to use

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

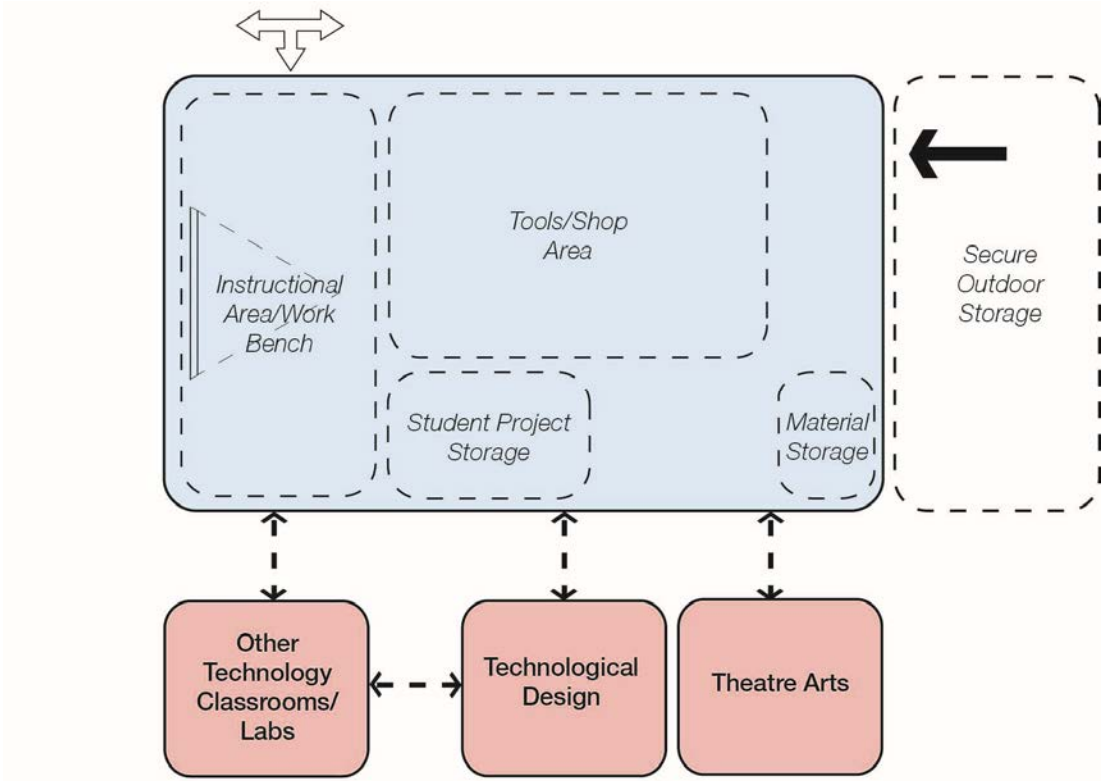
Floor:	• Sealed concrete	Base:	• Integral cove base
Walls:	• Concrete masonry units (painted)	Ceiling:	• Exposed and painted

Furnishings & Equipment:

Furniture:	• 6 workbenches with 4 stools each	Fixed Equipment:	• White boards +/-2 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Classroom control panel • Storage space for various wood supplies and lumber • Storage for equipment/tools – 3 welders, variety of power and hand tools. • Table top work benches • Display cases to showcase work. • Space for built projects • Storage for portable drafting tables • Shelving and storage for balsa wood, foam core, tools (exacto knife and ruler)
Plumbing:	• Washfountain type hand wash sinks • Hose bibs • Trench drain • Eye wash stations • Hot/cold water connections • Sanitary connections • Floor drains	HVAC:	• Standard ventilation • Heating only (no AC) • Share Construction Tech's dust collector or provide portable dust collector

Electrical:	• 3 20A-1P duplex receptacles mounted at each student/workbench station and teacher/demo station to provide power to smaller power tools – 1 circuit per workbench station in anticipation of heavy load • 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • 1 15A-1P duplex wall/furniture mounted receptacle at each computer station • 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station • LED lighting w/multi-level switching • 4 20A-1P ceiling receptacles, pull down type coil cords complete with kellems grips, for flexibility and mobility • Power requirements for larger tools (i.e. Welder, etc.) To be coordinated with HWDSB and tool manufacturer and in accordance with CSA code requirements – dedicated circuits to be used where necessary • Overhead door power requirements and control locations to be coordinated with HWDSB and door manufacturer where applicable • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, and classroom control panel where applicable and locations mandated by CSA code requirements • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets • Power and control requirements for motorized display screen to be coordinated with HWDSB and manufacturer	Technology:	• 1 data outlet for projector • 1 data outlet at classroom control panel for general use • 2 data outlet at teaching/demo station w/conduit to ceiling • 1 data outlet at wireless access point (WAP) • 1 data outlet to accompany wall/furniture receptacle at each computer station

Notes:	• Ground floor location • May use other technology classrooms/labs • Oversized overhead doors



This diagram represents one of many possible arrangements for furnishings & equipment

1.6.3

Program Area:	Technology Labs - Large				
Room Name:	Transportation Technology Transportation Technology (SHSM)	Capacity:	22	Area (sf): Area (SM):	2500 232

Program Activities:

- Students will develop technical knowledge and skills in testing, servicing and engine repair including electrical, suspension, brake and steering systems on vehicles, aircraft and/or watercraft
- Students will develop an awareness of environmental and societal issues related to transportation
- Large group, small group & individual instruction
- Individual & group work
- Presentations & demonstrations
- Inspect vehicles, develop estimates and perform repairs in an auto shop setting
- Welding

Spatial Relationships:

- Near other technology classrooms and labs
- Welding and machinery
- Computer design
- Next to technological design
- Transportation instructional space to be adjacent to the trans shop
- Exterior secured storage of vehicles

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room-preferably clerestory
- STC rating (walls): min. 60
- Individual thermostat control (+/-3°C)
- Vehicular access with secure exterior storage (semi-sheltered)
- Waste oil drums and oxygen bottles

Finishes:

Floor:	• Epoxy flooring or sealed concrete	Base:	• Integral cove base
Walls:	• Concrete masonry units (painted)	Ceiling:	• Exposed and painted

Furnishings & Equipment:

Furniture:

- 2 large stainless steel work benches
- Service desk with 5 computers
- Shelving for research materials
- Instructional area – standard classroom
- Student chairs w/castors
- Teacher workstation & chair w/castors

Fixed Equipment:

- White boards +/-2 @ 2400mm x 1200mm
- Tack boards +/-2 @ 1800mm x 1200mm
- Teacher coat & book storage cabinet
- Open bookshelves
- Classroom control panel
- 2 car hoists
- Enough space for 4 cars
- Tools include: basic hand tools, hoists, scan tools, lathes, tire machine, balancer, drill press, grinder, work benches, bench vises.
- Chemical storage cabinet
- One (1) Chop Saw (metal)
- One (1) drill press

Fixed Equipment (continued):
- One (1) Grinder
- One (1) tire balancer
- One (1) tire changer

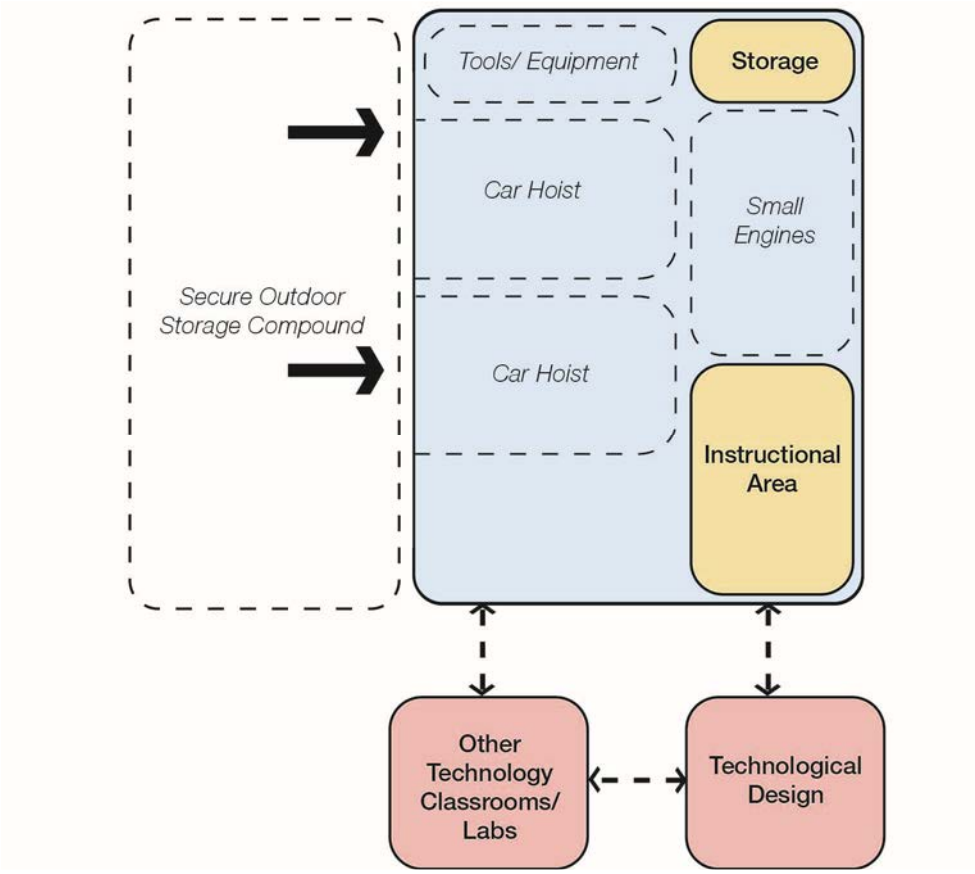
Plumbing:
- Washfountain type hand wash sinks
- Hose bibs
- Trench drain
- Eye wash station
- Compressed air
- Hot/cold water connections
- Sanitary connections
- Floor drains
- Oil interceptor

HVAC:
- Make up air/dedicated exhaust
- Dedicated make up air/exhaust for spray booth
- Standard ventilation
- Heating only (no AC)
- Independent temperature control
- Local ventilation for tail pipes as per Ontario Ministry of Labour Engineering Data Sheet

Electrical:
- Dedicated panel(s) complete with splitter and disconnect to service Transportation Technology shop related loads only – equipped with emergency push button operated contactor kill switch at room entrance and teacher/demo station, complete with hallway mounted indicating dome light
- 1 15A-1P duplex wall/furniture mounted receptacle at each computer station
- 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station
- 10 15A-1P duplex wall mounted receptacles for general/student use
- Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, and classroom control panel where applicable and locations mandated by CSA code requirements
- Fire alarm signalling device to be provided in accordance with ULC code requirements
- Overhead door power requirements and control locations to be coordinated with HWDSB and door manufacturer where applicable
- Powered car lift electrical requirements and control locations to be coordinated with HWDSB and door manufacturer where applicable
- 4 20A-1P ceiling receptacles, pull down type coil cords complete with kellems grips, for flexibility and mobility
- Power requirements for larger tools (i.e. Welder, lathe, saw, grinder, drill etc.) To be coordinated with HWDSB and tool manufacturer and in accordance with CSA code requirements – dedicated circuits to be used where necessary

Technology:
- 1 data outlet for projector where applicable
- 1 data outlet at classroom control panel for general use
- 1 data outlet at interactive boards/monitor where applicable
- 2 data outlet at teaching/demo station w/conduit to ceiling
- 1 data outlet at wireless access point (WAP)
- 1 data/television outlet at television location where applicable
- 1 data outlet to accompany wall/furniture receptacle at each computer station

Electrical (continued):	• Power requirements for spray booth to be coordinated with HWDSB and manufacturer and in accordance with CSA code requirements • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets
Notes:	• Ground floor location • Oversized overhead doors • Spray booth – for auto body work • Lockable storage area (interior and exterior) • Specialized equipment and space requirements for Transportation Technology (SHSM) to be confirmed by HWDSB



This diagram represents one of many possible arrangements for furnishings & equipment

1.6.4

Program Area:	Technology Labs - Large				
Room Name:	Construction Technology Construction – Building Careers (SHSM)	Capacity:	22	Area (sf):	2500
				Area (SM):	232

Program Activities:

- Develop technical knowledge and skills related to carpentry, masonry, electrical systems, heating and cooling and plumbing for residential construction.
- Students gain hands on experience using a variety of materials, processes, tools and equipment to design, layout and build projects
- Students will learn how to create and read technical drawings, learn construction terminology, interpret building codes and regulations and apply mathematical skills in developing construction projects.
- Work on small to large wood working projects.
- Build scale models of walls including electrical and plumbing.
- Large group, small group & individual instruction
- Individual & group work

Spatial Relationships:

- Near other technology classrooms and labs
- Near computer labs for AutoCAD program
- Near drama classroom

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room-clerestory windows
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Epoxy flooring or sealed concrete	Base:	• Integral cove base
Walls:	• Concrete masonry units (painted)	Ceiling:	• Exposed and painted

Furnishings & Equipment:

Furniture:

- 6 workbenches with 4 stools each

Fixed Equipment:

- White boards +/-2 @ 2400mm x 1200mm
- Tack boards +/-2 @ 1800mm x 1200mm
- Teacher coat & book storage cabinet
- Classroom control panel
- Storage space for various wood supplies and lumber
- Storage for equipment/tools – radial arm saw, jointer, planer, table saw, miter saw, drill press, mortise machines, panel saw, lathes, edge sander, spindle sander, and variety of power and hand tools.
- Table top work benches, display cases to showcase work.
- Two (2) Band Saw (metal or wood)
- One (1) CNC Mill/Router
- Three (3) drill press
- 1 (one) dust extractor

Fixed Equipment (continued):

- Two (2) jointer
- Two (2) mitre saw
- One (1) Mortiser
- One (1) panel saw
- One (1) planer
- One (1) router table
- One (1) sander (belt)
- One (1) sander (belt/disc combo)
- One (1) sander (disk)
- One (1) sander (edge)
- One (1) sander (spindle)
- One (1) scroll saw
- Two (2) table saw
- Two (2) wood lathe

Plumbing:

- Washfountain hand wash sinks
- Hose bibs
- Trench drain
- Eyewash station
- Hot/cold water connections
- Sanitary connections
- Floor drains

HVAC:

- Standard ventilation
- Heating only (no AC)
- Independent temperature control
- 1200 cubic foot dust collector (or sized to meet equipment load)

Electrical:

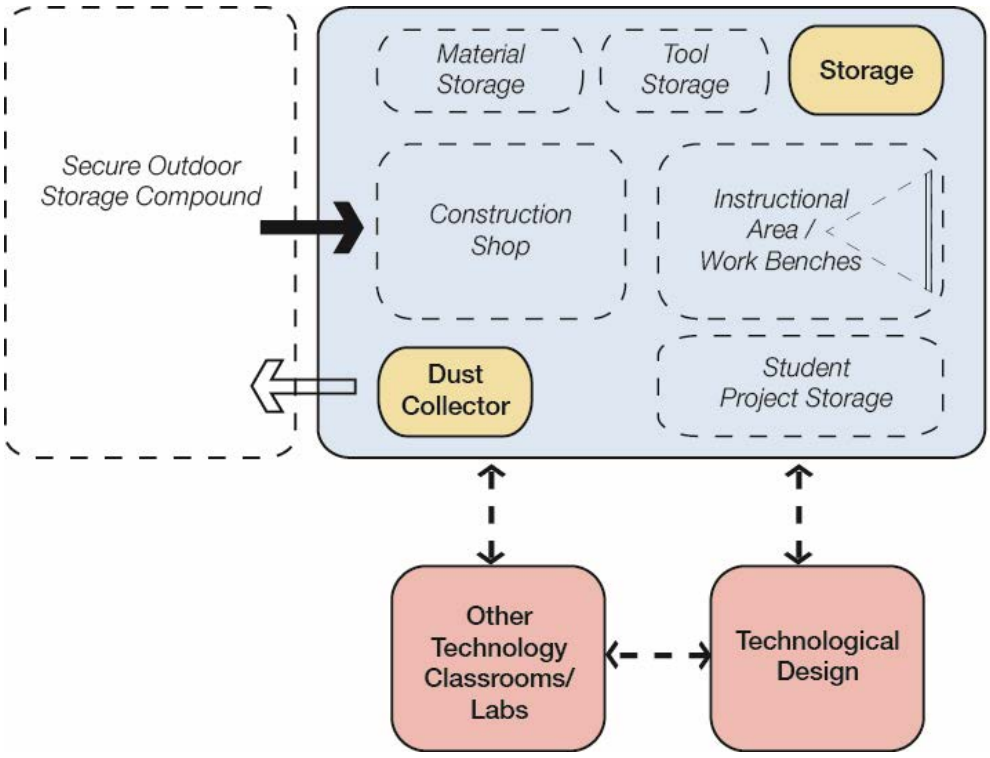
- 2 dedicated panels (600V and 120/208V) complete with splitter and disconnects to service Construction Technology shop related loads only – equipped with emergency push button operated contactor kill switch at room entrance and teacher/demo station, complete with hallway mounted indicating dome light
- 1 15A-1P duplex wall/furniture mounted receptacle at each computer station
- 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station
- 10 15A-1P duplex wall mounted receptacles for general/student use
- Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, and classroom control panel where applicable and locations mandated by CSA code requirements
- Fire alarm signalling device to be provided in accordance with ULC code requirements
- Overhead door power requirements and control locations to be coordinated with HWDSB and door manufacturer where applicable
- 4 20A-1P ceiling receptacles, pull down type coil cords complete with kellems grips, for flexibility and mobility – dedicated circuits

Technology:

- 1 data for projector where applicable
- 1 data outlet at classroom control panel
- 2 data outlet at teaching/demo station
- 1 data outlet at wireless access point (WAP)
- 1 data/television outlet at television location where applicable
- 1 data outlet to accompany wall/furniture receptacle at each computer station

Electrical (continued):	• Power requirements for larger tools (i.e. Welder, lathe, saw, grinder, drill, CNC mill etc.) To be coordinated with HWDSB and tool manufacturer and in accordance with CSA code requirements – dedicated circuits to be used where necessary • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets

Notes:	• Ground floor location • Oversized overhead doors • Space for built projects • Need large floor space to build models and for the construction of walls (complete with wiring, drywall, trim, paint, etc.) • Secure exterior storage space • Need an area designated for finishing projects, lockable storage area, material racking, benches, CNC routers complete with computers • Specialized equipment and space requirements for Construction – Building Careers (SHSM) to be confirmed by HWDSB



This diagram represents one of many possible arrangements for furnishings & equipment:

1.6.5

Program Area:	Technology Labs - Large				
Room Name:	Manufacturing Technology Manufacturing (SHSM)	Capacity:	22	Area (sf):	2500
				Area (SM):	232

Program Activities:

- Hands on, project based learning
- Students develop design, fabrication and problem solving skills while using tools and equipment such as lathes, mills, welders, computer-aided machines, robots and control systems
- Large group, small group & individual instruction
- Individual & group work
- Presentations & demonstrations
- Machining, welding, fabrication (rolling, tube-bending), sheet metal, pneumatics, hydraulics, Mastercam (toolpath software), AutoCAD, CNC plasma, CNC router, Grinding, Drilling, Oxy-Acetylene Torches
- Machining on metal lathe.
- Measuring and laying out material for specific projects
- Welding different joints and positions in Arc, Mig and Tig welding
- Mastercam (toolpath software) to draw and create a toolpath for a CNC machine
- Pneumatics – to read a schematic and connect the necessary components on a board by using air.
- Hydraulics – to read a schematic and connect the necessary components on a board using oil
- Welding different joints and positions (flat, horizontal, vertical)
- Read and interpret engineering drawings in 2D and 3D along with pneumatic and hydraulic schematics
- To design and build a project using AutoCAD and Mastercam

Spatial Relationships:

- Near other technology programs, transportation, construction tech., exploring tech.
- Computer lab attached to manufacturing shop
- Near Physics
- Ground floor location

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): min. 60
- Individual thermostat control (+/-3°C)

Finishes:

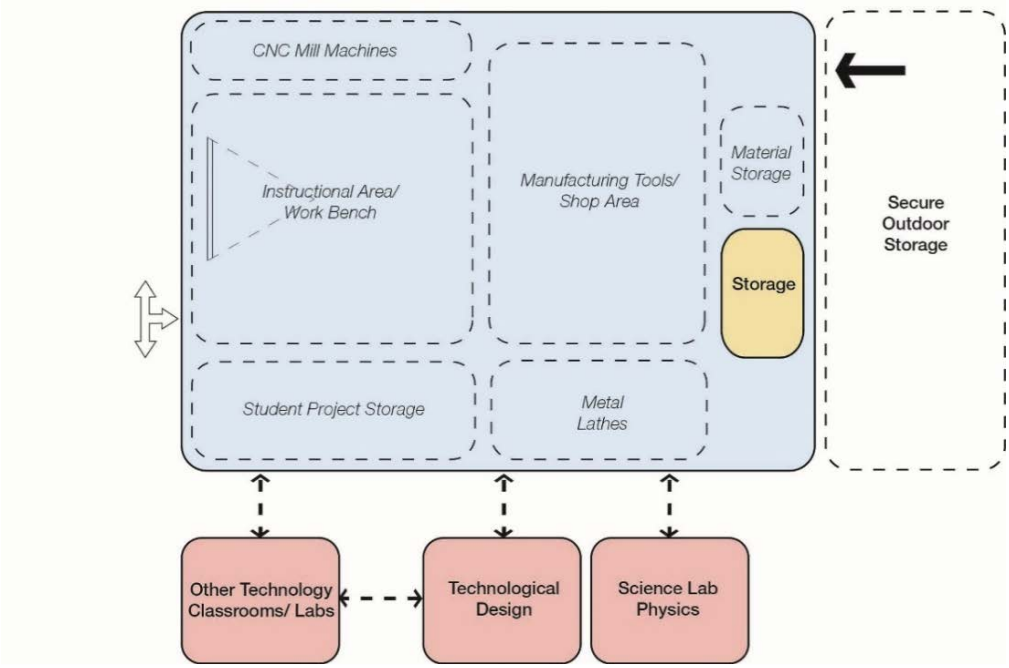
Floor:	• Epoxy flooring • Sealed concrete	Base:	• None
Walls:	• Concrete masonry units (painted)	Ceiling:	• Exposed (painted)

