Conseil des
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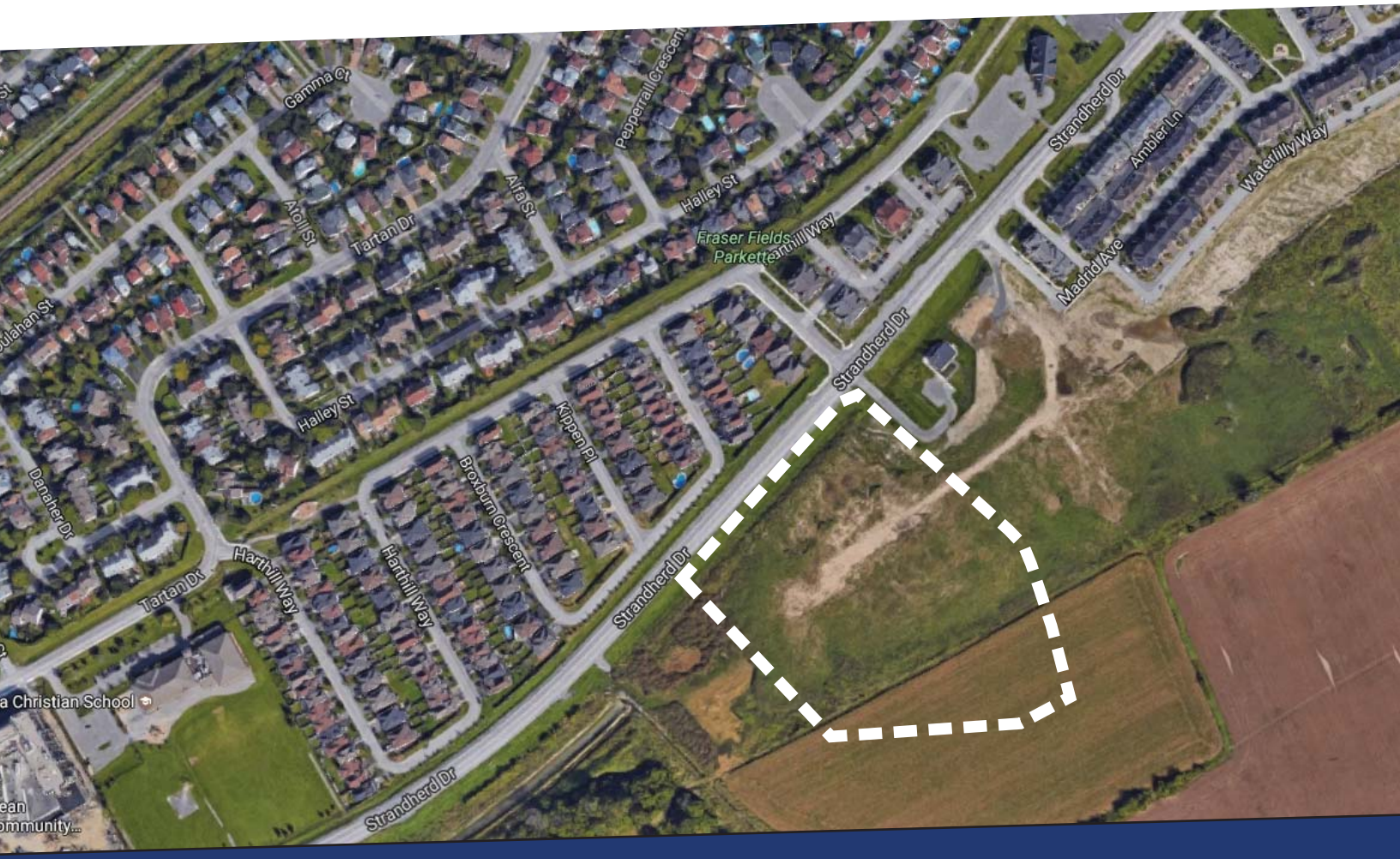


NEW BARRHAVEN HIGH SCHOOL

SITE PLAN CONTROL - Design Brief

SEPTEMBER 14 2018

grc architects

47 Clarence Street, Suite 401
Ottawa, Ontario K1N 9K1
t:613-241-8203 / f:613-241-4180

SECTION 1

APPLICATION SUBMISSION

Introduction

GRC Architects was retained by the Conseil des écoles publiques de l'Est de l'Ontario (CEPEO) to provide professional services to design a new high school project, including preparation of the Site Plan Control Application and a Design Brief for the following property:

MUNICIPAL ADDRESS: 4005 Strandherd Drive, Nepean, ON K2J 6E1
LEGAL DESCRIPTION: Part of Lots 14 and 15 Concession 3 (Rideau Front), Geographic Township of Nepean, City of Ottawa

The Owner, CEPEO, wishes to construct a new High School complete with associated site development. The site is zoned Minor Institutional, I1A[2361]-h. The land is currently vacant.

