REQUEST FOR PROPOSAL (RFP)

DESIGN-BUILD DAYCARE PLAYGROUND
PEMBERTON CHILDREN'S CENTRE

RFP NO. #2023–02

MAY 29, 2023

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VILLAGE OF PEMBERTON
REQUEST FOR PROPOSAL (RFP)
DESIGN-BUILD MODULAR DAYCARE
PEMBERTON CHILDREN'S CENTRE
RFP No. #2023–02

The Village of Pemberton ("the Village") is seeking Proposals from a qualified playground design/builder to undertake the detailed design, supply and construction of an outdoor playground for the new daycare building owned by the Village, as an expansion of the existing Pemberton Children's Centre, located between Cottonwood Street and Arbutus Street, in Pemberton, British Columbia.

The Village has secured a public funding source for the project. The daycare (including playground) will need to meet Vancouver Coastal Health (VCH) requirements for licensing purposes as described in Section 4. Funding is based on the daycare being commissioned, inspected and approved for licensing and operations in Fall of 2023. Proponents are invited to submit a Proposal for the playground.

Submissions are to be made via email, submitted to:

Marco Cusano (Consultant Project Manager) at **mcusano@mcelhanney.com**

Proposals must be received by Marco Cusano **no later than 4:00pm (PST) June 16th, 2023**.

Inquiries must be received by Marco Cusano **no later than 4:00 pm (PST) June 9th, 2023.**

No scheduled site meeting is planned for Proponents, but being a public location, Proponents are encouraged to make a site inspection on their own accord during regular business hours.

Submissions will be evaluated based on the Proposal that, in the Village's opinion offers the best value for the Products and/or Services requested. Considerations will include the proposed scope of work (i.e., final deliverables), quality of design, team qualifications and track record, relevant recent experience, overall project cost, schedule, demonstrated ability to complete the project within the proposed schedule, as well as any other any factors the Village deems to be relevant to the project success. The Village of Pemberton reserves the right to reject any or all proposals; the lowest priced submission will not necessarily be accepted. The Village reserves the right to waive informalities in or reject any or all Proposals or accept the Proposal deemed most favorable to the interest of the Village of Pemberton.

PART A – GENERAL

1 DEFINITIONS

1.1 "Agreement" "Contract" "Services Agreement" means a contract that may be issued to formalize with the successful Proponent through a negotiation process with the Village based on the proposal submitted and will incorporate by reference the Request for Proposal, any addenda issued, the Proponent's response and acceptance by the Village.

1.2 "Village" "Owner" means Village of Pemberton.

1.3 "Consultant" "Contractor" "Project Manager" means the person(s), firm(s) or corporation(s) appointed by the Village to carry out all duties, obligations, work and services first contemplated in the Request for Proposal and all associated documentation, which may also include mutually agreed revisions subsequent to submission of a Proposal. Both "Consultant" "Contractor" "Project Manager" and "Proponent" are complimentary in terms of duties, obligations, and responsibilities contemplated at the Request for Proposal stage, through evaluation process, execution, and performance of the Design and Construction Services.

1.4 "Mandatory" "Must" "Shall" "Will" mean a requirement that must be met.

1.5 "Product" means, unless the context requires otherwise, any and all articles, goods, materials, supplies, commodities, machinery, equipment and fixtures to be supplied by the Contractor that comprise a portion of the Services, but specifically excluding facilities, equipment and materials used or constructed to carry out the Services that are not incorporated permanently into the Services.

1.6 "Proponent" means responder to this Request for Proposal.

1.7 "Proposal" means the submission by the Proponent.

1.8 "Provide" "Supply" shall mean provide and pay for, and supply and pay for.

1.9 "Request for Proposal" "RFP" shall mean and include the complete set of documents, specifications, drawings, and addenda incorporated herein, and included in this Request for Proposal.

1.10 "Services" means and includes the provision by the successful Proponent of all services, duties and expectations as further described in this RFP.

2 BACKGROUND AND INTENT OF THE RFP

2.1 The Village is seeking to construct a fenced-in playground that is aligned with the ongoing daycare building construction project at 7396 Cottonwood Street, Village of Pemberton. The expansion of the daycare is anticipated to allow for 50 additional registrations for children aged 30 months – 5 years old. The building will be of permanent modular construction with an expected lifespan of 50 years.

The modular building construction will be mostly completed in advance of the playground installation, though Proponents should expect some effort for planning and site coordination with the daycare building installation.

3 GENERAL CONDITIONS OF THE RFP

3.1 NO CONTRACTUAL OBLIGATIONS AS A RESULT OF RFP OR PROPOSAL

This is a Request for Proposal, and not a call for tenders or request for binding offers. The Village does not intend to enter into contractual relations as part of this RFP process and no contractual obligations whatsoever will arise between the Village and any Proponent who submits a Proposal in response to this RFP until and unless the Village and a Proponent enter into a formal, written contract for the Proponent to undertake this project.

3.2 OWNERSHIP OF PROPOSALS AND FREEDOM OF INFORMATION

All documents submitted to the Village in response to this RFP or as part of any subsequent negotiation will become the property of the Village and will not be returned. Proponents should also be aware that the Village is subject to the provisions of the Freedom of Information and Protection of Privacy Act (FOIPPA) ("Act"). A Proponent may stipulate in their Proposal that a portion(s) of their Proposal that contains confidential information and are supplied to the Village in confidence. However, under FOIPPA, the Village may nevertheless be obligated to disclose all or part of a response pursuant to a request made under the Act, even if the Proponent has stipulated that part of their Proposal is supplied in confidence. The Proponent should review Section 21 and other provisions of FOIPPA to gain a better understanding of the Village's disclosure responsibilities under the Act.

3.3 CONFIDENTIALITY OF VILLAGE INFORMATION

This RFP and all information provided by the Village to a Proponent is provided on a confidential basis, and Proponents will not disclose any such information to any person (other than the Proponent's legal advisers) without the Village's prior written consent, nor may any Proponent publicize or advertise its involvement with this RFP process or the Village in connection wherewith without the prior written consent of the Village.

3.4 PROPONENT'S EXPENSES

For clarity, Proponents will be solely responsible for their own expenses incurred in preparing a Proposal or in any subsequent negotiations with the Village.

3.5 SUBCONTRACTORS

The Contractor shall not subcontract any services to be performed by it under this Agreement without the prior written approval of the Village, except for service firms engaged in drawing, reproduction, typing, and printing. Any subcontractors must be engaged under written contract with the Contractor with provisions allowing the Contractor to comply with all requirements of this Agreement. The Contractor shall be solely responsible for reimbursing any subcontractors, and the Village shall have no obligation to them.

3.6 CONTACTING VILLAGE REPRESENTATIVES

Proponents shall not contact Village elected officials, officers or employees directly or indirectly regarding this RFP, except as indicated in this RFP.

3.7 CONFLICT OF INTEREST

Proponents shall disclose any potential conflicts of interest and existing business relationships they may have with the Village, its elected or appointed officials or employees. The Village may rely on such disclosure. The Village may reject a Proposal from any Proponent that the Village judges would be in a conflict of interest if the Proponent is awarded a Contract. Failure to disclose, or false or insufficient disclosure of the nature and extent of any relationship the Proponent may have with any employee, officer or director of the Owner shall be grounds for immediate termination of any agreement or contract with the Owner, in the Owner's sole discretion, without further liability of notice.

3.8 INSURANCE

The successful Proponent will, without limiting its obligations or liabilities and at its own expense, provide and maintain throughout the Contract term, the minimum $5 Million in liability insurance and any other insurances as stipulated in the CCDC-14 Contract, and provide proof of good standing with WorkSafe BC.

3.9 PERMITS AND LICENSES

The successful Proponent will be required to obtain a Village of Pemberton business license prior to commencement of work.

4 STATEMENT OF REQUIREMENTS

4.1 OVERVIEW

The Statement of Requirements contains the overall general functional and performance requirements of the playground. Additional information is available for reference in the RFP appendices, including a conceptual site plan, performance requirements / specifications, and other pertinent information. Proponents will be required to meet all building standards within the Child Care Licensing Regulation.

4.2 OBJECTIVES

The Project objective is to provide the Village with a playground designed and built to all required codes with an emphasis on project schedule, scope, design, constraints, compliance issues, and project costs.

The selected Proponent will be responsible for design, supply, and installation; coordinating with the Village and possible interested parties including: daycare operator, daycare licensing agency; applying for and acquiring all necessary permits (the Village building permit fees to be paid as project disbursement).

The final budget available for the playground will depend on final construction costs for the overall project; additional funding may be sought and secured by the operator of the daycare. At a minimum, the Village requires design and installation of a playground that meets VCH regulations for daycare licensing.

4.3 SCOPE OF WORK

1. Design Submissions:

   i. The successful Proponent shall be responsible for the submission of drawings to the Village and VCH for approval. Two required submissions shall be: 50% Design Review and a 90% Design Review.

   The Village will endeavor with the successful Proponent to provide comments within 10 business days of each submission. Contractor to comply with all applicable BC Building Codes, BC Workers' Compensation Board, National Building Code of Canada, Technical Safety BC, National Fire Protection Association, local building bylaw, BC and VCH Daycare Licensing and building requirements, and all other applicable regulations.

2. Supply and Installation of Playground:

   The work covered under this project consists of the furnishing of all superintendence, overhead, labour, materials, tools, equipment, insurance, fuel, transportation, and all things necessary for and incidental to the satisfaction of performance and completion of the Daycare Playground project in strict accordance with the Specifications and accompanying Drawings and subject to all terms and conditions of the Contract.

3. Commissioning, Occupancy Permit, and Confirmation of Suitability for Licensing

5 MATERIALS AVAILABLE TO SUCCESSFUL PROPONENT

See appendices.

6 SCHEDULE

The successful Proponent must initiate work within 14 days of issuance of Notice to Proceed.

Proponents are to include a proposed preliminary project schedule for design and construction in their Proposal as requested in Part B section 3.

7 PROPOSAL FORMAT AND PREPARATION

The Village has secured funding for the daycare, including the playground; however, additional funding has been applied for which may allow for more funds to be allocated to the playground. To this end, proposals should include two conceptual playground designs: one designed within a maximum $175,000 budget and one designed within a maximum $275,000 budget. Concepts need not be designed up to the limits of these budgets, but rather should represent designs that the proponent feels represent good value within the prescribed budget limits.

Proponents shall allow for all costs to provide a “turn-key” playground, including but not limited to: preparation of detailed design drawings and approvals; site preparation; playground surfacing; supply and install of playground furnishings (shade structures; play structures; storage; chainlink fence, etc.); preparation of documentation for VCH; attendance at a final acceptance review with VCH; addressing deficiencies; mobilization/demobilization; and all other costs, including overhead and profit.

A preliminary layout is provided in the appendices for guidance; note that this layout does not necessarily conform to all applicable regulations and that it is the proponent’s responsibility to prepare concept designs in accordance with all such regulations. Proponents are encouraged to deviate from the preliminary layout if such deviations may provide a benefit – either with respect to cost, delivery times, schedule, etc.

Each concept design should clearly indicate the proposed furnishings and surface (wood chip, rubber). Provide a brief description of each design concept and the highlights of each. **The preference is for all material and product selections to be low maintenance.** Rubber surfacing for falls zones is preferred if costs allow.

Without limiting the requirements set out below, each Proponent should include in its technical submission proposal information and documentation that reasonably demonstrates and allows the Owner to evaluate whether the Proponent is capable of performing the requirements, including but not limited to demonstration of work on previous VCH-regulated daycares and commentary on schedule.

8 PROPOSAL EVALUATION AND SELECTION

The Village of Pemberton will evaluate all submitted valid Proposals. The object of the evaluation and selection process is to identify the Proposal that, in the Village’s opinion offers the best value for the Products and/or Services requested.

The Village is not obligated to accept the lowest priced Proposal or any Proposal and may reject all submissions.

The Village has the absolute right to accept or reject any Proposal for any reason, to negotiate with any Proponent or Proponents and to evaluate the Proposals in accordance with all information submitted by the Proponents and to abandon the RFP at any stage, for any reason.

There shall be no obligation on the part of the Village neither to receive further information, whether written or oral, from any Proponent nor to disclose the nature of any Proposal received.

The Village at its discretion, may invite some or all Proponents for an interview to provide clarifications of their Proposals. In such event, the Village will be entitled to consider the answers received in evaluating Proposals.

The Village may award a Contract to the Proponent whose submission, in the Village’s sole discretion, provides the best overall value to the Village for the work. In evaluating the overall value to the Village for the work in respect of each submission received, the Village, in addition to price, will have in mind its critical goals of obtaining a high-quality product in accordance with the schedule established under the Request for Proposal documents.

In evaluating overall value, the Village may consider, without limitation, price, qualifications and experience of Proponents, availability of necessary work forces and other resources, proposed methodology and schedule for completing the work, and the past performance of Proponents on similar projects in respect of quality of

work, timeliness of work, costs of contract administration to the owner of the project, and costs associated with claims for extras in respect of the project. In this regard, considerations other that price may be of greater weight in the Village's evaluation of submissions received.

Proposals will be evaluated based on weighted criteria per the table below:

Weighted Criteria	**Weight**
Concept Designs	20
Cost	50
Comparable Experience	10
Execution Plan	10
Schedule	10
TOTAL	100

Proposed project teams must be capable of completing all identified tasks; the Village will not consider partial submissions.

Once the Preferred Proponent has been identified, the Village will enter into contract discussions to clarify any outstanding issues and agree to contract terms. It is not the Village's intent to revise the Financial Quotation at these discussions unless cost-related adjustments to the Technical Quotation are identified by the Village and/or the Proponent.

If discussions are successful, the Village and the Preferred Proponent will develop a formal contract for contract award and commence the Project. If discussions are unsuccessful, the Village reserves the right to enter into contract discussions with other Proponents, and/or to decide not to award a contract at all.

PART B – PROPOSAL DOCUMENTS

Note: Proponents may complete the following templates or provide their responses in their own format, provided all fields are answered.

1 PROPONENT IDENTIFICATION

Legal Name of Proponent:

Contact Person and Title (Authorized Signatory):

Business Address:

Business Telephone:

Business Fax:

Business E-mail Address:

2 FINANCIAL PROPOSAL

Schedule of Prices

Proponents shall provide the following breakdown of the Contract Price which represents the entire compensation to the Design-Builder by the Owner for any and all costs related to the Work, including but not limited to all fees, cash allowances, contingencies and all duties and taxes, excluding GST payable by the Owner to the Design-Builder (use the spaces provided and/or attach additional pages, if necessary):

Modular Daycare Building Detailed Contract Price

Item	Description	Price	
		Concept 1	Concept 2
Total Contract Price (excluding GST):		**$**	**$**

Rates for potential additional works – Proponents are to provide a schedule of standard trade and standard equipment rates (Carpenter, Plumber, Backhoe etc.) for considerations of potential additional works to be negotiated with the Village while mobilized on the project site.

3 PROPOSED PROJECT SCHEDULE

The Proponents shall submit a completed Preliminary Construction Schedule showing anticipated start and completion dates of the following Activities (in the table below or in other formats) and be in compliance with: Substantial Completion of Modular Daycare Building: **September 15, 2023**

PRELIMINARY CONSTRUCTION SCHEDULE		
ACTIVITY	**START**	**FINISH**
Design Phase		
Mobilization		
Site Prep & Foundation		
Installation		
Inspections/Licensing		
SUBSTANTIAL COMPLETION	**November 15th, 2023**	

*Assume site availability to Contractor no sooner than **September 1, 2023**

4 TECHNICAL PROPOSAL

The Proponent shall provide the following information with its Proposal:

4.1 Comparable Experience

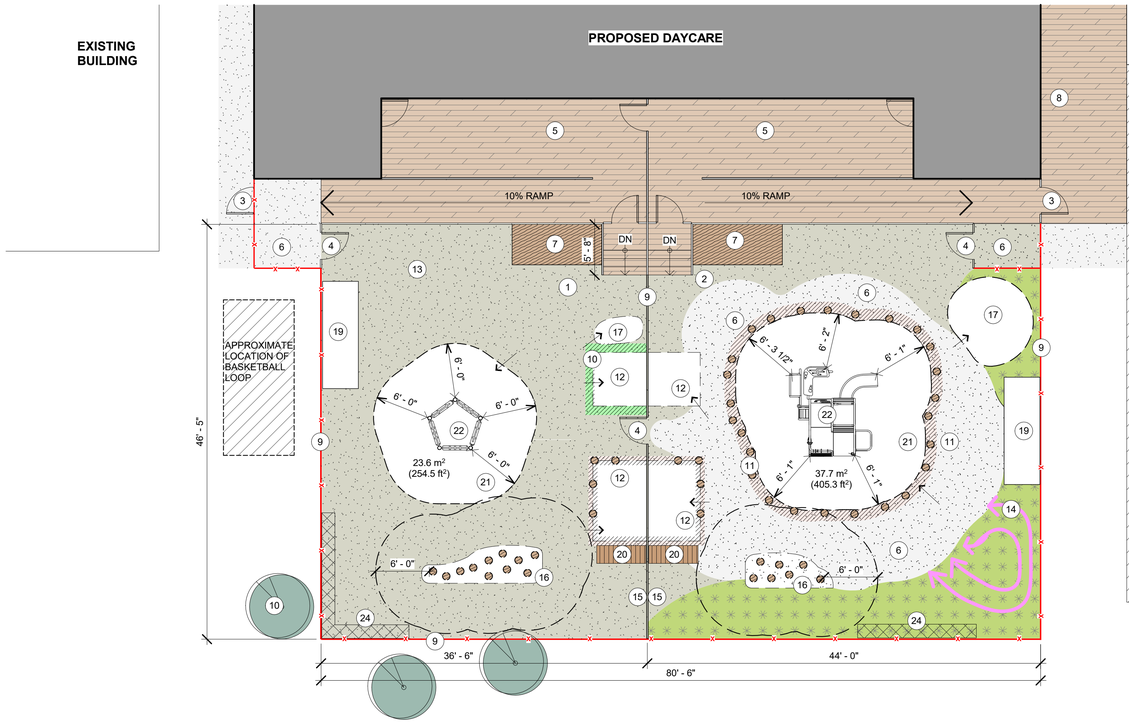
The Proponent shall provide information and on its relevant experience and qualifications for the performance of the Work. Proponents are to provide project information on supply and installation of three (3) comparable playground projects of similar size and scope (preferably in a VCH-regulated daycare setting) from within the past 5 years. Proponents are encouraged to provide reference contacts for each historical project.

4.2 Project Execution Plan

The Proponent shall provide its overall approach to the execution of the proposed Works as described in the Statement of Requirements including details regarding the following:

a) A list of proposed key project personnel (Project Manager, Design Manager etc.) with relevant experience and qualifications
b) Quality plan
c) Understanding of conceptual design and conformance to performance specifications. Proponents are required to provide their own conceptual design drawings, which shall include site plan at minimum, and may include additional information (elevations, examples of furnishings, etc.)
d) Mobilization plan
e) Site execution, inspections, turnover and commissioning
f) Approach to Project approvals and change management

APPENDIX A – PLAYGROUND CONCEPT



PLAN NOTES

NO	NOTES
1	PLAY-YARD AREA (A)
2	PLAY-YARD AREA (B)
3	ENTRY GATE
4	ENTRY GATE SECURITY TO PROVIDE ADULT ONLY ACCESS (TO MATCH EXISTING FUNCTION ON EXISTING DAYCARE)
5	COVERED DECK
6	ASPHALT PATH / WHEELED
7	STAGE W/ BACKDROP
8	OPENING IN DECK
9	FENCE
10	TREES and SHADE
11	USABLE EDGE
12	SAND BOX
13	RUBBER
14	CRAWLING RABIT RUNS
15	MUSIC WALL
16	BALANCE
17	QUIET
18	DRAMATIC
19	BIKE/STORAGE SHED
20	MUD KITCHEN
21	FALL SURFCING
22	PLAY STRUCTURE
24	PLANTING ACTIVITY

REQUIRED AREA: 6 m² / CHILD

6 m² X 25 = 150 m² (1,615 SF) EACH SIDE
TOTAL = 300 m² (3,229 SF)

PROVIDED AREA:
AREA (A) = 150 m² (1,618 SF)
AREA (B) = 180 m² (1,934 SF)
TOTAL = 330 m² (3,552 SF)

NOTE:
USE OF EACH PLAYYARD IS TO BE SCHEDULED BY THE DAYCARE OPERATORS FOR ALTERNATING USE

NO	DATE	DESCRIPTION

NORTH POINT:

SEAL:

PROJECT:
PEMBERTON DAYCARE

PEMBERTON, BC
VILLAGE OF PEMBERTON

DRAWING:
SITE PLAN - OPTION 3 - REVISED

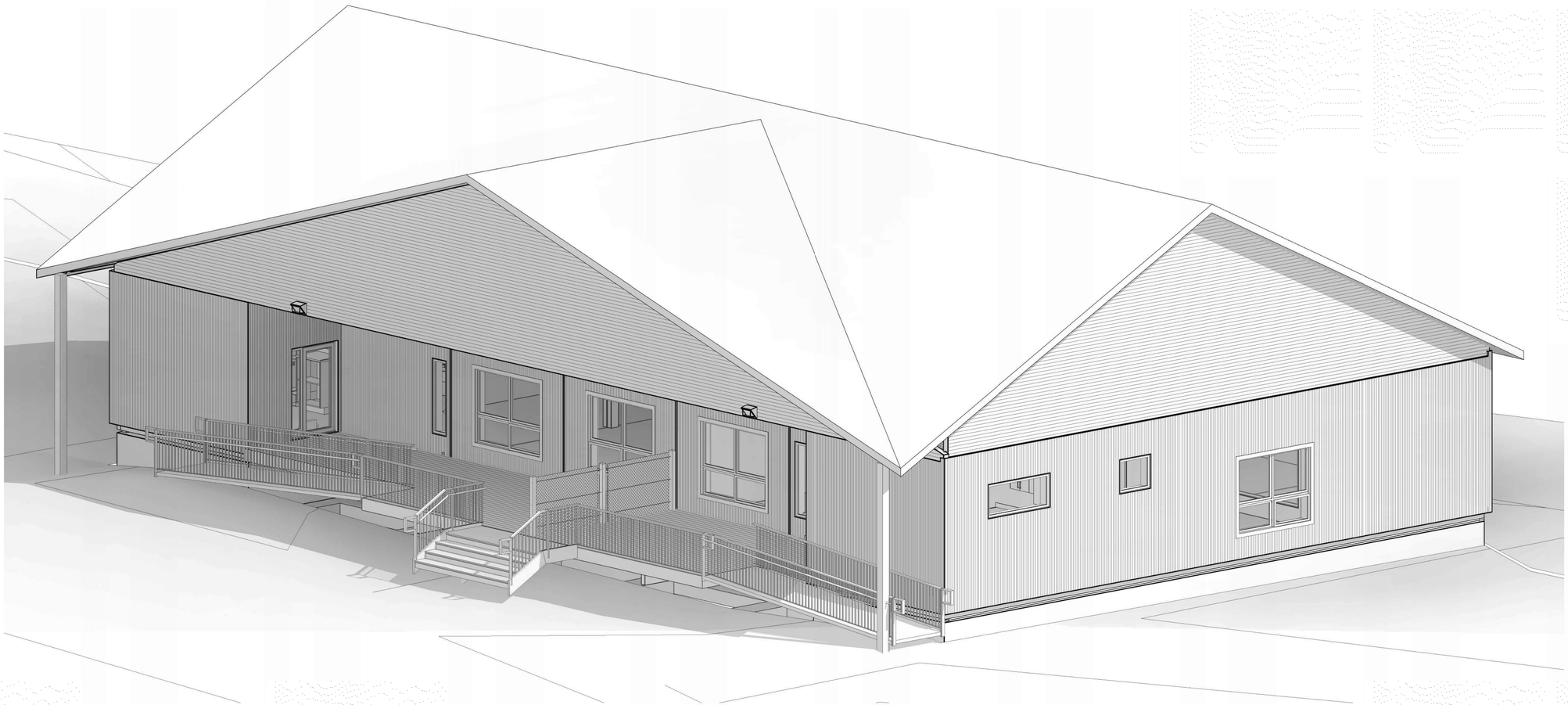
PROJECT NO: T22055	SCALE: 1/8" = 1'-0"
START DATE: 2022-08-03	DRAWN BY: Author
FORMAT: 24" x 36"	CHECKED BY: Checker

SHEET NUMBER:

A1.04

2023-03-29 1:50:46 PM

APPENDIX B – ARCHITECTURAL DRAWINGS



ARCHITECTURAL

ELECTRICAL

STRUCTURAL

#	DESCRIPTION	BY	DATE
1	ISSUED FOR BP STAMPING	RMM	17 APR 2023

FREEPORT INDUSTRIES
3522-8 Red Cloud Way
Westbank, BC.
Tel. 250.707.3950
Fax 250.707.3951
www.freeportindustries.ca

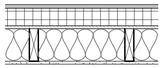
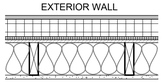
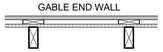
PROJECT TITLE:
VILLAGE OF PEMBERTON
7396B COTTONWOOD STREET DAYCARE

DRAWING TITLE:
COVER PAGE

PROJECT NO:	SCALE:	SHEET NO:
P22973		A0.0
DRAWN BY: RMM	DATE: 17 APR 2023	

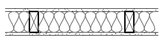
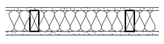
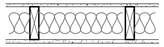
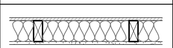
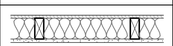
2023-04-17 12:57:16 PM D:\PHD 2022\Freeport Industries\22973 Pemberton\22973 Pemberton Production Central Model_melnykrob.rvt

EXTERIOR WALL SCHEDULE

EW1	EXTERIOR WALL 	• 7/8" 26ga VERTICAL CORRUGATED CLADDING • 3" RIGID INSULATION • 1 LAYER TYVEK BUILDING WRAP • 1/2" OSB SHEATHING - SEE STRUCTURAL • 2x6 STUD @ 16" O.C. • R-24 FRICTION FIT FIBERGLASS BATT INSULATION • 6 mil POLY VAPOUR BARRIER • 1/2" GYPSUM WALL BOARD, TAPED & FILLED
EW2	EXTERIOR WALL 	• 7/8" 26ga VERTICAL CORRUGATED CLADDING • 3" RIGID INSULATION • 1 LAYER TYVEK BUILDING WRAP • 5/8" DENSGLASS SHEATHING • 1/2" OSB SHEATHING - SEE STRUCTURAL • 2x6 STUD @ 16" O.C. • R-24 FRICTION FIT FIBERGLASS BATT INSULATION • 6 mil POLY VAPOUR BARRIER • 5/8" TYPE X GYPSUM WALL BOARD, TAPED & FILLED
GW1	GABLE END WALL 	• 7/8" 26ga HORIZONTAL CORRUGATED CLADDING • 1x4 VERTICAL RAINSCREEN STRAPPING @ 16" O.C. • 1 LAYER TYVEK BUILDING WRAP • 1/2" OSB SHEATHING • 2x4 STUD @ 16" O.C.