Furnishings & Equipment:

Furniture:	• Large non-combustible student work tables-standing height • Standing height stools	Fixed Equipment:	• White boards +/-2 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Welding booths tools: wrenches and sockets, pliers, vise-grips, cutting tools for lathes and milling machines, grinding

Fixed Equipment (continued):	discs, welding tips, welding nozzles, plasma tips, CNC router bits, milling machine vises, hole saws, oxygen tanks, acetylene tanks, argosheild tanks, argon tanks, regulators, arc welding electrodes, welding gloves and helmets, pneumatic tubing. • Equipment: metal lathes, milling machines, bench grinders, hand grinders, mig welders, arc and tig welders, drill press, shear, brake press, pneumatic boards, hydraulic board, blacksmith forge, CNC plasma, CNC router, tube bender, sheet metal and bar roller, vertical and horizontal saws and laptops. 3D printers. • Flammables storage cabinet • Oxy-Acetylene torches – cutting material • Bench grinding or hand grinding • Machining on a metal lathe, milling machine and drill press. • 2-4 welding booths (may be shared with Manufacturing) • One (1) Band saw (horz) • Two (2) band saw (metal or wood) • One (1) Chop saw (metal) • One (1) CNC lathe • One (1) Cutting Shear • Four (4) Drill press • One (1) Grinder • One (1) hydraulic press (manual) • One (1) iron worker • Eight (8) metal lathe • One (1) Milling machine (horizontal) • One (1) milling machine (vertical) • One (1) surface grinder
Plumbing:	• Washfountain type hand wash sink • Eyewash station • Hot/cold water connections • Sanitary connections • Floor drain • Compressed air
HVAC:	• Heating only (no AC) • Independent temperature control • Specialized venting system • Make up air/dedicated exhaust • Welding booth fume extraction to meet ACGIH Industrial Ventilation requirements
Electrical:	• 2 dedicated panels (600V and 120/208V) complete with splitter and disconnects to service Manufacturing Technology shop related loads only – equipped with emergency push button operated contactor kill switch at room entrance and teacher/demo station, complete with hallway mounted indicating dome light • 1 15A-1P duplex wall/furniture mounted receptacle at each computer station
Technology:	• 1 data outlet for projector • 1 data outlet at classroom control panel • 2 data outlet at teaching/demo station w/conduit to ceiling • 1 data outlet at wireless access point (WAP) • 1 data outlet to accompany wall/furniture receptacle at each computer/workbench station

Electrical (continued):	• 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station • 10 15A-1P duplex wall mounted receptacles for general/student use • 3 20A-1P duplex receptacles mounted at each student/workbench station and teacher/demo station to provide power to smaller power tools – 1 circuit per workbench station in anticipation of heavy load • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, and classroom control panel where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements • Power requirements for larger tools (i.e. Welder, lathe, saw, grinder, drill, CNC mill etc.) To be coordinated with HWDSB and tool manufacturer and in accordance with CSA code requirements – dedicated circuits to be used where necessary • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets
Notes:	• Classroom on the ground floor • Need space for storage of steel • Need space for repairs on equipment • Need lockable cupboards • Specialized equipment and space requirements for Manufacturing (SHSM) to be confirmed by HWDSB



This diagram represents one of many possible arrangements for furnishings & equipment

1.6.6

Program Area:	Technology Labs - Large				
Room Name:	Technological Design	Capacity:	22	Area (sf):	900
				Area (SM):	83

Program Activities:

- Program looks at how technological design is influenced by human, environmental, financial and material requirements and resources.
- Students research, design, build and assess solutions that meet specific human needs, using working drawings and other communication methods to present their ideas.
- Students develop and awareness of environmental, societal and cultural issues related to technological design.
- Multi-purpose shop to work on small design projects.
- Large group, small group & individual instruction
- Individual & group work

Spatial Relationships:

- Adjacent to other Technology Labs

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

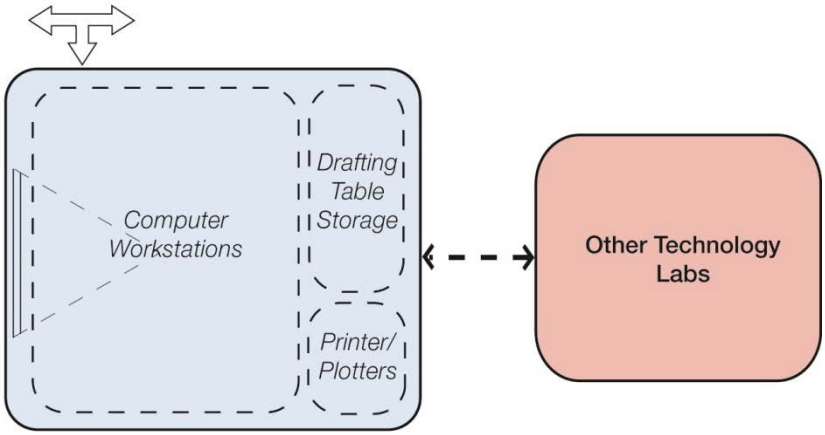
Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Acoustical ceiling

Furnishings & Equipment:

Furniture:	• Computer tables and chairs with castors • Drafting tables (movable)	Fixed Equipment:	• Teacher coat & book storage cabinet • Classroom control panel • White boards +/-2 @ 2400mm x 1200mm Tack boards +/-2 @ 1800mm x 1200mm
Plumbing:	• None	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, and classroom control panel where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements • 1 15A-1P duplex wall/furniture mounted receptacles at each computer station	Technology:	• 1 data outlet for projector where applicable • 1 data outlet at classroom control panel • 2 data outlet at teaching/demo station • 1 data outlet at wireless access point (WAP) • 1 data outlet to accompany wall/furniture receptacle at each computer station

Electrical (continued):	• 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets
Notes:	• Storage for portable drafting tables • Need access to plotters, 3D printers, 24 computers, model making area, drill press and small band saw



This diagram represents one of many possible arrangements for furnishings & equipment

1.6.7

Program Area:	Technology Labs - Large				
Room Name:	Green Industries – Horticulture Classroom, Greenhouse, Horticulture (SHSM)	Capacity:	22	Area (sf):	750
				Area (SM):	74

Program Activities:

- Large group, small group & individual instruction
- Individual & group work
- Presentations & demonstrations
- Horticulture skills development such as planting and pruning within a greenhouse setting
- In class lectures – included plant identification, soils, environmental science, safety and workplace legislation in a standard classroom
- Out of Class – practical grounds maintenance, plant science labs, aqua phonic growing, pruning, landscape construction

Spatial Relationships:

- Near Math, science
- Need access to a multi-purpose room
- Instructional space – can be shared with other programs – need access to computers

Environmental Considerations:

- Lots of exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Sealed concrete	Base:	• n/a
Walls:	• Concrete masonry units (painted)	Ceiling:	• n/a

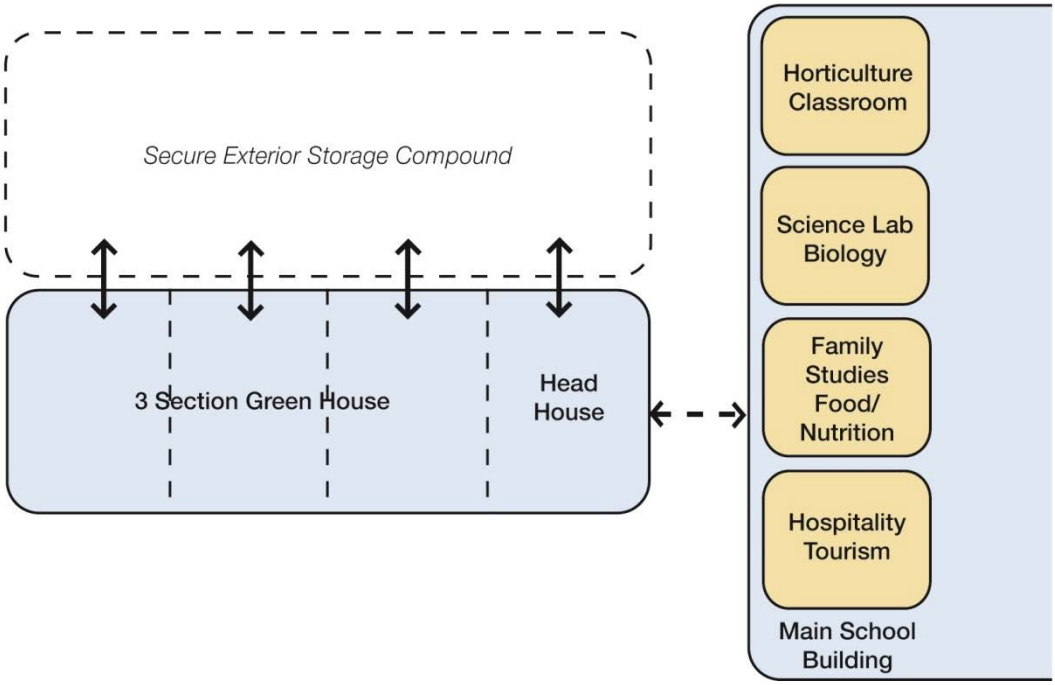
Furnishings & Equipment:

Furniture:	• Student work tables • Student stools • Green house: Need 3 greenhouses (30x50) connected. 1 space to be heated and connected to the school. • Potting area with benches	Fixed Equipment:	• Storage cabinet with sink and uppers
Plumbing:	• Large stainless steel sink • Hose bibs • Cold water connections • Sanitary connections • Floor drains • Solids interceptor	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 8 15A-1P duplex wall mounted receptacles in teaching area for general/student use • 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station • Additional 15A-1P duplex receptacle (1) to be provided at each of the following (in teaching area): projector, and classroom	Technology:	• 1 data outlet for projector • 1 data outlet at classroom control panel • 2 data outlet at teaching/demo station w/conduit to ceiling • 1 data outlet at wireless access point (WAP)

Electrical (continued):	control panel where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements • GFCI protected receptacles to be provided within greenhouse locations (6 15A-1P GFCI receptacles per greenhouse) and in wet/splash areas in accordance with CSA code requirements • LED lighting w/multi-level switching • Classroom control panel: (in teaching area) ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets	Technology (continued):	• 1 data/television outlet at television location where applicable • 1 data outlet to accompany wall/furniture receptacle at each computer station

Notes:

- Ground floor location – need to be adjacent to a green house
- Need fenced in area in the spring to sell plants (usually near the parking area)
- Head House – a place where the plant material will be stored
- Specialized equipment and space requirements for Horticulture (SHSM) to be confirmed by HWDSB



This diagram represents one of many possible arrangements for furnishings & equipment

1.7.1

Program Area:	Technology Lab - Small				
Room Name:	Communications Technology Information/Communication Technology (SHSM)	Capacity:	22	Area (sf): Area (SM):	1500 140

Program Activities:

- Program explores communications technology from a media perspective.
- Design and produce media projects in the areas of live, recorded and graphic communications
- Areas include TV, video and movie production, radio and audio production, print and graphic communications, photography, digital imaging, broadcast journalism and interactive new media
- Large group, small group & individual instruction
- Individual & group work
- Presentations & demonstrations
- Build on various sectors such as communication systems, computer systems, software and digital media
- Design, use and manage electronic, live, recorded and graphic communication systems

Spatial Relationships:

- Near other core classrooms
- Near staff work rooms
- Adjacent to collaborative learning hub
- Adjacent to media arts to share digital resources

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• High ceiling required for light grid

Furnishings & Equipment:

Furniture:	• Student work tables (moveable) • Student chairs w/castors • Teacher workstation & chair w/castors • Large layout tables with stools • Computer room set up for 24 students	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Open bookshelves • Classroom control panel • Window coverings and black-out shades at all exterior windows • Storage for video equipment • Green screen set up in the room • Sound edit room and control booth
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control

Electrical:

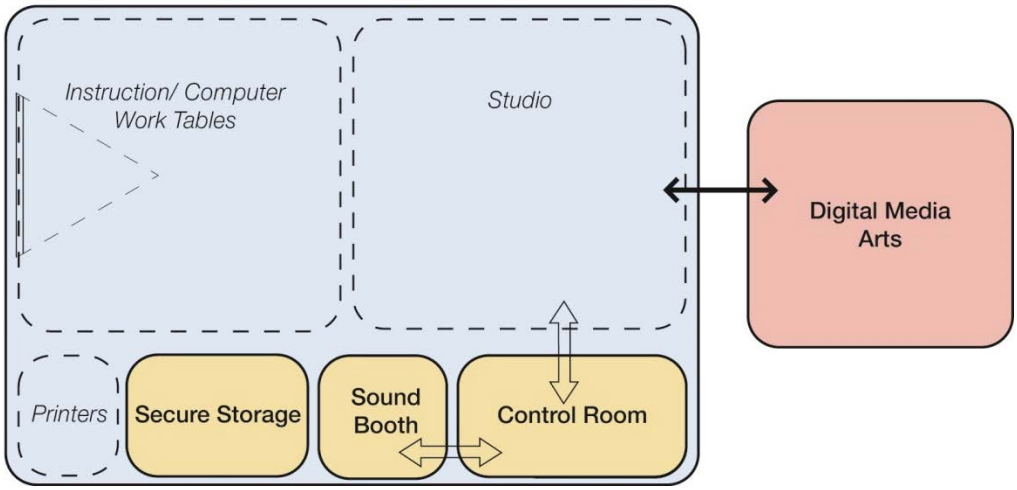
- 10 15A-1P duplex wall mounted perimeter receptacles for general/student use
- Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, television and classroom control panel where applicable and locations mandated by CSA code requirements
- Fire alarm signalling device to be provided in accordance with ULC code requirements
- 1 15A-1P duplex wall/furniture mounted receptacle at each computer/student station
- 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station
- Power requirements/connections within specialty spaces (i.e. Video editing, sound editing, control booth, etc.) To be coordinated with HWDSB, equipment requirements and manufacturer
- Dedicated receptacle to be provided at digital printer to be coordinated with HWDSB, equipment requirements and manufacturer
- LED lighting w/multi-level switching
- Pipe grid supporting LED track lighting system
- Classroom control panel:
  - PA system, speaker, thermostat, light switches, clock, power & data outlets

Technology:

- 1 data for projector where applicable
- 1 data outlet at classroom control panel for general use
- 2 data outlet at teaching/demo station w/conduit to ceiling
- 10 data outlets to accompany wall receptacles for student use
- 1 data outlet at wireless access point (WAP)
- 1 data outlet to accompany wall/furniture receptacle at each computer/student station
- Data outlets/connections within specialty spaces (i.e. Video editing, sound editing, control booth, etc.) To be coordinated with HWDSB, equipment requirements and manufacturer

Notes:

- Need Mac computer stations and a digital printer
- Need secure storage
- Specialized equipment and space requirements for Information/Communication Technology (SHSM) to be confirmed by HWDSB



This diagram represents one of many possible arrangements for furnishings & equipment:

1.7.2

Program Area:	Technology Lab Small				
Room Name:	Computer Engineering/Technology	Capacity:	22	Area (sf):	1500
				Area (SM):	232

Program Activities:

- Students will assemble computers and small networks by installing and configuring appropriate hardware and software
- Students will develop knowledge and skills in electronics, robotics, programming and networks and will build systems that use computer programs and interfaces to control and/or respond to external devices.
- Large group, small group instruction
- Instruction of computer curricula
- Multi-media presentations
- Group discussion
- Cooperative learning
- Focus on computer hardware

Spatial Relationships:

- Adjacent to workroom and storage
- Proximity to student washrooms
- Adjacent to computer science classroom

Environmental Considerations:

- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Resilient tile • Anti-static	Base:	• Resilient
Walls:	• Concrete masonry unit (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Computer workstation furniture for 24 students • Worktables with stools • Teacher workstation & chair w/castors	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Classroom control panel • Wall cabinets for student book storage for program manuals and equipment
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • 1 15A-1P duplex wall/furniture mounted receptacle at each computer/student station • 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station • Additional 15A-1P duplex receptacle (1) to be provided at each of the following:	Technology:	• 1 data outlet for projector • 1 data outlet at classroom control panel • 2 data outlet at teaching/demo station w/conduit to ceiling • 8 data outlets to accompany wall receptacles for student use • 1 data outlet at wireless access point (WAP)

Electrical (continued):

projector, interactive boards/monitor and classroom control panel where applicable and locations mandated by CSA code requirements

- 4 20A-1P ceiling receptacles, pull down type coil cords complete with kellems grips, for flexibility and mobility – dedicated circuits
- Fire alarm signalling device to be provided in accordance with ULC code requirements
- LED lighting w/multi-level switching
- Classroom sound amplification system
- Classroom control panel:
  - PA system, speaker, thermostat, light switches, clock, power & data outlets

Technology (continued):

- 1 data outlet to accompany wall/furniture receptacle at each computer/student station

Notes:

- Storage for computer parts and equipment

1.7.3

Program Area:	Technology Lab Small				
Room Name:	Computer Science Studies	Capacity:	22	Area (sf):	1500
				Area (SM):	232

Program Activities:

- Large group, small group instruction
- Instruction of computer curricula
- Multi-media presentations
- Group discussion
- Cooperative learning
- Students focus on computer software

Spatial Relationships:

- Adjacent to workroom and storage

Environmental Considerations:

- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Resilient tile • Anti-static	Base:	• Resilient
Walls:	• Concrete masonry unit (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Round computer workstations to accommodate 24 students - laptops	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Classroom control panel • Wall cabinets for student book storage for program manuals and equipment
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • 1 15A-1P duplex wall/furniture mounted receptacle at each computer/student station • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, and classroom control panel where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements • LED lighting w/multi-level switching • Classroom sound amplification system • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets	Technology:	• 1 data outlet projector where applicable • 1 data outlet at classroom control panel • 1 data outlet at teaching/demo station w/conduit to ceiling • 8 data outlets to accompany wall receptacles for student use • 1 data outlet at wireless access point (WAP) • 1 data outlet to accompany wall/furniture receptacle at each computer/student station

Notes:

- Organize classroom set up in a more collaborative way with multiple screens and round worktables

1.7.4

Program Area:	Technology Lab Small				
Room Name:	Cosmetology – Hairstyling and Aesthetics	Capacity:	22	Area (sf):	1500
				Area (SM):	140

Program Activities:

- Learn about the hairstyling and aesthetic industry
- Learn about related health and safety laws, large group, small group & individual instruction
- Individual & group work
- Presentations & demonstrations
- Perform hairstyling procedures, makeup and various other aesthetics
- Shampoo, blowers, manicures, facials, up-do's, makeup, highlights & colours, haircutting, roller sets, perm wraps and waxing

Spatial Relationships:

- Near fashion arts
- Near hospitality
- Ground floor preferred
- Located near the entrance of the ground floor for convenience for clients

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)
- Non-absorbing surfaces

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:

- 8 hydraulic hairstyling chairs
- 3 movable massage beds
- Manicure tables with storage
- Stools
- Instructional space - Movable tables and chairs
- 5 aesthetic spa beds with ergonomic electric controls

Fixed Equipment:

- 1 White board
- 1 Tack board
- Hairstyling stations with mirrors and duplex outlets
- Teacher coat & book storage cabinet
- Classroom control panel
- Window coverings at all exterior windows
- Shelving for storage of mannequin head and stands
- Double sink for equipment washing
- Hand wash sink (located remotely from storage & supplies)
- Hair wash stations (minimum 3)
- Flammable storage cabinet

Plumbing:

- Plumbing connection to the hair wash sinks (minimum 3)
- Laundry washer and dryer
- Laundry sink
- Hand wash sink
- Double stainless steel sink

HVAC:

- Standard ventilation
- Air conditioning/heating
- Exhaust for dryer
- Ventilation - meet ASHRAE standards for Beauty and Nail Salons

Plumbing (continued):

- Eyewash station
- Sinks for facials
- Floor drains
- Solids interceptor

Electrical:

- Dedicated panel to service cosmetology loads only
- 2 15A-1P duplex receptacles mounted at counter height at each hairstyling station
- 2 15A-1P duplex wall/furniture receptacles at each teacher/demo station
- Power requirements for aesthetic spa beds to be coordinated with HWDSB and tool manufacturer and in accordance with CSA code requirements – dedicated circuits to be used where necessary
- Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor and classroom control panel where applicable and locations mandated by CSA code requirements
- 1 15A-1P duplex wall/furniture receptacle at each manicure station to be coordinated with HWDSB
- 8 15A-1P duplex wall mounted perimeter receptacles for general/student use
- Cosmetology instructional space to comply with Classroom room data sheets
- 40A-2P 240v receptacle to service laundry dryer to be coordinated HWDSB where applicable
- 20A-1P receptacle to service laundry washer to be coordinated HWDSB where applicable
- GFCI protected receptacles to be provided in wet areas and splash zones in accordance with CSA code requirements
- Fire alarm signalling device to be provided in accordance with ULC code requirements
- LED lighting w/multi-level switching
- Classroom sound amplification system
- Classroom control panel:
  - PA system, handset, speaker, thermostat, light switches, clock, power & data outlets