The subject property is a corner lot that faces Strandherd Drive to the north and Chapman Mills Drive (construction of the new road to be completed by the developer by end of 2018) to the east. The lot area is 48,578 m2 and is currently vacant.

Frontage along Strandherd Dr.	184 m
Frontgae along Chapman Mills Dr.	304 m

The proposal is to construct a new 3 storey high school with associated parking and siteworks. Future development zones have been identified on the Site Plan.

This Design Brief will demonstrate that the proposed site development conforms to the policies of the City of Ottawa Official Plan and strives to satisfy sustainability goals as per the CEPEO's green building policy.

Overall Vision Statement and Goals

The proposed siting of the new high Barrhaven school will create an urban street at the intersection of Strandherd Drive and Chapman Mills Drive. The building siting and massing will strive to reflect the following urban design principles:

- a gateway for the community
- create an amenity space and resources available to the neighbourhood during off-hours
- 21st century learning environment for students
- the building and the site will be fully accessible
- sustainable design principles will be applied and demonstrated as teaching tools for students where applicable.

RESPONSE TO CITY DOCUMENTS

1. City of Ottawa Official Plan

According to the City of Ottawa Official Plan **Schedule B** Urban Policy Plan, the subject site is for this facility is considered to be within the General Urban Area boundary.

In accordance with Section 2, Strategic Directions, Section 2.5 Building Liveable Communities, Policy 2.5.3 Schools and Community Facilities:

> *The City will recognize that schools form part of the building blocks of any community, not only in providing education to children, but also amenity space and resources to the neighbourhood. The City will work in partnership with school boards and school communities to ensure that schools are provided in all communities.*

2. Secondary Plan

In accordance with Annex 6 of the City of Ottawa Official Plan, Urban Secondary Plan and Site Specific Policies, the subject site is subject the South Nepean Secondary Plan, Area 8.

The proposal addresses the criteria above in the following ways:

- The new high school will be designed as a building block of this community, providing a 21st century learning environment for students, as well as amenity spaces for the local community, such as access to gym facilities, library and theatre space during after-hours.
- The proposed school is located close to the street edge to create a continuous streetscape along Strandherd Drive, and a gateway into the community.
- The proposed school's siting, the building massing and architectural form, the use of building materials for the facades and canopy feature will animate the streetscape.

3. City of Ottawa Building Better and Smarter Suburbs

In accordance with the recommendations for the School Sites (section 4),

Objectives

Promote the efficient use of land and compact built form.
Prioritize pedestrian and cycling safety on streets around schools.
Plan and design schools sites as part of the open space system.
Consider expanding shared facility agreements that lead to improved efficiencies.

Strategic directions

1. *Encourage the planning and design of school and park blocks as one comprehensive site and part of a neighbour-hood's grid of streets and blocks.*
2. *Examine opportunities and best practices for incorporating existing trees or woodlots into functional spaces (e.g. natural play areas or outdoor classrooms) on school sites.*
3. *Work with school boards to minimize land requirements for school sites, including:*
    a. *Promote adjoining school and park sites where possible.*
    b. *Proactively seek out partners for facility partnerships and combined use agreements between the City and school boards (e.g. playgrounds, libraries, sports fields).*
    c. *Consider the requirement for multi-storey school buildings (minimum 2 storeys).*
    d. *Investigate options for more efficient bus lay-bys and student pick up / drop off areas.*
4. *Prioritize pedestrian and cycling safety by including traffic calming measures on streets abutting school sites at the outset of school and street design.*
5. *Review best practices for bicycle parking on school sites.*
6. *Consider ways to make temporary use of optioned school sites that will benefit the community while these sites are vacant.*

The proposal addresses the criteria above in the following ways:

- The school is designed to be a compact form on the site, and 3 storey along the main street oriented towards more vehicular traffic, and reducing to a lower pedestrian scale along the main entrance of the school on Chapman Mills Dr.
- There are no trees on the site however a large open green space has been created by siting the mass of the building along the street. This open space or campus precinct is a space to be enjoyed by students and the community, with a soccer field, basketball court and running track. There will also be an opportunity for outdoor learning in the courtyard space along the south side of the classroom wing.
- The proposed drop-off area is located to avoid pedestrian/ vehicular conflicts.
- The proposed main access to the school will be connected with a walkway to the on-street sidewalk.
- Safe and accessible bicycle spaces are provided and are linked to internal pedestrian walkways and public sidewalks. A multi-use path is provided along the perimeter of the site to connect the sidewalks, bike paths and community paths to provide a safe and pleasant path to the school entrances. Pedestrian connections from the campus precinct to the planned public park across Chapman Mills Drive are also provisioned.

4. City of Ottawa Zoning By-Law 2008-250

According to **Schedule 1** of the City of Ottawa Zoning By-Law, the subject property is located in Area C.

The site is zoned **Minor Institutional, I1A[2361]-h.**

The 2361 exception sets out the trigger for lifting the holding symbol.

> *"The holding symbol may not be removed until such time as it has been demonstrated to the satisfaction of the General Manager, Planning, Infrastructure and Economic Development Department that the site can be adequately serviced with municipal services."*

In addition, By-Law no. 2017-303 of the City of Ottawa amends By-Law No. 2008-250 to support land efficiency and flexibility at school sites. Some of the items affected by our design include:

1. While Table 170A, provision g(i) would require a maximum height of 11 metres, a note references bylaw 2017-303, which increases the maximum height to 15 metres.

2. Bylaw 2017-303 has reduced the number of required parking spaces down to 2 per classroom.

The proposal on the subject site is in compliance with the I1A subzone provisions.