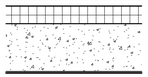
WALL TYPE - EXTERIOR
SCALE: 1" = 1'-0"

PARTITION WALL SCHEDULE

PW1		• 1/2" GYPSUM WALL BOARD, TAPED & FILLED • 2x4 STUD @ 16" O.C. • R12 FRICTION FIT BATTS TO ALL INTERIOR WALLS • 1/2" GYPSUM WALL BOARD, TAPED & FILLED
PW2		• 1/2" GYPSUM WALL BOARD, TAPED & FILLED • 2x4 STUDS @ 16" O.C. • R12 FRICTION FIT BATTS TO ALL INTERIOR WALLS • 5/8" TYPE "X" GYPSUM WALL BOARD, TAPED & FILLED
PW3		• 1/2" GYPSUM WALL BOARD, TAPED & FILLED • 2x6 STUDS @ 16" O.C. • R12 FRICTION FIT BATTS TO ALL INTERIOR WALLS • 1/2" GYPSUM WALL BOARD, TAPED & FILLED
JW1		• 1/2" OSB SHEATHING • 2x4 STUD @ 16" O.C. • R12 FRICTION FIT BATTS TO ALL INTERIOR WALLS • 1/2" GYPSUM WALL BOARD, TAPED & FILLED
JW2		• 1/2" OSB SHEATHING • 2x4 STUD @ 16" O.C. • R12 FRICTION FIT BATTS TO ALL INTERIOR WALLS • 5/8" TYPE "X" GYPSUM WALL BOARD, TAPED & FILLED

WALL TYPE - PARTITION
SCALE: 1" = 1'-0"

FOUNDATION WALL SCHEDULE

FW1		• DAMPPROOFING COAT • 8" CONCRETE WALL • 3" XPS INSULATION
BW1		• 2x8 STUDS @ 16" O.C.

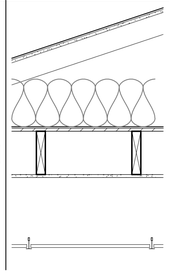
WALL TYPE - FOUNDATION
SCALE: 1" = 1'-0"

FLOOR SCHEDULE

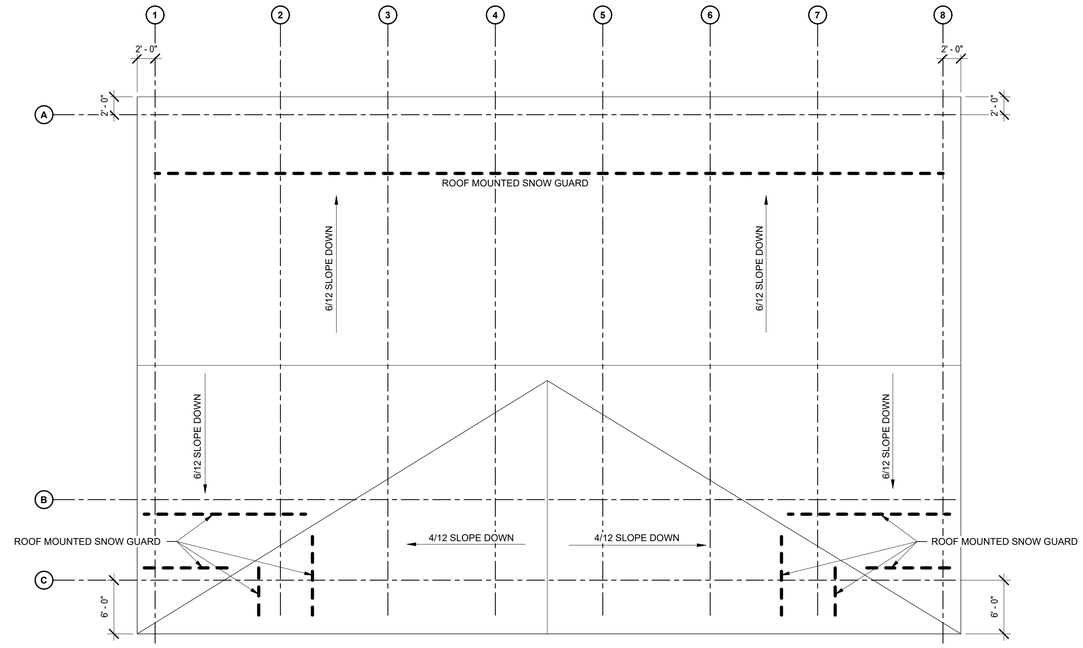
F1		• FINISHED FLOOR • 3/8" UNDERLAY • 5/8" T&G PLYWOOD SUBFLOOR, SELECT FIR, GLUED & STAPLED, TONGUE GLUED • 2x10 JOISTS @ 12" / 16" OC AS NOTED ON STRUCTURAL DRAWINGS, KD SPF#2 OR BETTER

FLOOR TYPE
SCALE: 1" = 1'-0"

ROOF SCHEDULE

R1		SITE INSTALLED ROOF: • METAL STANDING SEAM ROOF • SELF-ADHERED MEMBRANE • 15/32" OSB SHEATHING AS PER STRUCTURAL ENG • R50 INSULATION • ENGINEERED TRUSS ROOF TRANSPORT ROOF: • 45 MIL. EPDM ROOFING, FULLY ADHERED • 3/8" OSB SHEATHING • 2x8 JOISTS AT 16" O.C., KD SPF#2 OR BETTER • 1/2" GYPSUM WALLBOARD, TAPED & FILLED IN EXPOSED AREAS • SUSPENDED T-BAR CEILING

ROOF TYPE
SCALE: 1" = 1'-0"



1 A3.0 ROOF PLAN
SCALE: 1/8" = 1'-0"

#	DESCRIPTION	BY	DATE
1	ISSUED FOR BP STAMPING	RMM	17 APR 2023

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PROJECT TITLE:
VILLAGE OF PEMBERTON
7396B COTTONWOOD STREET DAYCARE

DRAWING TITLE:
CONSTRUCTION ASSEMBLIES, ROOF PLAN

PROJECT NO: P22973
SCALE: As indicated
DRAWN BY: RMM
DATE: 17 APR 2023
SHEET NO: **A0.1**

BUILDING CODE SUMMARY

TYPE OF WORK
NEW CONSTRUCTION OF A MODULAR DAYCARE

BASIS FOR CODE ANALYSIS
BC BUILDING CODE EDITION - 2018
ACCEPTABLE SOLUTIONS & PRESCRIPTIVE REQUIREMENTS (DIVISION B): **PART 3**

BUILDING AREA: **377.2 m²**

PARKING STRUCTURES CONSIDERED AS SEPARATE BUILDINGS: **N/A**

BUILDING SIZE AND CONSTRUCTION (ARTICLE 3.2.2.27)

MAJOR OCCUPANCIES (GROUP/DIVISION):	**GROUP A, DIVISION 2 UP TO TWO STOREYS, SPRINKLERED**
BUILDING HEIGHT	
GRADE:	**FLAT**
STOREYS:	**1**
EXCEPTIONS TO BUILDING HEIGHT (3.2.1.1):	**N/A**
NUMBER OF STREETS (1SM FROM STREET)	**1**
GOVERNING ARTICLE:	**3.2.2.27 - GROUP A, DIVISION 2, UP TO 2 STOREY, SPRINKLERED**
MAX. AREA:	**2400m²**
TYPE OF CONSTRUCTION:	**COMBUSTIBLE OR NON-COMBUSTIBLE**
AUTOMATIC SPRINKLERS:	**YES**
MEZZANINE (% OF SUITE PER ARTICLE 3.2.1.1)	**N/A**
FIRE SEPARATION/FIRE RESISTANCE RATING OF BUILDING COMPONENTS:	
FLOOR:	**N/A**
MEZZANINE:	**N/A**
ROOF:	**N/A**
LOAD BEARING:	**N/A**
HEAVY TIMBER CONSTRUCTION ALTERNATIVE:	**NO**
INTERCONNECTED FLOOR SPACES (3.2.8)	**NO**

SPATIAL SEPARATION (SUBSECTION 3.2.3)

FIRE DEPARTMENT RESPONSE TIME <10MIN	**YES**
UNSPRINKLERED STOREY	**NO**
½ LIMITING DISTANCE USED	**NO**
REFER TO TABLE 1	
"SPATIAL SEPARATION"	

FLAME SPREAD RATINGS (3.1.13)

WALL & CEILING	**150**
EXITS	**25**
LOBBIES (EXIT THROUGH)	**25 & 50 SMOKE DEVELOPMENT**
VERTICAL SERVICE SPACE	**25**
DOORS	**200**
PUBLIC CORRIDOR	**75**
CORRIDORS (USED BY PUBLIC)	**75**
ELEVATOR CAR (WALL AND CEILING)	**N/A**

OCCUPANT LOAD (TABLE 3.1.17.1)
SEE EGRESS OCCUPANCY CALCULATIONS SCHEDULE

SAFETY WITHIN FLOOR AREAS (SECTION 3.1.3., 3.3., 3.4., 3.5., & 3.6.)
FIRE SEPARATIONS

MAJOR OCCUPANCIES	**A2**
WALKWAYS BETWEEN BLDG	**N/A**
SEPARATION OF SUITES	**N/A**
PUBLIC CORRIDOR	**N/A**
JANITOR ROOMS	**0MIN**
CORRIDOR (ASSEMBLY)	**N/A**
FIRE SEPARATION OF EXITS	**45MIN**
VERTICAL TRANSPORTATION (ELEVATOR)	**N/A**
SERVICE ROOMS (FUEL-FIRED)	**N/A**
SERVICE ROOMS (ELECT)	**1HR**
SERVICE ROOMS (OTHER)	**1HR**
COMBUSTIBLE REFUSE STORAGE	**N/A**
VERTICAL SERVICE SPACE	**0MIN**
HORIZONTAL SERVICE SPACE (3.6.4)	**0MIN**
FLAME SPREAD RATING OF PLENUMS	**25**
SMOKE DEVELOPMENT RATING OF PLENUMS	**50**

EGRESS & EXIT REQUIREMENTS OF AREAS (3.3 & 3.4)
(WIDTH & TRAVEL DISTANCE)

ROOM OR SUITE **NOT-SPRINKLERED** REQUIRE 2 EGRESS/EXITS UNLESS:	
OCPT LOAD:	<60
TRAVEL DIST (F2):	<10m
TRAVEL DIST (SERVICE)	<25m
EGRESS SEPARATION:	**1/2 MAX DIAGONAL, NOT LESS THAN 9 m**
TRAVEL DISTANCE TO EXIT:	**45m**
HEADROOM CLEARANCE:	**2050mm**
@ DOOR HEIGHT:	MIN. 2030mm
@ DOOR CLOSER:	MIN. 1980mm
CORRIDOR USED BY PUBLIC:	MIN. 1100mm
DOORS	
SWING:	**DIRECTION OF TRAVEL >50 OCPT**
HARDWARE:	**FREE EGRESS, NOT MORE THAN ONE RELEASE**
MECHANISM	
RELEASE HARDWARE (PANIC)	**ASSEMBLY OCCUPANCY >100** **EXIT LOBBY OR STAIR WITH OCPT LOAD >100**
WIDTH (EGRESS)	**800mm CLEAR LEVEL OPENING**
DOORS IN SERIES	**SEPARATED BY 1500mm + DOOR WIDTH**
CAPACITY OF ACCESS TO EXITS	
RAMPS, DOORS, AND CORRIDORS:	**MIN 6.1mm/OCPT**
STAIRS (PER 3.4):	**MIN 8.0mm/OCPT**
MIN. EXIT WIDTHS	
EXIT CORRIDORS/PASSAGEWAYS	**1100mm**
RAMPS	**1100mm**
STAIRS	**900mm**
DOORS	**800mm**
DISTANCE BETWEEN EXISTS	
WITHOUT PUBLIC CORRIDOR	**1/2 MAX DIAGONAL, NOT LESS THAN 9 m**

OTHER SAFETY REQUIREMENTS

FIRE ALARMS (3.2.4.1) (SINGLE OR 2-STAGE)	**YES**
SILENCING	**20MIN**
SIGNALS TO FIRE DEPARTMENT (3.2.4.7)	**YES, IF OCPT LOAD >300**
ANNUNCIATOR	**YES**
ELECTRICAL SUPERVISION	**YES**
FIRE DETECTORS	**YES**
SMOKE DETECTORS	**YES**
SMOKE CIRCULATION (3.2.4.13 & 3.2.4.14)	**YES**
ELEVATOR EMERG. RETURN (3.2.4.14)	**N/A**
MANUAL STATIONS	**YES**
VISUAL SIGNALS	**YES**
SMOKE ALARMS	**NO**
ELECTRICAL WIRING	**AS PER ELECTRICAL SAFETY REGULATION**

FIREFIGHTING PROVISIONS

ACCESS TO ABOVE GRADE STOREYS	**YES**
ACCESS TO BASEMENTS	**N/A**
ROOF ACCESS	**NOT REQUIRED**
ACCESS ROUTE (3.2.5.4)	**YES**
STANDPIPES REQUIRED	**NOT REQUIRED**
HOSE STATIONS	**NOT REQUIRED**
NFPA SPRINKLER STANDARD:	**NFPA-13**
FIRE DEPARTMENT CONNECTION	**NOT REQUIRED**
DISTANCE TO HYDRANTS	**MAX 45m**
PORTABLE FIRE EXTINGUISHERS	**PER BC FIRE CODE / NFPA-10**
HIGH BUILDING (3.2.6)	**N/A**
EMERGENCY LIGHTING REQUIRED	**YES**
EMERGENCY POWER SUPPLY (DURATION)	**30MIN**
EXIT SIGNS REQUIRED	**NO ONLY IF >150 OCPT LOAD**

HEALTH REQUIREMENTS (SECTION 3.7)
CALCULATED EGRESS OCCUPANCY LOAD = **140 PEOPLE**
70 EACH SEX **70** MALE, **70** FEMALE

NO. OF W/C REQUIRED	**2 MALE, 3 FEMALE**
NO. OF W/C PROVIDED	**6**
NO. OF UNIVERSAL W/C	**1**
TOTAL NO. OF W/C	**6 + 1 UNIVERSAL**

ACCESSIBILITY REQUIREMENTS (SECTION 3.8)

ENTRANCE	STREET TO MAIN ENTRANCE
PARKING SPACES	PARKING AREA TO ENTRANCE 1 PER 100 SPACES
WORK AREAS	ALL REASONABLE AREAS
WATER CLOSETS	UNIVERSAL
EGRESS (3.8.3.19)	**YES**
POWER OPERATION	**N/A**
TACTILE WARNINGS	**YES**
DIRECTIONAL SIGNS (3.8.3.12)	**YES**
DOOR NUMBERS	**YES**
COUNTERS	**NO**

ENERGY EFFICIENCY (SECTION 10.2)

DESIGN AND INSTALLATION	**ASHRAE 90.1-2016**
COMPLIANCE (GENERAL & MANDATORY)	**PRESCRIPTIVE**

FIRE STOP LOCATIONS

FIRE STOP (FS)

FIRE SEPARATION LOCATIONS

NOTE: 1. ALL FIRE SEPARATION ASSEMBLIES TO BE CONTINUOUS TO U/S OF DECK.

- FIRE SEPARATION C/W 0 MIN FIRE RESISTANCE RATING
- FIRE SEPARATION C/W 45 MIN FIRE RESISTANCE RATING
- FIRE SEPARATION C/W 1 HOUR FIRE RESISTANCE RATING
- FIRE SEPARATION C/W 1.5 HOUR FIRE RESISTANCE RATING
- FIRE SEPARATION C/W 2 HOUR FIRE RESISTANCE RATING

EGRESS PATH SCHEDULE <45M

EGRESS PATH	DISTANCE
PATH 1	16.8 m
PATH 2	7.6 m
PATH 3	16.8 m
PATH 4	16.2 m
PATH 5	7.4 m
PATH 6	24.2 m
PATH 7	24.8 m
PATH 10	5.6 m

BUILDING FLOOR AREA (GFA)

FLOOR LEVEL	AREA	(m2)
MAIN FLOOR	4100.3 ft²	380.9 m²
GROSS FLOOR AREA	4100.3 ft²	380.9 m²

EGRESS OCCUPANCY CALCULATIONS

ROOM NO.	ROOM NAME	OCCUPANCY	AREA PROV.	OCPT CALC m2/ocpt)	OCPT LOAD
101	OFFICE 1	OFFICE	4.4 m²	9.30 m²	0.5
102	OFFICE 2	OFFICE	4.4 m²	9.30 m²	0.5
103	HC WR	ANCILLARY	4.5 m²	0.00 m²	
104	HALLWAY	ANCILLARY	11.2 m²	0.00 m²	
105	STAFF ROOM	SPACE WITH NON-FIXED SEATS & TABLES	6.4 m²	0.95 m²	6.7
106	JAN	ANCILLARY	2.2 m²	0.00 m²	
107	CHILD W/C A	ANCILLARY	10.6 m²	0.00 m²	
108	CUBBIES	ANCILLARY	16.0 m²	3.70 m²	4.3
109	ACTIVITY AREA A	CHILDCARE	89.6 m²	1.85 m²	48.4
110	MULTI-PURPOSE A	CHILDCARE	21.2 m²	1.85 m²	11.4
111	KITCHEN	ANCILLARY	14.2 m²	9.30 m²	1.5
112	STORAGE	ANCILLARY	10.0 m²	46.00 m²	0.2
113	MULTI-PURPOSE B	CHILDCARE	31.4 m²	1.85 m²	17.0
114	ACTIVITY AREA B	CHILDCARE	83.8 m²	1.85 m²	45.3
115	CHILD W/C B	ANCILLARY	10.6 m²	0.00 m²	
116	CUBBIES	ANCILLARY	16.0 m²	3.70 m²	4.3
117	ELEC RM	ANCILLARY	1.8 m²	46.00 m²	0.0
			338.1 m²		140.2

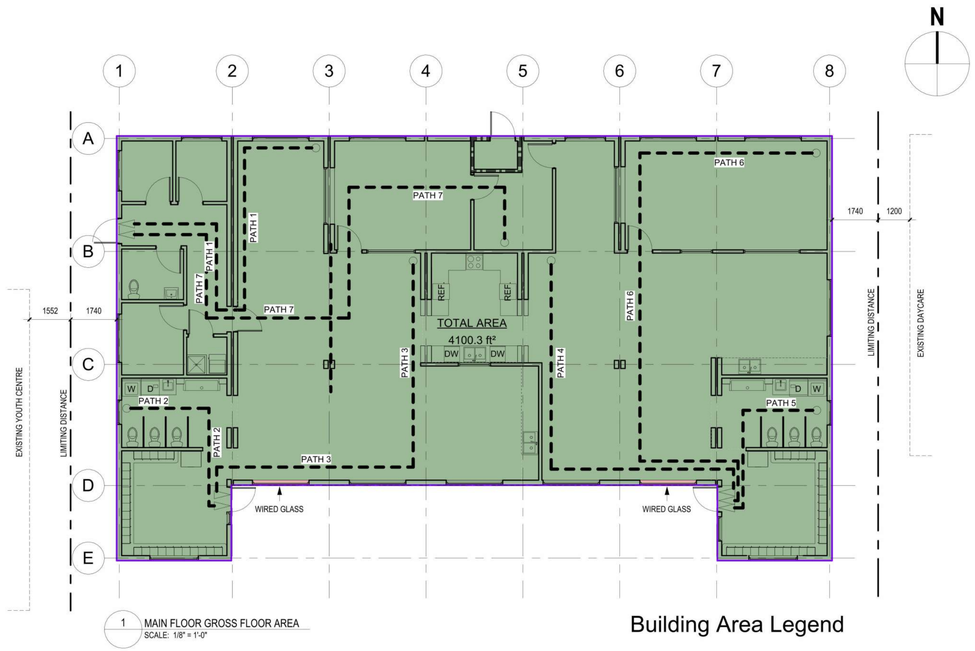
HEALTH REQUIREMENT CALCULATIONS AS PER DAYCARE REGULATIONS: A LICENSEE MUST HAVE ONE TOILET AND WASH BASIN FOR EVERY 10 CHILDREN OR FEWER

DAYCARE OCCUPANCY LOAD : 60 CHILDREN (ACTIVITY AREA A= 30 AND ACTIVITY AREA B= 31) + 6 STAFF MEMBERS
REQUIRED WC IN ACTIVITY AREA A : 3 REQUIRED WC IN ACTIVITY AREA B : 3
PROVIDED WC IN ACTIVITY AREA A: 3 PROVIDED WC IN ACTIVITY AREA B : 3

TOTAL WC PROVIDED: 6 WC + 1 UNIVERSAL WC

SPATIAL SEPARTION (TABLE 3.2.3.1.-B, SPRINKLERED)

LOCATION	L	H	AREA OF EXPOSED COMPARTMENT	LIMITING DISTANCE	% OPENINGS PERMITTED	AREA OPENINGS PERMITTED	AREA OPENINGS PROVIDED	% OPENINGS PROVIDED	TEST	FIRE RESISTANCE RATING	CONSTRUCTION	CLADDING
SOUTH (FRONT)	8.9 m	2.6 m	23 m²	6.0 m	100%	23.1 m²	2.8 m²	12%	No	**NO REQ**	**NO REQ**	**NO REQ**
NORTH (BACK)	27.0 m	2.6 m	70 m²	5.8 m	50%	35.1 m²	22.8 m²	32%	No	**45min FRR**	**COMB / NONCOMB**	**NONCOMB**
WEST (EXISTING YOUTH CENTRE)	16.0 m	4.1 m	66 m²	1.7 m	16%	10.5 m²	8.4 m²	13%	No	**1hr FRR**	**COMB / NONCOMB**	**NONCOMB**
EAST (EXISTING DAYCARE)	16.0 m	3.8 m	61 m²	1.7 m	16%	9.8 m²	5.7 m²	9%	No	**1hr FRR**	**COMB / NONCOMB**	**NONCOMB**