Technology:

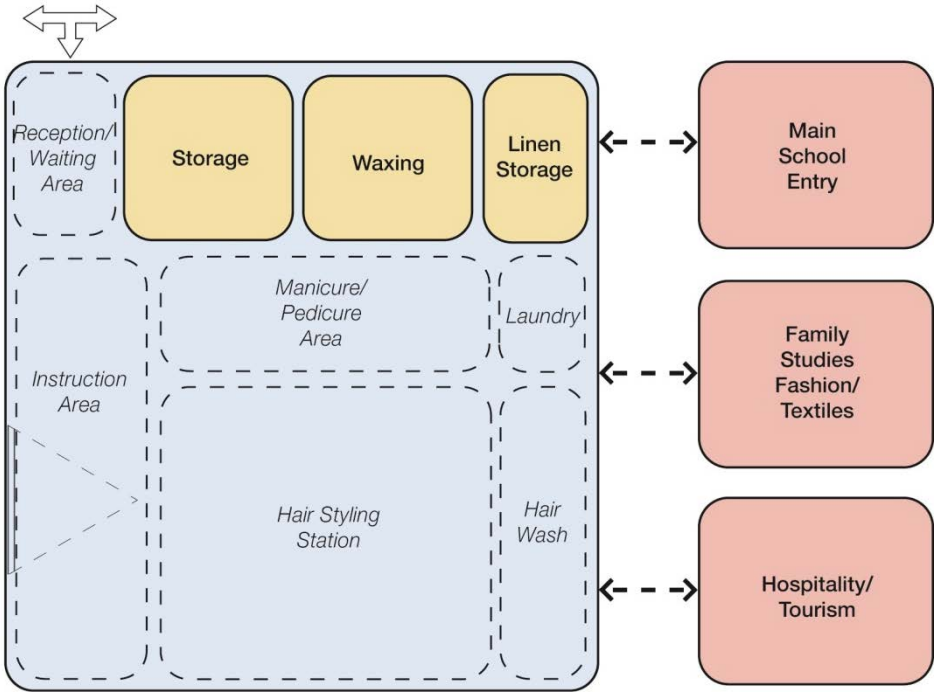
- 1 data outlet for projector where applicable
- 1 data outlet at classroom control panel for general use
- 1 data outlet at interactive boards/monitor where applicable
- 2 data outlet at teaching/demo station w/conduit to ceiling
- 1 data outlet at wireless access point (WAP)
- 1 data/television outlet at television location where applicable
- 1 data/telephone outlet at classroom control panel for telephone

Notes:

- Storage for manicure, facial supplies, hairstyling tools
- Towel and linen storage next to hair washing stations
- Locked room/millwork for chemicals.
- Stackable washer and dryer
- Space for “waiting area”
- Salon arms
- Facial area with sinks
- Laundry area with washer, dryer and storage

Notes (continued):

- Spa equipment including 5 facial steamers, 3 microdermabrasion machines, 3 high-frequency machines, 1 galvanic current machine, 5 magnifying lamps and supply carts, 2 rotary brush machines, 2 paraffin wax heaters, 6 electric mitts and boots, 1 makeup station with adjustable chairs



This diagram represents one of many possible arrangements for furnishings & equipment

1.7.5

Program Area:	Technology Lab Small				
Room Name:	Health Sciences (Healthcare)	Capacity:	24 to 30	Area (sf):	1500
				Area (SM):	232

Program Activities:

- Large group, small group & individual instruction
- Individual & group work
- Presentations & demonstrations
- Anatomy and Physiology – dissecting organs
- Healthcare and Lifestyles – look at vital signs and body movement

Spatial Relationships:

- Near Science – Biology (for dissecting)

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry unit (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Adjustable stainless steel tables • Student chairs w/castors • Teacher workstation & chair w/castors • 2 treatment tables • Full size fridge to store specimens and organs to be dissected	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Classroom control panel • Window coverings at all exterior windows • Lockable storage cabinets • Full size fridge for storing specimens
Plumbing:	• Hand wash sink • Sanitary connection • Floor drains • Hot/cold water connections	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • GFCI protected receptacles to be provided in wet areas and splash zones in accordance with CSA code requirements • 1 15A-1P duplex wall/furniture mounted receptacle at each lab/student station • 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor,	Technology:	• CCTV camera provisions over desk for displays • 1 data outlet for projector where applicable • 1 data outlet at classroom control panel for general use • 1 data outlet at interactive boards/monitor where applicable • 2 data outlet at teaching/demo station w/conduit to ceiling • 1 data outlet at wireless access point (WAP)

Electrical (continued):	television and classroom control panel where applicable and locations mandated by CSA code requirements • Dedicated circuit to be provided for specimen fridge, coordinate power requirements with HWDSB and manufacturer • Fire alarm signalling device to be provided in accordance with ULC code requirements • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets	Technology (continued):	• 1 data/television outlet at television location where applicable
Notes:	• Flexible room arrangement for multi-purpose activities		

1.8.1

Program Area:	Special Education/Resource Room				
Room Name:	Special Education Area	Capacity:	9	Area (sf):	900
				Area (SM):	84

Program Activities:

- Accommodates students who have special needs with cognitive disability, hearing impairment, visual impairment, emotional disturbance, orthopaedic impairment, autism, learning-deaf-blindness disabilities
- Variety of special services such as one-on-one instruction and small group instruction
- Activities include, but are not limits to: group discussions, demonstrations, music activities, life skills, coping skills, speech, and visual and hearing support services
- Help students develop independent living skills, social skills, vocational skills, behavior management, self-regulation skills

Spatial Relationships:

- Near other core classrooms
- Adjacent to an enclosed exterior space
- Family Studies-small kitchen set-up for ASD and DD students
- Near Student Success, Resource Room, Music and Art, Learning Resources, Alternative Education, Physical Education
- Calming room to be close to ASD room (sensory room)-10'x10' room
- Physio room – for body movements
- Close to administration
- Direct access to orthopaedic washroom

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room.
- Need natural light
- STC rating (walls): 40
- Individual thermostat
- Control (+/-3°C)
- To be located on a quiet corridor close to quiet building entrance
- Orthopaedic washroom for students that need assistance

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Gypsum Board (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Student work tables (stationary - depending on the student's condition) • Flexible furniture • Student chairs w/castors • Hanging seat from the ceiling • Movable dividers to create individual workspaces	Fixed Equipment:	• White boards +/-2 @ 2400mm x 1200mm • Tack boards +/-5 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Open bookshelves • Classroom control panel • Window coverings at all exterior windows • Fully accessible kitchen with double sink, stove, microwave, washer/dryer, storage cupboards
Plumbing:	• Sink • Hot/cold water connection	HVAC:	• Standard ventilation • Air conditioning/heating

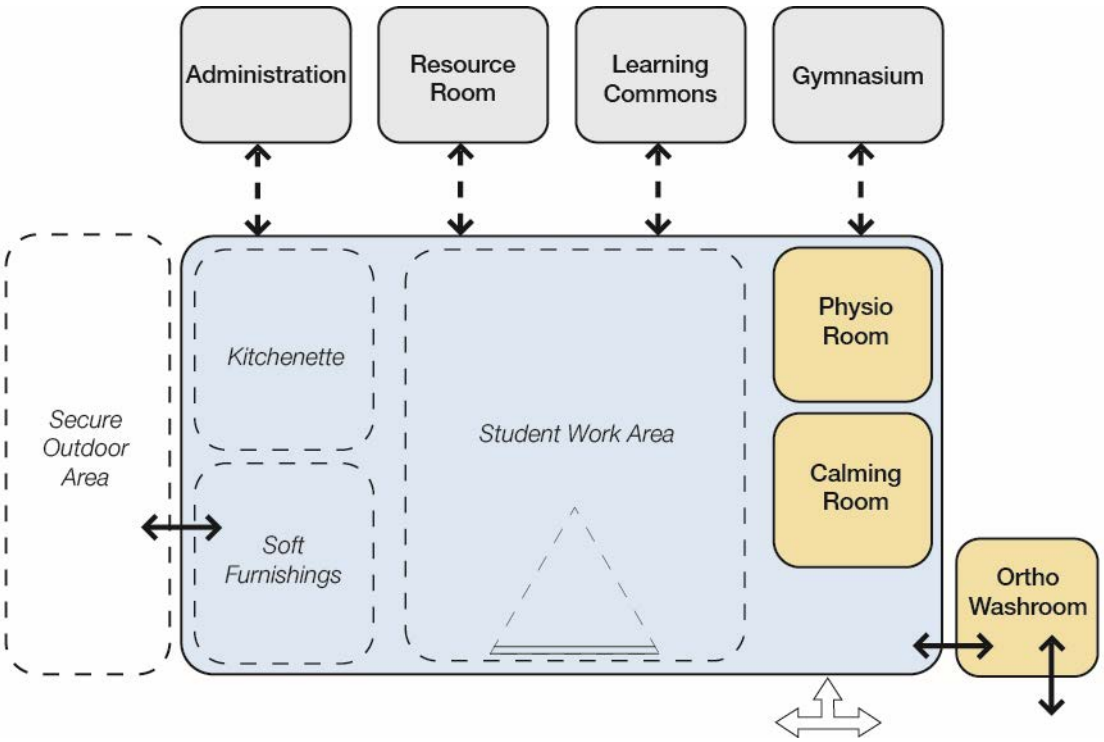
Plumbing (continued):	• Sanitary connection
Electrical:	• 10 15A-1P duplex wall mounted perimeter receptacles for general/student use • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel where applicable and locations mandated by CSA code requirements • Dedicated 15A-1P duplex receptacle at each kitchen demo station coordinated with kitchen furniture to service microwave to be coordinated with kitchen furniture and HWDSB where applicable • Dedicated 40A-2P 240V stove receptacle • Dedicated GFI 15A-1P duplex wall mounted receptacle at over kitchen counter • Dedicated 15A-1P duplex wall mounted receptacle at each fridge/freezer location • Dedicated 30A-2P 240V receptacle to service clothes dryer • Dedicated 20A-1P duplex wall mounted receptacle to service clothes washer • Fire alarm signalling device to be provided in accordance with ULC code requirements • 2 15A-1P GFCI protected receptacles to be provided in Orthopaedic washroom above counter and in areas deemed to be wet and/or a splash zone in accordance with CSA code requirements • Additional power requirements for lift in Orthopaedic washroom to be coordinated with HWDSB and manufacturer • Comprehensive classrooms within Special Education Area to comply with Classroom room data sheet • 1 15A-1P duplex wall/furniture receptacle at each computer station • 2 15A-1P duplex wall/furniture receptacle at each teacher/demo station • LED lighting w/multi-level switching • Classroom sound amplification system • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets
HVAC (continued):	• Independent temperature control
Technology:	• 1 data outlet for projector where applicable • 1 data outlet at classroom control panel for general use • 1 data outlet at interactive boards/monitor where applicable • 2 data outlet at teaching/demo station w/conduit to ceiling • 1 data outlet at wireless access point (WAP) • 1 data/television outlet at television location where applicable • 1 data outlet to accompany wall/furniture receptacle at each computer/student station

Notes:

- Sensory room equipment- Sensory manipulatives, toys, exercise balls, stereo, couch, floor mats, weight blanket.
- Orthopaedic washroom – ceiling-mounted lift, change table, storage cubbies for student supplies, shower (accessible off the corridor for the rest of the school to use)

Notes (continued):

- Comprehensive classes – 12 students, to be next to resource room and guidance – typical classroom set up with a sink –to be bigger classroom size to accommodate flexible learning styles. Include a bank of computers.
- Window sill height to allow view to exterior from wheelchair



This diagram represents one of many possible arrangements for furnishings & equipment

1.8.2

Program Area:	Special Education/Resource Room		
Room Name:	Resource Area – Unloaded (Student Success program)	Capacity:	Area (sf): Less than Area (SM): 400 sf

Program Activities:

- Individual instruction and work
- Meetings with students and parents, community agencies and teachers
- Includes working with administration, teachers, community agencies, students and their guardians
- Students access this space for a quiet room to do work

Spatial Relationships:

- Close to student service teams – Guidance and other resource spaces
- All program areas
- Need space for outside agencies – Mohawk College, social workers, etc.
- Adjacent to Learning commons
- To be distributed throughout the school
- Ground floor preferred
- Proximity to student washrooms

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)
- To be the "hub" of the school that offers essential services to students and their families

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Student work tables (round moveable) • Student chairs w/castors • Individual student desks • Movable dividers to create individual workspaces	Fixed Equipment:	• White boards +/-2 @ 2400mm x 1200mm • Tack boards +/-5 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Open bookshelves • Classroom control panel • Window coverings at all exterior windows
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 6 15A-1P duplex wall mounted perimeter receptacles for general/student use • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor and classroom control panel where applicable	Technology:	• 1 data outlet at classroom control panel for general use • 1 data outlet meeting room for general use • 1 data outlet at wireless access point (WAP)

Electrical (continued):	and locations mandated by CSA code requirements • 2 15A-1P duplex wall mounted perimeter receptacles in each meeting room • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets
Notes:	• Need small meeting rooms with glazing for visual monitoring • Small meeting room for teacher for counselling and private meetings • Conference space – remote from student traffic • Meetings rooms to be flexible to allow for different size spaces

1.8.3

Program Area:	Special Education/Resource Room				
Room Name:	Resource Area – Loaded (Student Success program)	Capacity:	12	Area (sf): Area (SM):	400-700 37-65

Program Activities:

- Individual instruction and work
- Meetings with students and parents, community agencies and teachers
- Includes working with administration, teachers, community agencies, students and their guardians
- Students access this space for a quiet room to do work

Spatial Relationships:

- All program areas
- Need space for outside agencies – Mohawk College, social workers, etc.
- Adjacent to Learning commons
- Proximity to student washrooms

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)
- To be the "hub" of the school that offers essential services to students and their families

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Student work tables (round moveable) • Student chairs w/castors • Individual student desks • Movable dividers to create individual workspaces	Fixed Equipment:	• White boards +/-2 @ 2400mm x 1200mm • Tack boards +/-5 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Open bookshelves • Classroom control panel • Window coverings at all exterior windows • Refrigerator to store snacks
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor and classroom control panel where applicable and locations mandated by CSA code requirements	Technology:	• 1 data outlet at classroom control panel for general use • 1 data outlet meeting room for general use • 1 data outlet at wireless access point (WAP)

Electrical (continued):	• 2 15A-1P duplex wall mounted perimeter receptacles in each meeting room • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets
Notes:	• Need small meeting rooms with glazing for visual monitoring • Small meeting room for teacher for counselling and private meetings • Conference space – remote from student traffic • Meetings rooms to be flexible to allow for different size spaces

1.8.4

Program Area:	Special Education/Resource Room				
Room Name:	Instructional Area Flexibility	Capacity:	24 to 30	Area (sf):	750
				Area (SM):	74

Program Activities:

- Large group, small group & individual instruction
- Individual & group work
- Presentations & demonstrations
- Accommodates any core academic disciplines

Spatial Relationships:

- Near other core classrooms
- Near staff work rooms
- Adjacent to collaborative learning hub
- Proximity to student washrooms

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Student work tables (moveable) • Student chairs w/castors • Teacher workstation & chair w/castors	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Open bookshelves • Classroom control panel • Window coverings at all exterior windows • Accessible counter with sink
Plumbing:	• Accessible stainless steel sink	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 8 15A-1P duplex wall mounted perimeter receptacles for general use • 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/central desk station • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements	Technology:	• 1 data outlet at ceiling for projector where applicable • 1 data outlet at classroom control panel for general use • 1 data outlet at interactive boards/monitor where applicable • 2 data outlet at teaching/central desk station w/conduit to ceiling • 8 data outlets to accompany wall receptacles for general use • 1 data outlet at wireless access point (WAP)

Electrical (continued):	• LED lighting w/multi-level switching • Classroom sound amplification system • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlet	• 1 data/television outlet at television location where applicable
Notes:	• General classrooms required on ground floor	

1.9.1

Program Area:	Tier 2 Program				
Room Name:	Biotechnology	Capacity:	24 to 30	Area (sf):	750
				Area (SM):	74

Program Activities:
- Large group, small group & individual instruction
- Individual & group work
- Presentations & demonstrations

Spatial Relationships:
- Near science classrooms
- Access to exterior space

Environmental Considerations:
- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Student work tables (moveable) • Student chairs • Teacher workstation & chair w/castors	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Classroom control panel • Window coverings at all exterior windows
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 10 15A-1P duplex wall mounted perimeter receptacles for general/student use • 2 15A-1P GFCI protected duplex wall/furniture mounted receptacle at each lab/student station if applicable • 2 15A-1P GFCI protected duplex wall/furniture mounted receptacle at each teacher/demo station if applicable • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements	Technology:	• 1 data outlet for projector where applicable • 1 data outlet at classroom control panel for general use • 1 data outlet at interactive boards/monitor where applicable • 2 data outlet at teaching/demo station w/conduit to ceiling • 1 data outlet at wireless access point (WAP) • 1 data/television outlet at television location where applicable • 1 data outlet to accompany wall/furniture receptacle at each lab/student station

Electrical (continued):	• LED lighting w/multi-level switching • Classroom sound amplification system • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets
Notes:	• Specialized equipment and space requirements to be confirmed by HWDSB

1.9.2

Program Area:	Tier 2 Program				
Room Name:	Robotics	Capacity:	22	Area (sf):	2500
				Area (SM):	232

Program Activities:
- Similar to manufacturing technology but will require smaller tools
- Can use the manufacturing technology classroom

Spatial Relationships:
- Near other technology classrooms
- Ground floor location
- Open floor area

Environmental Considerations:
- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): min. 60
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Epoxy flooring • Sealed concrete	Base:	• None
Walls:	• Concrete masonry units (painted)	Ceiling:	• Exposed (painted)

Furnishings & Equipment:

Furniture:	• Large non-combustible student work tables-standing height • Standing height stools	Fixed Equipment:	• White boards +/-2 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teaching wall as per HWDSB Standard, refer to Appendix A.3 • Teacher coat & book storage cabinet • Storage for hand tools and materials • Full height lockable storage cabinets • Work counter with lockable cupboards and uppers
Plumbing:	• Washfountain type hand sink • Eyewash station • Hot/cold water connections • Sanitary connections • Floor drain	HVAC:	• Standard ventilation • Heating only (no AC) • Independent temperature control
Electrical:	• Dedicated panel (600V and 120/208V) complete with splitter and disconnects to service shop related loads only – equipped with emergency push button operated contactor kill switch at room entrance, complete with hallway mounted indicating dome light • 10 15A-1P duplex wall mounted receptacles for general/student use	Technology:	• 1 data outlet for projector • 1 data outlet at classroom control panel • 1 data outlet at wireless access point (WAP) • Additional date outlets as directed by HWDSB

Electrical (continued):	• 3 20A-1P duplex receptacles mounted at each student/workbench station and teacher/demo station to provide power to smaller power tools – 1 circuit per workbench station in anticipation of heavy load • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, and classroom control panel where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets
Notes:	• Specialized equipment and space requirements to be confirmed by HWDSB

1.10.1

Program Area:	Tier 3 Program				
Room Name:	Hospitality & Tourism (SHSM)	Capacity:	22	Area (sf):	2000
				Area (SM):	186

Program Activities:

- The program focuses on food preparation and hospitality services
- Participate in training and certification in customer service and safe food handling
- Weekly menu planning and grocery planning
- Participate in small event catering for the school, small event planning for department and committee
- Learn and develop safety skills related to commercial cooking
- Focus on hospitality skills, customer service and safety in the workplace
- Large group, small group & individual instruction
- Individual & group work
- Demonstrations
- Need a separate instructional space from the commercial kitchen

Spatial Relationships:

- Near environmental science – green energy- proper garbage disposal, recycling and composting
- Near horticulture – green house and community garden
- Near graphic design – menu development
- Adjacent to the cafeteria
- Adjacent to an exterior loading area/receiving door
- Instructional classroom and commercial kitchen to be separate spaces and adjacent to each other

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)
- Located on the ground floor

Finishes:

Floor:	• Non-slip sheet flooring • Epoxy flooring, anti-slip	Base:	• Integral cove base
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical-moisture resistant

Furnishings & Equipment:

Furniture:	• Instructional area – standard classroom set up- with tables and student chairs w/castors or set up like a restaurant • Teacher workstation & chair w/castors • Closed circuit TV over demo table • Stainless steel student work tables	Fixed Equipment:	• 1 White board • 1 Tack board • Requires commercial grade equipment including convection oven, gas stove range, hood style dishwasher. • Industrial washer and dryer • Walk-in freezer and fridges • Classroom control panel • Variable speed exhaust control panel

Plumbing:	• Refer to equipment list for plumbing requirements. • Hand sinks • 3 compartment wash sink • Hot/cold water connections • Sanitary connections • Floor drains	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control • Overhead exhaust for cooking ranges
Electrical:	• Power to kitchen equipment to be coordinated with HWDSB and manufacturer and in accordance with CSA code requirements • Power to walk-in fridges and freezers to be coordinated with HWDSB and manufacturer and in accordance with CSA code requirements • Power to industrial washer/dryer to be coordinated with HWDSB and manufacturer and in accordance with CSA code requirements • 1 15A-1P duplex wall/furniture mounted receptacle at each computer station • 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station • Fire alarm signalling device to be provided in accordance with ULC code requirements • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, television and classroom control panel where applicable and locations mandated by CSA code requirements • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets	Technology:	• 1 data outlet for projector • 1 data outlet at classroom control panel for general use • 2 data outlet at teaching/demo station w/conduit to ceiling • 1 data outlet at wireless access point (WAP) • 1 data/television outlet at television location • 1 data outlet at computer/student station w/conduit to ceiling • 1 data outlet at computer/student station • CCTV camera provisions over desk for displays

Notes:
- Commercial kitchen to be located on the ground floor next to an exterior loading area
- Specialized equipment and space requirements to be confirmed by HWDSB

1.10.2

Program Area:	Tier 3 Program				
Room Name:	Health and Wellness (SHSM)	Capacity:	15-20	Area (sf):	900
				Area (SM):	83

Program Activities:

- Develop an understanding of basic health care procedures including the use of appropriate instruments, equipment and materials.
- Students focus on healthcare fundamentals
- Students develop an awareness of health and safety issues in the health care field, analyze environmental and societal issues related to health care and learn about professional practice standards and career opportunities in the field.
- Large group, small group & individual instruction

Spatial Relationships:

- Near Physical Education Classrooms
- Requires hospital room set up

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Student work tables (moveable) • Student chairs w/castors • Teacher workstation & chair w/castors • One (1) hospital bed complete with set up • Shelving set up similar to a hospital linen closet	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Open bookshelves • Classroom control panel • Window coverings at all exterior windows • Hospital wall set up behind bed.
Plumbing:	• One (1) sink • Hot/cold water connection • Sanitary connection	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 10 15A-1P duplex wall mounted perimeter receptacles for general/student use • 1 15A-1P duplex wall/furniture mounted receptacle at each computer/student station • GFCI protected receptacles to be provided with hospital head board • Nurse call provisions at hospital head board to be coordinated with HWDSB and system manufacturer	Technology:	• 1 data outlet for projector where applicable • 1 data outlet at classroom control panel for general use • 1 data outlet at interactive boards/monitor where applicable • 2 data outlet at teaching/demo station w/conduit to ceiling • 1 data outlet at each hospital head board for general use

Electrical (continued):	• Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements • LED lighting w/multi-level switching • Classroom sound amplification system • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets	Technology (continued):	• 1 data outlet at wireless access point (WAP) • 1 data/television outlet at television location where applicable • 1 data outlet to accompany wall/furniture receptacle at each computer/student station
Notes:	• Specialized equipment and space requirements to be confirmed by HWDSB		

1.10.3

Program Area:	Tier 3 Program				
Room Name:	Arts & Culture –Digital Media (SHSM)	Capacity:	24 to 30	Area (sf):	900
				Area (SM):	83

Program Activities:

- Animation, Illustration, Graphic Design, Photography, Video & Film, Sound Recording & Mixing, etc.