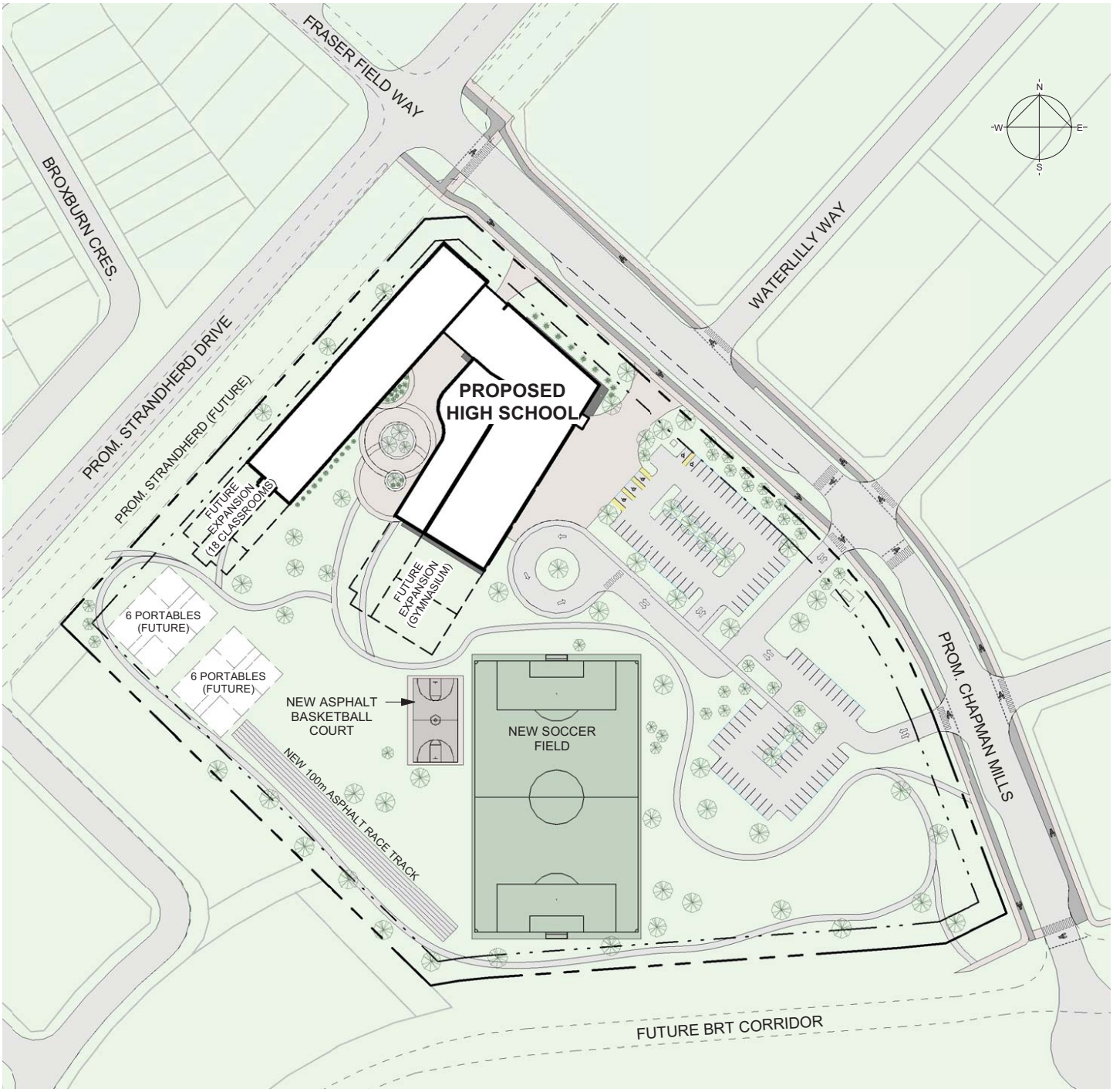
CONTEXT PLAN

The subject property is on a parcel of land that forms part of a larger neighbourhood development.

The land uses surrounding the property are as follows:

North: Existing residential community
South: Future BRT corridor, and conservation of existing open space (Jock River floodplain) beyond.
East: Future local commercial block, future and existing residential development including townhouses, future park
West: Future residential development and Stormwater treatment pond.

The site is vacant, and there are no trees on the site. Generally the overall site is high at the North-East corner, dropping towards the South-West, approximately 2.5m in elevation.



1) Overall Site Plan

BUILDING MASSING

2) Bird's eye view of Strandherd and Chapman Mills Drive intersection, looking south

3) Bird's eye view on campus side, looking north

PERSPECTIVE VIEWS

1) Main Entrance - view from Chapman Mills Drive

2) Courtyrard - view looking North

3) Facade along intersection of Strandherd Drive and Chapman Mills Dr.

SECTION 2

DESIGN PROPOSAL

The new CEPEO high school in Barrhaven is comprised mainly of an Academic wing (classrooms, science and computer labs) and a Community wing (triple gym, library, cafeteria and multipurpose performance space) that is planned to provide access to community groups outside of school operating hours.

The 98,385ft^2 (9,140m^2) school is to be constructed starting Spring of 2019, with the opening scheduled for the fall semester of 2020 for 681 students. A designated area for 12 portables has been identified on the site plan. A second phase addition is planned to take place in 5-10 years, to meet growing needs and demands for the population in the local community. A goal of 1000 students for the fully built-out school has been identified by the School Board.

A future expansion zone to the west of the triple gym has also been provisioned for 2 future gymnasia and associated storage and change rooms.

The site infrastructure has been designed to accommodate the full-build out scenario.