1 MAIN FLOOR GROSS FLOOR AREA
SCALE: 1/8" = 1'-0"

Building Area Legend

Gross Building Area

MQN ARCHITECTS
#100 – 3313 32nd Avenue, Vernon, BC V1T 2M7
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www.mqn.ca

SEAL

CONSULTANT

NO.	REV.	ISSUE	YYYYMMDD
1	A	ISSUED FOR REVIEW	2022/12/20
2	B	ISSUED FOR REVIEW	2023/01/09
3	C	ISSUED FOR REVIEW	2023/03/02
4	D	ISSUED FOR REVIEW	2023/03/16

PROJECT TITLE
Village of Pemberton
Modular Daycare
Village of Pemberton, BC

DRAWING TITLE
BUILDING CODE REVIEW

PROJECT:	22794
SCALE:	As indicated
DRAWN BY:	NW/BY
CHECKED BY:	VT

DRAWING:
A001

#	DESCRIPTION	BY	DATE
1	ISSUED FOR BP STAMPING	RMM	17 APR 2023

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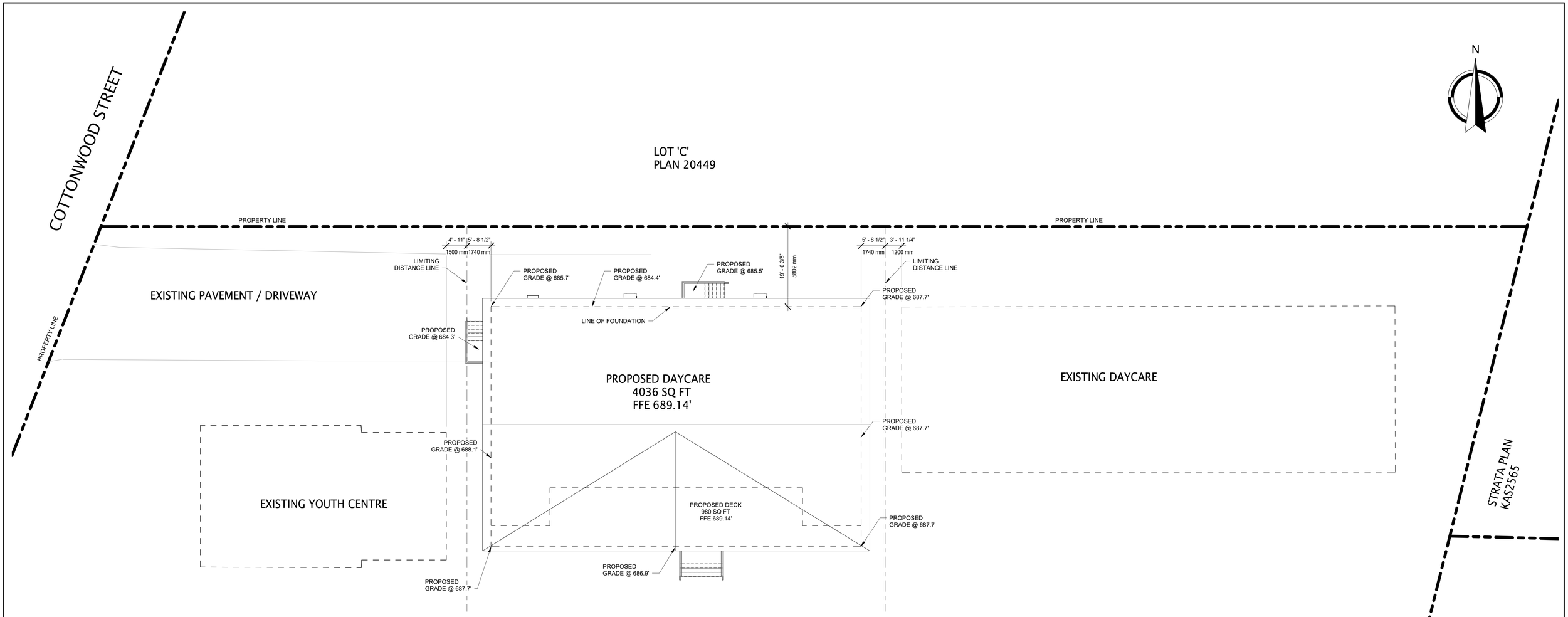
PROJECT TITLE:
VILLAGE OF PEMBERTON
7396B COTTONWOOD STREET DAYCARE

DRAWING TITLE:
CODE REVIEW

PROJECT NO:	SCALE:	SHEET NO:
P22973		**A0.2**
DRAWN BY: RMM	DATE: 17 APR 2023	



SITE CONTEXT PLAN

#	DESCRIPTION	BY	DATE
1	ISSUED FOR BP STAMPING	RMM	17 APR 2023

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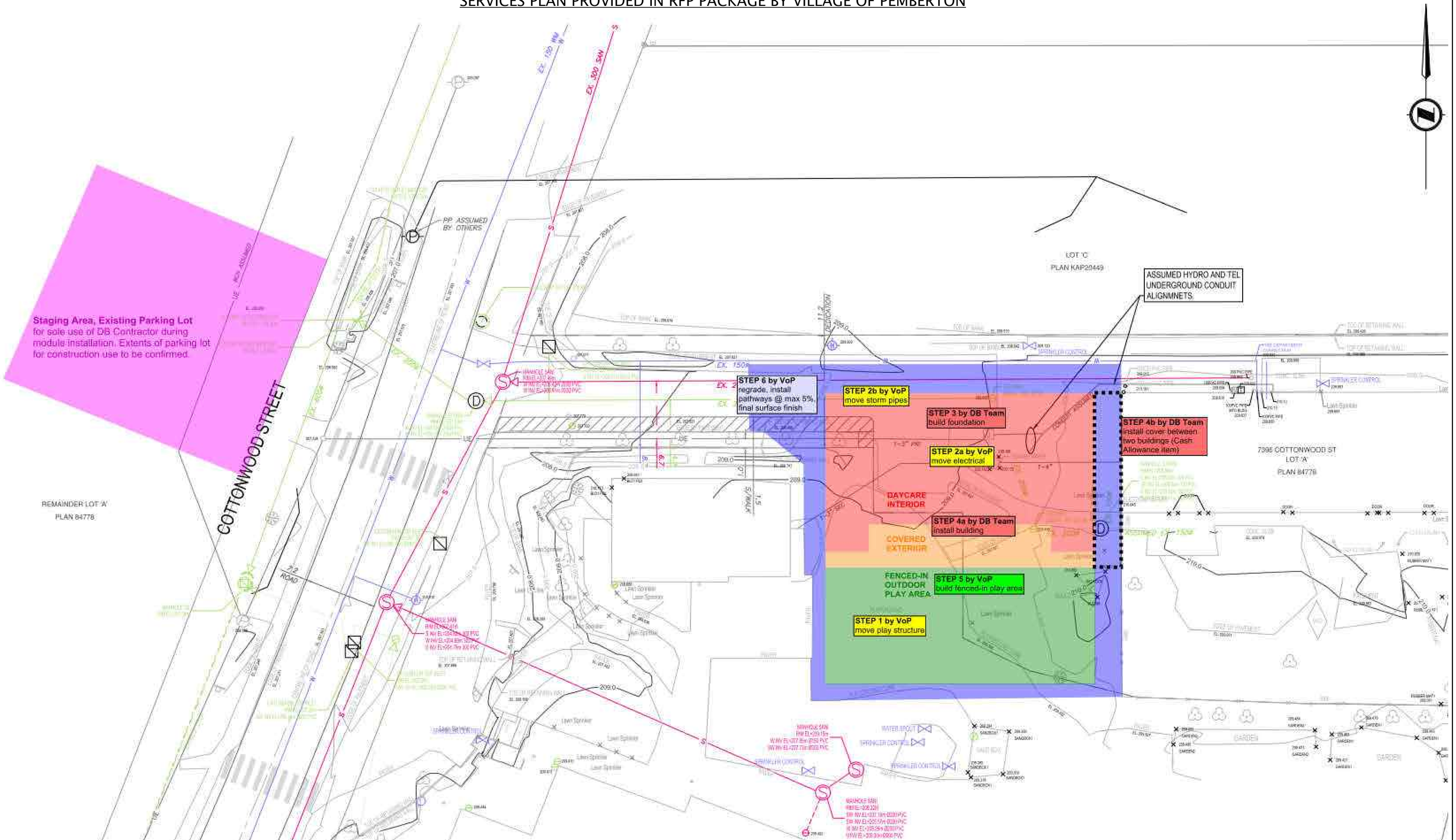
PROJECT TITLE:
VILLAGE OF PEMBERTON
7396B COTTONWOOD STREET DAYCARE

DRAWING TITLE:
SITE PLAN

PROJECT NO:	SCALE:	SHEET NO:
P22973	3/32" = 1'-0"	**A0.3**
DRAWN BY: RMM	DATE: 17 APR 2023	

SERVICES PLAN PROVIDED IN RFP PACKAGE BY VILLAGE OF PEMBERTON



SERVICES PLAN PROVIDED IN RFP PACKAGE BY VILLAGE OF PEMBERTON

#	DESCRIPTION	BY	DATE
1	ISSUED FOR BP STAMPING	RMM	17 APR 2023

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PROJECT TITLE:
VILLAGE OF PEMBERTON
7396B COTTONWOOD STREET DAYCARE

DRAWING TITLE:
SERVICES PLAN

PROJECT NO:	SCALE:	SHEET NO:
P22973		A0.4
DRAWN BY: RMM	DATE: 17 APR 2023	

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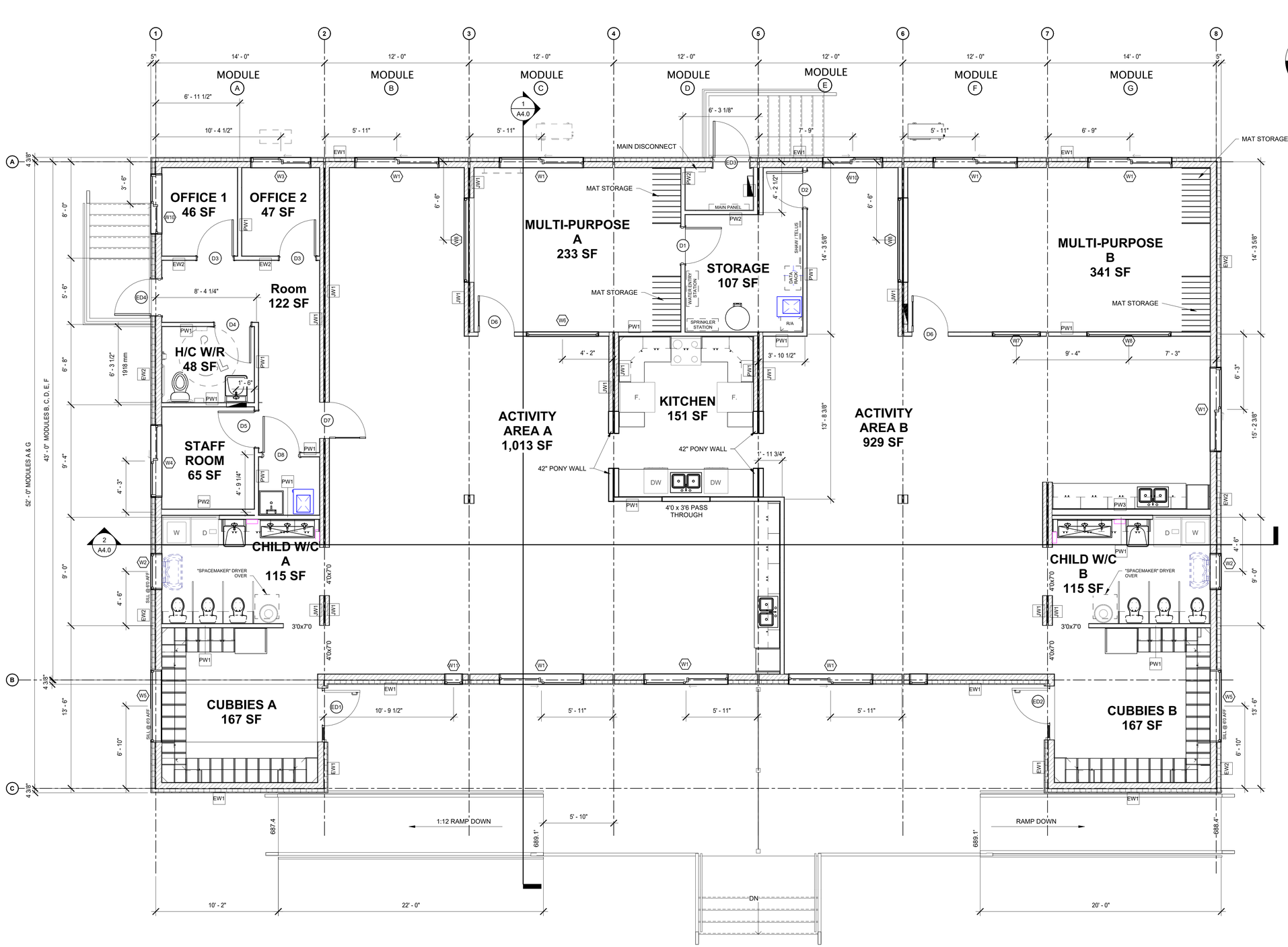

#	DESCRIPTION	BY	DATE
1	ISSUED FOR BP STAMPING	RMM	17 APR 2023

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PROJECT TITLE:
VILLAGE OF PEMBERTON
7396B COTTONWOOD STREET DAYCARE

DRAWING TITLE:
OVERALL FLOOR PLAN

PROJECT NO:	SCALE:	SHEET NO:
P22973	1/4" = 1'-0"	**A1.0**
DRAWN BY: RMM	DATE: 17 APR 2023	

1 MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"

LICENSABLE AREA CALCULATIONS

ROOM NUMBER	ROOM NAME	AREA PROV.	OCCUPANCY	OCPT CALC (m2/ocpt)	ROOM OCPT LOAD
LICENSABLE AREA A					
110	MULTI-PURPOSE A	21.2 m²	CHILDCARE	3.70	6
109	ACTIVITY AREA A	89.6 m²	CHILDCARE	3.70	24
LICENSABLE AREA A		110.7 m²		7.40	30
LICENSABLE AREA B					
113	MULTI-PURPOSE B	31.4 m²	CHILDCARE	3.70	8
114	ACTIVITY AREA B	83.8 m²	CHILDCARE	3.70	23
LICENSABLE AREA B		115.1 m²		7.40	31
TOTAL		225.9 m²		14.80	61

AREA CALCULATIONS

ACTIVITY AREA A	964.30 SF
MULTI-PURPOSE AREA A	227.70 SF
SUBTOTAL ACTIVITY AREA A	**1192.00 SF (30 CHILD @ 39.7 SF/CHILD)**
ACTIVITY AREA B	901.50 SF
MULTI-PURPOSE AREA B	337.70 SF
SUBTOTAL GROSS ACTIVITY AREA B	**1239.20 SF (30 CHILD @ 41.31 SF/CHILD)**

BUILDING TOTAL ACTIVITY AREAS (A+B)	**1192.00 + 1239.20 = 2431.20 SF (60 LICENSED SPACES @ 40.52 SF/CHILD)**
ADD BUILDING TOTAL SUPPORT SPACES, INTERIOR & EXTERIOR WALLS	1673.74 SF
GROSS BUILDING AREA TO OUTSIDE OF WALLS	**4104.94 SF (60 LICENSED SPACES @ 68.42 SF/CHILD)**
RATIO OF ACTIVITY AREA TO GROSS BUILDING AREA	0.59

Department Legend

- LICENSABLE AREA A
- LICENSABLE AREA B
- EXCLUDED

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SEAL

CONSULTANT

NO.	REV.	ISSUE	YYYY/MM/DD
1	A	ISSUED FOR REVIEW	2022/12/20
2	B	ISSUED FOR REVIEW	2023/05/05
3	C	ISSUED FOR REVIEW	2023/05/02

PROJECT TITLE

Village of Pemberton
Modular Daycare
Village of Pemberton, BC

DRAWING TITLE

LICENSABLE AREA
MAIN FLOOR PLAN

PROJECT:	22794
SCALE:	As indicated
DRAWN BY:	NW/BY
CHECKED BY:	VT

DRAWING:

A201

#	DESCRIPTION	BY	DATE
1	ISSUED FOR BP STAMPING	RMM	17 APR 2023

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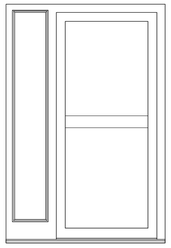
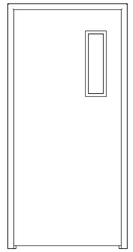
PROJECT TITLE:
VILLAGE OF PEMBERTON
7396B COTTONWOOD STREET DAYCARE

DRAWING TITLE:
AREA PLAN

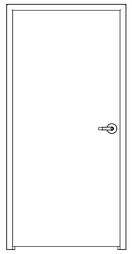
PROJECT NO:	SCALE:	SHEET NO:
P22973	1/4" = 1'-0"	A1.1
DRAWN BY: RMM	DATE: 17 APR 2023	



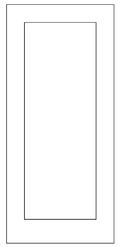
ED1, ED2



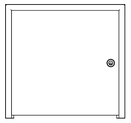
ED3, ED4



D1, D2, D3, D4, D5, D7, D8



D6



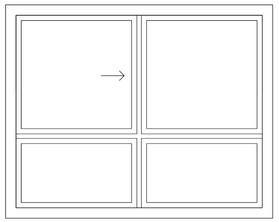
CS1

DOOR LEGEND

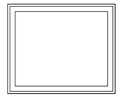
SCALE: 1/2" = 1'-0"

ARCHITECTURAL - DOOR SCHEDULE

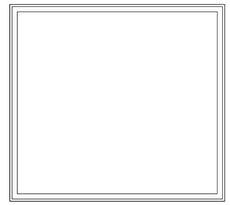
TYPE MARK	FRAME	DOOR	DOOR WIDTH	DOOR HEIGHT	COUNT	COMMENTS
CS1	KD METAL	METAL, RH	3' - 0"	3' - 0"	1	CRAWL SPACE
D1	KD METAL	METAL, LH	3' - 0"	6' - 8"	1	STORAGE ROOM
D2	KD METAL	METAL RH	3' - 0"	6' - 8"	1	STORAGE ROOM
D3	WOOD, RABETTED	WOOD, SC, RH	3' - 0"	6' - 8"	2	OFFICES
D4	WOOD, RABETTED	WOOD, SC, LH	3' - 0"	6' - 8"	1	HANDICAP WASHROOM
D5	WOOD, RABETTED	WOOD, SC, RH	3' - 0"	6' - 8"	1	STAFF ROOM
D6	WOOD, RABETTED	WOOD, SC, FULL LITE, LH	3' - 0"	6' - 8"	2	MULTI-PURPOSE ROOMS
D7	WOOD, RABETTED	WOOD, SC, FULL LITE, RH	3' - 0"	6' - 8"	1	HALLWAY / ACTIVITY AREA A
D8	KD METAL	METAL LH	3' - 0"	6' - 8"	1	JANITOR ROOM, 45min
ED1	WELDED METAL	METAL INSULATED, LH	4' - 5 1/4"	6' - 8"	1	EXTERIOR DOOR WITH SIDELIGHT
ED2	WELDED METAL	METAL INSULATED, RH	4' - 5 1/4"	6' - 8"	1	EXTERIOR DOOR WITH SIDELIGHT
ED3	WELDED METAL	METAL INSULATED, LH	3' - 0"	6' - 8"	1	ELECTRICAL ROOM
ED4	WELDED METAL	METAL INSULATED, RH	3' - 0"	6' - 8"	1	EMERGENCY EXIT
Grand total: 15						



W1, W3, W4, W10



W2, W7, W11



W6, W8, W9

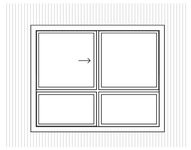
W5

WINDOW LEGEND

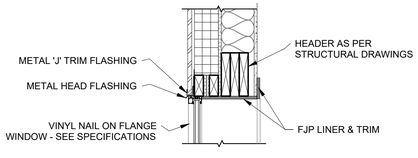
SCALE: 1/2" = 1'-0"

ARCHITECTURAL - WINDOW SCHEDULE

TYPE MARK	GENERAL CONSTRUCTION SIZE	GENERAL CONSTRUCTION CONFIGURATION	FRAME	GENERAL CONSTRUCTION MATERIAL	GENERAL CONSTRUCTION F.R.R.	COUNT	COMMENTS
W1	7'-0"x5'-6"	XO-OO	N.O.F.	VINYL	N/A	8	
W2	3'-0" x 2'-6"	O	N.O.F.	VINYL	N/A	2	OBSCURED GLASS IN WASHROOM
W3	5'-0"x5'-6"	XO-OO	N.O.F.	VINYL	N/A	1	
W4	6'-0"x5'-6"	XO-OO	N.O.F.	VINYL	N/A	1	
W5	6'-0" x 2'-6"	O	N.O.F.	VINYL	N/A	2	CLERESTORY WINDOWS
W6	6'-0" x5'-6"	O	WOOD	WOOD	N/A	1	LAMINATED SAFETY GLASS
W7	4'-0" x5'-6"	O	WOOD	WOOD	N/A	1	LAMINATED SAFETY GLASS
W8	7'-0" x 5'-6"	O	WOOD	WOOD	N/A	3	LAMINATED SAFETY GLASS
W10	5'-0"x5'-6" GW	XO-OO	STEEL	STEEL & GWG	1 HR	2	WIRED GLASS
W11	1'-6" x 5'-6"	O	N.O.F.	VINYL	N/A	2	
Grand total: 23							

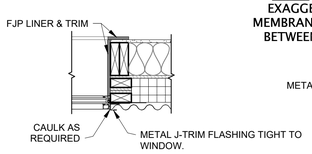


TYPICAL WINDOW ELEVATION

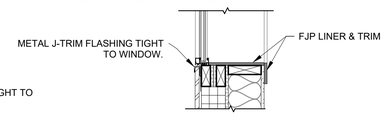


HEAD

NOTE: DETAILS HAVE BEEN DELIBERATELY EXAGGERATED TO ILLUSTRATE FLASHING & MEMBRANE OVERLAP. IN FACT THERE IS NO GAP BETWEEN THE CLADDING & THE INSULATION



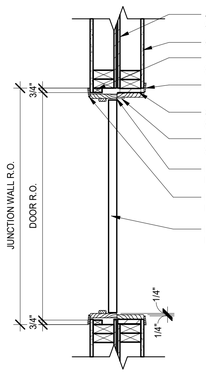
JAMB



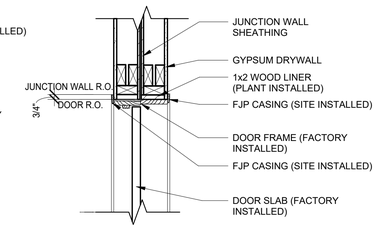
SILL

1 WINDOW DETAILS

SCALE: 1" = 1'-0"



TYPICAL DOOR JUNCTION DETAIL - JAMBS
SCALE : 1" = 1'-0"



TYPICAL DOOR JUNCTION DETAIL - HEAD
SCALE : 1" = 1'-0"

3 WOOD DOOR IN JUNCTION WALL

SCALE: 1" = 1'-0"