Spatial Relationships:

- Adjacent to other art classrooms
- Near Communications Tech - can share resources such as video equipment, edit suites, green screens, sound editing
- Close to technology labs and drama
- Adjacent to TV studio

Environmental Considerations:

- STC rating (walls): min. 60
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Media storage/docking centre – locked area for charging tablets, digital cameras, video cameras • Student work tables (moveable) • Student computer tables – 24 computers • Student chairs w/castors • Teacher computer support	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Classroom control panel • Black-out window coverings at all exterior windows • Teaching wall as per HWDSB Standard, including 2 short throw projectors, refer to Appendix A.3
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 10 15A-1P duplex wall mounted perimeter receptacles for general/student use • 24 15A-1P duplex wall/furniture mounted receptacle at computer/student stations • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements	Technology:	• 2 data outlet for projector where applicable • 1 data outlet at classroom control panel for general use • 1 data outlet at interactive boards/monitor where applicable • 2 data outlet at teaching/demo station w/conduit to ceiling • 10 data outlets to accompany wall receptacles for student use • 1 data outlet at wireless access point (WAP)

Electrical (continued):	• LED lighting w/multi-level switching • Power and control requirements for motorized blind/shades to be coordinated with HWDSB and manufacturer • Power and control requirements for motorized display screen to be coordinated with HWDSB and manufacturer • Electrical provisions for specialty printers/rendering equipment to be coordinated with HWDSB and equipment manufacturer • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets	Technology (continued):	• 1 data/television outlet at television location where applicable • 24 data outlet to accompany wall/furniture receptacle at computer/student stations

Notes:	• Need a digital work area – well spaced work areas • Need a digital media centre with printers and scanners • Need secure storage for equipment • Specialized equipment and space requirements to be confirmed by HWDSB

1.10.4

Program Area:	Tier 3 Program				
Room Name:	Artsmart (co-op)	Capacity:	24 to 30	Area (sf):	750
				Area (SM):	70

Program Activities:

- Co-op program taken during the second semester
- Work with the professionals in the community relating to drama, theatre and dance
- Program includes dance, music theatre, drama, music vocal, fashion design and set design

Spatial Relationships:

- Requires access to a local facility with fully equipped auditorium with orchestra pit, production and sound booth, lighting equipment
- Requires the use of other program spaces in the school: drama, music, technology labs,
- Construction technology

Environmental Considerations:

- N/A

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Student work tables (moveable) • Student chairs w/castors • Teacher workstation & chair w/castors	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Open bookshelves • Classroom control panel • Window coverings at all exterior windows
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 10 15A-1P duplex wall mounted perimeter receptacles for general/student use • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor and classroom control panel where applicable and locations mandated by CSA code requirements • 1 15A-1P duplex wall/furniture mounted receptacle at each student station • 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station • LED lighting w/multi-level switching	Technology:	• 1 data outlet for each projector where applicable • 1 data outlet at classroom control panel for general use • 1 data outlet at each interactive boards/monitor where applicable • 2 data outlet at teaching/demo station w/conduit to ceiling • 1 data outlet at wireless access point (WAP) • 1 data/television outlet at each television location where applicable

Electrical (continued):	• Theatre type central sound system compete with amplification, recording, playback and microphone interfacing capabilities, electrical requirements to be coordinated with HWDSB and theatre sound system manufacturer • Electrical provision to be provided for sound/video equipment in production/sound booth to be coordinated with HWDSB • Fire alarm signalling device to be provided in accordance with ULC code requirements • Additional power requirement for specialty lighting equipment to be coordinated with HWDSB and equipment manufacturer • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets	Technology (continued):	• 1 data outlet to accompany wall/furniture receptacle at each computer/student station

Notes:	• This program requires the use of other program spaces in the school or community which will facilitate the delivery of this program. • Specialized equipment and space requirements to be confirmed by HWDSB

1.10.5

Program Area:	Tier 3 Program				
Room Name:	Aviation and Aerospace (SHSM)	Capacity:	22	Area (sf):	2500
				Area (SM):	232

Program Activities:
- Work with industry experts in the aerospace field
- Use real components of their industry such as a flight simulator
- Large group, small group & individual instruction
- Individual & group work
- Presentations & demonstrations

Spatial Relationships:
- Can use the Transportation Technology space to carry out program activities. Space needs to be bigger to accommodate a flight simulator
- Open floor area for small plane

Environmental Considerations:
- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): min. 60
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Epoxy flooring or sealed concrete	Base:	• Integral cove base
Walls:	• Concrete masonry units (painted)	Ceiling:	• Exposed and painted

Furnishings & Equipment:

Furniture:	• Large non-combustible student work tables-standing height • Standing height stools	Fixed Equipment:	• White boards +/-2 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teaching wall as per HWDSB Standard, refer to Appendix A.3 • Teacher coat & book storage cabinet • Full height lockable storage cabinets • Work counter with lockable cupboards and uppers • Flight simulator • 2 wing rotators • One drill press • English wheel • Shrinker/stretcher machine
Plumbing:	• Washfountain type hand sink • Eyewash station • Hot/cold water connections • Sanitary connections • Floor drain	HVAC:	• Standard ventilation • Heating only (no AC) • Independent temperature control
Electrical:	• Dedicated panel (600V and 120/208V) complete with splitter and disconnects to service shop related loads only – equipped with emergency push button operated contactor kill switch at room entrance and teacher/demo station, complete with hallway mounted indicating dome light	Technology:	• 1 data outlet for projector • 1 data outlet at classroom control panel • 1 data outlet at wireless access point (WAP) • Additional date outlets as directed by HWDSB • Control wiring for the flight simulator

Electrical (continued):	• 2 15A-1P duplex wall/furniture mounted receptacle at each teacher/demo station • 10 15A-1P duplex wall mounted receptacles for general/student use • 3 20A-1P duplex receptacles mounted at each student/workbench station and teacher/demo station to provide power to smaller power tools – 1 circuit per workbench station in anticipation of heavy load • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, and classroom control panel where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements • Power requirements for tools and equipment to be coordinated with HWDSB and tool manufacturer and in accordance with CSA code requirements – dedicated circuits to be used where necessary • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets • Electrical provisions for flight simulators including all necessary harmonic transformers, disconnects, and/or safeties, etc. where applicable to be coordinated with HWDSB and simulator manufacturer
Notes:	• Specialized equipment and space requirements to be confirmed by HWDSB

1.10.6

Program Area:	Tier 3 Program				
Room Name:	Strings	Capacity:	24 to 30	Area (sf):	1200
				Area (SM):	111

Program Activities:

- Performing Arts program for the violin, cello, bass and viola
- Large group, small group & individual instruction
- Individual & group work
- Presentations & demonstrations

Spatial Relationships:

- Near music program spaces and practice rooms
- Adjacent to collaborative learning hub
- Proximity to student washrooms
- Adjacent to a large storage room for stings instruments (space for 100-150 string instruments)
- Practice rooms – 4 to 8 rooms to accommodate the strings and other music programs

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): min. 60
- Individual thermostat control (+/-3°C)
- Requires humidity control for equipment
- Shape of the room should not be square
- Acoustical control treatment on walls and ceilings
- Higher than normal space

Finishes:

Floor:	• Rubber floor – resilient cushion floor	Base:	• Resilient
Walls:	• Concrete masonry units (painted) • Acoustic treatment on the walls	Ceiling:	• Suspended acoustical tile with sound isolators

Furnishings & Equipment:

Furniture:	• Student work tables (moveable) • Student chairs w/castors • Teacher workstation & chair w/castors	Fixed Equipment:	• White boards (with blank music staff for notations) +/-3 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Open bookshelves • Classroom control panel • Window coverings at all exterior windows • Interactive boards/monitor • Lockable cupboard for storing repair tools
Plumbing:	• One (1) sink • Hot/cold water connection • Sanitary connection	HVAC:	• Standard ventilation • Air conditioning/heating • Acoustically lined ductwork • Humidity control • Independent temperature control

Electrical:	• 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: teacher's station, projector, and classroom control panel where applicable and locations mandated by CSA code requirements • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets • Fire alarm signalling device to be provided in accordance with ULC code requirements • Power requirements for tablet charging station to be coordinated with HWDSB and manufacturer	Technology:	• 1 data outlet for projector • 2 data outlets at teaching station w/conduit to ceiling • 1 data outlet at classroom control panel for general use • 1 data outlet at wireless access point (WAP)
Notes:	• Storage for score music, method books, program books.		

1.10.7

Program Area:	Tier 3 Program				
Room Name:	Energy (SHSM)	Capacity:	22	Area (sf):	750
				Area (SM):	74

Program Activities:

- Measure and monitor energy consumption – need infrastructure in place to monitor wind and solar power.
- Want to display energy consumption (gym and cafeteria), i.e. Bike power to connect to power consumption
- Large group, small group & individual instruction
- Individual & group work
- Presentations & demonstrations
- Composting

Spatial Relationships:

- Near Science classrooms
- Near greenhouse – attached to science wing
- Near Hospitality

Environmental Considerations:

- Additional exterior windows required w/minimum 2 operable vents per window.
- Robust Recycling program in place.
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)
- Ability to use modern sustainable design features i.e. Collecting rain water for re-use, monitoring the energy consumption of specific areas, green roof, solar panels, etc.

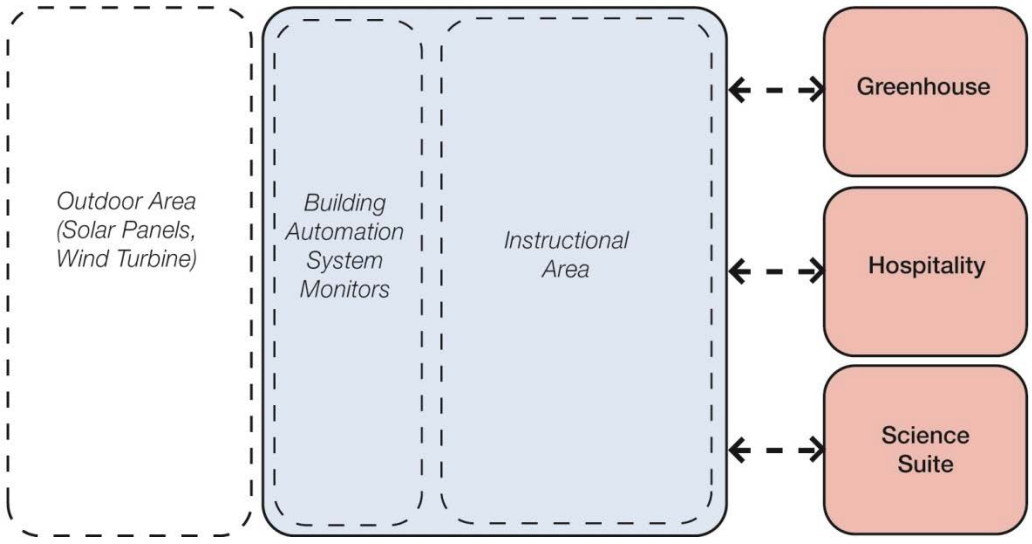
Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Student work tables (moveable) • Student chairs w/castors • Teacher workstation & chair w/castors	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Open bookshelves • Classroom control panel • Window coverings at all exterior windows
Plumbing:	• One (1) sink • Hot/cold water connection • Sanitary connection	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • 1 15A-1P duplex wall/furniture mounted receptacle at each computer/student station	Technology:	• 1 data outlet for projector where applicable • 1 data outlet at classroom control panel for general use • 1 data outlet at interactive boards/monitor where applicable

Electrical (continued):	• Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel where applicable and locations mandated by CSA code requirements • Electrical provisions for PV solar panels, monitoring equipment, etc. To be coordinated with HWDSB and equipment manufacturer • Spare conduit to be installed from energy monitoring station to each of the Gymnasium(s) and Cafeteria for future data display medium, to be coordinated with department head and HWDSB • Fire alarm signalling device to be provided in accordance with ULC code requirements • Power and control requirements for motorized blind/shades to be coordinated with HWDSB and manufacturer • Power and control requirements for motorized display screen to be coordinated with HWDSB and manufacturer • LED lighting w/multi-level switching • Classroom sound amplification system • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets	Technology (continued):	• 2 data outlet at teaching/demo station w/conduit to ceiling • 1 data outlet at wireless access point (WAP) • 1 data/television outlet at television location where applicable • 1 data outlet to accompany wall/furniture receptacle at each computer/student station
Notes:	• Specialized equipment and space requirements to be confirmed by HWDSB		



This diagram represents one of many possible arrangements for furnishings & equipment

1.11.1

Program Area:	**Other Spaces**				
Room Name:	**Stage** (refer to Theatre Arts program for Black Box Theatre)	Capacity:	N/A	Area (sf): Area (SM):	1500 140

Program Activities:

- Large group, small group & individual instruction
- Presentations and performances

Spatial Relationships:

- Open to large assembly space (cafeteria or gym)
- Adjacent to the Cafeteria
- Near drama classroom
- Near music classrooms
- Requires dedicated storage room for portable stage, ramp and chairs

Environmental Considerations:

- No windows
- STC rating (walls): min. 60
- Individual thermostat control (+/-3°C)
- Requires acoustic considerations between instructional spaces

Finishes:

Floor:	• Sprung Masonite floor (black)	Base:	• Resilient
Walls:	• Concrete masonry units (painted black)	Ceiling:	• Exposed

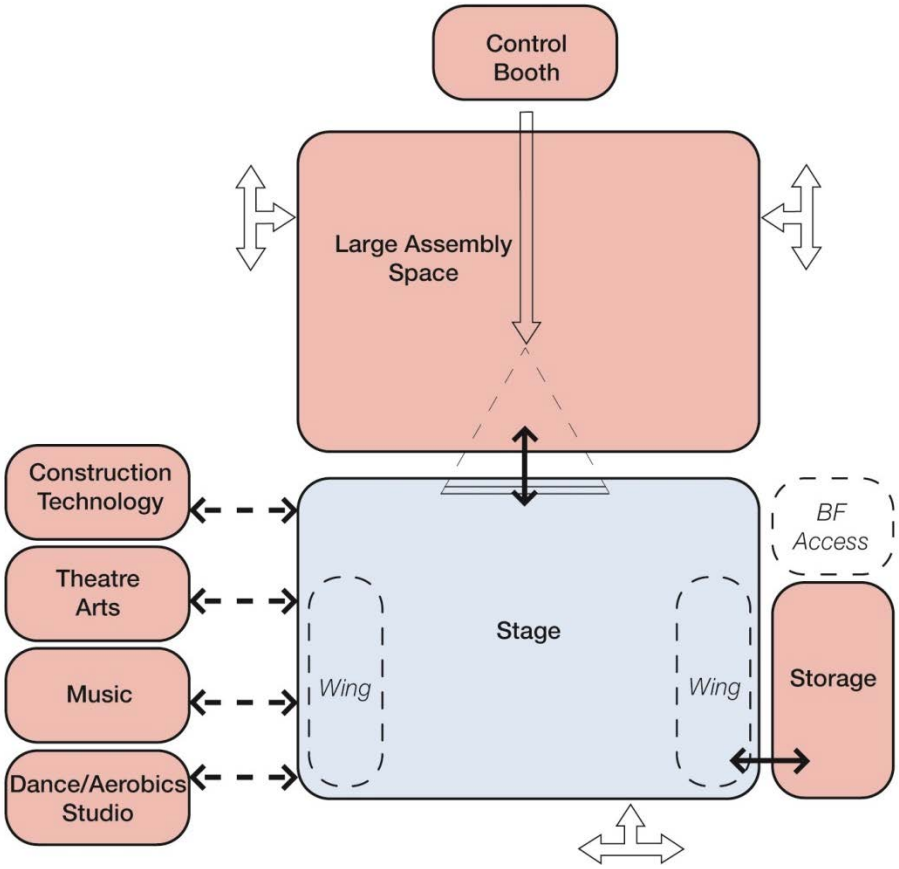
Furnishings & Equipment:

Furniture:		Fixed Equipment:	• Modular stage with barrier-free accessibility ramp
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• Dedicated stage panel to service stage related loads only • LED lighting w/multi-level switching in audience area • Overhead 4 20A-1P ceiling receptacles, pull down type coil cords complete with kellems grips, for flexibility and mobility in back stage area • Power requirements for stage curtain controller to be coordinated with HWDSB and manufacturer • 6 15A-1P duplex wall/furniture mounted receptacles to be provided in theatre control room for general use • 10 15A-1P duplex wall/ mounted receptacles in back stage area for general/housekeeping use	Technology:	• 1 data outlet for projector where applicable • 6 data outlets to accompany wall receptacles in theatre control room for general use • 1 data outlet at wireless access point (WAP) • 1 data/television outlet at television location where applicable • 4 data outlets to accompany wall receptacles in theatre audience area for general use • 5 data outlets to accompany wall receptacles in theatre back stage area for general use • Spare conduit to be installed between stage electrical backboard/electrical closet and theatre control room for future controls and communications

Electrical (continued):	• Theatre type central sound system compete with amplification, recording, playback and microphone interfacing capabilities, electrical requirements to be coordinated with HWDSB and theatre sound system manufacturer • LED specialized stage lighting in stage area complete with multi-level and scene controls, power requirements to be coordinated with HWDSB and stage lighting manufacturer • Power and control requirements for motorized blind/shades to be coordinated with HWDSB and manufacturer • Power and control requirements for motorized display screen to be coordinated with HWDSB and manufacturer • Additional 15A-1P duplex receptacle (1) to be provided at projector, where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements • Classroom control panel (to be located in back stage area and theatre control room): ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets	Technology (continued):	Spare conduit to be installed between theatre control room and various ceiling locations for future controls and communications to be coordinated with HWDSB

Notes:

- This section only applies when a Stage is provided in lieu of a combined Stage Theatre Arts program area (Black Box Theatre)
- Pipe grid for lighting and curtain system
- Barrier free lift or ramp to stage
- Control booth
- Large projection screen



This diagram represents one of many possible arrangements for furnishings & equipment:

1.11.2

Program Area:	Other Spaces				
Room Name:	Learning Commons (Library/Library Resource Centre)	Capacity:	10% of student capacity	Area (sf): Area (SM):	10% of student capacity (multiplied by 35sf/student)

Program Activities:

- Information centre that functions as a resource centre and quiet area for individual or group study
- Place for networking and information gathering
- Individual, small group, and class reading and researching
- Small computer area, small group study/collaboration rooms, research and general reading
- Library includes the main reading area, the library collection, technology area, librarian work area, seminar rooms and computer area
- Recreational reading, research, accessing information, using technology, storing, cataloging, and reproduction of materials and information

Spatial Relationships:

- Centrally located and accessible to all areas of the facility
- Access off the main circulation system
- Locate with access to academic core classrooms
- Need quiet space for individual learning/studying
- One entrance to control entry and access
- Close to Student Success and Guidance
- Adjacent to Co-op.
- Close to Administration
- Printer area to be adjacent to Learning Commons
- Allow for various grouping areas for multiple classes
- Library circulation center located in the center of the Learning Commons
- Needs an area large enough for two classrooms to use at the same time
- Needs open area with movable tables and chairs
- Includes Seminar Room
- Adjacent to outdoor space
- Technology Area located within the Learning Commons