Design Overview

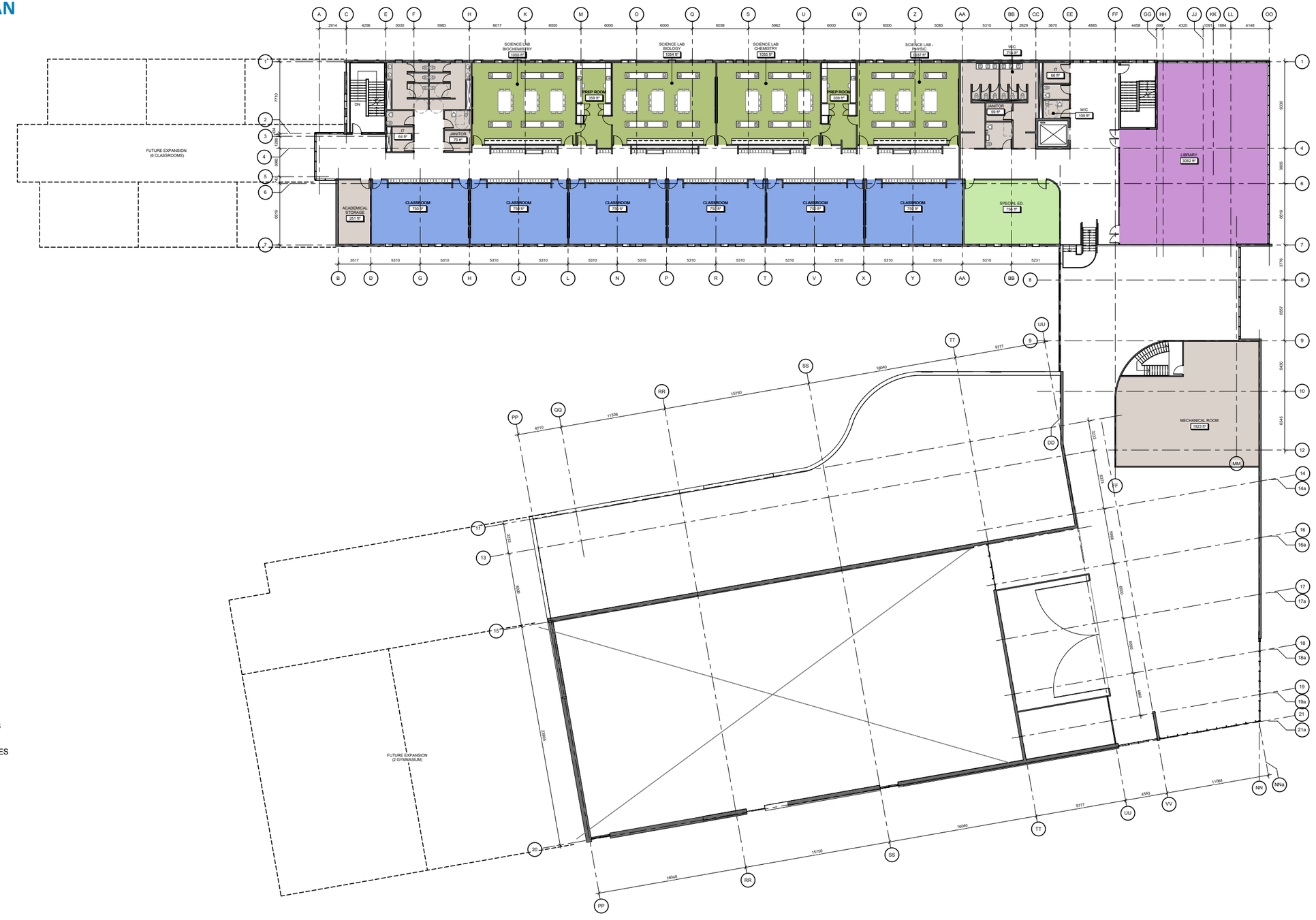
- The building is sited on the north-east corner, to maximize visibility along Strandherd, and at the intersection of Strandherd and future Chapman Mills Drive.
- The main entrance on Chapman Mills Drive welcomes students and staff arriving by car, foot, bicycle, public transit or other. A secondary entrance is provided on the campus precinct side of the building, where students will be dropped off along the drop off loop, or for staff and students arriving by car and parking in the parking lots.
- A central lobby with access to the gymnasium and support facilities, the library, the cafeteria and stage and supporting kitchen is to be provided for the community during after hours. Ideally the classroom wing would be secured during these times to restrict access.
- The building footprint is to be compact to conserve green space and to allow for future developments on the site.
- The building orientation is to take into account the potential passive solar energy savings and opportunities.
- In terms of outdoor facilities, there is a soccer field, a basketball court, a 100m running track and a multi-use pathway for cross-country training and to create pedestrian connections.
- The primary function of the facility is a high school, but could have the potential to be used by the community during off-hours (evenings, week-end and summer months) for various activities, such as sports, theatre, library. To enable this, the zones that could be accessed by the community have been grouped together and centralized into one volume on the ground floor, so that the academic wing could be secured during off-hours.
- The building has been sited and designed to allow for future expansion of the facility. Future development zones have been identified (addition to the classroom wing at the Northwest corner of the building; addition to the west of the gym facilities; an area has been designated for future portables).