#	DESCRIPTION	BY	DATE
1	ISSUED FOR BP STAMPING	RMM	17 APR 2023

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PROJECT TITLE:
VILLAGE OF PEMBERTON
7396B COTTONWOOD STREET DAYCARE

DRAWING TITLE:
WINDOW & DOOR LEGENDS

PROJECT NO:	SCALE:	SHEET NO:
P22973	As indicated	A1.2
DRAWN BY: RMM	DATE: 17 APR 2023	

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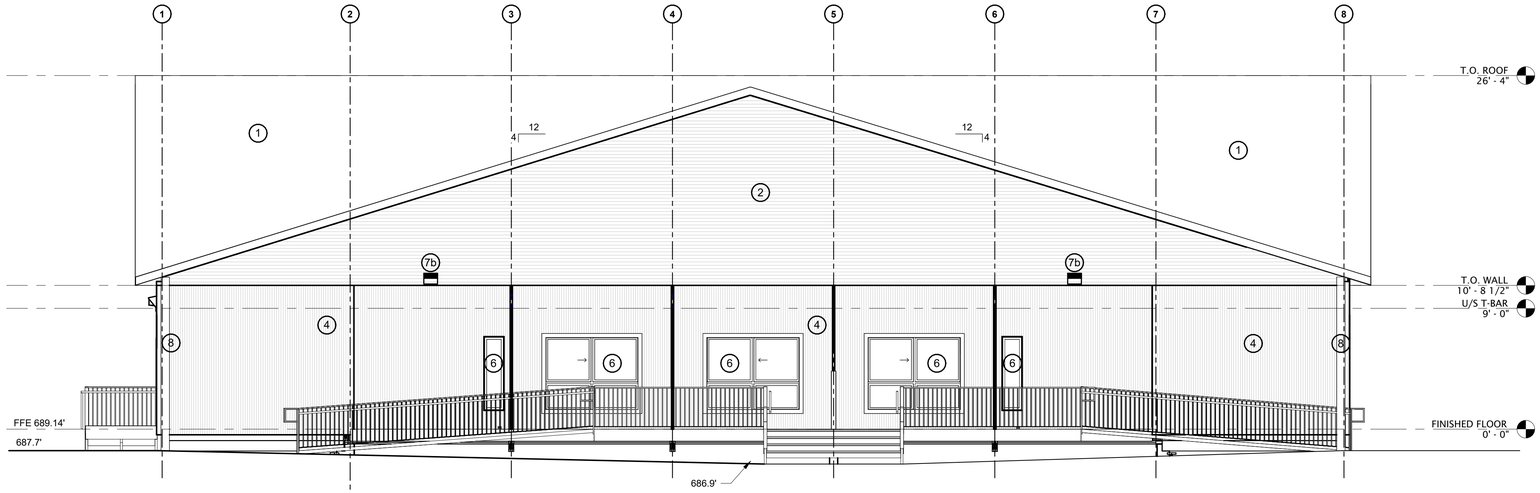
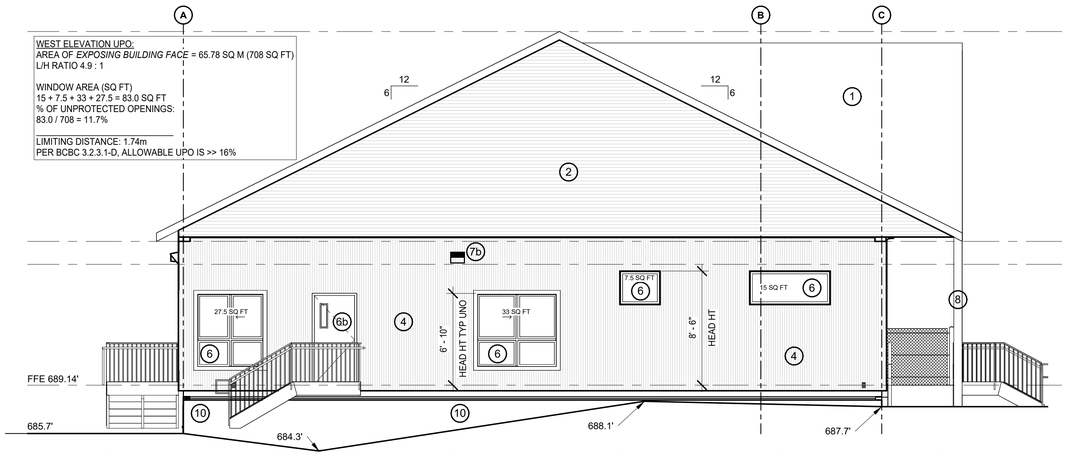


1 SOUTH ELEVATION
SCALE: 3/16" = 1'-0"

WEST ELEVATION UPO:
AREA OF *EXPOSING BUILDING FACE* = 65.78 SQ M (708 SQ FT)
L/H RATIO 4.9 : 1

WINDOW AREA (SQ FT)
15 + 7.5 + 33 + 27.5 = 83.0 SQ FT
% OF UNPROTECTED OPENINGS:
83.0 / 708 = 11.7%

LIMITING DISTANCE: 1.74m
PER BCBC 3.2.3.1-D, ALLOWABLE UPO IS >> 16%

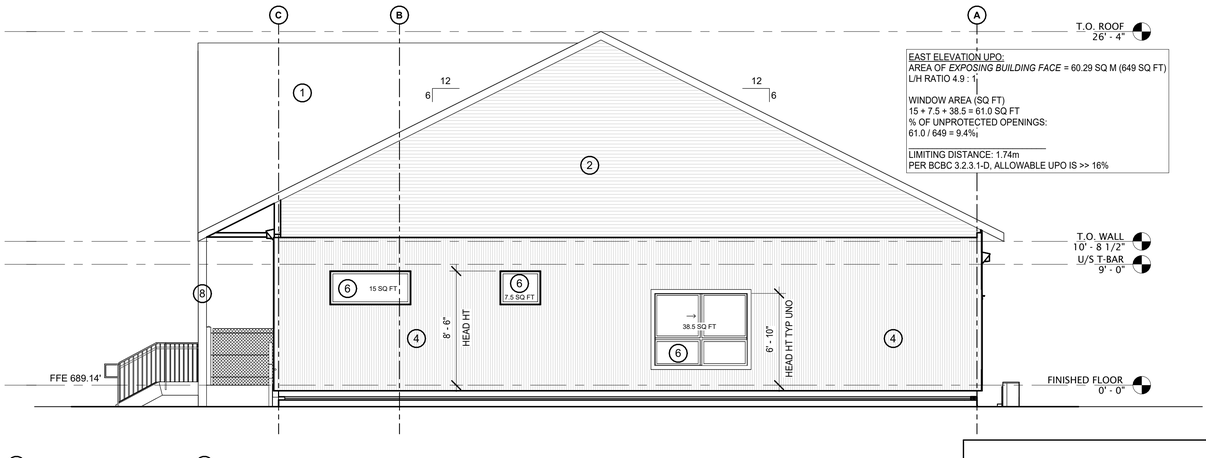


2 WEST ELEVATION
SCALE: 3/16" = 1'-0"

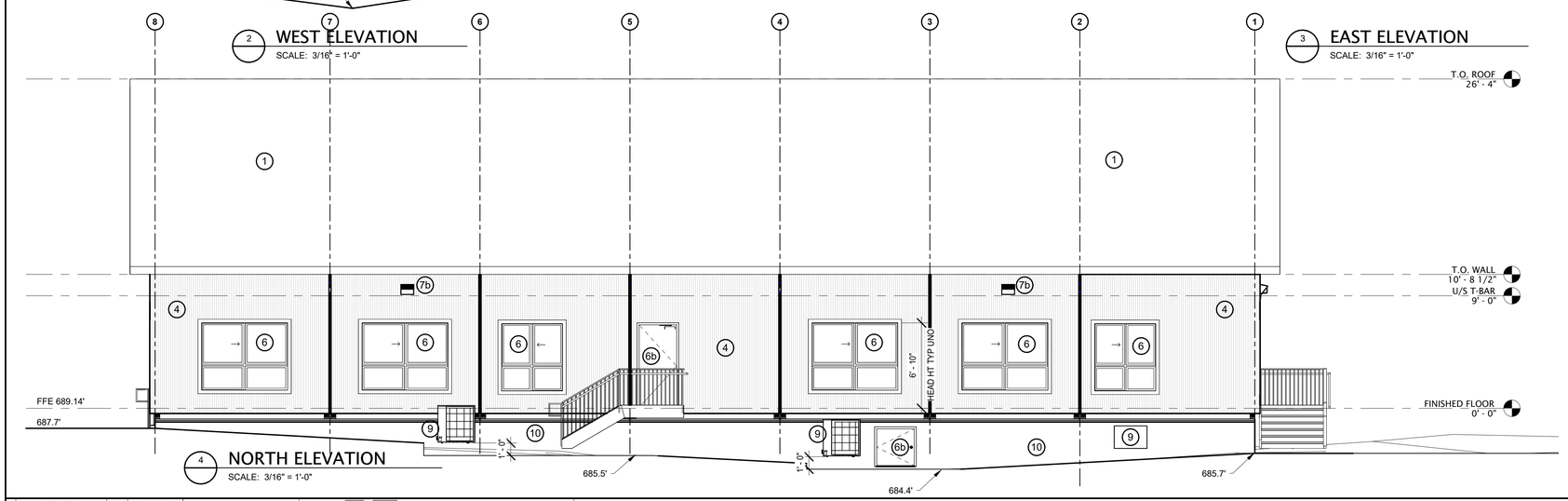
EAST ELEVATION UPO:
AREA OF *EXPOSING BUILDING FACE* = 60.29 SQ M (649 SQ FT)
L/H RATIO 4.9 : 1

WINDOW AREA (SQ FT)
15 + 7.5 + 38.5 = 61.0 SQ FT
% OF UNPROTECTED OPENINGS:
61.0 / 649 = 9.4%

LIMITING DISTANCE: 1.74m
PER BCBC 3.2.3.1-D, ALLOWABLE UPO IS >> 16%



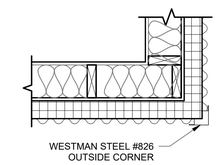
3 EAST ELEVATION
SCALE: 3/16" = 1'-0"



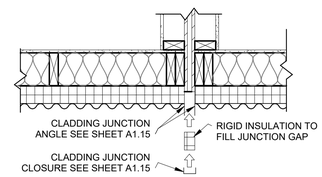
4 NORTH ELEVATION
SCALE: 3/16" = 1'-0"

SCHEDULE OF FINISHES

1. ULTRA-VIC STEEL PRE-FINISHED ROOFING **(SITE INSTALLED)**
2. PRE-FINISHED CORRUGATED HORIZONTAL METAL SIDING
3. PRE-FINISHED METAL BOTTOM STARTER FLASHING
4. PRE-FINISHED CORRUGATED VERTICAL METAL SIDING
5. PRE-FINISHED CORNER TRIMS
6. VINYL WINDOW c/w FLASHING
6b. INSULATED METAL DOOR c/w FLASHING
7. FREEPORT DECAL
7b. EXTERIOR LIGHTING
8. SOLID WOOD BEAM/COLUMNS - CLEAR FINISH
9. GROUND MOUNTED MECHANICAL EQUIPMENT
10. EXPOSED CONCRETE FOUNDATION



5 EXTERIOR CORNER DETAIL
SCALE: 1" = 1'-0"



6 CLADDING JUNCTION DETAIL
SCALE: 1" = 1'-0"

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PROJECT TITLE:
VILLAGE OF PEMBERTON
7396B COTTONWOOD STREET DAYCARE

DRAWING TITLE:
EXTERIOR ELEVATIONS

PROJECT NO:	SCALE:	SHEET NO:
P22973	As indicated	**A3.0**
DRAWN BY: RMM	DATE: 17 APR 2023	

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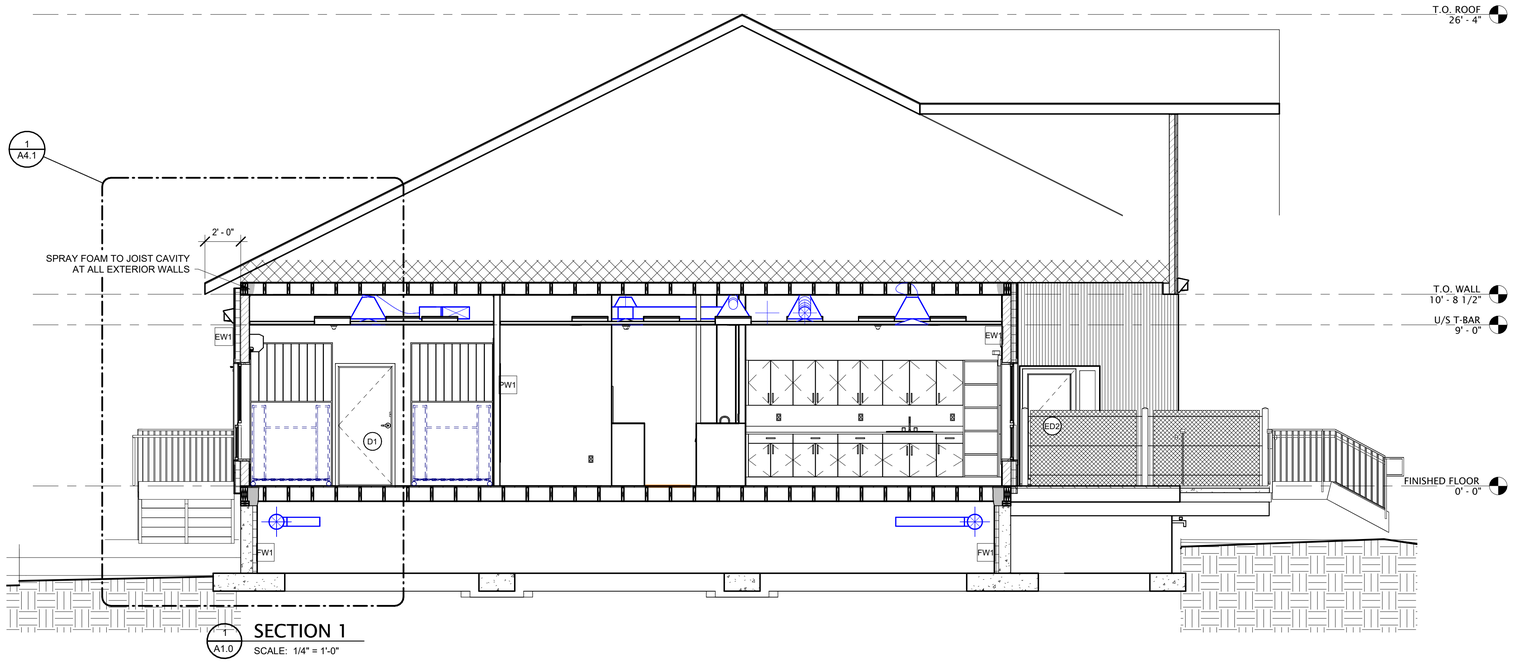
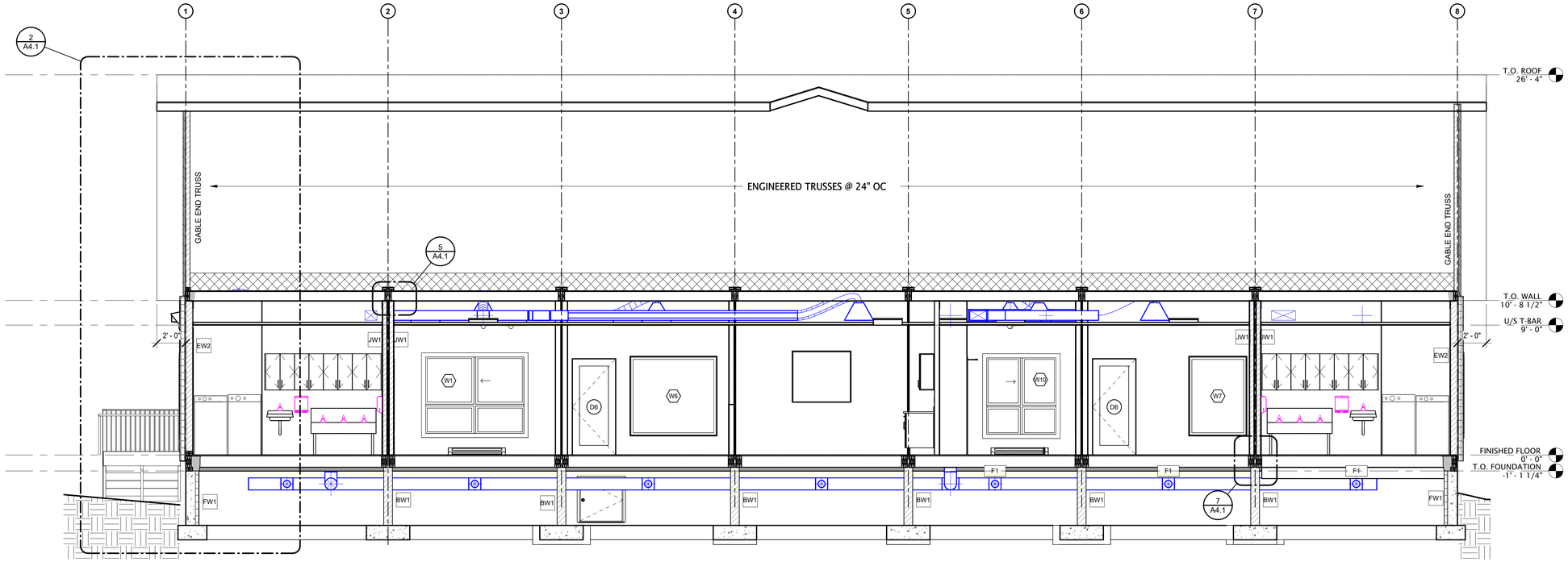


1 A1.0 **SECTION 1**

SCALE: 1/4" = 1'-0"



2 A1.0 **SECTION 2**

SCALE: 1/4" = 1'-0"

#	DESCRIPTION	BY	DATE
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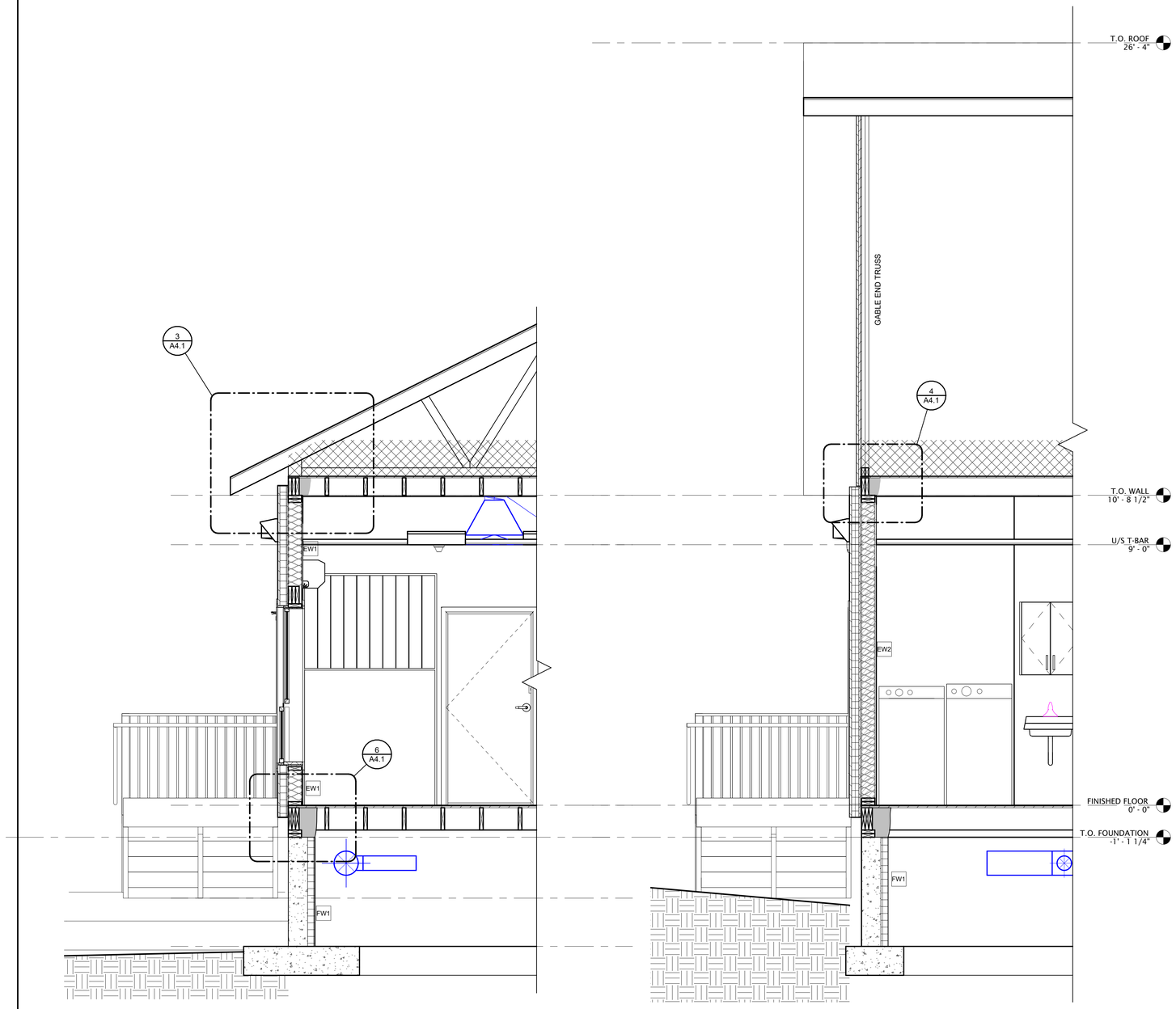
PROJECT TITLE:
VILLAGE OF PEMBERTON
7396B COTTONWOOD STREET DAYCARE

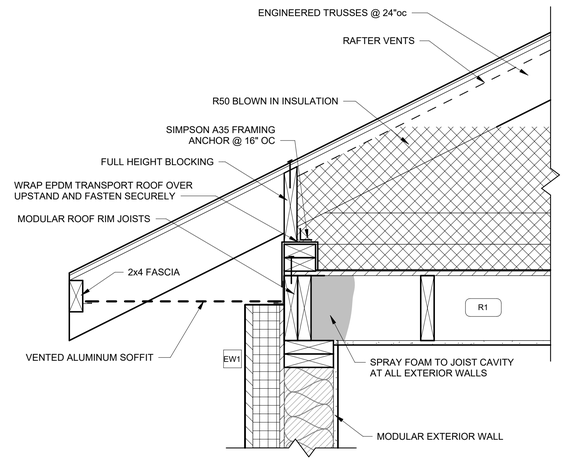
DRAWING TITLE:
BUILDING CROSS SECTIONS

PROJECT NO:	SCALE:	SHEET NO:
P22973	1/4" = 1'-0"	**A4.0**
DRAWN BY: RMM	DATE: 17 APR 2023	

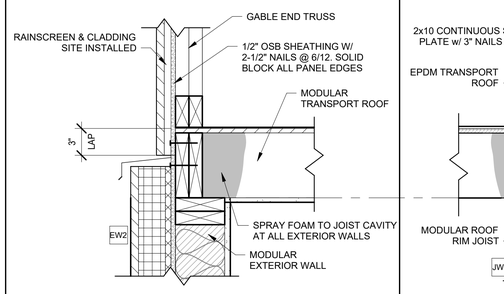


1 A4.0 **WALL SECTION 1**
SCALE: 1/2" = 1'-0"

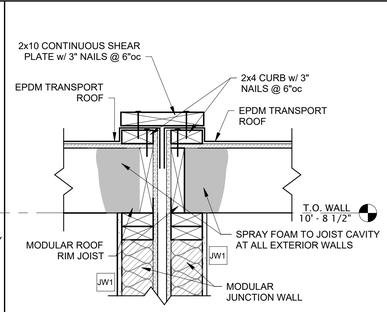
2 A4.0 **WALL SECTION 2**
SCALE: 1/2" = 1'-0"



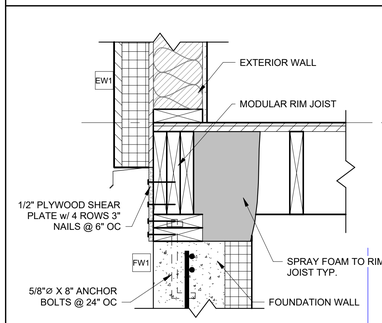
3 A4.1 **EXTERIOR WALL AT TRUSS ROOF**
SCALE: 1 1/2" = 1'-0"



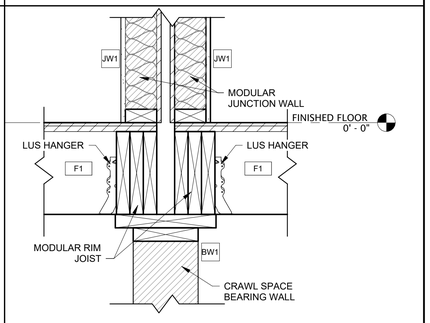
4 A4.1 **EXTERIOR WALL AT GABLE END**
SCALE: 1 1/2" = 1'-0"



5 A4.0 **INTERIOR CEILING JUNCTION**
SCALE: 1 1/2" = 1'-0"



6 A4.1 **EXTERIOR WALL BEARING DETAIL**
SCALE: 1 1/2" = 1'-0"



7 A4.0 **INTERIOR FLOOR JUNCTION**
SCALE: 1 1/2" = 1'-0"

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VILLAGE OF PEMBERTON
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DRAWING TITLE:
BUILDING WALL SECTIONS