Environmental Considerations:

- Natural light
- STC rating (walls): 40
- Visual awareness of space to students and staff through transparency to corridor and seminar rooms
- Clear sightlines of entire space for security of students and resource materials

Finishes:

Floor:	• Carpet tile	Base:	• Resilient
Walls:	• Concrete masonry unit (painted) • Acoustical wall treatment	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Mobile book carts • Student tables	Fixed Equipment:	• Circulation desk casework including barrier-free accessible height counter

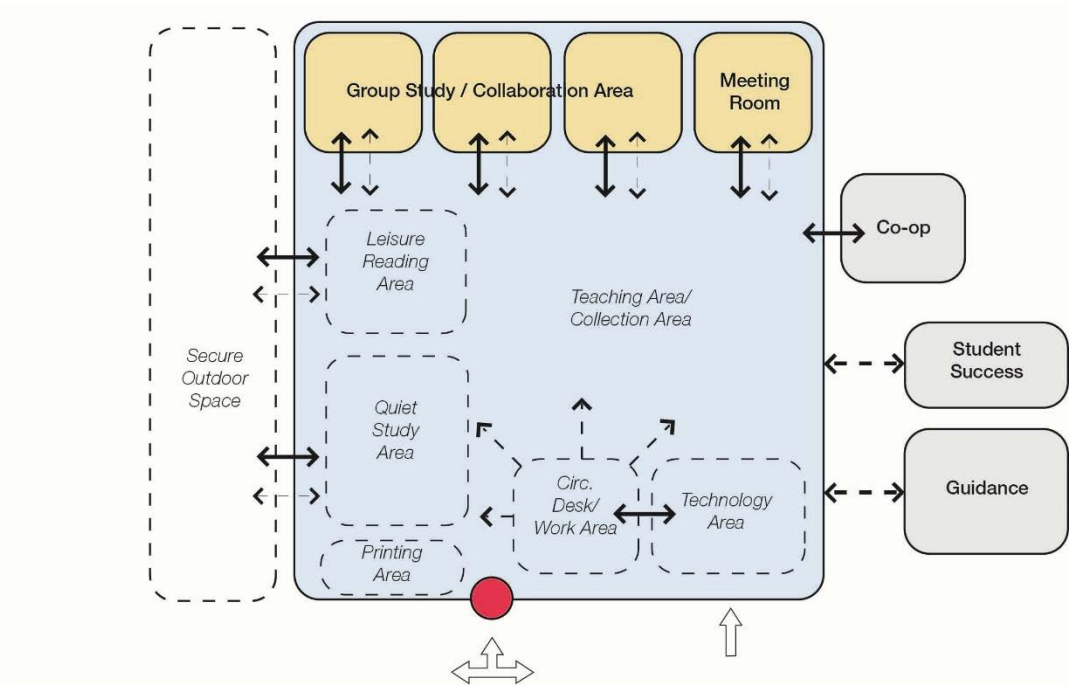
Furniture (continued):	• Student chairs • Casual seating chairs • Study carrels • (3) desk height file cabinets • Computer workstations • Circulation desk task chair • Paperback book racks • Newspaper racks • Magazine display • Portable book shelves • Booth seating
Fixed Equipment (continued):	• Tack boards 1800mm x 1200mm in the group study areas • Teaching wall as per HWDSB Standard, refer to Appendix A.3 • Library bookshelves • Projection screen • Technology support casework • Window coverings at all exterior windows • Allow for seating booths with data • Shelving around perimeter of the room • Whiteboard • Smartboard • Appletv • Projector • Laptop to access programs or iPad
Plumbing:	• Sink in the work area • Hot/cold water connection • Sanitary connection
HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• Adjustable lighting • Power provisions for multiple (5-10) charging stations to recharge tablets (5-15 devices) to be coordinated with HWDSB and charger manufacturer • Power provisions to service a large tablet/laptop/device charging station (40-60 devices) at each central staff desk, to be coordinated with HWDSB and charger manufacturer • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel where applicable and locations mandated by CSA code requirements • 1 15A-1P duplex wall/furniture mounted receptacle at each quiet student study station • 1 15A-1P duplex wall mounted receptacle spaced every 15 linear feet throughout Learning Commons for general/housekeeping use • 8 15A-1P duplex wall/furniture mounted receptacles at each circulation desk • 2 15A-1P duplex wall/furniture mounted receptacles at each leaning commons' kiosk • 1 15A-1P dedicated duplex wall/furniture mounted receptacle at each printer station
Technology:	• 1 data outlet for each projector where applicable • 1 data outlet at each classroom control panel for general use • 1 data outlet at each interactive boards/monitor where applicable • 2 data outlet at each kiosk station where applicable • 8 data outlets to accompany wall receptacles at each circulation desk • 1 data/telephone outlet at each circulation desk • 1 data outlet at each wireless access point (WAP) • 1 data/television outlet at television location where applicable • 1 data/telephone outlet at each classroom control panel for telephone • 1 data outlet to accompany wall/furniture receptacle at each quiet student study station • 40 data outlets to accompany receptacles in floor boxes • 2 data outlets at each learning commons staff office and group study/collaboration room • 1 data/telephone outlet at each learning commons staff office • 1 data outlet at each tablet charging station for general use/communication • 1 data outlet at each printer station

Electrical (continued):

- 40 15A-1P duplex receptacles mounted in enclosed floor boxes evenly dispersed throughout usable Learning Commons' floor space (to include provisions for data outlet within same floor box)
- Power provisions to service learning commons powered security gates
- 4 15A-1P duplex wall mounted receptacles in each learning commons staff office and group study/collaboration room for general use
- Power and control requirements for motorized blind/shades to be coordinated with HWDSB and manufacturer
- Power and control requirements for motorized display screen to be coordinated with HWDSB and manufacturer
- Fire alarm signalling device to be provided in accordance with ULC code requirements
- LED lighting w/multi-level switching
- Classroom sound amplification system
- Power to charging walls/stations for school devices
- Classroom control panel:
  - PA system, handset, speaker, thermostat, light switches, clock, power & data outlets

Notes:

- Circulation desks and library shelving can be loose furniture
- Fixed casework and loose furnishings can be interchangeable
- Lockable storage for IT equipment
- Capability to divide the room into two with a divider – for possible seminar space, quiet work space and group work space. Rooms can be bookable by both students and teachers
- Library control security gates
- Area for displaying new and themed collections
- Technology would be circulated from the circulation desk (i.e. Laptops, MacBook, iPad and chargers)
- Separate printing area – including specialized printers
- Quiet space for studying – min 2% of student population count
- Technology Office area – work area for teacher librarian and library technician to share, include sink and cupboards for supplies – lockable and secure
- Ground floor location is preferable, easy to locate and fully accessible
- Group study/collaboration rooms with glazing



This diagram represents one of many possible arrangements for furnishings & equipment

1.11.3

Program Area:	Other Spaces				
Room Name:	Cafeteria	Capacity:	See note below on capacity	Area (sf): Area (SM):	See note below on area

Program Activities:

- Student dining, lounging, study
- Large group instruction, meeting and banquets
- Watching performances (if connected to the stage)
- Special activities
- Refreshment area for school activities
- Can be used by the school for a number of curricular and extra-curricular purposes including performances, assemblies, large group instruction and meetings

Spatial Relationships:

- Centrally located
- Near staff work rooms
- Adjacent to collaborative learning areas
- Proximity to student washrooms
- Ground floor preferred
- Adjacent to kitchen, server and hospitality
- Drinking fountain with bottle filler nearby

Environmental Considerations:

- Exterior windows required
- STC rating (walls): min. 40
- Individual thermostat control (+/-3°C)
- Access to exterior

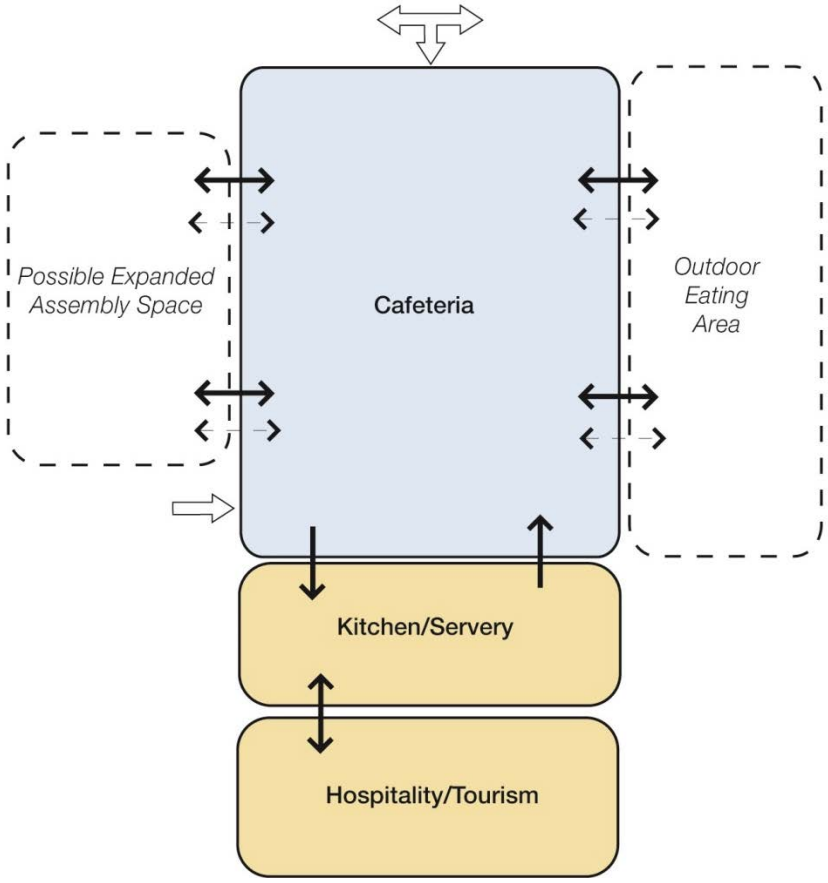
Finishes:

Floor:	• Resilient tile • Ceramic tile	Base:	• Resilient or ceramic tile
Walls:	• Concrete masonry unit (painted) • Acoustical wall treatment	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Lunch tables (moveable) for a variety of table configurations • Ability to create separate zones for eating, lounging and study • Student chairs w/castors (stackable)	Fixed Equipment:	• Microwaves • Vending Machines
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 1 15A-1P duplex wall mounted receptacle every 15 linear feet in cafeteria area for general use • Power for microwaves & vending machines • LED lighting w/multi-level switching • Sound amplification system • Classroom control panel:	Technology:	• 1 data outlet at each wireless access point (WAP)

Electrical (continued):	◦ PA system, speaker, thermostat, light switches, clock, power & data outlets
Notes:	• Area may extend to include student commons



This diagram represents one of many possible arrangements for furnishings & equipment

1.11.4

Program Area:	Other Spaces				
Room Name:	Kitchen and Servery	Capacity:	N/A	Area (sf):	See note
				Area (SM):	below

Program Activities:

- Provides a space for the preparation and distribution of food for the cafeteria and includes all food preparation, dishwashing, storage areas, freezers, fridges and all kitchen equipment areas.

Spatial Relationships:

- Adjacent to cafeteria
- Centrally located
- Proximity to student washrooms
- Ground floor preferred
- Adjacent to hospitality

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Non-slip sheet flooring	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

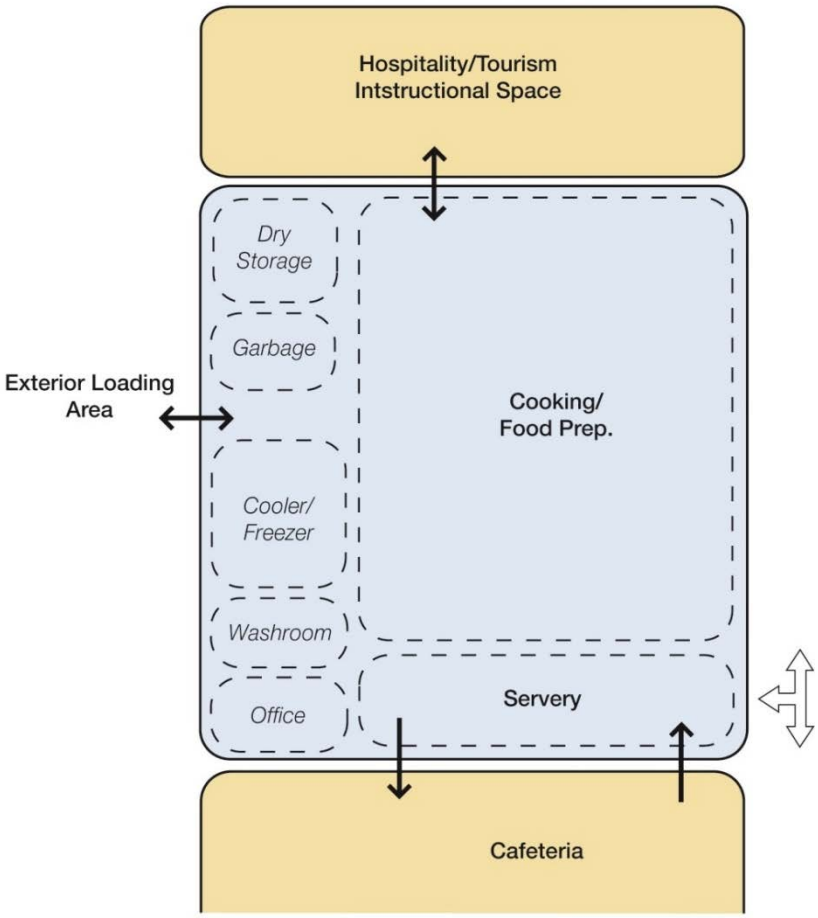
Furniture:

- Mobile work table
- Mobile utility cart
- Secure storage cart
- Slicer
- Waste receptacle with dolly
- Utensil rack
- Preparation table
- Clean dish table with pot sink assembly
- Clean pot and pan rack

Fixed Equipment:

- 1 Tack board
- Double stacked confection Oven
- Combi Oven
- Steamer
- Proofer
- Sandwich Prep Table with Fridge underneath
- Walk in Fridge
- Walk in Freezer
- 4-6 Burner Stove with Flat top attached and oven underneath
- 4-6 Well Steam Table
- Recessed Soup Bay - 2 wells
- Rotary Toaster
- Pizza Impinger
- Hot Water Tower (Front of the House)
- 2 Bay Jet Juice Dispenser
- Coffee Brewer (Pour over)
- Air Curtain Cooler
- Double Door Beverage Cooler
- Counter Top Display Freezer
- 2 x POS with stations to House cash register and debit machine
- Pizza Warmer (Hatco)
- Counter Top Warm Display Unit
- 3 Bay Sink

		Fixed Equipment (continued):	• Dish Washer • Hand Washing Stations x 2 (one in front area and one in prep area) • Food Processor • Carts (Portable Pull carts x 3) • Storage Racks for inside of Walk in Fridge and Walk in Freezer
Plumbing:	• Hand wash sink • Refer to equipment list for plumbing connections	HVAC:	• Air conditioning/heating • Independent temperature control • NFPA rated Exhaust hood • Variable speed exhaust control panel • Condensate hood • Refer to equipment list for HVAC connection/requirements
Electrical:	• Heat lamps • Refer to equipment list for electrical connections	Technology:	
Notes:	• HWDSB to confirm complete list of equipment		



This diagram represents one of many possible arrangements for furnishings & equipment

1.11.5

Program Area:	Other Spaces				
Room Name:	Lecture	Capacity:	As per Board	Area (sf): / Area (SM):	As per Board

Program Activities:

- Large group
- Presentations & demonstrations
- Accommodates any core academic disciplines

Spatial Relationships:

- Near other core classrooms
- Near staff work rooms
- Adjacent to collaborative learning areas
- Proximity to student washrooms

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted) • Acoustical wall panels	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• N/A	Fixed Equipment:	• White boards +/-5 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Classroom control panel • Window coverings at all exterior windows
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 2 15A-1P receptacles at lectern location for presenter use • 4 15A-1P duplex receptacles in floor box enclosures for movable lectern locations (to include provisions for data outlet within same floor box) • 1 15A-1P duplex wall mounted receptacle every 15 linear feet in lecture area for general use • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel where applicable and locations mandated by CSA code requirements	Technology:	• 1 data outlet for projector where applicable • 1 data outlet at classroom control panel for general use • 1 data outlet at interactive boards/monitor where applicable • 2 data outlet at lectern station • 1 data outlet at every other wall receptacle for general use • 1 data outlet at each wireless access point (WAP) • 1 data/television outlet at each television location where applicable • 1 data outlet at each floor box for movable lectern location

Electrical (continued):	• Fire alarm signalling device to be provided in accordance with ULC code requirements • LED lighting w/multi-level switching • Sound amplification system • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets

1.11.6

Program Area:	Other Spaces				
Room Name:	Seminar	Capacity:	4-6	Area (sf):	250-450
				Area (SM):	23-42

Program Activities:
- Small group & individual instruction
- Individual & group work
- Accommodates any core academic disciplines
- Space for staff or teachers

Spatial Relationships:
- Near other core classrooms
- Adjacent to collaborative learning hub

Environmental Considerations:
- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Student work tables (moveable) • Student chairs w/castors	Fixed Equipment:	• 1 White board • 1 Tack board
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 4 15A-1P duplex wall mounted receptacles for general/student use • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel where applicable and locations mandated by CSA code requirements • LED lighting w/ standard line voltage switching • Fire alarm signalling device to be provided in accordance with ULC code requirements • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets	Technology:	• 1 data outlet at wireless access point (WAP) • 1 data outlet at classroom control panel for general use

Notes:
- Allow for a variety of sizes distributed throughout the school
- Allow for glazing for passive supervision

1.12.1

Program Area:	Gymnasium and Exercise Room				
Room Name:	Gymnasium Area - Quadruple	Capacity:	18-24 per gym	Area (sf):	16,000
				Area (SM):	1,486

Program Activities:

- Physical education classes and interscholastic athletic competition and practice during non-school hours
- Used for physical education programs and support a range of curricular, co-curricular and community activities
- Student assemblies
- Community use
- Full competition basketball and volleyball

Spatial Relationships:

- Adjacent to outdoors
- Near P.E/ athletic offices
- Adjacent to student change rooms (4 change rooms are required)
- Adjacent to health classrooms, exercise and weight room, dance and aerobics
- Natural daylighting - clerestory

Environmental Considerations:

- STC rating (walls): 60
- Adequate acoustical requirements and other factors as determined by final configuration of the space
- Clear, fixed height of 22m from the floor to the nearest obstruction

Finishes:

Floor:	• Sprung wood floor	Base:	• Ventilated resilient base
Walls:	• Concrete masonry units (painted) • Sound absorption concrete masonry units or abuse resistant acoustical wall treatment	Ceiling:	• Exposed (painted)

Furnishings & Equipment:

Furniture:	• None	Fixed Equipment:	• Telescoping bleachers at entrance • 2 sets competition basketball backstops, glass-electrically operated • 4 sets practice basketball backstops, glass-electrically operated • Volleyball sleeves and stands on a cart • Divider gym curtain or folding wall • Projection screens • White boards
Plumbing:	• Drinking fountain outside the entrance with bottle filler	HVAC:	• Independent temperature control • Supply/return air system • Tempered air with stratification fans
Electrical:	• Fluorescent/LED gymnasium type lighting • Multi-level switching • 16 15A-1P duplex wall mounted receptacles for general use	Technology:	• 1 data outlets at each Scoreboard • 1 data/video outlets for each of 4 projectors

Electrical (continued):	• Electrical and control requirements for 2 scoreboards • Sound system complete with wireless RF microphone and playback capability distributed over loud speakers • Additional 15A-1P duplex receptacle (1) to be provided at projector where applicable and locations mandated by CSA code requirements • Power and control requirements for motorized display screen to be coordinated with HWDSB and manufacturer • Fire alarm devices to be provided in accordance with ULC code requirements • Electrical connections to P.E. equipment where necessary	• 4 data outlets to accompany wall receptacles on perimeter

Notes:	• Bleacher seating: 150 to 175 spectators to be accommodated each half of competition court • Court markings including basketball, volleyball, badminton… • Provide wire guards on light fixtures and wall-mounted electrical devices • Ensure sufficient space around the court for deceleration • Allow for interior and exterior storage • Drinking fountain with bottle filler outside the gym • Change rooms accessible through the gym • Locker rooms to have lockable storage for I-pads • Indoor and outdoor storage • Instructional area off the courts • Allow for a separate entry into each gym section • All glazing to be shatterproof, impact resistant, safety glazing • All wall and door mounted devices to be fully recessed

1.12.2

Program Area:	Gymnasium and Exercise Room				
Room Name:	Gymnasium Area - Triple	Capacity:	18–24 per gym	Area (sf):	12,000
				Area (SM):	1,120

Program Activities:

- Physical education classes and interscholastic athletic competition and practice during non-school hours
- Used for physical education programs and support a range of curricular, co-curricular and community activities
- Student assemblies
- Community use
- Full competition basketball and volleyball

Spatial Relationships:

- Adjacent to outdoors
- Near P.E/ athletic offices
- Adjacent to student change rooms (4 change rooms are required)
- Adjacent to health classrooms, exercise and weight room, dance and aerobics
- Natural daylighting (clerestory)

Environmental Considerations:

- STC rating (walls): 60
- Adequate acoustical requirements and other factors as determined by final configuration of the space
- Clear, fixed height of 22m from the floor to the nearest obstruction

Finishes:

Floor:	• Sprung wood floor	Base:	• Ventilated resilient base
Walls:	• Concrete masonry units (painted) • Sound absorption concrete masonry units or abuse resistant acoustical wall treatment	Ceiling:	• Exposed (painted)