GROUND FLOOR PLAN

LEGEND

- ACADEMICAL AREA
- SPECIAL EDUCATION
- MUSIC / ARTS
- COMMUNITY SPACES
- ATHLETIC
- ADMINISTRATION
- OPERATIONAL SPACES

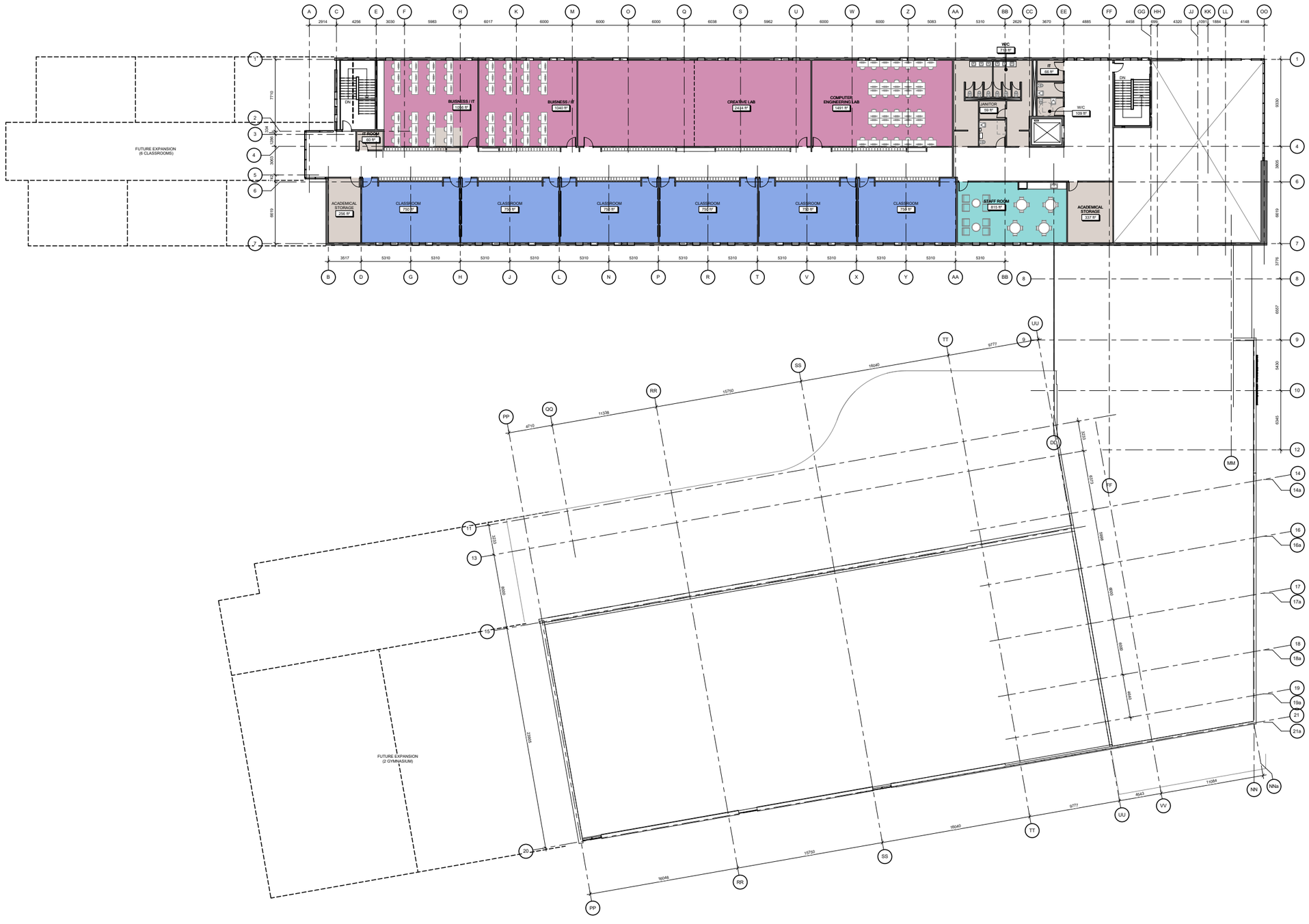
SECOND FLOOR PLAN



LEGEND

- ACADEMICAL AREA
- SPECIAL EDUCATION
- SCIENCE LABS
- COMMUNITY SPACES
- OPERATIONAL SPACES

THIRD FLOOR PLAN

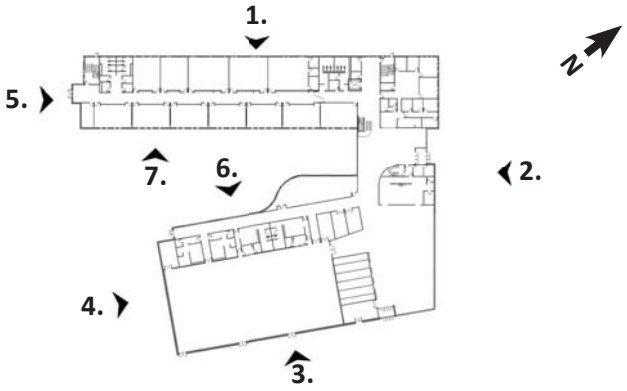


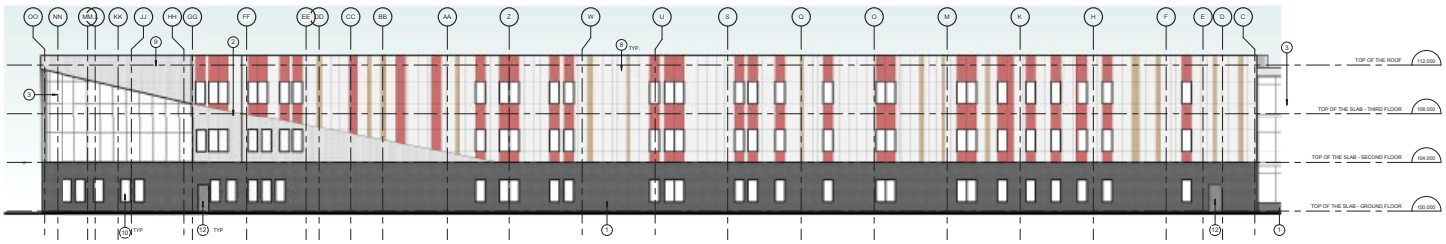
LEGEND

- ACADEMICAL AREA
- TECHNICAL STUDIES
- ADMINISTRATION
- OPERATIONAL SPACES

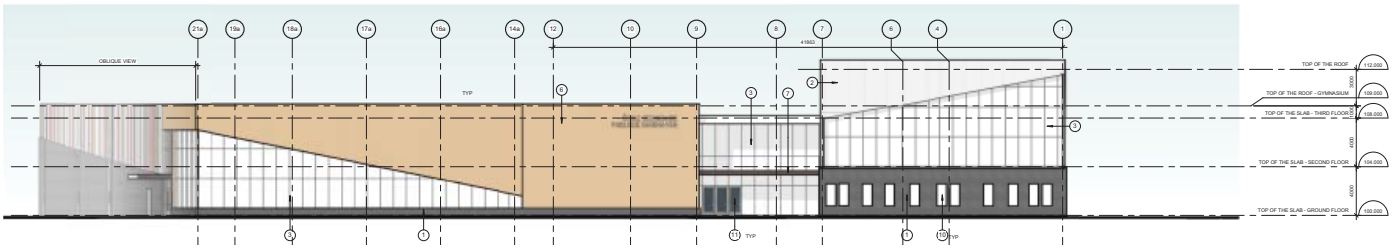
BUILDING ELEVATIONS

KEY PLAN

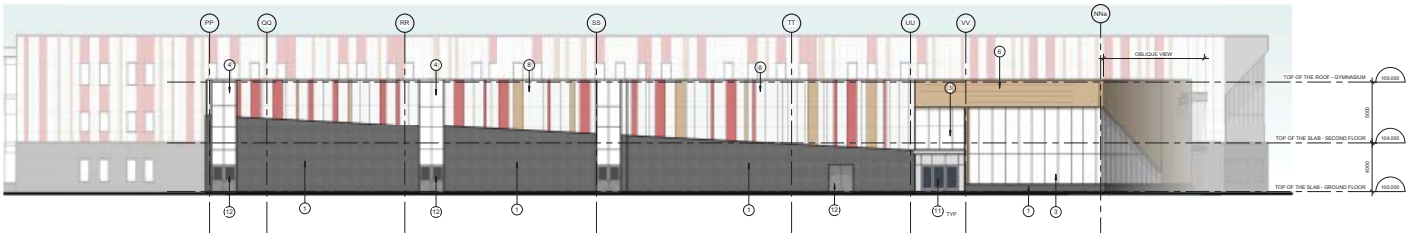




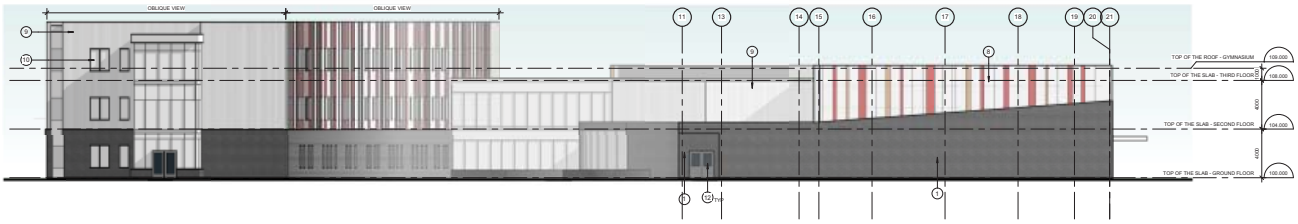
1) Northwest elevation



2) Northeast elevation

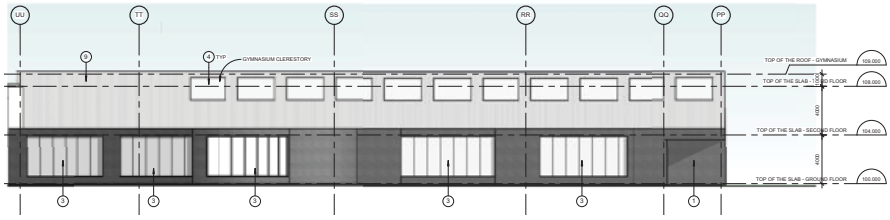


3) East elevation

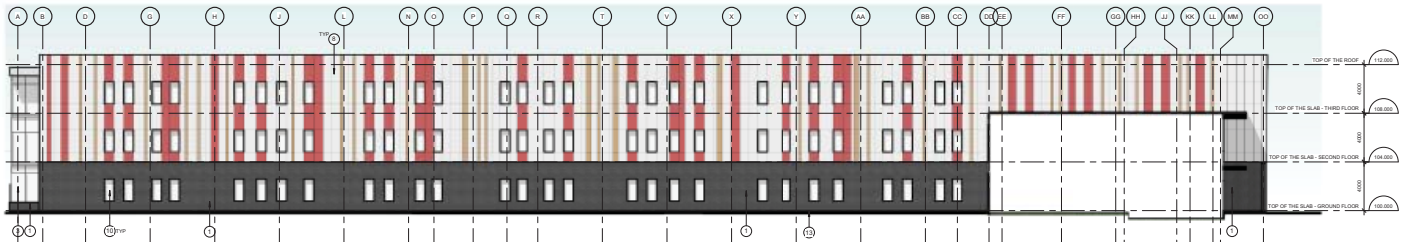


4) Southwest elevation

5) Southwest elevation



6) West elevation



7) Northeast elevation

SUSTAINABILITY

The design of the new high school minimizes the impact of the building footprint on the school grounds and on the environment. Design decisions have been implemented based on energy conservation strategies and sustainable construction practices to design healthy living spaces.