PROJECT NO:	SCALE:	SHEET NO:
P22973	As indicated	A4.1
DRAWN BY:	DATE:	
RMM	17 APR 2023	

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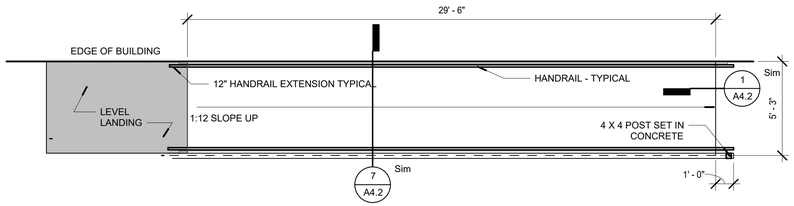
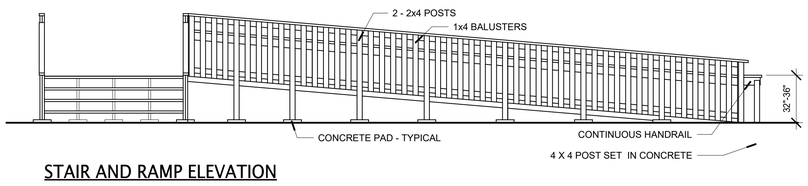


NOTE :
12" HANDRAIL EXTENSIONS NOT REQUIRED WHEN
THEY INTERSECT PATH OF TRAVEL

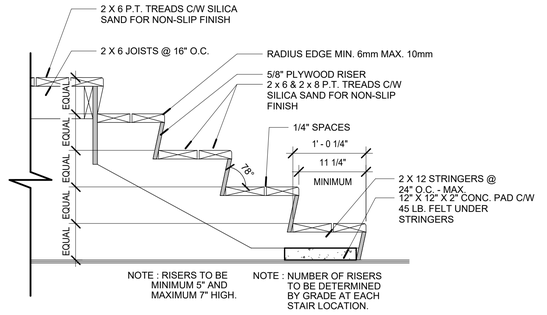
RAMP AND STAIR PLAN



STAIR AND RAMP ELEVATION

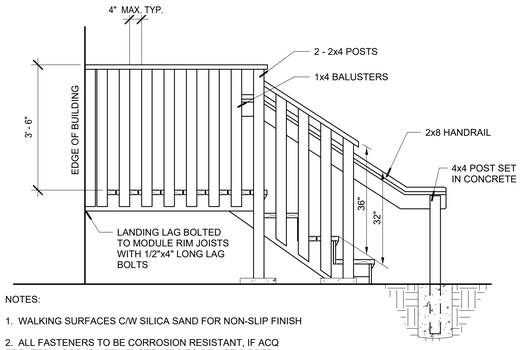
3 SITE - RAMPS 1 - PLAN & ELEVATION

SCALE: 1/4" = 1'-0"



5 STAIR RISER SECTION

SCALE: 1" = 1'-0"



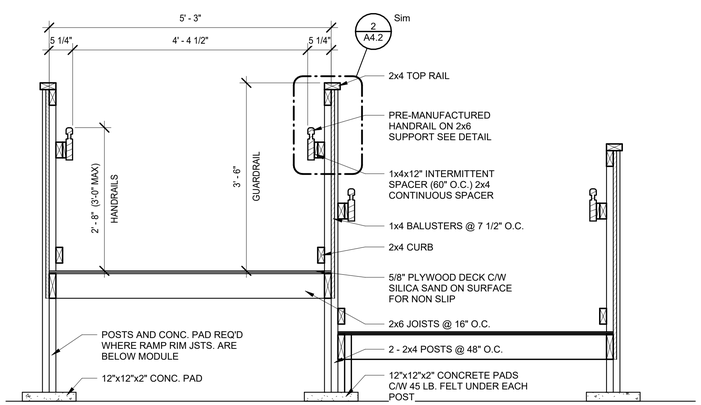
NOTES:

1. WALKING SURFACES C/W SILICA SAND FOR NON-SLIP FINISH

2. ALL FASTENERS TO BE CORROSION RESISTANT, IF ACQ TREATED WOOD IS USED FASTENERS TO BE HOT DIPPED GALVINIZED OR EQUAL

4 STAIR TYPICAL SIDE ELEVATION

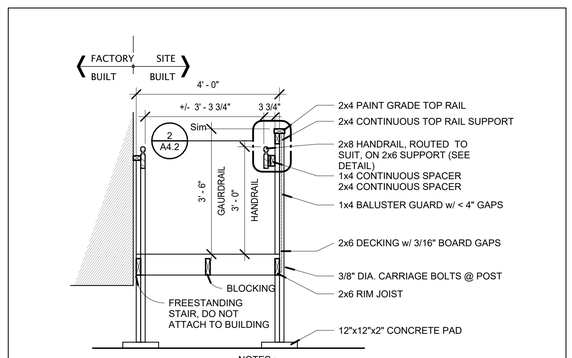
SCALE: 1/2" = 1'-0"



7 RAMP SECTION

SCALE: 3/4" = 1'-0"

NOTE : BALUSTERS NOT REQUIRED WHEN
GRADE TO RAMP SURFACE IS LESS THAN 24"



NOTES :
1. BALUSTERS NOT REQUIRED WHEN GRADE TO LANDING SURFACE IS LESS THAN 24"
2. WALKING SURFACES C/W SBS ROLL ROOFING FOR NON-SLIP FINISH

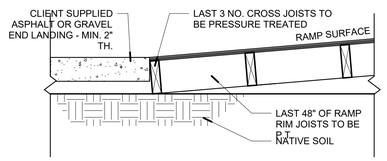
DETAIL SECTION

6 STAIRS & LANDING 2 - SECTION

SCALE: 1/2" = 1'-0"

GENERAL NOTES:

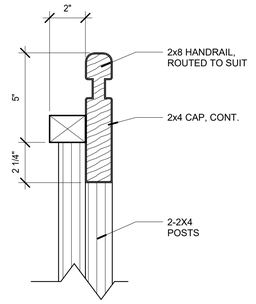
1. -BALUSTERS NOT REQUIRED WHEN GRADE TO LANDING SURFACE IS LESS THAN 24" (PART 9 BUILDINGS ONLY)
2. -WALKING SURFACES C/W SILICA SAND FOR NON-SLIP FINISH
3. -ALL FASTENERS TO BE CORROSION RESISTANT, IF ACQ TREATED WOOD IS USED FASTENERS TO BE HOT DIPPED GALVANIZED OR EQUAL



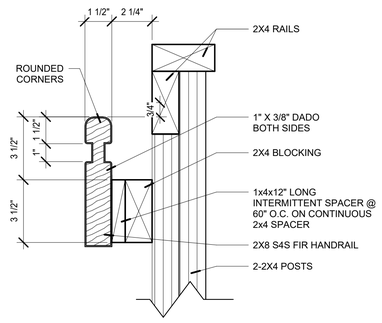
DETAIL SECTION

1 SITE - RAMPS 3 - SECTION @ GRADE

SCALE: 1" = 1'-0"



HANDRAIL DETAIL - BUILDING SIDE



HANDRAIL DETAIL

2 SITE - STAIRS & LANDINGS 4 - HANDRAIL DETAILS

SCALE: 3" = 1'-0"

#	DESCRIPTION	BY	DATE
1	ISSUED FOR BP STAMPING	RMM	17 APR 2023

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PROJECT TITLE:
VILLAGE OF PEMBERTON
7396B COTTONWOOD STREET DAYCARE

DRAWING TITLE:
STAIR & RAMP DETAILS

PROJECT NO:	SCALE:	SHEET NO:
P22973	As indicated	**A4.2**
DRAWN BY: RMM	DATE: 17 APR 2023	

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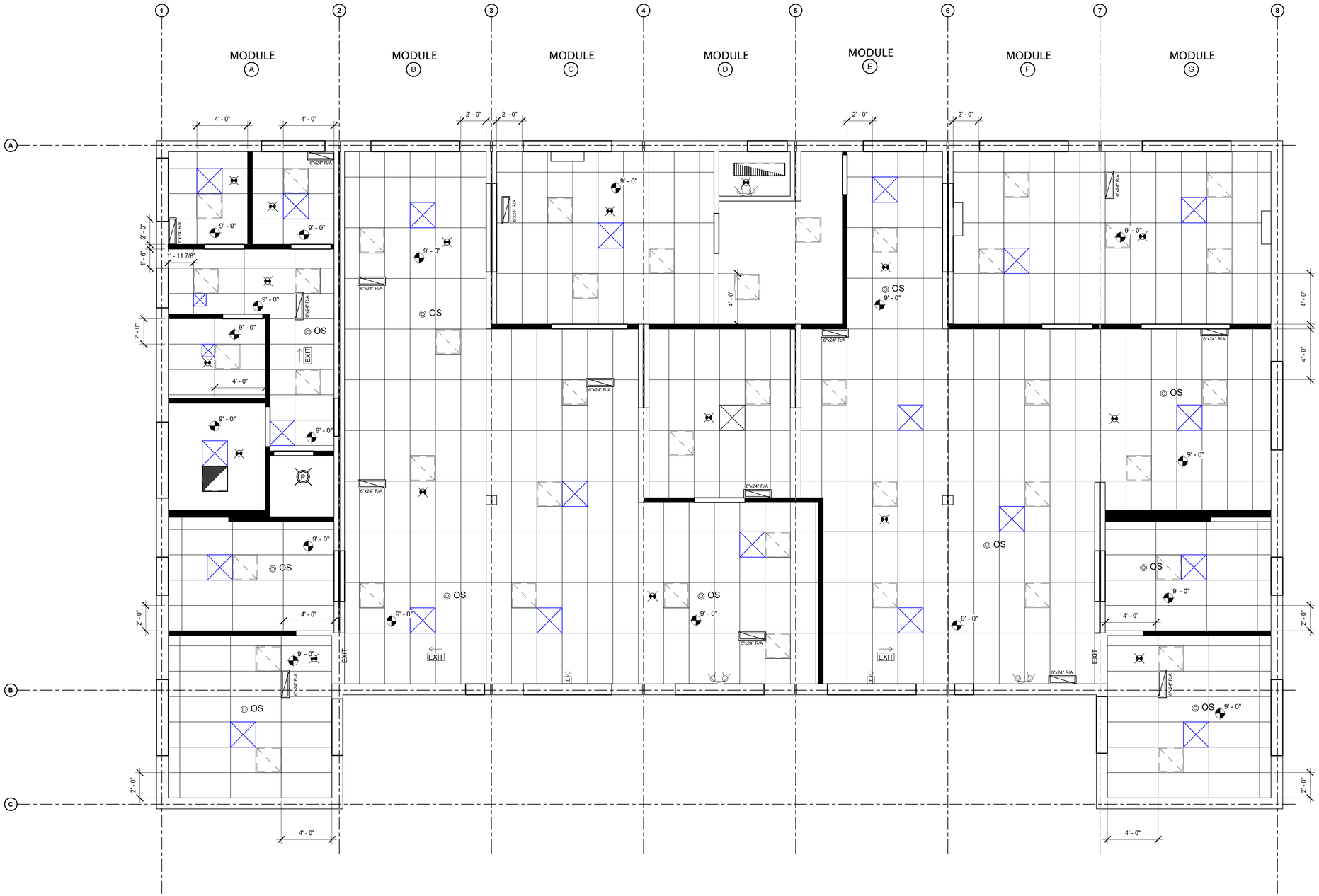

1 A3.0 RCP - MAIN FLOOR

SCALE: 1/4" = 1'-0"

#	DESCRIPTION	BY	DATE
1	ISSUED FOR BP STAMPING	RMM	17 APR 2023

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PROJECT TITLE:
VILLAGE OF PEMBERTON
7396B COTTONWOOD STREET DAYCARE

DRAWING TITLE:
OVERALL RCP

PROJECT NO:	SCALE:	SHEET NO:
P22973	1/4" = 1'-0"	**A8.0**
DRAWN BY: RMM	DATE: 17 APR 2023	

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APPENDIX C – CIVIL DRAWINGS – ULTIMATE DESIGN

McElhanney (SO_A1 - 15-05-22)

SANITARY MH
RIM 207.49
W INV 205.42 200Ø PVC
W INV 205.41 200Ø PVC

WATER CROSSING (assumed 1.8m depth from VoP bylaw)
GROUND ELEV 207.51
TOP OF WATER PIPE ELEV 205.71
ELECTRICAL CONDUIT ELEV 206.45

SANITARY CROSSING (assumed 1.0m bury @ 0.5% slope per VoP bylaw)
GROUND ELEV 207.60
TOP OF SANITARY PIPE ELEV 205.65
ELECTRICAL CONDUIT ELEV 206.45

TELUS SERVICE VAULT LOCATION TO BE CONFIRMED

HYDRANT LEAD CROSSING
HYDRANT LEAD ASSUMED 1.8m BURY
GROUND ELEV 209.28
TOP OF WATER PIPE ELEV 207.48
ELECTRICAL CONDUIT ELEV 208.21

WYE INTO EX SANITARY WITH 150mm PVC @ 2.0% TO NEW BUILDING. NO INVERT DATA AVAILABLE. CONTRACTOR TO CONFIRM MINIMUM 1.0m COVER IS ACHIEVED ON THE NEW SANITARY

RAIN WATER LEADER. SEE FREEPORT DWGS FOR CONNECTION AT BLDG.

WATER CROSSING (assumed 1.8m bury per VoP bylaw)
GROUND ELEV 208.92
TOP OF WATER PIPE ELEV 207.12
ELECTRICAL CONDUIT ELEV 207.75

ELECTRICAL METER LOCATION AND SERVICE LOCATION

TELECOM CROSSING (assumed 900mm bury)
GROUND ELEV 208.78
TOP OF TELUS CONDUIT ELEV 207.88
ELECTRICAL CONDUIT ELEV 207.48
SWEEP ELECTRICAL UNDER TELUS

TELUS SERVICE LOCATION

PRIOR TO WORKS, CONTRACTOR TO EXPOSE EXISTING SANITARY AND WATER LOCATIONS IN PROXIMITY TO PROPOSED STAIRS AND ADVISE ENGINEER BEFORE PROCEEDING FURTHER

EXISTING PROPERTY LOT

SEE INSERT BELOW FOR SERVICE CONNECTION DETAILS

NOTES

1. CONTRACTOR IS TO EXPOSE ALL UTILITY CROSSINGS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS.
2. ABANDONED STORM SEWER MANHOLE CASTINGS AND CATCHBASINS TO BE REMOVED. PIPES AND MANHOLES TO BE FILLED WITH CONTROLLED DENSITY FILL (CDF) OR COMBINATION OF SAND/CDF.
3. ABANDONED WATERMAIN TO BE PLUGGED WITH CONCRETE AT PIPE ENDS.
4. ABANDONED SANITARY SEWER MANHOLE CASTINGS TO BE REMOVED. PIPES AND MANHOLES TO BE FILLED WITH CONTROLLED DENSITY FILL (CDF) OR COMBINATION OF SAND/CDF.
5. MINIMUM BURY OF WATER PER VILLAGE OF PEMBERTON SUBDIVISION AND SERVICING BYLAW TO BE 1.8m
6. MINIMUM BURY OF SANITARY PER VILLAGE OF PEMBERTON SUBDIVISION AND SERVICING BYLAW TO BE 1.0m
7. MINIMUM BURY OF STORM PER VILLAGE OF PEMBERTON SUBDIVISION AND SERVICING BYLAW TO BE 1.0m.

STORM MH
RIM 207.43
W INV 206.55 200Ø PVC
W INV 206.53 200Ø PVC

PRELIMINARY BC HYDRO LPT LOCATION (TO BE CONFIRMED BY BC HYDRO)

TELUS CROSSING (assumed 900mm bury)
GROUND ELEV 207.69
TOP OF TELUS CONDUIT ELEV 206.79
ELECTRICAL CONDUIT ELEV 206.45
SWEEP ELECTRICAL UNDER TELUS

STORM CROSSING
GROUND ELEV 207.57
TOP OF STORM PIPE ELEV 206.95
BOTTOM OF STORM PIPE ELEV 206.75
ELECTRICAL CONDUIT ELEV 206.45

APPROXIMATE LOCATION OF WATER SERVICE

TIE IN TO EXISTING STORM OUTLET/EX INV 207.19
NE INV 207.23
SE INV 207.23

EXISTING SANITARY SERVICE. CONTRACTOR TO CONFIRM EXACT LOCATION

WATER CROSSING (assumed 1.8m bury per VoP bylaw)
GROUND ELEV 208.40
TOP OF WATER PIPE ELEV 206.60
ELECTRICAL CONDUIT ELEV 207.23

SANITARY CROSSING
GROUND ELEV 208.44
TOP OF SANITARY PIPE ELEV 205.77
ELECTRICAL CONDUIT ELEV 206.91

STORM CROSSING
GROUND ELEV 208.53
TOP OF STORM PIPE ELEV 207.48
BOTTOM OF ELECTRICAL ELEV 206.91

APPROXIMATE LOCATION OF BASKETBALL HOOP AND STRUCTURE. TO BE CONFIRMED.

CATCH BASIN OUTLET INV 207.55

ELECTRICAL SERVICE CONNECTION

TELUS SERVICE CONNECTION

PROPOSED SANITARY SERVICE LOCATION

EXISTING HYDRO AND TEL INFRASTRUCTURE WITHIN FOOTPRINT OF PROPOSED BUILDING WORKS TO BE REMOVED FOLLOWING ENERGIZATION OF PROPOSED HYDRO AND TEL.

EXISTING STORM TO BE REMOVED

PROPOSED ELECTRICAL EXTENDS TO EXISTING DAYCARE

PROPOSED TELUS EXTENDS TO EXISTING DAYCARE

PRIOR TO WORKS, CONTRACTOR TO CONFIRM FUNCTION OF EXISTING CLEANOUT AND ADVISE ENGINEER BEFORE PROCEEDING FURTHER

EXISTING TELUS CONDUIT

ASSUMED EXISTING HYDRO UNDERGROUND CONDUIT ALIGNMENTS.

100PVC PIPE
209.594

100PVC PIPE INTO BLDG
209.637

INSTALL CB
S INV 208.48

TIE INTO REVISED MANHOLE @ 208.42

THREE EXISTING INLET TO BE REINSTATED INTO REVISED MANHOLE LOCATION

MANHOLE PER MMCD STD MANHOLE S1. MANGOLE MAY BE BENCHED OR HAVE SUMP. CONTRACTOR TO REVIEW WITH ENGINEER PRIOR TO INSTALLATION IF EXISTING MANHOLE WILL BE RE-ISSUED. OUTER EDGE OF MANHOLE TO BE MINIMUM 0.9m FROM PROPOSED BUILDING FOUNDATION.
-FOUR (4) N INVs 208.41
-SOUTH INV 208.30

STORM MH
RIM ELEV 209.88
E INV 208.02 200Ø PVC
SE INV 208.42 150Ø PVC
S INV 208.42 150Ø PVC
S INV 208.41 100Ø PVC

RAIN WATER LEADER. SEE FREEPORT DWGS FOR CONNECTION AT BLDG.

INSTALL CLEANOUT TO SURFACE INV 208.16

RAIN WATER LEADER. SEE FREEPORT DWGS FOR CONNECTION AT BLDG.

INSTALL CLEANOUT TO SURFACE INV 207.67

NEW CATCH BASIN S INV 208.10

CB LEAD CONNECTION INV @ 207.83
S/C INV 207.78

FIRE DEPARTMENT CONNECTION

SERVICING DETAIL
1:100

PERMIT TO PRACTICE
McElhanney Ltd.
PERMIT NUMBER: 1003299
Engineers and Geoscientists of BC

FOR INFORMATION ONLY - PLAYGROUND RFP

Rev	Date	Description	Drawn	Design	App'd
PB	2023-03-17	ISSUED FOR BC HYDRO	AK	MC	MC
PA	2022-08-05	SERVICING CONCEPT	SA	MC	MC

BENCHMARK
ALL ELEVATION REFER TO CONTROL MONUMENT: 83C263 (GCM 112268)
LOCATED AT: INTERSECTION OF PORTAGE ROAD & ARBUTUS STREET
ELEVATION: 206.637m 1928 Canadian Vertical Datum
LEGAL
LOT A PLAN KAP84778 DISTRICT LOT 203 LAND DISTRICT 27 EXCEPT PLAN KAP89553

0 1:100 5

ORIGINAL DWG SIZE: A1 (594 x 841mm)

Village of PEMBERTON

McElhanney
Suite 2300 13450 - 102 Avenue Surrey BC Canada V3T 5X3
Tel 604 596 0391 - Fax 604 584 5050

Approved Sealed

VILLAGE OF PEMBERTON
7400 Prospect Street, PEMBERTON BC

DAYCARE CENTRE
SERVICING AND UTILITY CROSSINGS CONCEPT
7396 COTTONWOOD STREET
PEMBERTON BC

Drawing No. 01

Project Number 2111-6062-00

Rev. 1

DATE: 2023-04-27, 14:54 FILE: X:\2111\2111-6062-00 VOP Daycare Building\10.0 DRAWINGS\10.3 Engineering\10.3.1 Sheets\6062-00-C1 SERVICING PLAN.dwg

DESTROY ALL PRINTS BEARING PREVIOUS REVISION

NOTES

1. CONTRACTOR IS TO EXPOSE ALL UTILITY CROSSINGS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS.
2. ABANDONED STORM SEWER MANHOLE CASTINGS AND CATCHBASINS TO BE REMOVED. PIPES AND MANHOLES TO BE FILLED WITH CONTROLLED DENSITY FILL (CDF) OR COMBINATION OF SAND/CDF.
3. ABANDONED WATERMAIN TO BE PLUGGED WITH CONCRETE AT PIPE ENDS.
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6. MINIMUM BURY OF SANITARY PER VILLAGE OF PEMBERTON SUBDIVISION AND SERVICING BYLAW TO BE 1.0m
7. MINIMUM BURY OF STORM PER VILLAGE OF PEMBERTON SUBDIVISION AND SERVICING BYLAW TO BE 1.0m.

EXTEND ASPHALT AS REQUIRED TO ENSURE NO PONDING OCUURS (TYP.)

EXTERIOR ACCESS TO CRAWL SPACE FOR STORAGE AND UNDER-FLOOR SERVICE ACCESS. SEE FREEPORT DRAWINGS FOR DETAILS.

TOP OF CONCRETE FOUNDATION WALL ELEVATION 209.75
GRADED SURFACE ABUTTING FOUNDATION WALL MAX ELEVATION 209.55

HATCH INDICATES SUSPENDED DECK TO BE CONSTRUCTED OVER THIS AREA OF GRAVELS. SEE FREEPORT DRAWINGS FOR DECK DETAILS. (TYP)

300mm-19mm MINUS BASE COURSE GRAVELS
-SUBGRADE COMPACTED TO 95% MPD

60mm ASPHALT OVER
-450mm-19mm MINUS BASE COURSE
-SUBGRADE COMPACTED TO 95% MPD

PAVING TO BE COMPLETED AFTER MODULAR BUILDING FOUNDATION IS INSTALLED.

60mm ASPHALT OVER
-450mm-19mm MINUS BASE COURSE
-SUBGRADE COMPACTED TO 95% MPD

PAVING TO BE COMPLETED AFTER MODULAR BUILDING FOUNDATION IS INSTALLED

NEW 8' HIGH CHAINLINK FENCE WITH GATE CONNECTED TO EXISTING AND PROPOSED DAYCARE

NEW 8' HIGH CHAINLINK FENCE WITH GATE CONNECTED TO EXISTING AND PROPOSED DAYCARE

100mm HIGH BY 100mm WIDE ASPHALT CURB ALONG BUILDING EDGE

CATCH BASIN

TRANSITION FROM SUSPENDED DECK TO ASPHALT-ON-GRADE. INSTALL GRATED CONNECTION TO ALLOW SURFACE WATER TO FLOW THROUGH.

FREEPORT TO CONFIRM MANHOLE BARREL CAN REMAIN IN PLACE. INSTALL ACCESS HATCH IN SUSPENDED DECK TO STORM MANHOLE. RIM ELEVATION TO REMAIN SAME. RIM ORIENTATION MAY BE REVISED IF REQUIRED.

TIE IN TO FENCE LINE AT EXISTING GRADE AND ELEVATION. REVIEW WITH ENGINEER IF SITE CONDITIONS ARE CHALLENGING.