Furnishings & Equipment:

Furniture:	• None	Fixed Equipment:	• Telescoping bleachers at entrance • 1 set competition basketball backstops, glass-electrically operated • 3 sets practice basketball backstops, glass-electrically operated • Volleyball sleeves and stands on a cart • Divider gym curtain or folding wall • Projection screens • White boards
Plumbing:	• Drinking fountain outside the entrance with bottle filler	HVAC:	• Independent temperature control • Supply/return air system • Tempered air with stratification fans
Electrical:	• Fluorescent/LED gymnasium type lighting • Multi-level switching • 16 15A-1P duplex wall mounted receptacles for general use	Technology:	• 1 data outlets at each Scoreboard • 1 data/video outlets at each of 3 projectors

Electrical (continued):	• Electrical and control requirements for 1 scoreboards • Sound system complete with wireless RF microphone and playback capability distributed over loud speakers • Additional 15A-1P duplex receptacle (1) to be provided at projector where applicable and locations mandated by CSA code requirements • Power and control requirements for motorized display screen to be coordinated with HWDSB and manufacturer • Fire alarm devices to be provided in accordance with ULC code requirements • Electrical connections to P.E. equipment where necessary	• 3 data outlets to accompany wall receptacles on perimeter

Notes:	• Bleacher seating: 150 to 175 spectators to be accommodated each half of competition court • Court markings including basketball, volleyball, badminton… • Provide wire guards on light fixtures and wall-mounted electrical devices • Ensure sufficient space around the court for deceleration • Allow for interior and exterior storage • Drinking fountain with bottle filler outside the gym • Change rooms accessible through the gym • Locker rooms to have lockable storage for I-pads • Indoor and outdoor storage • Instructional area off the courts • Allow for a separate entry into each gym section • All glazing to be shatterproof, impact resistant, safety glazing • All wall and door mounted devices to be fully recessed

1.12.3

Program Area:	Gymnasium and Exercise Room				
Room Name:	Gymnasium Area - Double	Capacity:	18 -24 per gym	Area (sf):	7000
				Area (SM):	650

Program Activities:

- Physical education classes and interscholastic athletic competition and practice during non-school hours
- Used for physical education programs and support a range of curricular, co-curricular and community activities
- Student assemblies
- Community use

Spatial Relationships:

- Adjacent to outdoors
- Near P.E/ athletic offices
- Adjacent to student change rooms (2 change rooms are required)
- Adjacent to health classrooms, exercise and weight room, dance and aerobics
- Natural daylighting (clerestory)

Environmental Considerations:

- STC rating (walls): 60
- Adequate acoustical requirements and other factors as determined by final configuration of the space
- Clear, fixed height of 22m from the floor to the nearest obstruction

Finishes:

Floor:	• Sprung wood floor	Base:	• Ventilated resilient base
Walls:	• Concrete masonry units (painted) • Sound absorption concrete masonry units or abuse resistant acoustical wall treatment	Ceiling:	• Exposed (painted)

Furnishings & Equipment:

Furniture:	• None	Fixed Equipment:	• Telescoping bleachers at entrance • 1 set competition basketball backstops, glass-electrically operated • 2 sets practice basketball backstops, glass-electrically operated • Volleyball sleeves and stands on a cart • Divider gym curtain or folding wall • Projection screens • White boards
Plumbing:	• Drinking fountain outside the entrance with bottle filler	HVAC:	• Independent temperature control • Supply/return air system • Tempered air with stratification fans
Electrical:	• Fluorescent/LED gymnasium type lighting • Multi-level switching • 16 15A-1P duplex wall mounted receptacles for general use	Technology:	• 1 data outlets at each Scoreboard • 1 data/video outlets at each of 2 projectors • 2 data outlets to accompany wall receptacles on perimeter

Electrical (continued):	• Electrical and control requirements for 1 scoreboards • Sound system complete with wireless RF microphone and playback capability distributed over loud speakers • Additional 15A-1P duplex receptacle (1) to be provided at projector where applicable and locations mandated by CSA code requirements • Power and control requirements for motorized display screen to be coordinated with HWDSB and manufacturer • Fire alarm devices to be provided in accordance with ULC code requirements • Electrical connections to P.E. equipment where necessary
Notes:	• Bleacher seating: 150 to 175 spectators to be accommodated each half of competition court • Court markings including basketball, volleyball, badminton… • Provide wire guards on light fixtures and wall-mounted electrical devices • Ensure sufficient space around the court for deceleration • Allow for interior and exterior storage • Drinking fountain with bottle filler outside the gym • Change rooms accessible through the gym • Locker rooms to have lockable storage for I-pads • Indoor and outdoor storage • Instructional area off the courts • Allow for a separate entry into each gym section • All glazing to be shatterproof, impact resistant, safety glazing • All wall and door mounted devices to be fully recessed

1.12.4

Program Area:	Gymnasium and Exercise Room				
Room Name:	Gymnasium Area - Single	Capacity:	18 -24	Area (sf):	4000
				Area (SM):	370

Program Activities:

- Physical education classes and interscholastic athletic competition and practice during non-school hours
- Student assemblies
- Community use

Spatial Relationships:

- Adjacent to outdoors
- Near P.E/ athletic offices
- Adjacent to student change rooms
- Adjacent to health classrooms, exercise and weight room, dance and aerobics
- Natural daylighting

Environmental Considerations:

- STC rating (walls): 60
- Adequate acoustical requirements and other factors as determined by final configuration of the space
- Clear, fixed height of 22m from the floor to the nearest obstruction

Finishes:

Floor:	• Sprung wood floor	Base:	• Ventilated resilient base
Walls:	• Concrete masonry units (painted) • Sound absorption concrete masonry units or abuse resistant acoustical wall treatment	Ceiling:	• Exposed (painted)

Furnishings & Equipment:

Furniture:	• None	Fixed Equipment:	• 1 set competition basketball backstops, glass-electrically operated • Volleyball sleeves and stands on a cart • Projection screens • White boards
Plumbing:	• Drinking fountain outside the entrance with bottle filler	HVAC:	• Independent temperature control • Supply/return air system • Tempered air with stratification fans
Electrical:	• Fluorescent/LED gymnasium type lighting • Multi-level switching • 16 15A-1P duplex wall mounted receptacles for general use • Electrical and control requirements for 2 scoreboards • Sound system complete with wireless RF microphone and playback capability distributed over loud speakers • Additional 15A-1P duplex receptacle (1) to be provided at projector where applicable	Technology:	• 2 data outlets at each Scoreboards • 1 data/video outlets at projectors • 1 data outlets to accompany wall receptacles on perimeter

Electrical (continued):	and locations mandated by CSA code requirements • Power and control requirements for motorized display screen to be coordinated with HWDSB and manufacturer • Fire alarm devices to be provided in accordance with ULC code requirements • Electrical connections to P.E. equipment where necessary
Notes:	• Court markings including basketball, volleyball, badminton…. • Provide wire guards on light fixtures and wall-mounted electrical devices • Ensure sufficient space around the court for deceleration • Allow for interior and exterior storage • Drinking fountain with bottle filler outside the gym • Change rooms accessible through the gym • Locker rooms to have lockable storage for I-pads • Indoor and outdoor storage • Instructional area off the courts • All glazing to be shatterproof, impact resistant, safety glazing • All wall and door mounted devices to be fully recessed

1.12.5

Program Area:	Gymnasium and Exercise Room				
Room Name:	Dance/Aerobics Studio	Capacity:	-	Area (sf):	1200
				Area (SM):	111

Program Activities:

- Instructional space for dance and aerobics
- Physical activity – learn how to participate in a variety of activities and how to develop personal movement
- Active living – active participation, physical fitness and safety

Spatial Relationships:

- Near student change rooms
- Near Gymnasium and weight room
- Proximity to student washrooms
- Food and nutrition – family studies
- Near drama/stage

Environmental Considerations:

- STC rating (walls): 60
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Sprung wood floor with harlequin dance finish	Base:	• Wood
Walls:	• Concrete masonry units (painted) • Acoustic wall panels	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

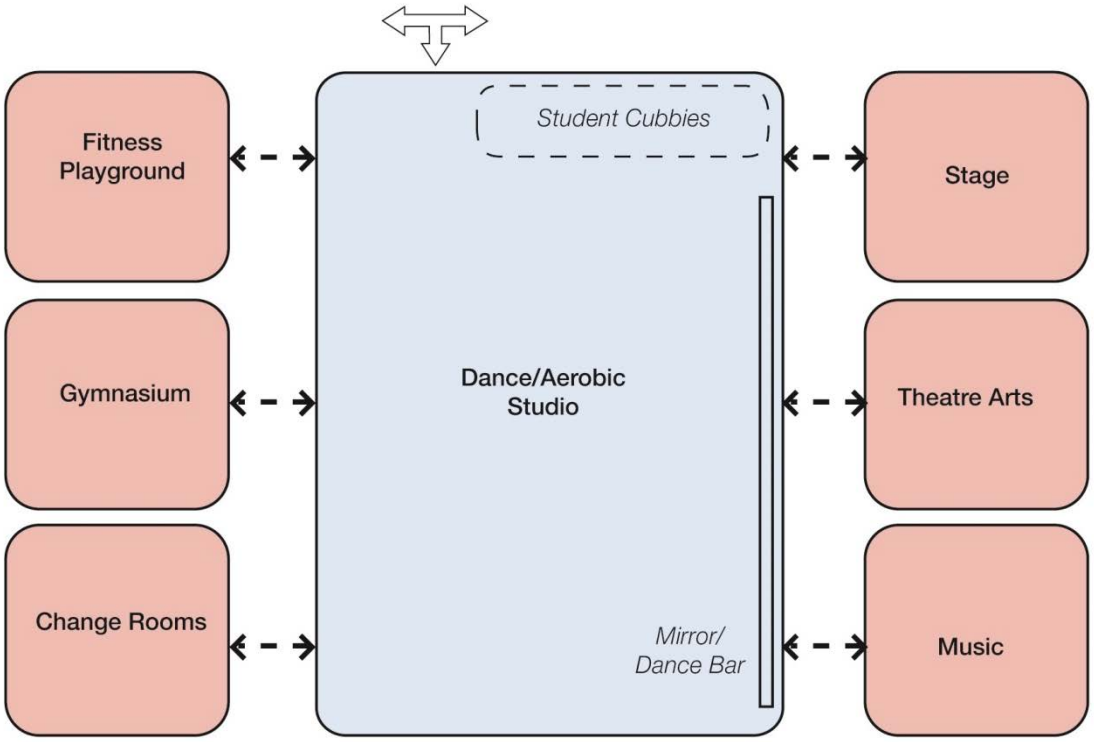
Furniture:	• None	Fixed Equipment:	• 5' mirrors full wall of full height mirrors mounted 12" AFF and dance bar • White boards 1 @ 2400mm x 1200mm • Tack boards 1 @ 2400mm x 1200mm • Teacher coat & book storage cabinet • Cubbies for students • Classroom control panel • Window coverings at all exterior windows
Plumbing:	• Close to water fountain/water bottle filler	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• LED lighting w/multi-level switching • 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • 1 15A-1P duplex wall/furniture mounted receptacle at each computer/student station • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel	Technology:	• 1 data outlet for projector where applicable • 1 data outlet at classroom control panel for general use • 1 data outlet at interactive boards/monitor where applicable • 2 data outlet at teaching/demo station w/conduit to ceiling • 1 data outlet at wireless access point (WAP)

Electrical (continued):

where applicable and locations mandated by CSA code requirements

- Power and control requirements for motorized blind/shades to be coordinated with HWDSB and manufacturer
- Power and control requirements for motorized display screen to be coordinated with HWDSB and manufacturer
- Fire alarm signalling device to be provided in accordance with ULC code requirements
- Classroom sound amplification system
- Classroom control panel:
  - PA system, speaker, thermostat, light switches, clock, power & data outlets

Notes:



This diagram represents one of many possible arrangements for furnishings & equipment

1.12.6

Program Area:	Gymnasium and Exercise Room				
Room Name:	Exercise Room (Fitness Playground)	Capacity:	24 to 30	Area (sf):	1200
				Area (SM):	111

Program Activities:
- Exercise on a variety of devices including stair climbers, exercise bikes, and treadmills
- Instructional space for health, safety, first-aid, and other physical education classes

Spatial Relationships:
- Near or combined with weight room
- Near gymnasium – can be accessible off the gym with visibility
- Near change rooms

Environmental Considerations:
- Exterior windows recommended, operable vents per room
- STC rating (walls): 60
- Individual thermostat control (+/-3°C)

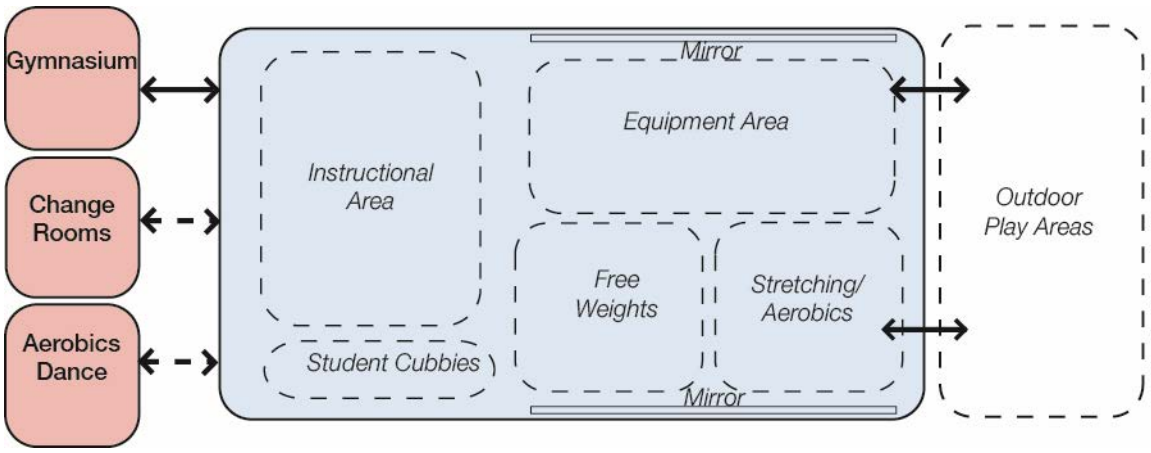
Finishes:

Floor:	• Sheet flooring, rubber or rubber tile	Base:	• Rubber
Walls:	• Concrete masonry units (painted) • Acoustic wall panels	Ceiling:	• Suspended acoustical-high ceiling

Furnishings & Equipment:

Furniture:	• Stationary bikes • Treadmills • Stair climbers • Digital weight scale	Fixed Equipment:	• 5' high mirror mounted 12" AFF. • White boards 1 @ 2400mm x 1200mm • Tack boards 1 @ 2400mm x 1200mm
Plumbing:	• In close proximity to drinking fountain with bottle filler	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• LED lighting w/multi-level switching • 8 15A-1P duplex wall mounted perimeter receptacles for general/student use • 1 15A-1P duplex wall/furniture mounted receptacle at each computer/student station • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel where applicable and locations mandated by CSA code requirements • Power and control requirements for motorized display screen to be coordinated with HWDSB and manufacturer • Power provisions for exercise equipment to be coordinated with HWDSB and equipment manufacturer • Fire alarm signalling device to be provided in accordance with ULC code requirements • Classroom sound amplification system	Technology:	• 1 data outlet for projector where applicable • 1 data outlet at classroom control panel for general use • 1 data outlet at interactive boards/monitor where applicable • 2 data outlet at teaching/demo station w/conduit to ceiling • 1 data outlet at wireless access point (WAP) • 1 data/television outlet at television location where applicable • 1 data outlet to accompany wall/furniture receptacle at each computer/student station

Electrical (continued):	• Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets
Notes:	



This diagram represents one of many possible arrangements for furnishings & equipment:

1.12.7

Program Area:	Gymnasium and Exercise Room				
Room Name:	Weight Room (Fitness Playground)	Capacity:	24 to 30	Area (sf):	1200
				Area (SM):	111

Program Activities:

- Weight lifting and body building

Spatial Relationships:

- Near or combined with exercise room
- Near change rooms
- Connected to the fitness room
- Near gymnasium – can be accessible off the gym with visibility
- Near change rooms

Environmental Considerations:

- Exterior windows recommended, operable vents per room
- STC rating (walls): 60
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Rubberized sports flooring	Base:	• Rubber
Walls:	• Concrete masonry units (painted) • Acoustic wall panels	Ceiling:	• Suspended acoustical – high ceiling

Furnishings & Equipment:

Furniture:	• Weight lifting equipment, benches, etc.	Fixed Equipment:	• White boards 1 @ 2400mm x 1200mm • Tack boards 1 @ 2400mm x 1200mm
Plumbing:	• In close proximity to drinking fountain with bottle filler	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• LED lighting w/multi-level switching • 6 15A-1P duplex wall/furniture mounted receptacle at each computer/student station • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements • Sound amplification system • Classroom control panel: ◦ PA system, speaker, thermostat, light switches, clock, power & data outlets	Technology:	• 1 data outlet for projector where applicable • 1 data outlet at wireless access point (WAP) • 1 data/television outlet at television location where applicable • 1 data outlet at classroom control panel for general use

1.12.8

Program Area:	Gymnasium and Exercise Room				
Room Name:	Change Rooms	Capacity:	18-24	Area (sf):	690
				Area (SM):	64

Program Activities:

- Students change from their regular clothes into clothes appropriate for physical education
- Storage for personal items while students are attending physical education class
- Student shower area

Spatial Relationships:

- Adjacent to student restroom/shower
- Adjacent to P.E./athletic office
- Direct access to both gymnasium and outdoor area
- Located on gymnasium level

Environmental Considerations:

- STC rating (walls): 40

Finishes:

Floor:	• Resilient tile • Ceramic tile at the shower area	Base:	• Resilient • Ceramic tile
Walls:	• Concrete masonry units (painted)	Ceiling:	• Abuse and moisture resistant gypsum board

Furnishings & Equipment:

Furniture:	• None	Fixed Equipment:	• Benches (fixed to the floor), with hooks/shelf over • Vandal resistant Mirrors • Combination white board, tack board, tackable wall surface • Lockers for safe storage of I-Pads
Plumbing:	• Drinking fountain • Individual showers (4 stalls) • 2 Washroom stalls and wash fountain type sinks • Floor drains	HVAC:	• Supply air system • Exhaust air system • Independent temperature control
Electrical:	• Fluorescent lighting • 6 15A-1P duplex wall mounted perimeter receptacles for general/student use • GFCI protected receptacles to be provided within change room wet/splash areas in accordance with CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements	Technology:	• N/A

Notes:

- Provide an inclusive washroom
- Provide barrier free washroom and shower facilities in each change room

2.1

Program Area:	Operational Areas				
Room Name:	General Office	Capacity:	12-15	Area (sf):	4000
				Area (SM):	370

Program Activities:

- Serves as the main entry to the building
- Monitor's student supervision, attendance, record storage and meeting space for the staff or administration with parents and students.
- Included area for the principal's office, two vice-principal offices, four administrator workstations, health room, the Ontario student records storage area and workroom
- Visitors may wait or are directed to other areas of the building

Spatial Relationships:

- Adjacent to the main entrance of the building
- Open to secretarial area
- Near principal's office
- Visual access to main entrance of the building

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

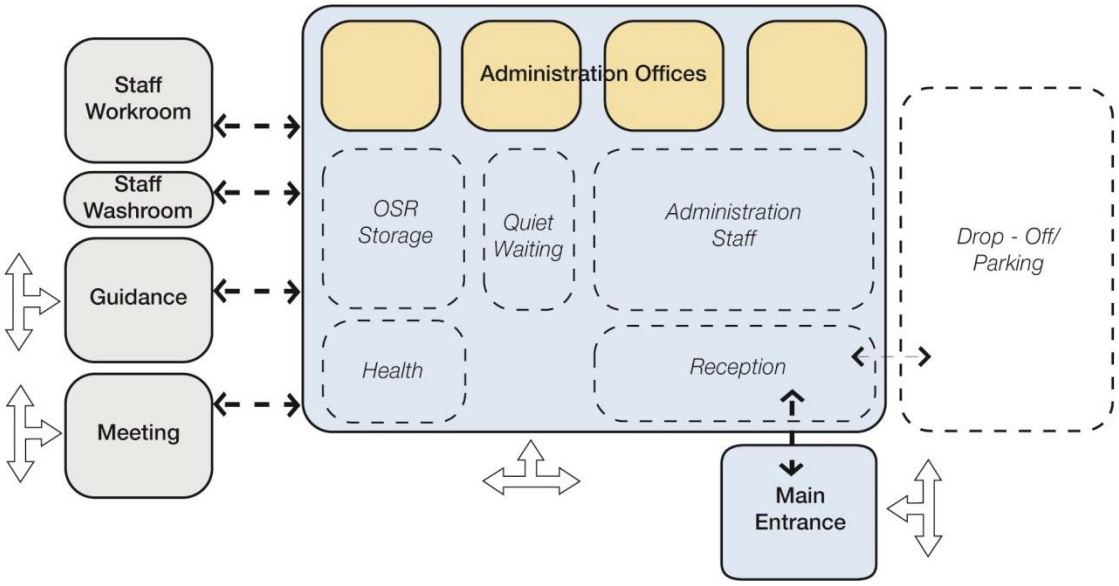
Floor:	• Resilient tile • Continue corridor flooring through entry/waiting area	Base:	• Resilient
Walls:	• Gypsum Board (painted) or gypsum wall board (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Visitor chairs • End tables • Administration staff workstations • Filing cabinets	Fixed Equipment:	• Open bookshelves • Window coverings at all exterior windows • Reception counter with barrier free section delineating between public and staff areas • Public Address system • Mail slots (unless accommodated in Staff Lounge)
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 8 15A-1P duplex wall mounted perimeter receptacles for general use • 2 15A-1P duplex wall/furniture mounted receptacle at each staff desk/workstation • 3 15A-1P duplex wall/furniture mounted receptacle at each staff office	Technology:	• 1 data outlet at interactive boards/monitor where applicable • 8 data outlets to accompany wall receptacles for general use • 1 data outlet at wireless access point (WAP)

Electrical (continued):	• Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel where applicable and locations mandated by CSA code requirements • Fire alarm devices to be provided in accordance with ULC code requirements • Minimum two (2) ceiling mounted PA speakers complete with provisions to support full PA system head end • Minimum one (1) clock hanger receptacle • Call for Assistance System connected to emergency call switch in Barrier Free Washrooms. • LED lighting w/multi-level switching	Technology (continued):	• 1 data/television outlet at television location where applicable • 1 data/telephone outlet at each desk/workstation and in each office for telephone • 2 data outlet to accompany wall/furniture receptacle at each staff desk/workstation/staff office

Notes:



This diagram represents one of many possible arrangements for furnishings & equipment:

2.2

Program Area:	Operational Areas				
Room Name:	Guidance Area	Capacity:	24-30	Area (sf):	750
				Area (SM):	74

Program Activities:

- Conference with staff, students, parents, and other community groups.
- Guidance counselor to do individual work and provide assistance to students
- One-on-One conferences with parents and coordination of administrative tasks
- After school meetings, community, and small group meetings

Spatial Relationships:

- Near guidance counselor's office
- Near reception area/main office
- Adjacent to Learning Commons
- Close to student success
- Co-op department/classrooms
- Access to school circulation areas.