The CEPEO have developed their environmental policy **"Critères pour la conception et la construction - Etablissements Durables".** This key resource establishes the environmental guidelines and criteria to be met related to concept optimization, site development, comfort and health, water management, energy consumption, materials and resources and environmental education.

Sustainable design strategies and principles that were applied include:

- Applying passive solar design strategies: building massing and orientation to minimize heating and cooling loads.
- Maximizing energy efficiency through best practice building envelope design, including thermally efficient glazing units.
- Selecting materials that are durable (lifecycle costing), locally sourced and with high recycled content.
- Strategically placing windows to maximize optimal natural daylight and views.
    - The southern exposure is along the cafeteria, and classroom wing. The library is facing north to maximize even distribution of natural daylight and minimal glare. The computer labs are also along the north facade. The communal student nodes are in well day lit spaces. Every occupied space in the building has access to natural daylight.
- Specifying low flow and low flush fixtures to minimize water consumption
- Specifying mechanical and electrical systems that are energy efficient, require minimal maintenance and are easy to operate.
    - LED lighting will be used throughout the facility to minimize energy loads.
    - Lighting controls such as occupancy sensors
- Minimizing construction waste
- Minimizing the impact of the new construction on the area of the school grounds
    - The building massing is compact, with a double loaded corridor 3 storey classroom wing, and a community centre volume with all the support spaces organized along a central spine circulation corridor.
    - The siting at the Northeast corner of the site minimized development at the south end of the site that is lower in elevation and closer to the Jock River floodplain.
- Flexibility in the design, ability to expand and provide spaces capable of serving multiple functions.

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