WOOD FRAMED FENCE WITH CHAIN LINK OR MESH STYLE NETTING, 1.2m HIGH

CHAIN LINK FENCE, 1.2m HIGH

STORM CLEANOUT (TYP)

STORM CLEANOUT

CATCH BASIN

ASSUMED 200Ø W - INV. 207.45

ASSUMED 200Ø W - INV. 207.64

EDGE OF PAVEMENT

TOE OF RETAINING WALL

TOP OF RETAINING WALL

TELUS CONDUIT

TRANSFORMER

PERMIT TO PRACTICE
McElhanney Ltd.
PERMIT NUMBER: 1003299
Engineers and Geoscientists of BC

FOR INFORMATION ONLY - PLAYGROUND RFP

Rev	Date	Description	Drawn	Design	App'd
0	2023-04-11	ISSUED FOR BUILDING PERMIT APPLICATION	AK	MC	MC
PA	2022-10-31	FOUNDATION OPTION 1	AK	MC	MC

BENCHMARK:
ALL ELEVATION REFER TO CONTROL MONUMENT: 83C263 (GCM 112268)
LOCATED AT: INTERSECTION OF PORTAGE ROAD & ARBUTUS STREET
ELEVATION: 206.637m 1928 Canadian Vertical Datum
LEGAL:
LOT A PLAN KAP84778 DISTRICT LOT 203 LAND DISTRICT 27 EXCEPT PLAN KAP89553

0 1:50 2.5
ORIGINAL DWG SIZE: A1 (594 x 841mm)

McElhanney
Suite 2300 13450 - 102 Avenue Surrey BC Canada V3T 5X3
Tel 604 596 0391 - Fax 604 584 5050

Approved Sealed

VILLAGE OF PEMBERTON
7400 Prospect Street, PEMBERTON BC

DAYCARE CENTRE
GRADING PLAN
ELEVATIONS OF ASPHALT AND FINISHED GRANULAR SURFACE STRUCTURE
7396 COTTONWOOD STREET
PEMBERTON BC

Drawing No. 02

Project Number 2111-6062-00

Rev. 1

McElhanney ISO A1 - 15-05-22

NOTES

1. CONTRACTOR IS TO EXPOSE ALL UTILITY CROSSINGS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS.
2. ABANDONED STORM SEWER MANHOLE CASTINGS AND CATCHBASINS TO BE REMOVED. PIPES AND MANHOLES TO BE FILLED WITH CONTROLLED DENSITY FILL (CDF) OR COMBINATION OF SAND/CDF.
3. ABANDONED WATERMAIN TO BE PLUGGED WITH CONCRETE AT PIPE ENDS.
4. ABANDONED SANITARY SEWER MANHOLE CASTINGS TO BE REMOVED. PIPES AND MANHOLES TO BE FILLED WITH CONTROLLED DENSITY FILL (CDF) OR COMBINATION OF SAND/CDF.
5. MINIMUM BURY OF WATER PER VILLAGE OF PEMBERTON SUBDIVISION AND SERVICING BYLAW TO BE 1.8m
6. MINIMUM BURY OF SANITARY PER VILLAGE OF PEMBERTON SUBDIVISION AND SERVICING BYLAW TO BE 1.0m
7. MINIMUM BURY OF STORM PER VILLAGE OF PEMBERTON SUBDIVISION AND SERVICING BYLAW TO BE 1.0m.

EXTEND ASPHALT AS REQUIRED TO ENSURE NO PONDING OCUURS (TYP.)

NEW 8' HIGH CHAINLINK FENCE WITH GATE CONNECTED TO EXISTING AND PROPOSED DAYCARE

TOP OF CONCRETE FOUNDATION WALL ELEVATION 209.75
GRADED SURFACE ABUTTING FOUNDATION WALL MAX ELEVATION 209.55

HATCH INDICATES SUSPENDED DECK TO BE CONSTRUCTED OVER THIS AREA OF GRAVELS. SEE FREEPORT DRAWINGS FOR DECK DETAILS. (TYP)

300mm-19mm MINUS BASE COURSE GRAVELS
-SUBGRADE COMPACTED TO 95% MPD

60mm ASPHALT OVER
-450mm-19mm MINUS BASE COURSE
-SUBGRADE COMPACTED TO 95% MPD

PAVING TO BE COMPLETED AFTER MODULAR BUILDING FOUNDATION IS INSTALLED.

60mm ASPHALT OVER
-450mm-19mm MINUS BASE COURSE
-SUBGRADE COMPACTED TO 95% MPD

PAVING TO BE COMPLETED AFTER MODULAR BUILDING FOUNDATION IS INSTALLED

CATCH BASIN

100mm HIGH BY 100mm WIDE ASPHALT CURB ALONG BUILDING EDGE

COVER AND TOP OF FRAME TO REMAIN EXPOSED, FLUSH WITH TOP OF DECK ELEVATION.

CONFIRM EXISTING RIM POSITION IS SUITABLE FOR DECK INSTALLATION. ROTATE MANHOLE COVER AND FRAME IF REQUIRED.

NEW 8' HIGH CHAINLINK FENCE WITH GATE CONNECTED TO EXISTING AND PROPOSED DAYCARE

TOP OF MANHOLE SLAB TO BE USED FOR DECK SUPPORT.

WOOD FRAMED FENCE WITH CHAIN LINK OR MESH STYLE NETTING, 1.2m HIGH

GATE (TYP.)

STAIRS (TYP.)

STORM CLEANOUT (TYP)

CATCH BASIN

STORM CLEANOUT

ASSUMED 200Ø W - INV. 207.45

ASSUMED 200Ø W - INV. 207.64

TOE OF RETAINING WALL

TOP OF RETAINING WALL

EDGE OF PAVEMENT

TELUS CONDUIT

TRANSFORMER

Lawn Sprinkler

BOULDER

PERMIT TO PRACTICE
McElhanney Ltd.
PERMIT NUMBER: 1003299
Engineers and Geoscientists of BC

FOR INFORMATION ONLY - PLAYGROUND RFP

Rev	Date	Description	Drawn	Design	App'd
0	2023-04-11	ISSUED FOR BUILDING PERMIT APPLICATION	AK	MC	MC
PA	2022-10-31	FOUNDATION OPTION 1	AK	MC	MC

BENCHMARK
ALL ELEVATION REFER TO CONTROL MONUMENT: 83C263 (GCM 112268)
LOCATED AT: INTERSECTION OF PORTAGE ROAD & ARBUTUS STREET
ELEVATION: 206.637m 1928 Canadian Vertical Datum

LEGAL
LOT A PLAN KAP84778 DISTRICT LOT 203 LAND DISTRICT 27 EXCEPT PLAN KAP89553

0 1:50 2.5

ORIGINAL DWG SIZE: A1 (594 x 841mm)

McElhanney
Suite 2300 13450 - 102 Avenue Surrey BC Canada V3T 5X3
Tel 604 596 0391 - Fax 604 584 5050

Approved Sealed

VILLAGE OF PEMBERTON
7400 Prospect Street, PEMBERTON BC

DAYCARE CENTRE
GRADING PLAN

ELEVATIONS OF SUSPENDED DECK AND RAMPS, AND TIE-IN TO SURROUNDING GROUND

7396 COTTONWOOD STREET
PEMBERTON BC

Drawing No. 03

Project Number 2111-6062-00

Rev. 1

DATE: 2023-04-27, 14:43 FILE: X:\2111\2111-06062-00 VOP Daycare Building\10.0 DRAWINGS\10.3 Engineering\10.3.1 Sheets\6062-00-C1 GRADING PLAN.dwg

DESTROY ALL PRINTS BEARING PREVIOUS REVISION

APPENDIX D – CIVIL DRAWINGS – SITE PREP WORKS

MARKUPS TO DELINEATE TENDER SCOPE.
SEE BASE SCOPE AND PROVISIONAL SCOPE NOTED BELOW.

mcusano@mcelhanney.com
778.239.0078

May 1, 2023

Marco Cusano

HYDRANT LEAD CROSSING
HYDRANT LEAD ASSUMED 1.8m BURY
GROUND ELEV 209.28
TOP OF WATER PIPE ELEV 207.48
ELECTRICAL CONDUIT ELEV 208.21

WYE INTO EX SANITARY WITH 150mm PVC @ 2.0% TO NEW BUILDING. NO INVERT DATA AVAILABLE. CONTRACTOR TO CONFIRM MINIMUM 1.0m COVER IS ACHIEVED ON THE NEW SANITARY

WATER CROSSING (assumed 1.8m bury per VoP bylaw)
GROUND ELEV 208.92
TOP OF WATER PIPE ELEV 207.12
ELECTRICAL CONDUIT ELEV 207.75

TELECOM CROSSING (assumed 900mm bury)
GROUND ELEV 208.78
TOP OF TELUS CONDUIT ELEV 207.88
ELECTRICAL CONDUIT ELEV 207.48
SWEEP ELECTRICAL UNDER TELUS

PRIOR TO WORKS, CONTRACTOR TO EXPOSE EXISTING SANITARY AND WATER LOCATIONS IN PROXIMITY TO PROPOSED STAIRS AND ADVISE ENGINEER BEFORE PROCEEDING FURTHER

RAIN WATER LEADER. SEE FREEPORT DWGS FOR CONNECTION AT BLDG.

FOUNDATION DRAIN CONNECTION. SEE FREEPORT DWGS FOR CONNECTION AT BLDG.

EXPLORE TO CONFIRM EXISTING SANITARY AND WATER DEPTHS AND ALIGNMENTS. ADVISE ENGINEER OF FINDINGS.

PROVISIONAL SCOPE:
(a) GREEN HIGHLIGHTS (STORM).

TELUS SERVICE LOCATION

EXPLORE TO CONFIRM EXISTING SANITARY AND WATER DEPTHS AND ALIGNMENTS. ADVISE ENGINEER OF FINDINGS.

PROVISIONAL SCOPE:
(b) REALIGN 35m OF 200mm SANITARY (POTENTIAL REALIGNMENT NOT SKETCHED HERE, DEPENDS ON WHERE EXISTING SANITARY IS LOCATED.)

NOTES

1. CONTRACTOR IS TO EXPOSE ALL UTILITY CROSSINGS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS.
2. ABANDONED STORM SEWER MANHOLE CASTINGS AND CATCHBASINS TO BE REMOVED. PIPES AND MANHOLES TO BE FILLED WITH CONTROLLED DENSITY FILL (CDF) OR COMBINATION OF SAND/CDF.
ABANDONED WATERMAIN TO BE PLUGGED WITH CONCRETE AT PIPE ENDS.
ABANDONED SANITARY SEWER MANHOLE CASTINGS TO BE REMOVED. PIPES AND MANHOLES TO BE FILLED WITH CONTROLLED DENSITY FILL (CDF) OR COMBINATION OF SAND/CDF.
MINIMUM BURY OF WATER PER VILLAGE OF PEMBERTON SUBDIVISION AND SERVICING BYLAW TO BE 1.8m
MINIMUM BURY OF SANITARY PER VILLAGE OF PEMBERTON SUBDIVISION AND SERVICING BYLAW TO BE 1.0m
MINIMUM BURY OF STORM PER VILLAGE OF PEMBERTON SUBDIVISION AND SERVICING BYLAW TO BE 1.0m.

TELUS SERVICE VAULT LOCATION TO BE CONFIRMED

BC HYDRO TO AND TELECOM TO COMPLETE CUT OVER

CATCH BASIN OUTLET INV 207.55

ELECTRICAL SERVICE CONNECTION

PROPOSED ELECTRICAL EXTENDS TO EXISTING DAYCARE

PROPOSED TELUS EXTENDS TO EXISTING DAYCARE

100PVC PIPE INTO BLDG 209.637

STORM MH
RIM 207.43
W INV 206.55 200Ø PVC
W INV 206.53 200Ø PVC

INSTALL SUMP MH PER MMCD S1
TIE IN TO EXISTING STORM OUTLET/EX INV 207.19
NE INV 207.23
SE INV 207.23

EXISTING SANITARY SERVICE. CONTRACTOR TO CONFIRM EXACT LOCATION

PROPOSED SANITARY SERVICE LOCATION

TELUS SERVICE CONNECTION

PRIOR TO WORKS, CONTRACTOR TO CONFIRM FUNCTION OF EXISTING CLEANOUT AND ADVISE ENGINEER BEFORE PROCEEDING FURTHER

EXISTING TELUS CONDUIT

ASSUMED EXISTING HYDRO UNDERGROUND

BC HYDRO TO REMOVE LPT

INSTALL CB
S INV 208.48

EXISTING HYDRO AND TEL INFRASTRUCTURE WITHIN FOOTPRINT OF PROPOSED BUILDING WORKS TO BE REMOVED FOLLOWING ENERGIZATION OF PROPOSED HYDRO AND TEL.

EXISTING STORM TO BE REMOVED

EX STORM MH
RIM ELEV 209.88
EX W INV 208.02 200Ø PVC
EX N INV 208.42 150Ø PVC
EX N INV 208.42 150Ø PVC
EX N INV 208.41 100Ø PVC

STORM CROSSING
GROUND ELEV 207.57
TOP OF STORM PIPE ELEV 206.95
BOTTOM OF STORM PIPE ELEV 206.75
ELECTRICAL CONDUIT ELEV 206.45

PRELIMINARY BC HYDRO LPT LOCATION (TO BE CONFIRMED BY BC HYDRO)

APPROXIMATE LOCATION OF WATER SERVICE

MANHOLE PER MMCD STD MANHOLE S1. MANHOLE MAY BE BENCHED OR HAVE SUMP. CONTRACTOR TO REVIEW WITH ENGINEER PRIOR TO INSTALLATION IF EXISTING MANHOLE WILL BE REUSED. OUTER EDGE OF MANHOLE TO BE MINIMUM 0.9m FROM PROPOSED BUILDING FOUNDATION.
-FOUR (4) N INVs 208.41
-SOUTH INV 208.30

EXISTING TELECOM SERVICE TO BE CONFIRMED. REINSTATE IF REQUIRED

RAIN WATER LEADER. SEE FREEPORT DWGS FOR CONNECTION AT BLDG.

TELUS CROSSING (assumed 900mm bury)
GROUND ELEV 207.69
TOP OF TELUS CONDUIT ELEV 206.79
ELECTRICAL CONDUIT ELEV 206.45
SWEEP ELECTRICAL UNDER TELUS

PROPOSED HYDRO SERVICE FEED TO BE CONFIRMED

APPROXIMATE LOCATION OF BASKETBALL HOOP AND STRUCTURE. TO BE CONFIRMED.

INSTALL CLEANOUT TO SURFACE INV 207.67

NEW CATCH BASIN
S INV 208.10

CB LEAD CONNECTION INV @ 207.83
S/C INV 207.78

INSTALL CLEANOUT TO SURFACE INV 208.16

SERVICING DETAIL
1:100

BASE SCOPE

PROVISIONAL SCOPE

COMPLETE BY:

MAY 19th	(1) REMOVE EXISTING PRE-LOAD MATERIAL AND ORIGINAL SITE MATERIAL TO ELEVATION OF 208.5m, DISPOSE OF MATERIALS OFF-SITE. TIE IN TO EXISTING AT 1.5H:1V (ORANGE LINE REPRESENTS TIE IN BOUNDARY)
MAY 19th	(2) EXPLORATORY DIG AT TWO LOCATIONS, CONFIRM FINDINGS WITH ENGINEER
MAY 26th	(a) PROVISIONAL PER ORANGE DRAWING NOTE.
MAY 26th	(b) PROVISIONAL PER ORANGE DRAWING NOTE. (NOT SKETCHED, IF SANITARY RE-ALIGNMENT IS REQUIRED THE ALIGNMENT WOULD NEED TO BE DETERMINED BASED ON LOCATIONS FOUND THROUGH EXPLORATION.
JUNE 9th	- BY LINDSAY, HYDRO/TEL CONDUIT INSTALL. INCLUDES HYDRO/TEL CONDUITS TO PROPOSED RISER LOCATION IN PROPOSED DAYCARE BUILDING
JUNE 30th	- BC HYDRO AND TELECOM CUT OVER AND LPT REMOVAL
JULY 28th	- REMOVAL OF UNDERGROUND INFRASTRUCTURE - TIE-INTO SANITARY AND WATER, EXTEND SERVICES TO PROPOSED RISER LOCATION IN PROPOSED DAYCARE BUILDING -DETAILED EXCAVATION (EXTENTS OUTLINED), FOUNDATION FORM WORK, REBAR, AND POURING OF FOOTINGS - NOTE, AS OF MAY 1st STILL WAITING ON FOUNDATION DESIGN DETAILS

Rev	Date	Description	Drawn	Design	App'd
2	2023-05-01	UPDATED FOR DESIGN COORDINATION	AK	MC	MC
1	2023-04-28	UPDATED FOR DESIGN COORDINATION	AK	MC	MC
0	2023-04-11	ISSUED FOR BUILDING PERMIT APPLICATION	AK	MC	MC
PB	2023-03-17	ISSUED FOR BC HYDRO	AK	MC	MC
PA	2022-08-05	SERVICING CONCEPT	SA	MC	MC

BENCHMARK
ALL ELEVATION REFER TO CONTROL MONUMENT: 83C263 (GCM 112268)
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ELEVATION: 206.637m 1928 Canadian Vertical Datum
LEGAL
LOT A PLAN KAP84778 DISTRICT LOT 203 LAND DISTRICT 27 EXCEPT PLAN KAP89553

0 1:100 5

ORIGINAL DWG SIZE: A1 (594 x 841mm)

Village of PEMBERTON

McElhanney
Suite 2300 13450 - 102 Avenue Surrey BC Canada V3T 5X3
Tel 604 596 0391 - Fax 604 584 5050

Approved Sealed

VILLAGE OF PEMBERTON
7400 Prospect Street, PEMBERTON BC

DAYCARE CENTRE
SERVICING AND UTILITY CROSSINGS CONCEPT
7396 COTTONWOOD STREET
PEMBERTON BC

Drawing No. 01

Project Number 2111-6062-00

Rev. 2

DESTROY ALL PRINTS BEARING PREVIOUS REVISION

DATE: 2023-05-01, 10:33 FILE: X:\2111\2111-06062-00 VOP Daycare Building\10.0 DRAWINGS\10.3 Engineering\10.3.1 Sheets\6062-00-C1 SERVICING PLAN.dwg
McElhanney (ISO A1 - 15-05-22

APPENDIX E – CURRENT OVERALL PROJECT SCHEDULE

Master Project Schedule

By Marco Cusano
Modified 24-May-23

Target window
Early start / late end window
By Lindsay Equipment

Village of Pemberton - Daycare

Item	Deliverable	Description	2023 March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
		Council Meeting										
1		Pre-load treatment period										
2		Pre-load removal										
3		Rough grade site in preparation for foundation construction										
4		Exploratory dig to confirm sanitary main location (and relocation of 35m san, if required)										
5												
6	Storm Relocation	Design										
7		VoP Approvals										
8		Final coordination with DB design										
9		Storm Relocation										
10												
11	BC Hydro LPT Relocation and Telecom	Civil Design for BC Hydro and Telecom										
12		BC Hydro Design Underway										
13		Fibre Drop Drawing for Telus Underway (by Mateo @ ZE Power, contracted by Ledcor)										
14		Civil Works for relocation of BC Hydro and Telecom, stub Tel and Electrical										
15		BC Hydro inspection by Neil										
16		Telecom inspection by Encepta (Kam, contracted for telecom works)										
17		Telus wire pulling by Ledcor (Hamid/Jordan, contracted by Telus)										
18		Shaw wire pulling by Shaw crews (Sergiy to coordinate crews)										
19		BC Hydro wire pulling ("cut-over")										
20		BC Hydro to remove LPT										
21												
30	Other Utility Work	Tie-into Water and Sanitary, extend service to location of riser in proposed bldg										
31		Remove existing infr., detailed exc, foundation forms, rebar, and pour foundations										
32												
42	Modular Building	Modular Design Package										
43		Modular Shop Drawings by suppliers										
44		Coordination of Modular design with Site Utilities and other Constraints										
45		Manufacture										
46		Sprinkler design										
47		VoP Building Official Review of Sprinkler drawings										
48		Transport										
49		Modular Building Site Install										
50		Infrastructure hookups										
51		Commissioning										
52												
53	Fenced-in Play Area, Site Surface Works	Design new fenced-in play area										
54		Final coordination with DB design										
55		Construction of site walkways, vegetation removals										
56		Construction of fenced-in play area										
57												
58	Building Permit	Submit BP Application to VoP										
59		Permit Issuance										
60		Completion Documents Submitted to VoP										
61		VCH-Contingent Occupancy Permit										
62		Occupancy Permit										
63												
64		Final approval of Design										
65		VCH site review of building										
66		Occupancy-Contingent Licensing Letter										
67		Licensing										
68												
69	User Prep	FFE Move-in, setup										
70		Staff move-in, setup										
71		Site, building, and staff ready to host clients										
72												
73	Peripheral Considerations	Daycare Staffing Process (develop ad, posting, interview, startup)										
74		Operations Agreement Development (Daycare Society - VoP)	2	2	2	2	2					
75												
76												
		Holidays										

APPENDIX F – GEOTECHNICAL REPORTS

FRONTERA GEOTECHNICAL

1 – 38920 Queens Way
Squamish, BC V8B 0K8
604-898-1093

McElhanney Ltd.
Suite 2300 Central City Tower
13450 – 102nd Avenue
Surrey, BC V3T 5X3

Updated: May 12, 2023
File: 1880

Attention: Marco Cusano MBA, P.Eng., PMP, LEED AP ND

RE: Geotechnical Report, Proposed New Daycare Building, 7396 Cottonwood Street, Pemberton, BC

1.0 INTRODUCTION

It is proposed to construct a new daycare building on the property at 7396 Cottonwood Street in Pemberton. Frontera Geotechnical Inc. (Frontera) has been engaged to provide geotechnical recommendations for the project.

Issued for building permit structural and architectural drawings prepared by Freeport Industries, dated April 17, 2023, have been reviewed in preparing this report. The proposed building is to be a 381 m^2 single story structure. The building is proposed to be of wood frame construction over a crawlspace set on concrete foundations. The foundation includes reinforced concrete strip and pad footings with reinforced concrete exterior walls and wood framed interior pony walls. The structural loads are light.

A geotechnical investigation of the building site was completed by Frontera. This report presents the results of our geotechnical investigation which includes soil and groundwater conditions at the site and provides preliminary geotechnical recommendations for the design and construction of the building.

This report has been prepared exclusively for our client and for the use of others within their design and construction team, however it remains the property of Frontera Geotechnical Inc.

2.0 SITE DESCRIPTION

The site is located centrally within Pemberton, between the existing Pemberton Children's Centre and the Pemberton & District Community Centre. The site is bound by the Community Centre to the south, the Children's Centre to the east, Cottonwood Street to the west and a gravel surfaced parking lot to the north.

The site is an irregular rectangular shape and is generally flat with preconstruction grades ranging from approximately 209 m geodetic elevation on the west side of the site to 210 m geodetic elevation on the east side of the site, based on a survey conducted for McElhanney in July 2022.

3.0 FIELD INVESTIGATION

Frontera conducted a geotechnical investigation on August 8, 2022. The investigation included six solid-stem auger test holes. Two of the six auger test holes were supplemented with dynamic cone penetration

test (DCPT) soundings. One of the auger test holes was supplemented with a cone penetration test (CPT) sounding.

The test holes were advanced to depths ranging from 2.7 m to 12.2 m below the local grades at the time of the investigation. Four of the auger holes refused within the very coarse fill which has been placed over the site. The soils were logged in the field and samples were collected for laboratory analysis. Test hole logs are included in Appendix A.

DCPT soundings are completed by driving steel rods with a blunt tip into the ground using a standardized mechanical drop hammer. The number of blows from the drop hammer required to advance the rods are recorded in 300 mm intervals. The number of blows required to drive the rods 300 mm can be used for inference of the in-situ density of granular soils and fills and consistency of fine-grained soils.

The CPT soundings were advanced to depths of 30 m below site grades, where the desired investigation depth was achieved. As the cone penetrometer is advanced into the ground, it records the tip resistance, sleeve friction, pore water pressure and inclination at 5 cm intervals. Analysis of the CPT sounding data allows for an estimation of geotechnical design parameters and inference of the sub-surface stratigraphy from soil-type behaviour characteristics. The CPT sounding logs and CPT based liquefaction analysis are presented in Appendix B and C, respectively.

The approximate locations of the test holes are shown on the attached site plan, Drawing No. 1880-01.

4.0 SUBSURFACE CONDITIONS

4.1 Soil Conditions

The site is located within the Lillooet River Floodplain. With reference to Geological Survey of Canada Open File 5324 the site is underlain by floodplain sediments described as sand and silt including organics underlain in places by gravel.