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

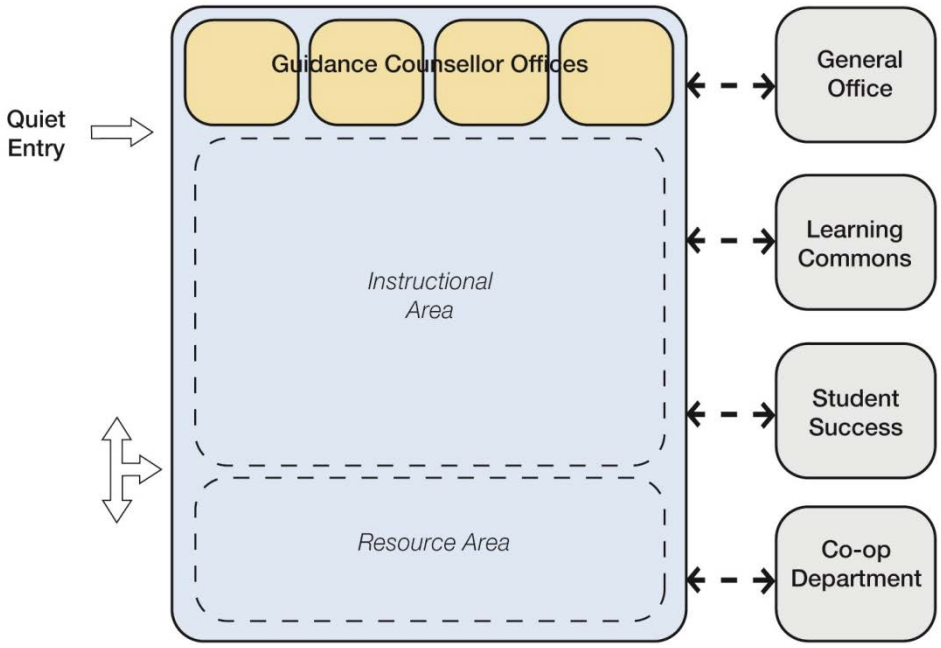
Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry unit (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Student work tables (round tables– for group work or classrooms settings) • Student chairs w/castors • Desk or table, with chair • Visitor chairs • Computer desks • Bookcase (fixed or loose)	Fixed Equipment:	• White boards +/-2 @ 2400mm x 1200mm • Tack boards +/-2 @ 1800mm x 1200mm • Open bookshelves for brochure display • Window coverings at all exterior windows
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 8 15A-1P duplex wall mounted perimeter receptacles in large guidance area for general/student use • 2 15A-1P duplex wall/furniture mounted receptacle at each guidance desk/station • 3 15A-1P duplex wall/furniture mounted receptacle at each guidance office • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel where applicable and locations mandated by CSA code requirements	Technology:	• 1 data outlet for projector where applicable • 1 data outlet at classroom control panel for general use • 1 data outlet at interactive boards/monitor where applicable • 8 data outlets to accompany wall receptacles in large guidance area for general use • 1 data outlet at wireless access point (WAP) • 1 data/television outlet at television location where applicable

Electrical (continued):	• Fire alarm signalling device to be provided in accordance with ULC code requirements • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, handset, speaker, thermostat, light switches, clock, power & data outlets	Technology (continued):	• 1 data/telephone outlet at each guidance desk/office for telephone • 2 data outlet to accompany wall/furniture receptacle at each guidance desk/station
Notes:	• Private guidance offices to seat up to 4 • Connected to large guidance area		



This diagram represents one of many possible arrangements for furnishings & equipment:

2.3

Program Area:	Operational Areas				
Room Name:	Cooperative Education Office	Capacity:	4 - 20	Area (sf):	750
				Area (SM):	70

Program Activities:

- Cooperative counselor to do individual work and provide assistance to students
- One-on-one conferences with parents and coordination of administrative tasks
- Space to support the number of work place and experiential education programs that support secondary schools

Spatial Relationships:

- Near guidance area
- Near general office
- Near reception area
- Near the Learning Commons

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

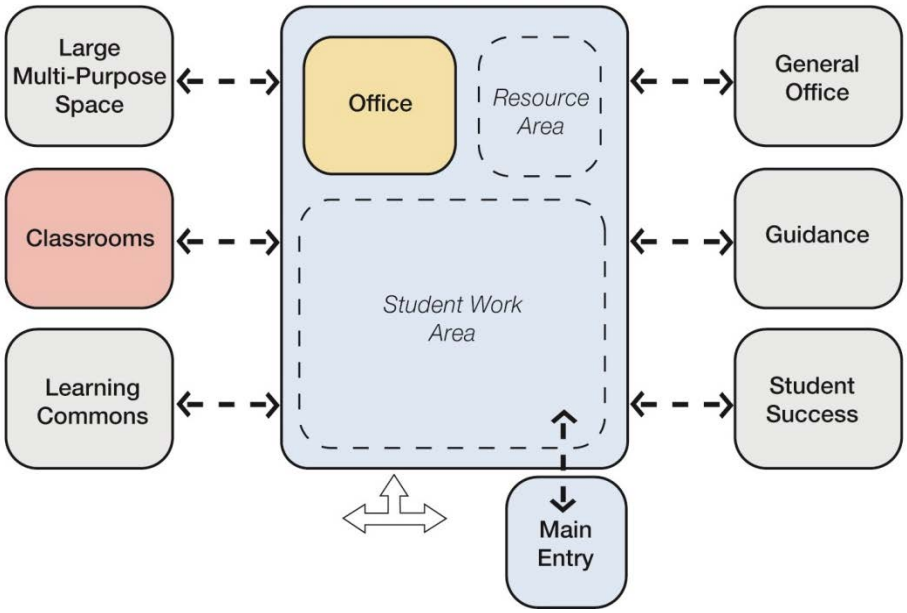
Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry unit (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Teacher workstation & chair w/castors • Visitor chairs • Computer desk • Bookcase	Fixed Equipment:	• Work surface with file drawers • White boards 1 @ 2400mm x 1200mm • Tack boards 1 @ 1800mm x 1200mm • Teacher coat & book storage cabinet • Open bookshelves • Window coverings at all exterior windows
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 4 15A-1P duplex wall/furniture mounted receptacle at each office for general use • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements • LED lighting w/multi-level switching • Classroom control panel: ◦ PA system, handset, speaker, thermostat, light switches, clock, power & data outlets	Technology:	• 1 data outlet for projector where applicable • 1 data outlet at classroom control panel for general use • 1 data outlet at interactive boards/monitor where applicable • 4 data outlets to accompany wall receptacles in office for general use • 1 data outlet at wireless access point (WAP) • 1 data/television outlet at television location where applicable 1 data/telephone outlet at office/classroom control panel for telephone

Notes:
- Requires access to a classroom for 2 weeks/semester
- Require a need for a large multi-functional space for large group instruction and demonstrations



This diagram represents one of many possible arrangements for furnishings & equipment

2.4

Program Area:	Operational Areas				
Room Name:	Staff Lounge	Capacity:	24 to 30	Area (sf): Area (SM):	Varies based on school size

Program Activities:

- Quiet space for staff to lounge, eat or work

Spatial Relationships:

- Near cafeteria
- Proximity to staff washrooms
- Centrally located
- Close to General Office
- Access to outdoor area
- Provide area for private phone calls

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

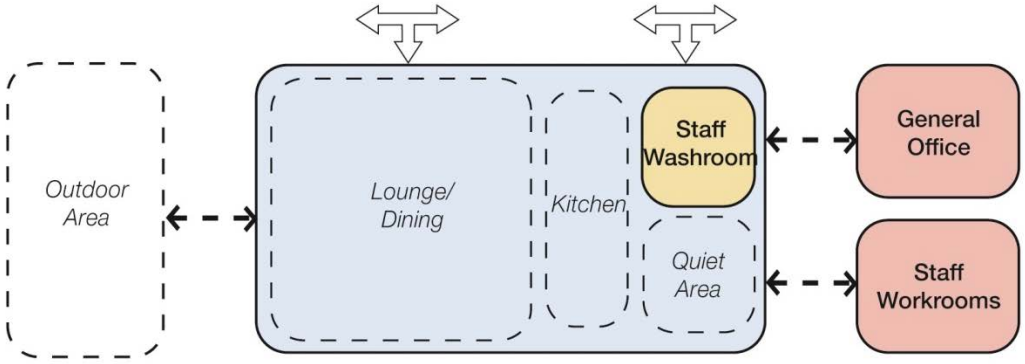
Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry unit (painted) or gypsum wall board (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Large round tables and chairs • Comfortable furniture and soft seating	Fixed Equipment:	• Fridge (+/-2) • Microwave (3)
Plumbing:	• Double stainless steel sink • Hot/cold water connections • Sanitary connections	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 8 15A-1P duplex wall mounted perimeter receptacles for general/teacher use • 40A-2P 240V stove receptacle at each stove location • 1 15A-1P dedicated duplex receptacle for dishwasher • 1 15A-1P dedicated duplex receptacle for refrigerator • 3 15A-1P dedicated duplex receptacles for microwaves • Electrical provisions for stove hood • 2 20A-1P GFCI protected duplex counter height receptacles at each counter/kitchenette location – maximum 2 receptacles per 20A circuit • Fire alarm devices to be provided in accordance with ULC code requirements • LED lighting w/multi-level switching	Technology:	• 1 data outlet for projector where applicable • 1 data outlet at classroom control panel for general use where applicable • 1 data outlet at interactive boards/monitor where applicable • 8 data outlets to accompany wall receptacles for general/teacher use • 1 data outlet at wireless access point (WAP) • 1 data/television outlet at television location where applicable • 1 data/telephone outlet at classroom control panel for telephone

Electrical (continued):	• Classroom control panel: ◦ PA system, handset, speaker, thermostat, light switches, clock, power & data outlets
Notes:	• Provide kitchenette with upper and lower cabinets, coat rack and shelf



This diagram represents one of many possible arrangements for furnishings & equipment:

2.5

Program Area:	Operational Areas				
Room Name:	Custodial Areas	Capacity:	N/A	Area (sf): Area (SM):	

Program Activities:

- Custodial office – includes computer to monitor building services
- Custodial change room and shower room (M/F)
- Custodial lunch room
- Receiving/garbage and recycling
- Custodial storage

Spatial Relationships:

- Overhead door at Main Custodial room for deliveries and direct access to exterior waste containers
- Locate one custodial closet per floor level

Environmental Considerations:

Finishes:

Floor:	• Resilient tile or sheet flooring	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• N/A	Fixed Equipment:	• Mop holders • Kitchenette at Lunchroom with refrigerator, sink & microwave • Lockers at (6–8) at Changeroom
Plumbing:	• Mop sink • Floor drain • Eyewash and emergency shower • Changeroom with lavatory, toilet and shower • Stainless steel sink at lunchroom counter	HVAC:	• Standard ventilation
Electrical:	• Electrical provisions for janitorial equipment chargers (i.e. Floor cleaner, waxing machine, etc.) To be coordinated with HWDSB and equipment manufacturer • 2 15A-1P duplex wall/furniture mounted receptacle at each computer station • 3 15A-1P duplex wall mounted receptacle for general use by janitors in lunch • 15A-1P GFCI protected duplex receptacles mounted at entrance at above counter at washroom • Connections for hand dryers at washroom • One (1) PA speaker in the ceiling at washroom • Fluorescent lighting throughout all janitorial spaces – shower lighting to be splash proof shower type fixture	Technology:	• 2 data outlets at each janitorial office computer station to accompany wall receptacles

Electrical (continued)	• Fire alarm devices to be provided in accordance with ULC code requirements • 1 dedicated 15A-1P in lunch room for microwave • 1 15A-1P in custodial lunch room for fridge • 2 20A-1P GFCI duplex counter height receptacles on dedicated circuit at kitchenette counter
Notes:	• Requires storage for floor cleaners

2.6

Program Area:	Operational Areas				
Room Name:	Staff Room and Teacher Work Rooms	Capacity:	20-25	Area (sf): Area (SM):	Varies based on school size

Program Activities:
- Teacher and other staff members hold team meetings and prepare for class
- Teacher's desk space

Spatial Relationships:
- Near academic core classrooms
- Near staff washroom
- Near instructional material storage
- Near photocopy room
- House interdisciplinary teams

Environmental Considerations:
- Exterior windows required w/minimum 1 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

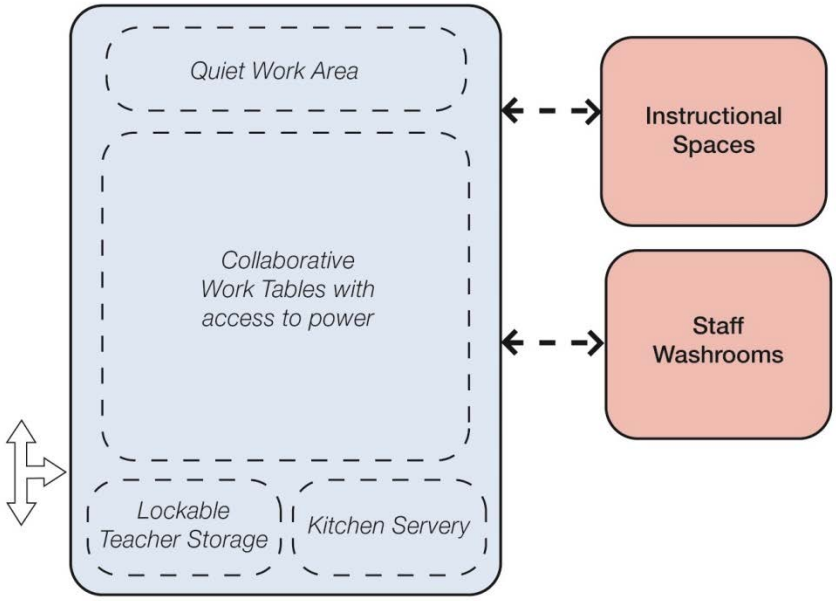
Finishes:

Floor:	• Resilient tile • Carpet tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Round worktables and chairs • Teacher computer trunks • Teacher workstation furniture and chair • Stools • Lockable cabinets	Fixed Equipment:	• 1 White board • 1 Tack board • Teacher coat & book storage cabinet • Lockable storage for individual teachers
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 8 15A-1P duplex wall mounted perimeter receptacles for general use • 2 15A-1P duplex wall/furniture mounted receptacle at each work station • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: television (if required) and classroom control panel where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements • LED lighting w/multi-level switching • Power for individual devices	Technology:	• 1 data outlet for projector where applicable • 1 data outlet at classroom control panel for general use • 8 data outlets to accompany wall receptacles for general use • 1 data outlet at wireless access point (WAP) • 1 data/television outlet at television location where applicable • 1 data/telephone outlet at classroom control panel for telephone • 2 data outlet to accompany wall/furniture receptacle at each work station

Notes:
- Shared individual workstations with power for devices



This diagram represents one of many possible arrangements for furnishings & equipment

2.7

Program Area:	Operational Areas				
Room Name:	Meeting Rooms	Capacity:	4 - 12	Area (sf):	120-300
				Area (SM):	11-30

Program Activities:

- Large group, small group & individual instruction
- Individual & group work
- Presentations & demonstrations
- Accommodates any core academic disciplines

Spatial Relationships:

- Near other core classrooms
- Near staff work rooms
- Adjacent to collaborative learning areas
- Proximity to student washrooms

Environmental Considerations:

- Exterior windows required w/minimum 2 operable vents per room
- STC rating (walls): 40
- Individual thermostat control (+/-3°C)

Finishes:

Floor:	• Resilient tile	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• Meeting tables (moveable) • Chairs w/castors	Fixed Equipment:	• White boards 1 @ 2400mm x 1200mm • Tack boards 1 @ 1800mm x 1200mm • Teaching wall, with short throw projector, as per HWDSB Standard, refer to Appendix A.3 • Classroom control panel • Window coverings at all exterior windows
Plumbing:	• None required	HVAC:	• Standard ventilation • Air conditioning/heating • Independent temperature control
Electrical:	• 6 15A-1P duplex wall mounted perimeter receptacles for general use • 2 15A-1P duplex furniture mounted receptacle at each meeting table • Additional 15A-1P duplex receptacle (1) to be provided at each of the following: projector, interactive boards/monitor, television and classroom control panel where applicable and locations mandated by CSA code requirements • Fire alarm signalling device to be provided in accordance with ULC code requirements • LED lighting w/multi-level switching	Technology:	• 1 data outlet for projector where applicable • 1 data outlet at classroom control panel for general use • 1 data outlet at interactive boards/monitor where applicable • 1 data outlet at wireless access point (WAP) • 1 data/television outlet at television location where applicable • 1 data/telephone outlet at meeting room or classroom control panel for telephone • 2 data outlet to accompany wall/furniture receptacle at each meeting table

2.8

Program Area:	Operational Areas				
Room Name:	Academic Storage	Capacity:	N/A	Area (sf):	1200 total
				Area (SM):	111 total

Program Activities:	• Storage of supplies, textbooks, and equipment
Spatial Relationships:	• Near teacher prep area/workrooms
Environmental Considerations:	• N/A

Finishes:

Floor:	• Resilient tile or sheet flooring	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Suspended acoustical

Furnishings & Equipment:

Furniture:	• N/A	Fixed Equipment:	• Fixed shelving (depths may vary)
Plumbing:	• None required	HVAC:	• Standard ventilation
Electrical:	• Standard line voltage switching • Fluorescent lighting • 3 15A-1P duplex receptacles	Technology:	

Notes:	• Review specific storage requirements with HWDSB

2.9

Program Area: **Operational Areas**
Room Name: **Student Washrooms**
Capacity: N/A
Area (sf): Varies
Area (SM):

Program Activities:

Spatial Relationships:
- Near core classrooms
- Adjacent to collaborative learning areas
- Requires open access to corridor for supervisions

Environmental Considerations:
- STC rating (walls): 40

Finishes:

Floor:
- Ceramic tile
- Slope floor slab to drains

Base:
- Ceramic tile

Walls:
- Concrete masonry units (painted)

Ceiling: Moisture resistant gypsum board

Furnishings & Equipment:

Furniture:
- N/A

Fixed Equipment:
- Tilted mirror (one for every 4 stalls)
- Hand dryer (one for every 4 stalls)
- Toilet tissue holder (1 per stall)
- Sanitary napkin & tampon dispenser (girl's washroom)
- Girls washroom - Sanitary napkin & tampon disposal (1 per stall)
- Toilet partitions
- BF Washroom - Grab Bars

Plumbing:
- Barrier-free multi-head wash fountain
- Water closets as required by OBC
- One (1) BF water closet per washroom
- Urinals (Male only)
- Floor Drains

HVAC:
- Standard ventilation
- Exhaust

Electrical:
- 15A-1P GFCI protected duplex receptacles mounted at entrance at above counter for general use
- Connections for hand dryers
- One (1) PA speaker in the ceiling
- LED pot lights for general lighting, cove lighting in architectural detail over mirror for vanity lighting
- Call for Assistance System connected to emergency call switch in Barrier Free Washrooms
- Fire alarm signalling device to be provided in accordance with ULC code requirements

Technology:
- N/A

Notes:

- Complete washroom count to ensure that adequate washrooms are provided on each floor and as per OBC requirements
- Include future portables in washroom count
- Individual barrier free washrooms required on each floor
- Small groupings of washroom facilities preferred

2.10

Program Area:	Operational Areas				
Room Name:	Staff Washrooms	Capacity:	N/A	Area (sf):	Varies
				Area (SM):	

Program Activities:

Spatial Relationships:
- Near staff work rooms and staff lounge

Environmental Considerations:
- STC rating (walls): 40

Finishes:

Floor:	• Ceramic tile • Slope floor slab to drains	Base:	• Ceramic tile
Walls:	• Concrete masonry units (painted)	Ceiling:	Moisture resistant gypsum board

Furnishings & Equipment:

Furniture:	• N/A	Fixed Equipment:	• Tilted mirror (one) • Hand dryer • Toilet tissue holder (1 per stall) • Sanitary napkin & tampon dispenser (woman's washroom) • Woman's washroom - Sanitary napkin & tampon disposal (1 per stall) • Toilet partitions • BF Washroom - Grab
Plumbing:	• BF sink • Water closets as required by OBC • One (1) BF water closet per washroom • Urinals (Male only) • Floor Drains	HVAC:	• Standard ventilation • Exhaust
Electrical:	• Connections for hand dryers • One (1) PA speaker in the ceiling' • 15A-1P GFCI protected duplex receptacles mounted at entrance at above counter where applicable for general use • LED pot lights for general lighting, cove lighting in architectural detail over mirror for vanity lighting • Call for Assistance System connected to emergency call switch in Barrier Free Washrooms • Fire alarm signalling device to be provided in accordance with ULC code requirements	Technology:	• N/A

Notes:
- Complete washroom count to ensure that adequate washrooms are provided on each floor

2.11

Program Area:	Operational Areas				
Room Name:	Barrier Free & Universal Washrooms	Capacity:	N/A	Area (sf): Area (SM):	Varies

Program Activities:

Spatial Relationships:
- Near elevator
- Near Barrier-free entrance
- Near Special Education classrooms

Environmental Considerations:
- STC rating (walls): 40

Finishes:

Floor:	• Ceramic tile • Slope floor slab to drain	Base:	• Ceramic tile
Walls:	• Concrete masonry units (painted)	Ceiling:	Moisture resistant gypsum board

Furnishings & Equipment:

Furniture:	• N/A	Fixed Equipment:	• Tilted mirror • Hand dryer • Toilet tissue holder • Sanitary napkin & tampon dispenser • Sanitary napkin & tampon disposal • Grab Bars (straight and "L" shaped) • Convenience shelf
Plumbing:	• BF sink and faucet • BF Water closets as required by OBC • Floor Drain	HVAC:	• Standard ventilation • Exhaust
Electrical:	• 15A-1P GFCI protected duplex receptacles mounted at entrance at above counter for general use • Connections for hand dryers • One (1) PA speaker in the ceiling • Call assistance system connected to the emergency call switch in the Main Office • LED pot lights for general lighting, cove lighting in architectural detail over mirror for vanity lighting • Fire alarm signalling device to be provided in accordance with ULC code requirements • Corridor dome light fixture • Auto door opener	Technology:	• N/A

Notes:
- Barrier free and Universal washrooms to be provided as per the provisions of the OBC

2.12

Program Area: **Operational Areas**
Room Name: **Inclusive Washroom**
Capacity: N/A
Area (sf): Varies
Area (SM):

Program Activities:

Spatial Relationships:
- Near other student washrooms

Environmental Considerations:
- STC rating (walls): 40

Finishes:

Floor:
- Ceramic tile
- Slope floor slab to drain

Base:
- Ceramic tile

Walls:
- Concrete masonry units (painted)
- Ceramic wall tile to 1200mm AFF

Ceiling:
- Moisture resistant gypsum board

Furnishings & Equipment:

Furniture:
- N/A

Fixed Equipment:
- Mirror
- Hand dryer
- Toilet tissue holder
- Sanitary napkin & tampon
- Convenience shelf

Plumbing:
- Sink and faucet
- Water closet
- Floor Drain

HVAC:
- Standard ventilation
- Exhaust

Electrical:
- 15A-1P GFCI protected duplex receptacles mounted at entrance at above counter for general
- Connections for hand dryers
- One (1) PA speaker in the ceiling
- LED pot lights for general lighting, cove lighting in architectural detail over mirror for vanity lighting
- Fire alarm signalling device to be provided in accordance with ULC code requirements

Technology:
- N/A

Notes:
- Provide one per floor minimum
- May be shared between staff and students
- Barrier-Free Washroom/Universal Washroom may be used as an Inclusive Washroom

2.13

Program Area:	Operational Areas				
Room Name:	Corridors	Capacity:	N/A	Area (sf):	Varies
				Area (SM):	

Program Activities:

Spatial Relationships:

Environmental Considerations:
- Provide barrier automatic door openers at Main Entrance and any other entrance vestibule as required by OBC.

Finishes:

Floor:	• Porcelain tile • Resilient tile or sheet flooring • Walk off mats at the entry	Base:	• Porcelain tile • Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	Acoustical ceiling

Furnishings & Equipment:

Furniture:	• N/A	Fixed Equipment:	• Trophy cases/Display cases • Fire extinguishers as required by code • Lockers
Plumbing:	• Consultant to coordinate floor cleanout locations with Mechanical Engineer • Drinking fountains with bottle fillers	HVAC:	• Standard ventilation • Air conditioning/heating
Electrical:	• 15A-1P duplex wall mounted receptacles distributed every 20 linear feet along corridor for housekeeping/general/learning use • Power requirements for Tablet Charging Station distributed every 60 linear feet along corridor to be coordinated with HWDSB and charger manufacturer • Fire alarm signalling device to be provided in accordance with ULC code requirements • PA speakers on approximately 10m centers • Exit signs as required • Fire alarm signalling and initiating device to be provided in accordance with ULC code requirements • 10% of fixtures to be un-switched on night light circuit • LED/Fluorescent fixtures • Accent lighting to be provided in display cases • Architectural lighting to be used at main entrances/foyers	Technology:	• 1 data outlet at each tablet charging station

Notes:

- Designed such that no rooms, doors, millwork or any other protrusion interferes with the required corridor width.
- Relationship with all public entrances and stair wells.
- Easily accessible to BF elevator and washrooms
- Minimum corridor width 3000mm
- Recessed sprinkler heads to prevent vandalism
- Where lockers are provided, provide masonry nib walls at each end
- Views to exterior - clear and simple circulation
- Allow for the provision of varying locker sizes
- Corridor and circulation spaces are used as collaborative spaces therefore, spaces of interaction and gathering to be considered

2.14

Program Area:	Operational Areas				
Room Name:	Stairwells	Capacity:	N/A	Area (sf):	Varies
				Area (SM):	

Program Activities:

Spatial Relationships:

Environmental Considerations:

Finishes:

Floor:	• Porcelain tile flooring complete with base at landings • One (1) piece stair tread/riser. Resilient rubber on stairs complete with non-slip nosing colour on stair nosing for visual impaired. • Resilient tile or sheet flooring • Contrasting nosing and landing indicators as per OBC	Base:	• Porcelain tile • Resilient
Walls:	• Concrete masonry units (painted) • Gypsum board bulkheads (as required)	Ceiling:	Acoustical ceiling

Furnishings & Equipment:

Furniture:	• N/A	Fixed Equipment:	• N/A
Plumbing:	• N/A	HVAC:	• Force flow heaters connected to BAs
Electrical:	• Wiring to be prepped for barrier free push buttons and operators (where applicable) • 20A-1P duplex receptacle on dedicated circuits within stairwells for cleaning equipment, top and bottom landing only. • Door hold opens • Fire alarm devices to be provided in accordance with ULC code requirements	Technology:	• N/A

Notes:

2.15

Program Area:	Operational Areas				
Room Name:	Gymnasium Storage	Capacity:	N/A	Area (sf): Area (SM):	See note below

Program Activities:	• Storage of gym equipment
Spatial Relationships:	• Adjacent to the gym • Access from each section of the gym and fitness area • Access to exterior for outdoor gym equipment
Environmental Considerations:	• N/A

Finishes:

Floor:	• Sealed concrete	Base:	• Resilient
Walls:	• Concrete masonry units (painted)	Ceiling:	• Exposed (painted)

Furnishings & Equipment:

Furniture:	• N/A	Fixed Equipment:	• Heavy duty shelving • Floor sockets for storage of posts
Plumbing:	• None required	HVAC:	• Standard ventilation
Electrical:	• 2 15A-1P duplex receptacles in storage area for convenience usage	Technology:	• N/A

Notes:
- Requirements for storage of football equipment to be confirmed with HWDSB

2.16

Program Area:	Operational Areas				
Room Name:	Mechanical Spaces	Capacity:	N/A	Area (sf): Area (SM):	See note below

Program Activities:	• Houses the mechanical systems of the facility
Spatial Relationships:	• Located for efficient distribution of services
Environmental Considerations:	• Mechanical equipment generates noise, therefore strategic placement in locating it away from classrooms is required

Finishes:

Floor:	• Sealed concrete	Base:	• None
Walls:	• Concrete masonry units (painted)	Ceiling:	• Exposed (painted)

Furnishings & Equipment:

Furniture:	• None	Fixed Equipment:	
Plumbing:	• Cold water connections as required by mechanical equipment • Floor drains if required	HVAC:	• Standard ventilation
Electrical:	• Electrical provision for all mechanical equipment (i.e. MCC, VFD, pumps, air handling units, boilers, etc.) Including all disconnects, fire alarm initiating device, etc. • Fluorescent lighting to be provided throughout mechanical spaces (included several fixtures on night light circuit) • 15A-1A duplex wall mounted receptacles to be provided for general use in mechanical room	Technology:	• Provisions and conduit for equipment connection to Building Automation System (BAS)

Notes:	• The size of the mechanical room will be dependent on the mechanical systems in place

A.1 MOE Secondary School Template

SECONDARY SCHOOL SPACE TEMPLATE
SAMPLE SCHOOL

School Board: Sample District School Board
Grade Range: Grade 9 to 12
Program: English, French or Dual Track
School Name: Sample School

Table 18: Secondary Model Program Sheet			
Expected Enrolment:			**1,200**
Credit Assumptions	**%**	**Credits**	**Classes**
			54
Regular	51	4,590	31
Science	15	1,350	8
Arts	10	900	5
Business	5	450	3
Technology	10	900	5
Family Studies	3	270	2
Physical Education	6	540	

Instructional Spaces							
	#	**m²**	**ft²**	**m²**	**ft²**	**Load**	**OTG**
Classroom	31	70	750	2,160	23,250	21	651
Science Laboratories	**8**	**116**	**1,250**	**929**	**10,000**	**21**	**168**
Science General (Avg Size)		-		-	-	21	
Science Biology (Avg Size)		-		-	-	21	
Science Chemistry (Avg Size)		-		-	-	21	
Science Physics (Avg Size)		-		-	-	21	
Total Music / Arts	**5**			**573**	**6,170**		**105**
Music Instrumental/Vocal	2	129	1,390	258	2,780	21	42
Graphics/Visual Arts	3	105	1,130	315	3,390	21	63
Theatre Arts		-		-	-	21	-
Photography		-		-	-	21	-
Media Arts		-		-	-	21	-
Technical / Vocational	**10**			**1,404**	**15,110**		**210**
Business/Computer Room	3	97	1,040	290	3,120	21	63
Family Studies	*2*	*114*	*1,230*	*229*	*2,460*		*42*
Family Studies (Food)		-		-	-	21	-
Family Studies (Textiles/Fasion)		-		-	-	21	-
Family Studies (Nutrition)		-		-	-	21	-
Technology Lab Large	*2*	*232*	*2,500*	*465*	*5,000*		*42*
Transportation		-		-	-	21	
Construction		-		-	-	21	
Design/Drafting		-		-	-	21	
Manufacturing		-		-	-	21	
Green Industries		-		-	-	21	
Welding		-		-	-	21	
Wood		-		-	-	21	
Integrated		-		-	-	21	
Technology Lab Small	*3*	*140*	*1,510*	*421*	*4,530*		*63*
Communications		-		-	-	21	
Computer Engineering		-		-	-	21	
Computer Laboratory		-		-	-	21	
Cosmetology		-		-	-	21	
Health Sciences		-		-	-	21	

A.1 MOE Secondary School Template

Instructional Spaces							
	#	m²	ft²	m²	ft²	Load	OTG
Special Education / Resource Room				**446**	**4,800**		**-**
Special Education Area		-		-	-	9	-
Resource Area - Loaded (400-699 sf)		-		-	-	12	-
Resource Area - Unloaded (<400 sf)		-	-	-	-		
Instructional Area Flexibility		-		446	4,800		
Other Spaces				**1,143**	**12,300**		**-**
Stage		139	1,500	139	1,500		
Library/Library Resource Centre		446	4,800	446	4,800		
Cafetorium/Cafeteria		557	6,000	557	6,000		
Lecture		-	-	-	-	21	-
Seminar		-	-	-	-		
Chapel		-	-	-	-		
Gymnasium and Exercise Room				**1,511**	**16,260**		**42**
Gymnasium Area - Quadruple		1,486	16,000	-	-	63	-
Gymnasium Area - Triple	1	1,115	12,000	1,115	12,000	42	42
Gymnasium Area - Double	-	743	8,000	-	-	21	-
Gymnasium Area - Single	-	372	4,000	-	-		
Dance/Aerobics Studio		-		-	-		
Exercise Room		-		-	-		
Weight Room		-		-	-		
Change Rooms	4	64	690	256	2,760		
Gymnasium and Exercise Room		-		139	1,500		
Total GFA and OTG of Instructional Area				8,165	87,890		1,176

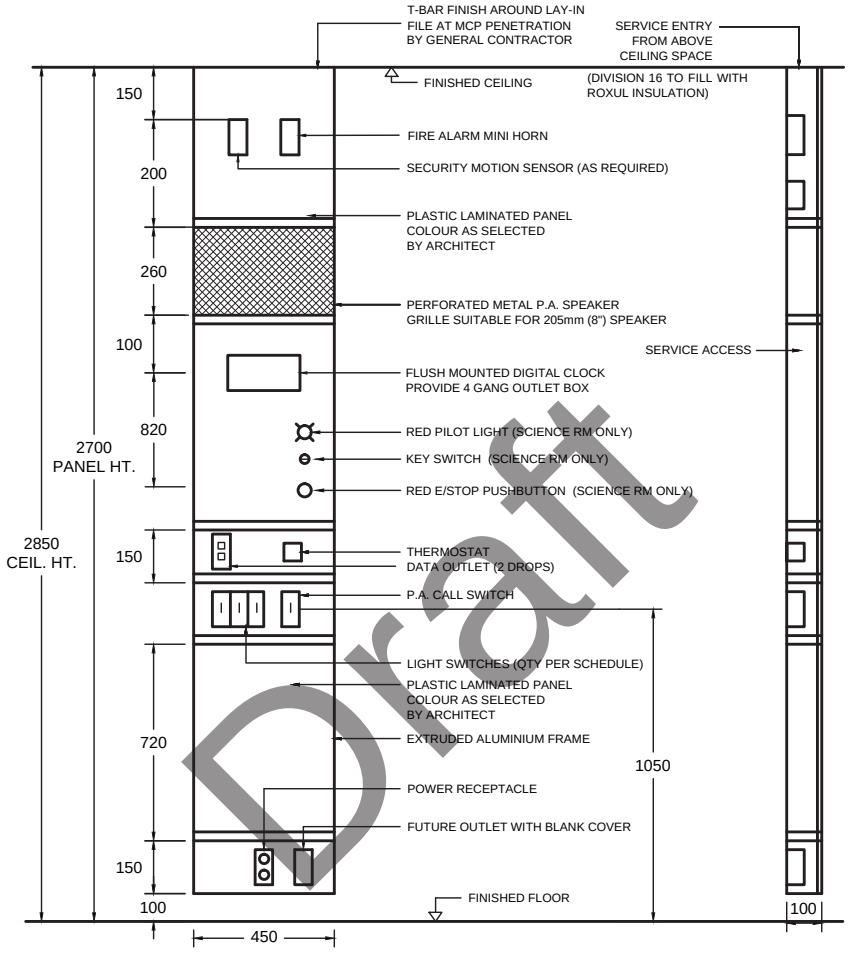
Operational Areas	Per Pupil		Floor Area	
	m²	ft²	m²	ft²
General Office	0.2	2.3	256	2,760
Guidance Area	0.1	1.3	145	1,560
Cooperative Education Office			26	280
Staff Lounge			-	
Kitchen/Servery	0.1	1.1	123	1,320
Custodial Areas	0.2	1.7	190	2,040
Staff Room and Teacher Work Rooms	0.3	3.5	390	4,200
Meeting Room			28	300
Academic Storage	0.1	1.0	111	1,200
Washrooms	0.3	3.2	357	3,840
Gymnasium Storage			74	800
Mechanical Spaces	0.5	5.8	643	6,924
Total Operational Area			2,343	25,224
Total Instructional (from above)			8,165	87,890
Total Operational and Instructional			10,509	113,114
Gross Up Added		42%	4,414	47,508
Gross Floor Area			14,922	160,622
Area per Pupil for 1200 pupils:			12.44	133.9

A.1 MOE Secondary School Template

Community Use Rooms	m²	ft²
Child Care	-	
Early Years Hub	-	
Community Use	-	
Other (please identify)	-	
Other (please identify)	-	
Other (please identify)	-	
Total Community Use Rooms Area	-	-

Total Square Feet	14,922	160,622

A.2 HWDSB Typical Control Panel



NOTE:
CONFIRM FINISHED CEILING HEIGHT ON-SITE.

No.	DATE	MADE	DESCRIPTION
-	2015/03/18	---	ISSUED FOR COMMENTS

REVISIONS/ADDENDA ISSUED

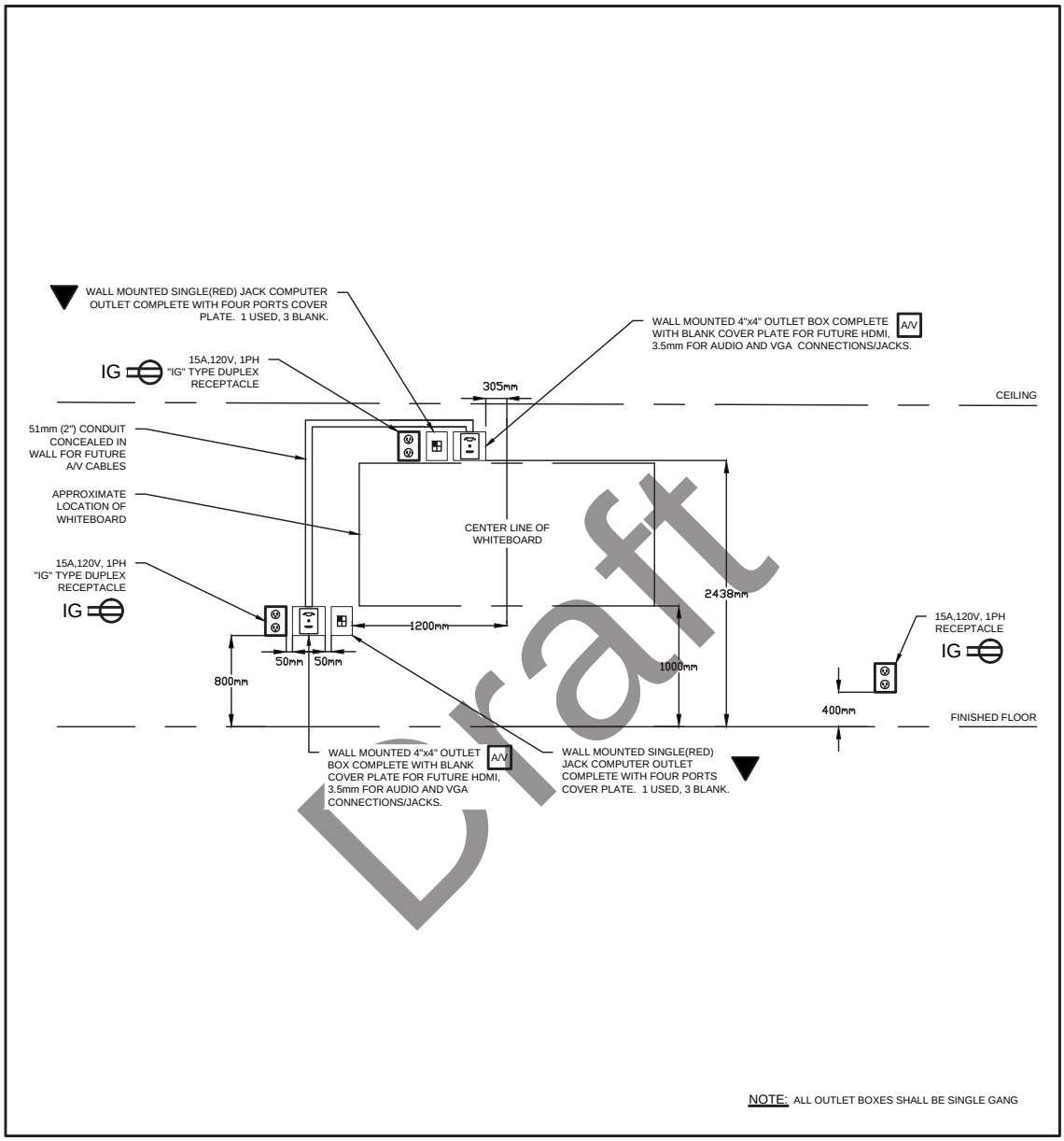
PROJECT

DRAWING TITLE
ELECTRICAL
TYPICAL MCP DETAIL

SCALE	DATE	DRAWN	CHECKED
N.T.S.	2015/03/18	---	---

PROJECT No.	REV No.	DRAWING No.
----	-	SK-MCP

A.3 HWDSB Typical Teaching Wall



No.	DATE	MADE	DESCRIPTION
-	2015/03/18	---	ISSUED FOR COMMENTS

REVISIONS/ADDENDA ISSUED

PROJECT

DRAWING TITLE
ELECTRICAL
TYPICAL TEACHING WALL DETAIL

SCALE	DATE	DRAWN	CHECKED
N.T.S.	2015/03/18	---	---

PROJECT No.	REV No.	DRAWING No.
----	-	SK-TW