In general, the soil profile noted from the surface downwards at our test hole locations consists of granular fill underlain by silt, interbedded with silty sand which overlies sand. A general description of the soils encountered is as follows:

TOPSOIL

A thin layer of grass covered topsoil is present at TH22-02 and TH22-05. This ranges from 0.05 m to 0.2 m thick. The topsoil is a loose silty sand with trace rootlets.

FILL: Sand and Gravel

The upper fill comprises of sand and gravel with some cobbles and is encountered all test hole locations. The fill extends from ground surface or below the topsoil layer to depths of up to 3.0 m. The fill is dense, well graded sand with angular gravel and cobbles.

FILL: Crushed Rock

Underlying the sand and gravel fill in TH22-01, TH22-02 and TH22-03 is crushed rock which varies in size from 75 mm to 150 mm and is very dense, poorly graded. The crushed rock extends to depths of up to 3.3 m, and ranges in thickness from 1.3 m to 1.9 m.

SAND

A layer of sand exists beneath the fill at the location of TH22-05 from 2.8 m to 3.1 m. This sand is fine grained, poorly graded with some silt. The sand is compact and wet.

SILT

The sand or fill is underlain by a firm, low plastic, moist, grey silt with trace to some wood fibres. This stratum is found at depths between 3.1 m and 9.1 m. The silt grades soft with depth and becomes interbedded with sandy silt. Moisture contents within this stratum are measured between 35% to 80%.

SAND

The silt is underlain by fine-grained sand with trace silt. The sand is poorly graded, loose to compact and wet. The sand grades to medium grained at 11.3 m and extends to at least 30 m depth based on CPT soil behavior type interpretation.

For a more detailed description of the subsurface conditions refer to the test hole logs in Appendix A.

4.2 Groundwater Conditions

The groundwater table was estimated to be approximately 3.5 m below the site grades at the time of investigation based on review of CPT sounding data. The groundwater table is expected to be higher following periods of persistent precipitation and snow melt.

5.0 DISCUSSION

5.1 General Comments

In general, the soil conditions consist of a minimum of 3.0 m of granular fill, over silt and silty sand underlain by sand. The fill is dense to very dense and due to large particle size resulted in practical equipment refusal of the solid stem augers at some locations.

Existing electrical, telecommunication, water, sanitary sewer, and stormwater utilities are within the location of the proposed building. Based on provided drawings these utilities are generally aligned east to west. There is a hydro kiosk near the centre of the site, which is within the footprint of the proposed building. Existing improvements within the construction area will need to be relocated prior to construction of the building.

The building area has been preloaded. The preload was constructed based on preload design drawings prepared by McElhanney Ltd. which were based on recommendations for preload design provided by Frontera. The top of preload elevation was 210 m geodetic elevation, and the preload was placed beyond the proposed building footprint by 1.0 m. The preload was placed over existing ground prior to site stripping, and therefore the entire preload will need to be removed prior to foundation construction to allow for adequate site stripping and removal of existing underground utilities.

Existing grades slope down from west to east and the grade differential across the site is about 1 m to 1.5 m. To accommodate the crawlspace and in consideration of proposed floor elevation cuts are expected to be required to achieve subgrade elevation.

The silt underlying the fill is considered susceptible to consolidation settlement when exposed to an increase in stress such as that imposed by foundation loads or site grading fill.

The underlying granular soils were found to be generally loose to compact and are considered susceptible to earthquake induced liquefaction in consideration of the 2018 British Columbia Building Code (2018 BCBC) probabilistic seismic hazard.

The site is located within an identified flood hazard area. A flood hazard report, dated September 19, 2022, was prepared by Frontera and should be read alongside this report. The flood construction level for the site is 209.6 m.

Other geological hazards may exist. A geohazard report from a Qualified professional may be required for this project.

Provided the geotechnical recommendations outlined in this report are considered in design, we are of the opinion that the project is feasible from a geotechnical standpoint.

5.2 Consolidation Settlement

The silt underlying the granular fill was found to have a moisture content between 44% and 80% based on laboratory moisture content analysis of retrieved samples. This, along with our local experience, indicates the fine-grained soil is likely susceptible to consolidation settlement. Due to the potential variability within this stratum, consolidation settlement could result in differential settlements which exceed typically tolerable magnitudes.

The site has been preloaded to an elevation of 210 m to mitigate against consolidation settlement caused by foundation loads or site grading fill.

5.3 Seismic Consideration

5.3.1 General

It is generally accepted that loose to compact and saturated non-plastic silts and sands are prone to liquefaction or strain softening during cyclic loading caused by large earthquakes. Once liquefaction is triggered, significant, permanent, vertical, and horizontal movements may be experienced. The strength reduction caused by soil liquefaction can cause conventional spread foundations to fail by punching into the liquefied soils.

The 2018 BCBC states that the objective of earthquake-resistant design is to prevent major failure and/or collapse of structures. Structures designed in conformance with the National Building Code of Canada (NBCC) provisions should be able to resist moderate earthquakes without significant damage and major earthquakes without collapse. Collapse is defined as a state where occupants can no longer exit the building because of structural failure. For our analysis, we have relied upon the 2015 NBCC interpolated seismic hazard values from Natural Resources Canada, which are consistent with the 2018 BCBC.

For design purposes, the 2018 BCBC defines a “major” earthquake as one which results in accelerations and velocities with a 2% chance of being exceeded in 50 years which equates to a 1 in 2,475-year probabilistic seismic hazard. The firm ground peak ground acceleration (PGA) at this location is 0.17g, where g is acceleration due to gravity.

For the purpose of this report, moderate ground shaking has been represented by the mean ground motion with a probability of exceedance of 10% in 50 years. This equates to a 1 in 475-year probabilistic seismic hazard with an associated firm ground PGA of 0.08g.

5.4 Liquefaction Assessment

5.4.1 Liquefaction Triggering

The near surface silts are not considered susceptible to liquefaction triggering however, some strain softening may occur. The underlying sands and silty sands were found to be generally loose to compact and are considered susceptible to liquefaction.

We have carried out a liquefaction analysis using the methods of Boulanger and Idriss (2014). Liquefaction triggering was defined using a factor of safety against liquefaction of less than or equal to one. We considered the method described by Zhang et al. (2002) for estimating liquefaction-induced free field settlements from CPT sounding data. We have limited our analysis of liquefaction potential to 20 m below grade based on common practice and the methods described by Zhang et al. (2002) which states that based on case studies from past earthquakes, little or no surface manifestation has been observed when the liquefied layer is below 20 m depth.

Review of our analysis indicates that much of the soil profile below about 6 m depth is susceptible to liquefaction triggering. Liquefaction triggering is expected throughout much of the soil profile below 6 m depth for the 1 in 2,475-year seismic hazard. Liquefaction triggering is not expected in consideration of the 1 in 475-year seismic hazard.

The consequence of liquefaction triggering is expected to be low for the 1 in 2,475-year seismic hazard. Based on the Liquefaction Severity Number (LSN) proposed by van Ballegooy et. al (2013), little or no surface expression, minor sand boils, and minor damage is expected.

5.4.2 Vertical Settlements

1 in 2,475-year Seismic Hazard Analysis

Calculated post-liquefaction free field settlements for the 1 in 2,475-year seismic hazard in the order of 13 cm are calculated when summed from a depth of 20 m. Due to potential variability in the seismic response of the soils we estimate that differential settlements of up to 6 cm across the width of foundations. These estimates should be considered as order of magnitude estimates only.

1 in 475-year Seismic Hazard Analysis

Post-liquefaction free field settlements from the 1 in 475-year event are expected to be negligible due to the low PGA at the site in consideration of this hazard.

*It must be appreciated that the settlements estimated above are free field settlements and therefore are expected to be similar to the settlement of the surrounding area. The differential settlement estimates do not account for any stiffness associated with the foundation system, shear-induced foundation settlements, or additional settlements that may occur as a result of the surface expression of liquefaction (i.e., ejecta).

Preliminary total and differential settlement magnitudes to be considered in structural design are included in Table 1 and Table 2, respectively.

Table 1. Calculated total free field settlement values to be considered for preliminary seismic design.

Seismic Hazard	*Vertical Settlement (cm)*
1 in 2,475-year	13
1 in 475-year	N/A

Table 2. Estimated differential settlement values (Martin et. al. 1999).

Seismic Hazard	*Differential Settlement Across the Width of Foundations (cm)*
1 in 2,475-year	6
1 in 475-year	N/A

5.4.3 Liquefaction Induced Foundation Shear Failure

Soil liquefaction can cause a loss of vertical load carrying capacity of foundation soils. Spread footings supported on non-liquefiable surficial soils can punch through into the underlying liquefied soils. Review of our liquefaction assessment indicates that foundations will likely be located over liquefiable soils with about 6.4 m of non-liquefiable surficial crust, and therefore shear failure of conventional foundations is considered unlikely.

5.4.4 Liquefaction Induced Lateral Displacements

Horizontal displacements are most problematic where sites are located on sloping ground, or near-to a free face such as a shoreline or large drainage channel. These conditions introduce a static bias within the soils and encourage post-liquefaction reconsolidation strains to accumulate in one direction. The site is generally level and free face conditions are sufficiently distant, therefore horizontal displacements are not expected at this site.

5.5 Foundation Support Considerations

Provided that the structural engineer can tolerate the settlement estimates above, and assuming that the foundation can be designed to tolerate differential settlements as described in Section 5.4.2, then ground improvement is not considered necessary. We are of the opinion that a tied strip and spread foundation is suitable for this project.

6.0 DESIGN RECOMMENDATIONS

6.1 Site Preparation

6.1.1 Stripping

Site stripping includes removing preload material, any organic topsoil, existing utilities and services, loose fill, asphalt, and any other material considered to compromise the design recommendations stated herein. In all cases related to the construction these unsuitable materials should be excavated to expose the dense sand and gravel fill.

Where grade raising fill is proposed, stripping should extend, at minimum, to the full extents of the fill footprint.

6.1.2 Compaction

The stripped subgrade should be compacted with a minimum 10-ton vibratory soil compactor.

6.1.3 Engineered Fill

All grade raising fill used to support foundations, hardscaping, or pavement structures should be completed with “engineered fill”. In the context of this report “engineered fill” is defined as clean sand to sand and

gravel fill, compacted to a minimum standard of 95% of its Modified Proctor Maximum Dry Density (ASTM D1557) while at a moisture content that is within 2% of its optimum for compaction.

6.2 Foundation Design

6.2.1 Strip and Spread Foundation

Following the site preparation recommendations outlined in Section 6.1, we recommend that tied strip and spread foundations can be designed in consideration of a Serviceability Limit State (SLS) bearing pressure of 50 kPa and a factored Ultimate Limit State (ULS) bearing pressure of 100 kPa.

6.2.2 Seismic Design of Foundations

The proposed development site qualifies as Site Class F as defined in Table 4.1.8.4.A of the BCBC 2018 due to the presence of liquefiable soils beneath the site. The average shear wave velocity in the upper 30 m of the soil profile ($\overline{V}_{S30}$), is 204 m/s based on the CPT based estimated shear wave velocity profile at the site. In accordance with 4.1.8.4(8), we have assumed that the structure will have a fundamental period of vibration of less than 0.5 seconds and therefore we recommend that the site be classified as “Site Class D” for structural design purposes, assuming the soil is not liquefiable.

To improve structural performance following large post seismic vertical displacements, we recommend that foundations be tied in no less than two directions. Discussion on foundation ties is included in NBC Commentary J[1] which should be referenced by the structural engineering during design.

6.2.3 Settlement of Foundations

6.2.3.1 Static

Provided our recommendations are adhered to, post-construction settlements are estimated to be less than 25 mm with differential settlement of less than 1 in 300.

6.2.3.2 Seismic

We recommend that the Structural Engineer consider the post-seismic differential settlements outlined in Section 5.4 for design.

6.2.4 Frost Protection

All foundations should be located a minimum of 0.6 m below site grades for frost protection.

Based on the architectural drawings, the first-floor elevation is 210 m (689.14’) which is above the FCL. The underside of foundation elevation has not yet been determined. The foundation should be dropped to accommodate both frost depth requirements and minimum structural and/or architectural requirements for the crawlspace.

6.2.5 Foundation Drainage

We recommend that at minimum a foundation drainage system per 2018 BCBC be included in the building design to help intercept and dispose of any migrating subsurface water at foundation level.

[1] Structural Commentaries (User’s Guide – NBC 2015: Part 4 of Division B)

6.3 Earth Pressure on Buried Walls

We recommend that buried walls be designed for static and seismic earth pressures. The walls can be designed for a static pressure distribution of 5.1H (kPa) triangular, where H is the height of the restrained soil in metres. Dynamic loading induced by the design earthquake should be added to the static loads and should be taken as 1.4H (kPa) with an inverted triangular pressure distribution. These loading recommendations assume that the backfill is a clean, sand and gravel, free draining, and the backfill is level behind the wall, and the wall is frictionless.

Our calculations assume that a back-of-wall drainage system will be installed to prevent the build-up of any water pressure behind the walls. All earth pressures provided herein are based on unfactored soil parameters and are assumed to be unfactored loads.

6.4 Backfill

Backfill adjacent to the foundations should be completed with free draining material such as clean sand and gravel or crushed rock fill containing less than 5% fines. The backfill should be compacted in lifts. In areas where the backfill will support hard landscaping or pavement areas the material should be compacted to a minimum of 95% of its Modified Proctor Maximum Dry Density while at a moisture content that is within 2% of its optimum for compaction.

7.0 FIELD REVIEWS

As is normally required for Municipal Letters of Assurance, Frontera Geotechnical Inc. should be asked to carry out sufficient field reviews during construction to ensure that the Geotechnical Design recommendations contained within this report have been adequately communicated to the design team and to the contractors implementing the design. These field reviews are not carried out for the benefit of the contractors and therefore do not in any way affect the contractor's obligations to perform under the terms of their contract.

It is the contractors' responsibility to advise Frontera Geotechnical Inc. (a minimum of 24 hours in advance) that a field review is required. Geotechnical field reviews are normally required at the time of the following:

1.	Stripping	Review of stripped subgrade prior to any fill placement
2.	Compaction	Review of subgrade compaction
3.	Engineered Fill	Review of placement and compaction of any permanent fill
4.	Subgrade	Review of prepared foundation subgrade
5.	Backfill/Frost Depth	Review of final building backfill

It is critical that these reviews are carried out to ensure that our intentions have been adequately communicated. It is also critical that contractors working on the site view this document in advance of any work being carried out so that they become familiarized with the sensitive aspects of the works proposed. It is the responsibility of the developer to notify Frontera Geotechnical Inc. when conditions or situations not outlined within this document are encountered.

8.0 CLOSURE

This report is prepared solely for use by our client and their design team for this project as described to the general standards of similar work for similar projects in this area and no other warranty of any kind is expressed or implied. Frontera Geotechnical Inc. accepts no responsibility for any other use of this report.

We are pleased to assist you with this project, and we trust this information is helpful and sufficient for your purposes at this time. Please do not hesitate to call the undersigned if you require clarification or additional details.

Frontera Geotechnical Inc.

Reviewed by:

May 12, 2023

Jaret Bull M.A.Sc., EIT.
Geotechnical Engineer

Steven Fofonoff, M.Eng., P.Eng.
Principal

Geotechnical Investigation Plan
Proposed Daycare Building
7396 Cottonwood Street, Pemberton, BC

FILE NO. 1880

DWG NO. 1880 - 01

LEGEND
- Auger Test Hole
- CPT Sounding

Date: 2022-09-08

Drawn By:	Approved By:	Reviewed By:
SG	JB	

Scale: NTS, Locations Approximate

FRONTERA GEOTECHNICAL

APPENDIX A

TEST HOLE LOGS

Test Hole Log: TH22-01

Project No.: 1880
Project: 7396 Cottonwood Street
Client: McElhanny Ltd.
Location: Pemberton, BC

FRONTERA GEOTECHNICAL
#1 - 38920 Queens Way
Squamish, BC V8B 0K8
604-898-1093
www.fronterageo.ca

Depth (m)	Soil Profile: Strata	Soil Profile: Description	Soil Profile: Elevation (m)	Dynamic Cone Penetration Resistance (blows/0.3m)	Water Content (%)	Groundwater/Well	Remarks
0		Ground Surface	209.5				
0 – 1		**FILL** Sand and gravel fill with some silt and some cobbles, fine to coarse grained sand, fine to coarse, angular gravel, angular cobbles, well graded, dense, dry, brown/grey.	208.0				
1 – 2		**FILL** 75 mm clear crushed rock, uniformly graded, dense, dry, grey.	206.8				2.7 m - Auger refused. 3 Attempts to advance test hole, all refused between 2.1 m - 2.7 m
2 – 3		End of Borehole					
3 – 10							

Dynamic Cone Penetration Resistance: ○ 0 20 40 60 80 ○

Date of Drilling: 08/08/2022
Rig Type: Solid Stem Auger
Logged By: SG

Datum: Geodetic Approximate

Test Hole Log: TH22-02

Project No.: 1880
Project: 7396 Cottonwood Street
Client: McElhanny Ltd.
Location: Pemberton, BC

FRONTERA GEOTECHNICAL
#1 - 38920 Queens Way
Squamish, BC V8B 0K8
604-898-1093
www.fronterageo.ca

Depth (m)	Soil Profile: Strata	Description	Elevation (m)	Dynamic Cone Penetration Resistance (blows/0.3m)	Water Content (%)	Groundwater/Well	Remarks
0		Ground Surface	209.5				
0		**TOPSOIL** Silty sand with trace rootlets, loose, moist, brown, grass topped.	209.2	8, 10, 27, 70			
1		**FILL** Sand and gravel fill with some silt and some cobbles, fine to coarse grained sand, fine to coarse, angular gravel, angular cobbles, well graded, compact to dense, dry, brown/grey.	208.0				1.2 m - DCPT refusal.
2		**FILL** 75 mm clear crushed rock, uniformly graded, dense, dry, grey.					
3			206.1				3.3 m - Auger refused.
		End of Borehole					3 Attempts to advance test hole , all refused between 1.6 m - 3.3 m
4							
5							
6							
7							
8							
9							
10							

Date of Drilling: 08/08/2022
Rig Type: Solid Stem Auger
Logged By: SG

Datum: Geodetic Approximate

Test Hole Log: TH22-03

Project No.: 1880
Project: 7396 Cottonwood Street
Client: McElhanny Ltd.
Location: Pemberton, BC

FRONTERA GEOTECHNICAL
#1 - 38920 Queens Way
Squamish, BC V8B 0K8
604-898-1093
www.fronterageo.ca

Depth (m)	Soil Profile: Strata	Soil Profile: Description	Soil Profile: Elevation (m)	Dynamic Cone Penetration Resistance (blows/0.3m)	Water Content (%)	Groundwater/Well	Remarks
0		Ground Surface	209.5				
0		**FILL** 19 mm minus crushed rock gravel, loose, dry, grey.					
1		**FILL** Sand and gravel fill with some silt and some cobbles, fine to coarse grained sand, fine to coarse, angular gravel, angular cobbles, well graded, dense, dry grey.	208.0				
2		**FILL** 75 mm clear crushed rock, unifromly graded, dense, dry, grey.	206.8				2.7 m - Auger refused. 3 Attempts to advance test hole, all refused between 2.1 m - 2.7 m
3		End of Borehole					
4							
5							
6							
7							
8							
9							
10							

Dynamic Cone Penetration Resistance: ○ 0 20 40 60 80 ○

Date of Drilling: 08/08/2022
Rig Type: Solid Stem Auger
Logged By: SG

Datum: Geodetic Approximate

Test Hole Log: TH22-04

Project No.: 1880
Project: 7396 Cottonwood Street
Client: McElhanny Ltd.
Location: Pemberton, BC

FRONTERA GEOTECHNICAL
#1 - 38920 Queens Way
Squamish, BC V8B 0K8
604-898-1093
www.fronterageo.ca

Depth (m)	Soil Profile: Strata	Description	Elevation (m)	Dynamic Cone Penetration Resistance (blows/0.3m) 0 20 40 60 80	Water Content (%)	Groundwater/Well	Remarks
0		Ground Surface	209.0				
0		**FILL** 19 mm minus crushed rock gravel, loose, dry, grey.					
1		**FILL** Sand and gravel fill with some silt and some cobbles, fine to coarse grained sand, fine to coarse, angular gravel, angular cobbles, well graded, dense, dry grey.					
2							
3			205.9				
3		**SILT** Trace to some wood fibres, trace sand, low plastic, firm, moist to wet, grey.					
4		- grades softer with depth.			80		
5		- no wood fibres below 4.5 m.					
5					67		
6							
7					44		
8			200.1				
9		**SAND** Trace silt, fine grained, poorly graded, compact, wet, grey.			46		
10							

Date of Drilling: 08/08/2022
Rig Type: Solid Stem Auger
Logged By: SG

Datum: Geodetic Approximate

Test Hole Log: TH22-04

Project No.: 1880
Project: 7396 Cottonwood Street
Client: McElhanny Ltd.
Location: Pemberton, BC

FRONTERA GEOTECHNICAL
#1 - 38920 Queens Way
Squamish, BC V8B 0K8
604-898-1093
www.fronterageo.ca

Depth (m)	Soil Profile: Strata	Soil Profile: Description	Soil Profile: Elevation (m)	Dynamic Cone Penetration Resistance (blows/0.3m) 0 20 40 60 80	Water Content (%)	Groundwater/Well	Remarks
11			197.7				
		SAND Medium grained, poorly graded, compact to dense, wet, grey.					
12			196.8				
		End of Borehole					
13							
14							
15							
16							
17							
18							
19							
20							

Date of Drilling: 08/08/2022
Rig Type: Solid Stem Auger
Logged By: SG

Datum: Geodetic Approximate

Test Hole Log: TH22-05 (CPT22-01)

Project No.: 1880
Project: 7396 Cottonwood Street
Client: McElhanny Ltd.
Location: Pemberton, BC

FRONTERA GEOTECHNICAL
#1 - 38920 Queens Way
Squamish, BC V8B 0K8
604-898-1093
www.fronterageo.ca

Depth (m)	Strata	Description	Elevation (m)	Dynamic Cone Penetration Resistance (blows/0.3m) 0 20 40 60 80	Water Content (%)	Groundwater/Well	Remarks
0		Ground Surface	209.0				
		TOPSOIL Silty sand, trace rootlets, loose, moist, brown, grass topped.					
1		**FILL** Sand and gravel fill with some silt and some cobbles, fine to coarse grained sand, fine to coarse, angular gravel, angular cobbles, well graded, dense, dry grey.					
2			206.2				
3		**SAND** Some silt, fine grained, poorly graded, compact, wet, grey.	205.9		35		
4		**SILT** Trace to some wood fibres, low plastic, firm, moist to wet, grey.					
5							
6			202.9		44		
		Sandy SILT Fine grained sand, non-plastic silt soft, wet, grey					
7			201.4		38		
8		**SILT** Trace to some wood / wood fibres, low plastic, firm, wet, grey.					
9			199.8		51		CPT pushed to 30 m.
		End of Borehole					
10							

Date of Drilling: 08/08/2022
Rig Type: Solid Stem Auger
Logged By: SG

Datum: Geodetic Approximate

Test Hole Log: TH22-06

Project No.: 1880
Project: 7396 Cottonwood Street
Client: McElhanny Ltd.
Location: Pemberton, BC

FRONTERA GEOTECHNICAL
#1 - 38920 Queens Way
Squamish, BC V8B 0K8
604-898-1093
www.fronterageo.ca

Depth (m)	Soil Profile: Strata	Soil Profile: Description	Soil Profile: Elevation (m)	Dynamic Cone Penetration Resistance (blows/0.3m)	Water Content (%)	Groundwater/Well	Remarks
0		Ground Surface	208.5				
0		**ASPHALT**					
1		**FILL** Sand and gravel fill with some silt and some cobbles, fine to coarse grained sand, fine to coarse, angular gravel, angular cobbles, well graded, dense, dry grey.	207.0				1.5 m - Auger refused.
2		End of Borehole					
3							
4							
5							
6							
7							
8							
9							
10							

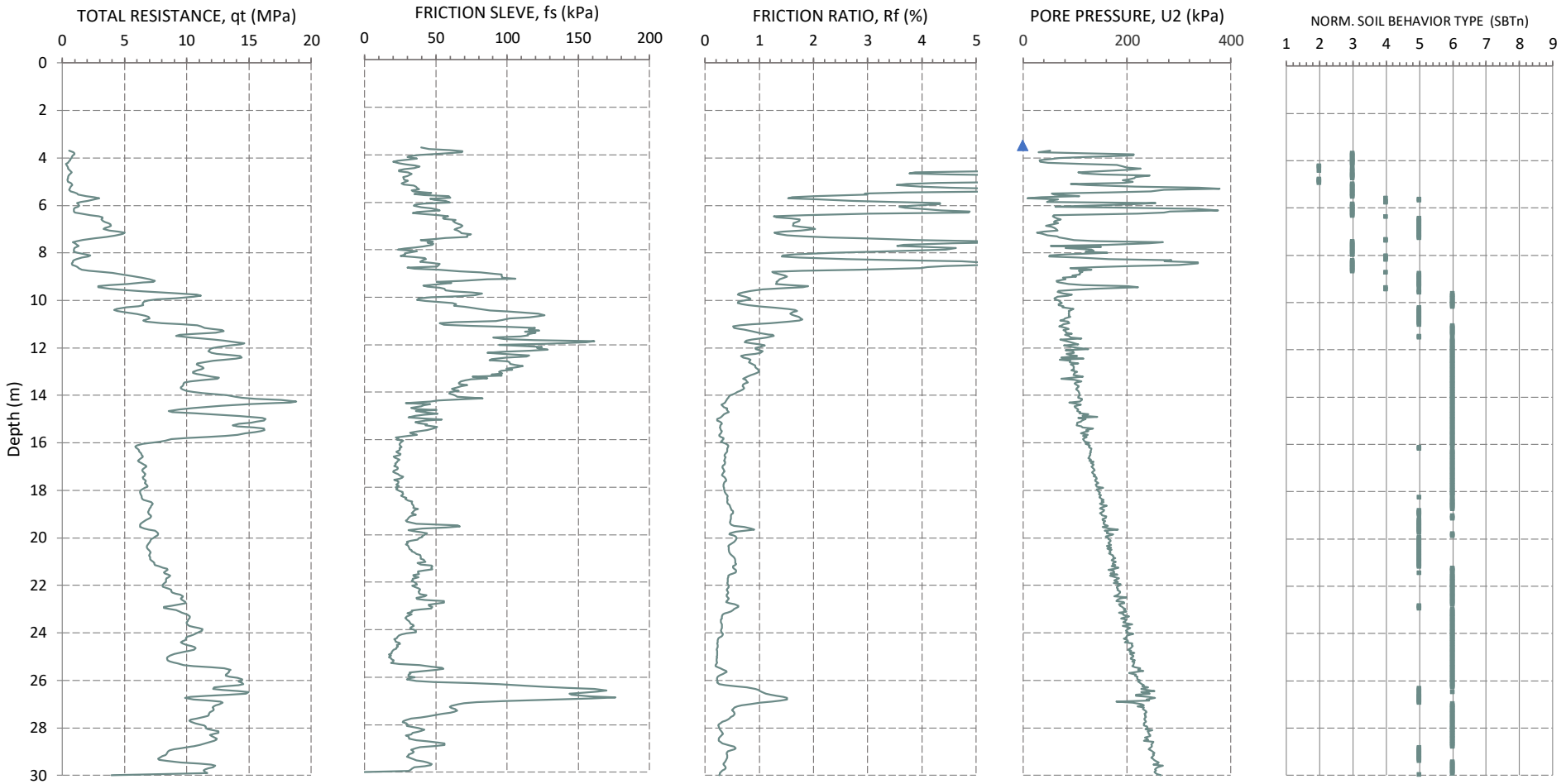
Dynamic Cone Penetration Resistance (blows/0.3m): 0 20 40 60 80

Date of Drilling: 08/08/2022
Rig Type: Solid Stem Auger
Logged By: SG

Datum: Geodetic Approximate

APPENDIX B

CPT BASED SOIL INTERPERTATION



SBTn Legend

1. Sensitive Fine-Grained
2. Clay - Organic Soil
3. Clay to Silty Clay
4. Clayey Silt & Silty Clay
5. Silty Sand to Sandy Silt
6. Clean Sand to Silty Sand
7. Dense Sand to Gravely Sand
8. Dense Sand to Clayey Sand
9. Stiff Fine-Grained

FRONTERA GEOTECHNICAL

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Squamish, BC V8B 0K8
604-898-1093

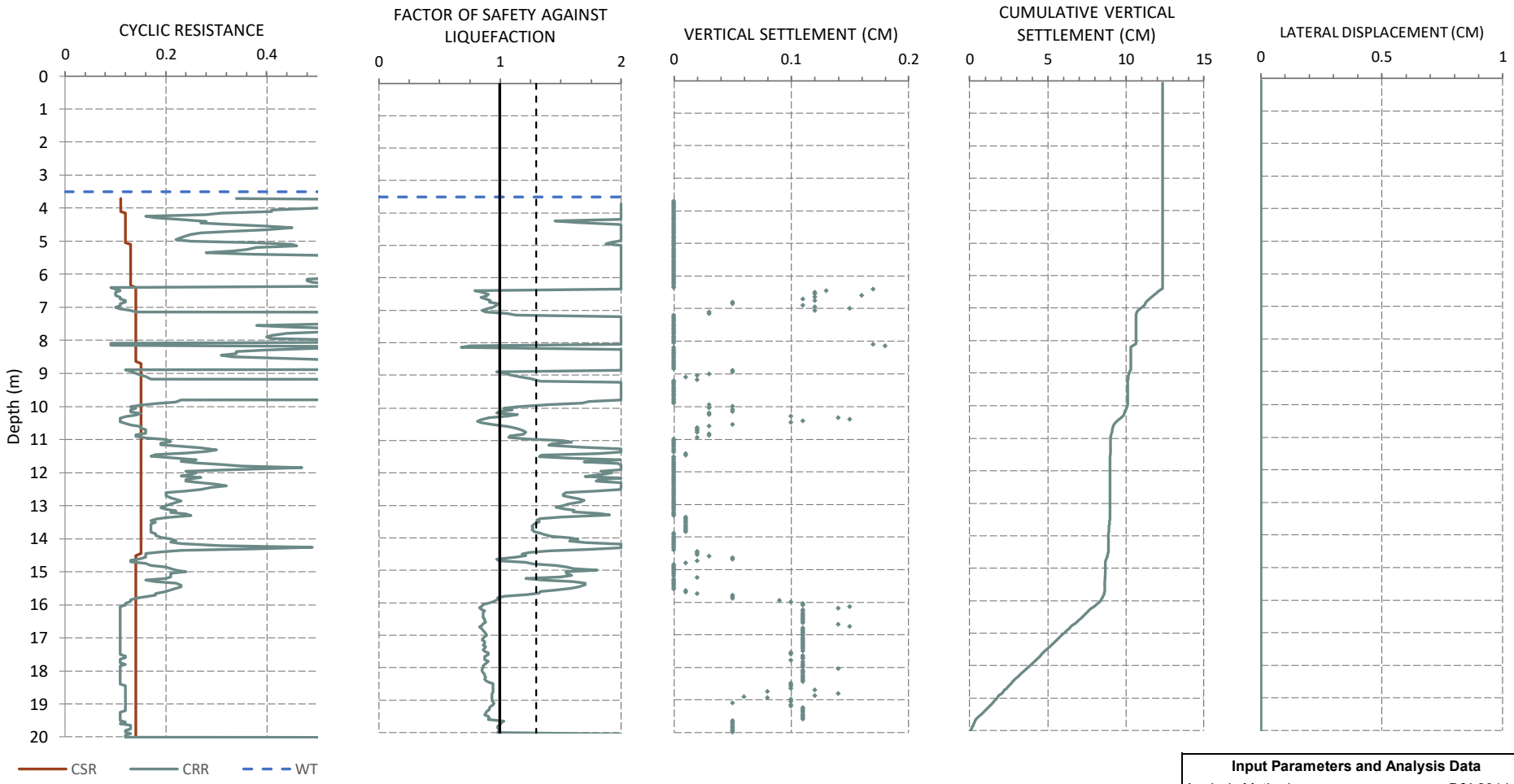
Client:	McElhanney Ltd
Job No.	1880
Location:	7396 Cottonwood Street, Pemberton, BC
Date:	August 8, 2022
CPT Trace:	**CPT22-01**

Input Parameters and Analysis Data

SBT Method:	Robertson (1990)
Water Table (m, below grade):	3.5

APPENDIX C.1

1 IN 2,475 YEAR SEISMIC HAZARD CPT BASED LIQUEFACTION ANALYSIS



Input Parameters and Analysis Data	
Analysis Method:	B&I 2014
Fines Correction Method:	B&I 2014
Earthquake Magnitude:	7
Peak Ground Acceleration:	0.17
Seismic Hazard:	**1 in 2,475**
I_c cut-off value	2.6
Transitional Layer Detection:	ON
Limit Depth:	20.00 m
Water Table (m, below grade):	3.5

FRONTERA GEOTECHNICAL

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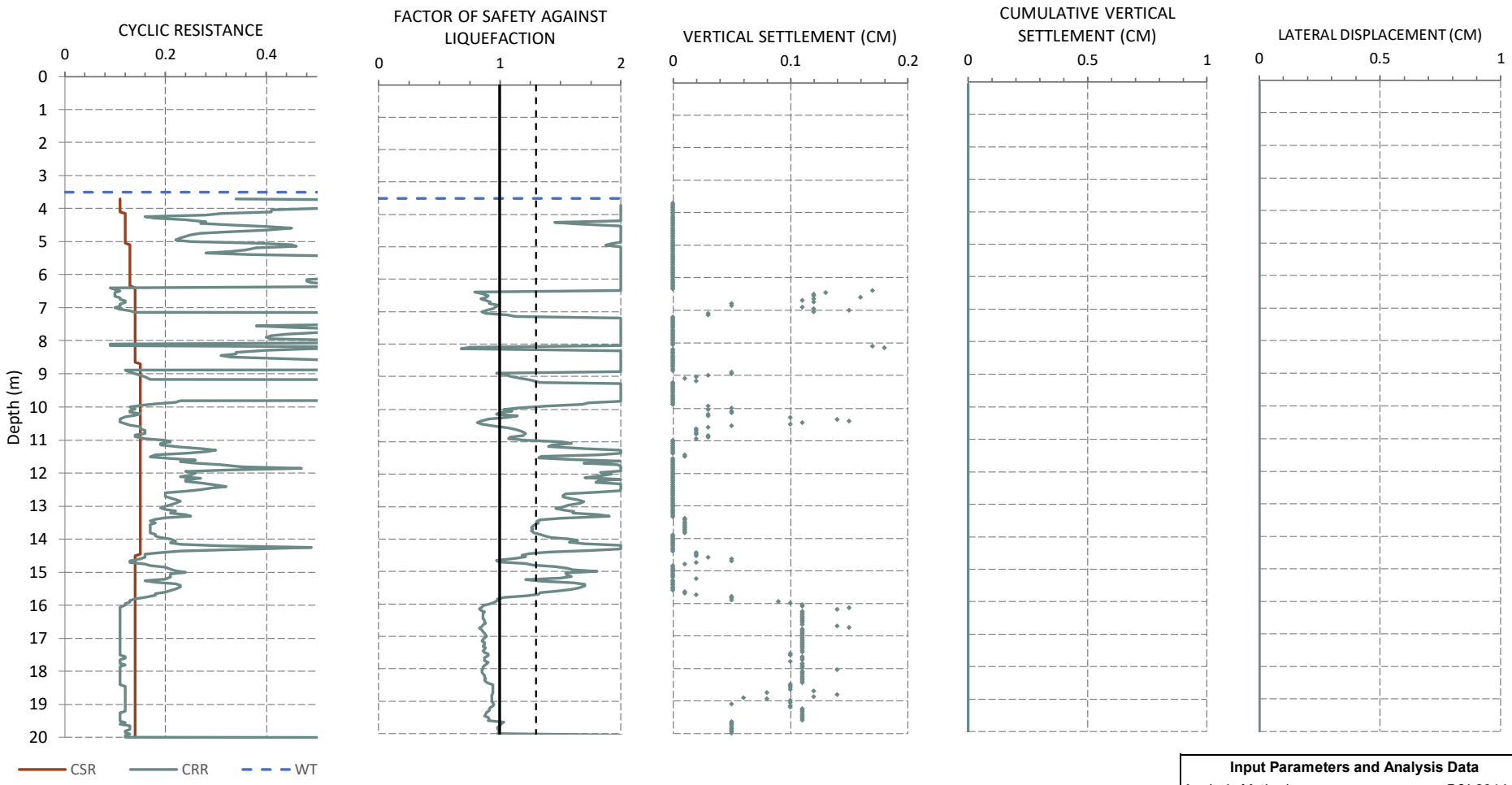
Squamish, BC V8B 0K8
604-898-1093

Client:	McElhanney Ltd
Job No.	1880
Location:	7396 Cottonwood Street, Pemberton, BC
Date:	August 8, 2022
CPT Trace:	**CPT22-01**

APPENDIX C.2

1 IN 475 YEAR SEISMIC HAZARD CPT BASED LIQUEFACTION ANALYSIS



Input Parameters and Analysis Data	
Analysis Method:	B&I 2014
Fines Correction Method:	B&I 2014
Earthquake Magnitude:	7
Peak Ground Acceleration:	0.08
Seismic Hazard:	**1 in 475**
I_c cut-off value	2.6
Transitional Layer Detection:	ON
Limit Depth:	20.00 m
Water Table (m, below grade):	3.5

FRONTERA GEOTECHNICAL

Frontera Geotechnical Inc.
#1-38920 Queens Way
Squamish, BC V8B 0K8
604-898-1093

Client: McElhanney Ltd
Job No. 1880
Location: 7396 Cottonwood Street, Pemberton, BC
Date: August 8, 2022
CPT Trace: **CPT22-01**

FRONTERA GEOTECHNICAL

1 – 38920 Queens Way
Squamish, BC V8B 0K8
604-898-1093

McElhanney Ltd.
Suite 2300 Central Tower
13450 – 102nd Avenue
Surrey, BC V3T 5X3

May 17, 2023
File: 1880

Attention: Marco Cusano MBA, P.Eng., PMP, LEED AP ND

RE: Flood Hazard Review Report, Proposed Daycare Building, 7396 & 7390 Cottonwood Street, Pemberton, BC

1.0 INTRODUCTION

It is proposed to construct a new daycare building on the property at 7396 Cottonwood Street and a small portion of 7390 Cottonwood Street in Pemberton, BC which have the legal lot descriptions LOT B DISTRICT LOT 203 LILLOOET DISTRICT PLAN KAP84778 and LOT A DISTRICT LOT 203 LILLOOET DISTRICT PLAN KAP84778 EXCEPT PLAN KAP89553 respectively.

Architectural design drawings prepared by Freeport Industries dated April 13, 2023, have been reviewed in preparing this report. The proposed building is to be a 225.9 m^2 single story structure. The building is expected to be of wood frame construction over a crawlspace supported on concrete foundations. The site is located within the Lillooet River floodplain therefore a flood hazard exists.

This report presents our review of the flood hazard defined by others, provides a recommendation for a 200-year flood construction level (FCL), and provides geotechnical recommendations related to flooding.

There are other geohazards which could affect the site which have not been considered herein and should be addressed by others.

This report has been prepared exclusively for our client, for their use, and the use of others on their design team and for permitting with the Village of Pemberton however, it remains the property of Frontera Geotechnical Inc.

2.0 SITE DESCRIPTION

The proposed development site is located centrally within Pemberton, between the existing Pemberton Children's Centre and the Pemberton & District Community Centre. The site is bound by the Community Centre to the south, the Children's Centre to the east, Cottonwood Street to the west and a gravel surfaced parking lot to the north.

The site is an irregular rectangle shape and is generally flat with grades ranging from approximately 209 m geodetic elevation on the west side of the site to 210 m geodetic elevation on the east side of the site, based on a survey conducted for McElhanney in July 2022.

3.0 FLOOD HAZARD REVIEW

3.1 Recommended FCL

We have based our FCL determination on the Lillooet River Floodplain Mapping Report prepared by Northwest Hydraulic Consultants Ltd. (NHC), dated November 2018, for the Pemberton Valley Diking District (PVDD) and the Squamish-Lillooet Regional District (SLRD). Review of the documents indicates that the flood surface elevation at the building location ranges from approximately 209.5 to 209.6 metres geodetic.

EGBC 2018, defines the FCL as the design flood level plus an allowance for freeboard. The Lillooet River Floodplain Mapping Report recommends that no additional freeboard be applied to the values presented on the flood mapping as 0.6 m of freeboard was included in their recommendations. Therefore, our recommended FCL for this project is 209.6 m.

Provincial guidelines, best practices, and Frontera recommend that all habitable space be located above the FCL. In the context of flood assessments habitable space typically includes any area used for living, commercial use, or storage of goods damageable by floodwaters. In habitable areas, the top of any concrete slabs-on-grade or the underside of wooden floor systems should be located above the FCL. Typically, building areas located below the FCL are limited to entry foyers, crawl spaces and garages. Any major electrical equipment or mechanical equipment should be located above the FCL.

Review of the mapping report indicates that the area where the building is proposed has been previously filled and the grades generally exceed the height of the FCL. Further, review of the design drawings indicates that the elevation of the underside of wood joists for the main level of the building is set at 209.77 m geodetic and therefore, we are of the opinion that the FCL has been met.

3.2 Further Considerations

Frontera Geotechnical Inc. will not accept any liability resulting from damage to goods or equipment, or structures constructed below the FCL. This letter should be registered as a covenant on the title and should be made available to future building tenants.

Much of the surrounding area would likely be cut off from access and safe egress during extreme flood events. We recommend that evacuation of the property be prepared for and implemented at the onset of predicted moderate to large flooding in accordance with Village of Pemberton evacuation procedures.

Interpretation of the flood flow velocities from the hazard ratings provided in the Lillooet River Floodplain Report indicates that the subject site is in an area adjacent to where flood flows in the range of 1.0 – 2.0 m/s could occur and therefore scour protection of foundations is recommended. Frontera completed a geotechnical drill investigation for the project and identified coarse rock fill to extend to depths of up to 3.0 m below the proposed foundation elevation. Therefore, we are of the opinion that no further erosion and scour protection measures would be necessary.

The structural designer must consider the hydrodynamic loading which could be imparted by the flood flow velocities and flood depths described above. The structure must be able to safely withstand these flood flows from a structural design standpoint. The flow velocity provided above represents the maximum modelled velocity and the structural engineer should factor these loads as necessary. A statement should be provided by the structural engineer confirming that they have included the effects of flooding in their design.

4.0 CLOSURE

Sections 919.1 and 920 of the Local Government Act contains provisions for a local government to request a report from a professional engineer with experienced relevant to the applicable matter to assist them in determining the conditions or requirements which may be required of a project prior to granting of a development permit. In the context of this report “used safely” is defined to mean that the direct effects of the flood itself are unlikely to cause structural damage so as to prevent egress from the building.

In consideration of the flood hazards described herein, and assuming that the hazard mitigation strategies described above are implemented, we consider that the land may be used safely for the use intended.

Prior to issuance of a building permit a Qualified Professional should be asked to review and confirm that the final design drawings have considered and taken into account the recommendations described in this report.

It must be appreciated by all that a risk of flooding exists. It must be appreciated that this report has been written with respect to 1 in 200-year flood event with flood flow behaviour as modelled and shown in the Lillooet River Floodplain Mapping Report. Less frequent but more extreme flood events are beyond the scope of this report and have the potential to damage or destroy property and cause harm or death.

Frontera is pleased to be of assistance to you on this project. We trust the foregoing is sufficient at this time.

Yours truly,

Frontera Geotechnical Inc.

Reviewed by:

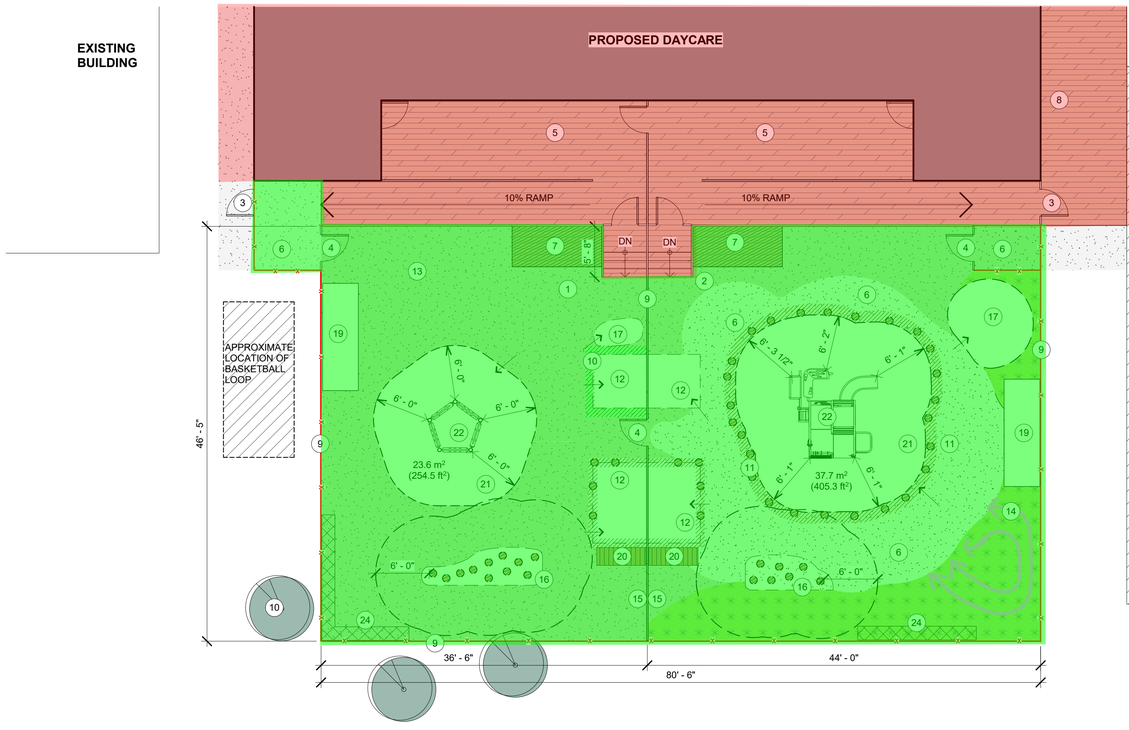
Will Gerrard, P.Geo.
Geoscientist

Steven Fofonoff, M.Eng., P.Eng.
Principal

APPENDIX G – SITE PHOTOS

(note, site preparation is underway and these photos may not represent current site conditions)

APPENDIX H – LIMITS OF CONSTRUCTION



PLAN NOTES	
NO	**NOTES**
1	PLAY-YARD AREA (A)
2	PLAY-YARD AREA (B)
3	ENTRY GATE
4	ENTRY GATE SECURITY TO PROVIDE ADULT ONLY ACCESS (TO MATCH EXISTING FUNCTION ON EXISTING DAYCARE)
5	COVERED DECK
6	ASPHALT PATH / WHEELED
7	STAGE W/ BACKDROP
8	OPENING IN DECK
9	FENCE
10	TREES and SHADE
11	USABLE EDGE
12	SAND BOX
13	RUBBER
14	CRAWLING RABIT RUNS
15	MUSIC WALL
16	BALANCE
17	QUIET
18	DRAMATIC
19	BIKE/STORAGE SHED
20	MUD KITCHEN
21	FALL SURFCING
22	PLAY STRUCTURE
24	PLANTING ACTIVITY

REQUIRED AREA: 6 m² / CHILD

6 m² X 25 = 150 m² (1,615 SF) EACH SIDE
TOTAL = 300 m² (3,229 SF)

PROVIDED AREA:
AREA (A) = 150 m² (1,618 SF)
AREA (B) = 180 m² (1,934 SF)
TOTAL = 330 m² (3,552 SF)

NOTE:
USE OF EACH PLAYYARD IS TO BE SCHEDULED BY THE DAYCARE OPERATORS FOR ALTERNATING USE

Completed by Playground Contractor

Completed by Modular Building Contractor

NO	DATE	DESCRIPTION

NORTH POINT:

SEAL:

PROJECT:
PEMBERTON DAYCARE

PEMBERTON, BC
VILLAGE OF PEMBERTON

DRAWING:
SITE PLAN - OPTION 3 - REVISED

PROJECT NO:	SCALE:
T22055	1/8" = 1'-0"
START DATE:	DRAWN BY:
2022-08-03	Author
FORMAT:	CHECKED BY:
24" x 36"	Checker

SHEET NUMBER:

A1.04

2023-03-29 1:50:46 PM